GAI International Academic Conferences Proceedings

NEW YORK
MAY 22-25, 2016
GAI International Academic Conferences Proceedings

2016 New York International Academic Conference
May 22-25, 2016
New York, USA

Hosted by
Global Academic Institute

ISBN: 978-0-9965808-3-0
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Social Media Campaigns in the Nonprofit Sector

Roisin Dillon, Mount Royal University, Canada

Abstract

The public sector is aimed at meeting the needs of the majority of individuals; as such its services are aimed at the median and average needs of a population. The nonprofit sector originally emerged from a failure of the public sector to meet certain needs within the population. Social media today is among the best and most widely used opportunities for nonprofit organizations to connect with the public. It is now a staple for nonprofit organizations to have profiles on social media sites, and to utilize this online presence to engage stakeholders and donors. This study looks at success variables within social media campaigns, and identifies ways in which NPOs can utilize social media as a platform with the best opportunity for success. This article represents a focused effort in this direction. The research question is: what success variables make social media campaigns effective in raising funds via online-giving? This is an inductive qualitative analysis that explores the features of social media based advertising, and identifies success variables that can be adapted to future campaigns and a variety of organizations.

Introduction

The public sector is aimed at meeting the needs of the majority of individuals; as such its services are aimed at the median and average needs of a population. The nonprofit sector originally emerged from a failure of the public sector to meet certain needs within the population. Nonprofit organizations are voluntary and self-governing and may not distribute profits (Borris, n.d.). Globalization has enabled nonprofits to operate beyond national borders, and eroded boundaries between the public and private sectors (Hall, 2011).

The nonprofit sector fosters civil engagement, social capital, informs public policy through education, and creates income and jobs (Borris n.d.). Since the advent of this sector it has become one of the most rapidly growing sectors in the world. As of 2013, there were over 175,000 registered nonprofit organizations in Canada (Statistics Canada, 2009), and over 1.5 million registered nonprofit organizations in the United States of America (National Centre for Charitable Statistics, 2010). The nonprofit sector accounts for 8.1% of total Canadian GDP (Sector Impact, 2013), and 5.5% of total American GDP (National Centre for Charitable Statistics, 2013).

It is a commonplace belief that the majority of funding for NPOs comes from government sources, but these organizations receive funding from a variety of sources. Examining the core nonprofit sector (excluding hospitals, and universities), one third of all nonprofit revenue actually relies on membership fees, donations, and investment income, while government funding accounts for just 20% of their revenues (Statistics Canada). NPOs with smaller revenues rely even more on income from nongovernment sources including donations and gifts (Statistics Canada). Therefore, it is now commonplace to see these core NPOs advertising in ways that aim to engage the public with their organization.

With the continually growing popularity of social media, many organizations are now using it as an advertising platform to reach more individuals. Social networking is becoming increasingly popular because people want to connect; this provides the opportunity for public engagement by nonprofit organizations. Social media is defined as “websites and applications that enable users to create and share content or to participate in social media networking” (Oxford English Dictionary). Facebook is the world’s second most visited website, Twitter ranks tenth, and Instagram is ranked 23rd most visited (http://www.alexa.com/topsites). Facebook currently has 1.59 billion users, Instagram- 400 million, and Twitter has 320 million (Statista, 2016).

The rapid diffusion of social media has boosted NPOs ability to strategically and effectively engage large audiences of stakeholders, donors, investors, and volunteers, as well as to draw newer and younger audiences to their organization. As such, it is now a staple for organizations to both have social media accounts, as well as to utilize them for a variety of purposes. These purposes often include:
networking with current and future stakeholders, the creation of valuable partnerships, seeking new donors, seeking new members, renewing existing memberships, and associating with other prominent organizations in the field.

An emerging body of literature has explored how nonprofit organizations are using social media, and what they are using social media for. However, little literature exists discussing the use of specific social media campaigns as a tool to drive donation to NPOs. Literature barely touches on how organizations with existing social media presence and audience can use targeted campaigns to increase donation to a specific organizational cause. There is a need for research regarding what makes campaigning on social media successful, and how these success variables can be adopted and adapted for a variety of campaigns and organizations.

This article represents a focused effort in this direction. The research question is: what success variables make social media campaigns effective in raising funds via online-giving? For the purposes of this article online-giving refers to any donation made via the Internet, texting, e-mail, or other versions of online donation. This article will examine five nonprofit organizations across a spectrum of subjects. This question is answered in three parts: (1) Does the NPO have an existing presence on social media sites- Facebook, Instagram, and Twitter? (2) The NPOs website is examined for clarity, transparency, and whether there is a link to become involved, (3) One specific campaign from each NPO is examined for variables contributing to its success in raising donations for a specific cause. This analysis will look at two levels: the existing presence and reputation of the NPO online, and success variables specific to the social media campaigns examined.

This is an inductive qualitative analysis that explores the features of social media based advertising, and identifies success variables that can be adapted to future campaigns and a variety of organizations. Drawing on this analysis a concept map is created that identifies success factors specific to each campaign. This concept map is then utilized to create a continuum of success that identifies the most important aspects to effective social media marketing for all NPOs to be successful. Following this, the idea of content marketing as a crucial means for engagement of the public is introduced. Beyond the theoretical contributions, this article provides an investigation into what makes a campaign successful, and what this success means for the organization as a whole moving forward. It is important to define success within the nonprofit sector not only as raising revenue, but also as increasing awareness related to the organizations cause, and to increasing engagement of the public and volunteers within the organization. This article is organized as follows: a literature review is completed, than the research question is answered in its three respective parts. The fourth section represents the analysis and discussion of the findings, and this article is concluded with a discussion of this study’s limitations, implications, and recommendations for further research.

Literature Review

The literature relating to this topic so far is focused on how nonprofit organizations can use social media membership to engage with potential donors and stakeholders. Little exists on how NPOs can create specific campaigns to enhance donations to a specific cause, as well as increase awareness and volunteers as a long-term result. Because technological innovation and social media evolves so rapidly, much of the existing literature can be out of date soon after publication.

Kaplan & Haenlein (2010) advise choosing carefully the right social media medium to connect with your target audience, and being active within whichever mediums you do decide to be necessary. They also offer that ensuring activity alignment on different sites, having an integrated media plan, being honest, and being interesting are all necessary variables to retain followers and support for your organization online. They finish the article by cautioning against utilizing social media as the only means of connection, and forgetting to foster face-face relationships and communication with long-term supporters.

Through the content analysis of 275 organizations on Facebook Waters, Burnett, Lamm, & Lucas (2009) found that although NPOs understood the importance of disclosure on their profiles, this extended to the administrators, and description of the organization, while less than half disclosed the mission statement. Waters et al. concluded that although nonprofits are transparent on their Facebook profiles, they need to enhance their information dissemination and are not utilizing their profiles to their fullest potential for engagement.
Guo & Saxton (2013) identify advocacy as being a necessary central tenant of all NPOs, and assert that advocacy initiatives should represent an additional path for achieving the organizations mission. This study found that the majority of tweets were aimed at providing information to stakeholders, building an online community, and calling to action this community and stakeholder presence. This study concludes that mass avenues such as twitter tend to work better with indirect advocacy tactics such as grassroots lobbying and public education, rather than direct calls to action.

Dolnicar & Lazarevski (2009) assert that the adoption of a market-oriented perspective is becoming essential for NPOs due to the necessity to compete for funds and supporters in order to fulfill their mission. They argue that NPOs operating in different countries are exposed to different environments, and as such they need to adapt their marketing strategy to cater to those environments. They conclude that the majority of NPOs fail to engage in strategic marketing and as such are unable to reach their full potential for receiving support.

Sarah Smith (2012) states that although charitable giving is philanthropic in nature, individuals attempt to make the best decision on which organizations to financially support and in doing so incentives and economics do matter. Smith concludes that peer effects are powerful donation initiatives, and that tax incentives are likely to be beneficial in increasing donations. Sisra Neti (2011) states that social media is not only about money, rather about interacting, learning from the supporters, identifying supporters, and innovating on services.

Saxton & Wang (2011) investigate online giving and identify that it is not governed in the same way as in “off-line” donation. Donors are not interested in efficiency rations, donations are smaller and success is rather related to an organization “web-capacity”. This study concludes there is a strong relationship between the size of an organizations social network and the receipt of contributions. Contributions are concluded to come more often through a social network effect in which donors reach out to circles of friends in their own social networks.

Ronald Hill (2011) concludes that greater levels of interactivity, feedback, encouragement, customization, and clarity are fundamental components of successful programs. While Greenberg & MacAulay (2009) conclude that many Canadian nonprofits are using their online presence to disseminate messages to the masses, but doing little to foster two-way communication.

Miller (2011), & Andreasen (2002) both agree that organizations should foster social engagement and social marketing must nurture growth and increase penetration. Miller (2009) continues to conclude that NPOs need to be more proactive in recruiting social media followers, if they want to remain connected to younger followers, they need to do a better job of informing. Additionally, Miller states that although individuals who follow NPOs read all of the materials that are provided, they still feel undereducated on important policy issues. This suggests that NPOs should send out more comprehensive and frequent newsletters to members. Miller finishes by stating that only so much is possible with the use of social media, and that it cannot replace face-face communication with supporters.

Lovejoy, Waters, & Saxton (n.d.) examined how 73 organization use Twitter to engage stakeholders through tweets and other various communication methods. This paper discusses that although Twitter has a 140-word limit, it can be used as a more effective and complex communication tool within the nonprofit sector. This article concludes that while Twitter- like other social media avenues- has a wide potential to build relationships, it is not being utilized to its full potential. Namely, twitter is only being used to disseminate information, rather than as an avenue for two way communication and engagement of followers within the organization.

Kylander & Stone (2011) discuss the importance of fostering a role for brand within NPOs. They argue that brand can play a role not only in fundraising- but also in a wider strategic manner in driving broad long-term social goals, while strengthening internal identity, cohesion, and capacity. They argue that nonprofit leaders need a brand that sustains their global impact, serves their mission, and stays true to the organizations values. This study concludes that brand management is especially challenging for organizations working internationally, but can align image and identity, and strengthen internal cohesion as well as external trust. International organizations will find it increasingly important to build brand around missions, values, and strategies to establish external trust within donor and stakeholders.

Mark Rovner (2013) discusses the charitable habits of different generations, and how the knowledge of these habits can implicate targeted advertising. The key findings from this article are that
most Americans give, with matures being the most generous generation. Baby boomers will exert an increasing influence on charitable giving for the foreseeable future. Generations X & Y are far more likely to donate online, and as many baby boomers donate online as do by direct mail. The value of social media is un-channeled, and peer-peer fundraising has significant implications as a positive donation strategy. This article concludes that multi-channel advertising is optimal, but the preferred mix varies by generation. Additionally, this article recommends getting as many young donors’ support as possible, because while they may not donate as much now due to financial limitations and are more likely to volunteer this will develop into a long-term donor relationship over time.

The Advantage of Social Media

Social media is a means by which organizations can engage with more followers than ever. In doing so, they are able to disseminate a vast amount of information to a mass number of individuals. Statistically this provides a greater opportunity for success in receiving donations for an organization. Success is defined by the Oxford English Dictionary as “the accomplishment of an aim or purpose, the attainment of popularity or profit”. This definition is important because social media provides a platform for success as more than just a source of revenue. Social media provides an avenue with which organizations can strengthen their public image.

Where NPOs can foster their mission, values, and goals by furthering the advocacy activities engaged in by their organization. Social media also provides an increased awareness of an organization, and can improve success through donations, but also through reaching more individuals, and increasing volunteer support as well. Why is social media an area of such emphasis, and how can NPOs successfully utilize social media to its fullest potential?

The 1% of NPOs with annual revenues exceeding 10 million dollars receive 59% of all revenues thus, competition for the remaining 41% is stiff, and social media can be utilized to bridge this gap successfully (Statistics Canada). Canadians alone annually donate over 10.6 billion dollars to charity each year, and over 13 million Canadians volunteer for charity each year (Imagine Canada). Effective social media campaigns can significantly enhance the share of these financial and voluntary contributions to an NPO, as the younger generations are donating mostly if not entirely online (Rovner, 2013).

Nonprofit Tech for Good (2015) conducted a study whose results demonstrate the importance of fundraising and social media that all NPOs should be aware of. The study found that: in 2014, 1.4 billion people donated to NPOs, 12% of donation occurs between December 29-31, 64% of all donations are made by women, Canadians donate the most money overall (84%), generation X donates more frequently, volunteers give twice as often, 1/3 of revenue comes from e-mail, 54% of donations are made by individuals with 4 years or more of higher education, 91% of mobile internet traffic is used for social media, 51% of all people visiting your website do so on a phone, and responsive donation pages receive 34% more donations.

The implications of this study are vast, and provide invaluable information on the audience of social media campaigns. Using this data, nonprofit organizations can increase the donations that they receive by altering a few simple things within their social media profiles and their social media campaigns. For example, tailoring a campaign to college graduate women would target a vast majority of those who donate. Noting that 1/3 of donations come from direct e-mails, organizations could provide require an e-mail signup rather than a membership fee to increase traffic, and capitalize on this strategy. Understanding that a website should be responsive to adapt to mobile screens would increase the likelihood of donations received because it factors in the sheer volume of individuals that visit websites directly from their mobile device. Additionally, targeting an extra campaign to run December would increase the donations received by an organization because a large percent of donation occurs within this last month of each year.

Nonprofit Organizations Analyzed

This study examines 5 nonprofit organizations, their current presence on social media, and examines how specific extra campaigns have been successful in raising money for these NPOs. These organizations were chosen randomly because they are all involved in different sectors. Furthermore, each of these organizations has engaged in a social media campaign in addition to their already existing
presence within the realm of social media. Each organization is described briefly throughout the next section.

_**Epic change**_ is a social innovation lab that believes love changes everything. They create movements designed to amplify the voices of change-makers and work to inspire investment in their ideas by spreading the love they manifest. Their experiments harness emerging ideas and approaches to spread love, and create new possibilities. They have created over 60 jobs, a school for over 600+ children, and raised over $300K+. Epic change consistently demonstrates the ability to harness the web to drive attention and investment to grassroots change-makers (Epic Change, n.d.).

_**Charity Water**_ is a nonprofit organization with the mission of bringing clean drinking water to every person on the planet because access to clean water can improve health, increase food access, and grow local economies (Charity Water, n.d.). _The American Red Cross_ exists to provide compassionate care to those in need. Their mission is to prevent and relieve suffering, at home, and around the world in five key areas: disaster relief, supporting military families, lifesaving blood, health and safety services, and international services (American Red Cross, n.d.).

_**Pencils of Promise**_ is a global community that believes everyone should have access to quality education. Guided by the 100% promise- 100% of donations go directly to programs, 100% of leadership is local, 100% success. Since 2009 pencils of promise has built 344 schools and served 33,883 students. _Crohn’s and Colitis Foundation_ connects inflammatory bowel disease research directly with patient care, and improved outcomes. This is the only national, volunteer based foundation focused on finding a cure for crohn’s and colitis and improving the lives of those affected by the disease. One of the top two health charity funders for this cause to date having raised $94 million for research (Crohn’s and Colitis, n.d.).

**NPOs Existing Presence on Social Media**

For the purposes of this examination this study is limited to identifying whether the NPOs in focus are members of Facebook, Instagram, Twitter, or some combination of the three social media platforms. _Epic Change_ is only a member of Twitter, and Instagram and does not currently hold a Facebook account. Epic change does not consistently update their Twitter or Instagram account- their last update having been posted in 2013, and providing links to photos of events, as well as information about certificates being written for those who participated in a specific program. On Twitter Epic Change has 2795 followers, and has 301 followers on Instagram.

_**Charity Water**_ currently holds an account on Facebook, Instagram, and Twitter. They update all three profiles regularly, having posted on each account with no longer than 7 days in between posts. The majority of their posts are updates on progress in specific building areas, as well as quotes and photos that relate to their mission and goal to bring clean water to every person on the planet. On Facebook Charity Water has 330,554 followers, on Instagram 291K followers, and on Twitter 1.5 million followers.

_The American Red Cross_ has accounts on all three social media sites, which they update regularly. In doing so, the provide information about the events they are currently engaged in, world events, provide public education, posts expressing gratitude, and posts containing links to donate. On Facebook The American Red Cross has 721,343 followers, on Instagram 40.2K, and on Twitter 2.61 million followers.

_**Pencils of Promise**_ currently holds accounts on Facebook, Instagram and Twitter. They update all three regularly with statistical information on the number of children worldwide without access to education, photos of the children that are now able to attend school due to this organizations efforts, as well as videos relating to current projects, and progress on past projects. Currently on Facebook Pencils of Promise has 211,199 followers, on Instagram 162K, and on Twitter 247K followers.

_Crohn’s and Colitis Foundation_ currently has a profile on Twitter and on Facebook, but does not currently have an account on Instagram. They update both accounts regularly providing information related to current research, procedures, links to medical articles, and links to donate. Currently on Facebook Crohn’s and Colitis Foundation has 131,271 followers, and on Twitter 17K followers (Facebook, 2016), (Instagram, 2016), (Twitter, 2016).
NPOs Website

Based on examination of each of these organizations it was found that each organization does maintain a website. The websites were examined for clarity, information, and links for individuals to donate directly to the organization, as well as links to subscribe.

Currently each of the organizations being examined has an up to date website for their organization. Each website displays the mission statement of the organization in some form, provides information and background related to the organization and its goals, and provides information related to the campaigns that have been successful for the organization. Each of the organizations provide a link to donate within the main interface of their webpage, as well as providing another link on other ways to become involved with the organization and its mission.

*Epic Change and Pencils of Promise are* the only site that provide the link to their annual reports within the main toolbar of the website. The rest of the organizations do have links to each of their annual reports, but they are not available without searching. Furthermore, each of the websites has the ability to subscribe to more information utilizing an e-mail address.

NPOs Social Media Campaigns

Within each of the NPOs examined one social media campaign was analyzed in order to identify success variables that contributed to the positive outcomes of the campaign. *Epic Change* conducted the social media campaign “Tweetsgiving”, this campaign was launched exclusively on Twitter, and used a simple hashtag and the main premise of gratitude to elicit a donation in honor of what individuals were grateful for. This campaign raised $11,000 in 48 hours (Sumac, 2013).

*Charity Water* launched the campaign “Twestival”, in which contributing to their mission of clean water for every person on the planet was the primary goal. This campaign raised over $250,000 from 10,000 new donors. *The American Red Cross* launched the “Haiti Text Campaign” in response to the earthquake in Haiti and raised an astounding $32 million dollars all via mobile donations. (Sumac, 2013).

*Pencils of Promise* launched their “back to school campaign which used photographs to add a personal aspect to the campaign. This campaign is launching again in the coming months, but its original version raised $110,000 through Instagram. *Crohn’s and Colitis* annual “No go gala” utilized crowd sourcing to raise $375,000 to contribute to furthering research into this debilitating disease. (Sumac, 2013).

Positive Outcomes of Social Media Engagement

Through the analysis of the various campaigns launched by these nonprofit organizations, as well as through examination of their websites, and comparison to literature this study has identified several positive outcomes of engaging effectively with social media. Engagement in social media gives current stakeholders the opportunity to find up to date information more readily, as well as allowing input in a user generated counter face that will allow interaction of prospective stakeholders.

Social media helps to engage donors through campaigning as well as through existing profiles on a variety of social media platforms. This also acts to advertise and disseminate information on behalf of the organization and promote its mission and values. Engagement in social media helps to foster and create relationships with the online community and can foster relationships with other communities—such as in a specific workplace, geographic location, etc.

Use of social media allows for the creation and maintenance of partnerships with other organizations and fuels success, and NPOs who help to advocate for other organizations as mc as or more than their own are more successful (McPhillips, 2014). Social media helps to disseminate information more rapidly and widely, and progress toward the mission of the NPO more often; this increases confidence of members, helps to recruit new members, and fosters external trust in the organization.

Concept Map

Through this inductive analysis of five nonprofit organizations, their current presence on social media websites, and their current maintenance of an individual website a concept map has been created identifying specific success variables within each of the five campaigns examined. Figure 1 displays the social media mediums examined, as well as listing the organizations examined. This figure shows
which media sites each organization is a part of, as well as the number of followers that they have on each website.

![Social Media Mediums Diagram]

Figure 2 displays the five specific campaigns analyzed, how much money they raised. Below this, each campaign was analyzed for four specific success variables related directly to that campaign. The bottom of the figure shows seven overall variables of success that were present in all of the campaigns analyzed.

![Concepts of Success Diagram]

**Content Marketing**

Content marketing is defined as “a technique of creating and distributing relevant and valuable content to attract, acquire, and engage a clearly defined and understood target audience- with the objective of driving profitable consumer action” (Content Marketing Institute, n.d.). Content marketing is an important concept in making social media campaigns a successful method of raising donations and public support. Most nonprofit organizations do not clearly define a brand within their organization- let alone use this brand to strengthen their public image (Kylander & Stone, 2011). Furthermore, the
majority of nonprofit organizations are not engaging in effective marketing— even though the current economic client forces them to compete for financial resources (Dolnicar & Lazarevski, 2009).

These concepts are both extremely important to achieving success within social media campaigns for nonprofit organizations. The role of branding should not be overstated because it is the public image that draws new members to be interested in the cause and mission of the organization. Without an effective brand or public image, NPOs cannot hope to draw new and lasting members to the organization as donors, or volunteers.

In the current economic climate, NPOs are now competing more than ever for the resources that are donated, as well as for supporters and volunteers for their organization. As such, it is more important than ever for NPOs to consider the role of marketing in their advertising. However, NPOs can look at the role of advertising from a unique perspective, rather than strategically marketing a good or service, they need to effectively market their mission to receive support.

How can NPOs successfully brand and market a mission? Utilizing the concept map, literature, and examination of the organizations a continuum of success was created, this continuum should be followed by all NPOs hoping to gain a support base that not only increases donations, but also increases supporters, stakeholders, partners, and volunteers.

**Continuum of Success**

![Continuum of Success Diagram](image)

Figure 3 shows the continuum of success derived from a combination of the previous literature, as well as from the concept map, and the websites of each organization. This continuum represents necessary concepts for every NPO to adopt in order to obtain success on a social media platform. Determination refers to the purpose of the organization, in line with the values and norms accepted within this sector. This purpose must be firm, ethical, clear, and there must be a commitment to stay resolute in maintaining these values and boundaries at each level of the organization. This builds relationships and maintains the integrity of both the organization and the sector as a whole. Additionally, determination refers to identifying social media presence as a priority within the organization, and as such being determined to dedicate adequate resources to creating and maintaining an online image. NPOs must be active users of their media profiles in order to maintain interest and foster the longer-term relationships that bring repeat donors, and continuous support.

Community refers to the necessity of a community of support and engagement for the organization. Without a community of stakeholders, volunteers, donors, partners, and many others organizations would not be able to function. Maintaining this community is essential and builds relationships and fosters a continued engagement and a lasting network that will maintain an organizations success. A nonprofit must create and foster a community of supporters both through
online and face-face communication. It is extremely important to this sector that this community be able to engage in two-way communication. Many of the failures in utilizing social media come from simply disseminating information rather than creating a two-way dialogue with supporters, which is necessary to fulfill the user-generated content aspect defined as social media.

Intention and continuity refers to the intention of the organization, this must be clear and with that intention there should be a consistency within all levels of engagement. So the intention of the organization should not be different in a different geographic location, this international management is difficult but fosters increased external trust and support of an organization. There must also be a continuity in how the organization interacts with the public, as well as maintains their image and engagement with partners.

Transparency is the single most important success factor, not only in hosting successful social media campaigns, but in continuing to build and strengthen relationships. Transparency is the biggest contributor to the lasting success of an organization, as it is what creates trust within current, and new members. This enhances the ability of an organization to have more effective campaigns, relationships, and to reach a variety of goals without its underlying cause being questioned. Transparency comes from an honest availability of information relating to the organization. This includes a mission statement that is clear, goals that are clear, available annual reports, the ability to donate, an outline of where the money donated goes, as well as progress reports on what the organization is doing, and its future goals. Without transparency, individuals will lose trust in an organization, and will move their support to an organization that provides them with information, education, and honest updates on progress, as well as organization values, etc.

Discussion

The theoretical implications of this research are important, and may have a significant contribution to how nonprofit organizations utilize social media profiles, websites, and campaigns to ensure success for their organizations in the future. NPOs can now target campaigns to include the concepts outlined on the continuum of success, utilize the overall tips for success outlined in the concept map, as well as utilize the facts from the aforementioned study to tailor their campaigns to target populations. Moving forward NPOs need to consider the role of brand, and strategic content marketing within their social media profiles, and specific social media campaigns in order to give them the best chance of success - defined as gaining revenue, as well as partners, stakeholders, and volunteers.

The limitations of this study include that the social media sites examined were limited to Facebook, Instagram, and Twitter, and did not include other social media sites such as YouTube, Tumblr, and Flickr. Furthermore, this study only examined five nonprofit organizations, and only one campaign from each organization, it did not compare and contrast the different campaigns launched by the same organizations and thus, is not transferrable to all social media campaigns. Additionally, this study examined five nonprofit organizations that had an existing reputation when launching their campaigns, and did not examine how a relatively new nonprofit organization can best gain followers before launching a social media campaign.

Further research would be indicated in conducting a study that collects primary data from individuals asking whom they donate to and why they decided to donate to a particular organization. This primary data could then be correlated with the concept map and continuum of success drafted here in order to create a more comprehensive version of the success variables that are essential to nonprofit marketing in social media.

Conclusion

Overall, this study examined the role that social media plays in the success of nonprofit organizations. It further went on to identify success variables that were specific to the examined campaigns and utilize those to create overall success variables and draft the continuum of success. Social media is an ever-growing platform in which organizations can utilize the reach and rate of information dissemination to reach more individuals and have a larger impact. This study identified ways in which nonprofit organizations can utilize social media to their best advantage, using content marketing, branding, and targeted campaigns to create the most effective overall impact on potential donors. The nonprofit sector helps to foster civil engagement, social capital, and inform public policy through education and public involvement.
The nonprofit sector is still rapidly growing, and the advent of social media has made a unique opportunity for this sector to capitalize on the full potential of social media in order to create long-term relationships with potential donors and stakeholders. While it is often believed that the majority of NPO funding comes from government, smaller NPOs often rely heavily on individual donation, investment, and nongovernmental sources of income. As such, nonprofit organizations need to dedicate the proper resources to the management of an online presence for their organization.

The rapid diffusion of social media has boosted more than ever the ability of NPOs to engage with larger audiences, as well as have the ability to continually draw new audiences and this can be a very effective method of maintaining financial support.

This article represents a focus on how NPOs can be successful in utilizing social media campaigns. Five nonprofit organizations were examined, and an inductive qualitative analysis was done to identify variables that created positive outcomes for the NPOs based on their specific social media campaigns. Limitations and recommendations for further research have been discussed. It is important to define success within the nonprofit sector not only as raising revenue, but also as increasing awareness related to the organizations cause, and to increasing engagement of the public and volunteers within the organization. This article provides a forward movement in identifying how NPOs can create more successful campaigns, and engage with the public in a more effective way as they move forward with their social media campaigns.
References


Currency Option Trading Strategies as an Alternative to Central Bank Spot Market Interventions

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Abstract

An important component for economic stability in emerging market economies is the management of exchange rate volatility and the smoothing of drastic movements in the currency’s value. This topic is of concern not only for policymakers, but also for foreign investors, local businesses and domestic households. Exchange rate volatility affects the inflation targeting goals of central banks, the wealth accumulation of individuals, investment opportunities for businesses, and economic growth overall.

Many emerging markets’ central banks wish to exert some control over the direction and speed with which the value of their currency changes. The necessity of managing volatility in exchange rates has become stronger as these economies become more globally integrated. Many have attempted to manage the risks associated with volatile foreign exchange markets through currency market interventions. Historically, interventions have consisted of using foreign exchange reserves to purchase and sell foreign currency directly in the spot market. However, these interventions are not the only ones available to central banks. This paper explores how currency options may be a viable tool for central bank risk management related to exchange rate volatility in two ways.

First, we explore the historical use of options by central banks with a focus on the success of the strategy in Colombia, which is the only economy that has employed the use of currency options to control exchange rate volatility. Using event study methodologies, we find that in fact in 80 to 90 percent of the cases the currency options auctioned by the central bank were successful in lowering volatility and countering persistent appreciation or depreciation of the currency.

Second, we test the use of a new options trading strategy that can be leveraged by the central bank to intervene in currency markets with a clear, market-driven approach. In many cases, when central banks intervene in the spot market through buying or selling foreign currency, there is no clear approach to determining the amount of the purchase/sale or the size of impact on the exchange rate. Using simulations of the exchange rate, we employ the Garman – Kohlhagen model and show how the hedging position based on the change in the delta of each option gives the central bank a clear approach to its optimal position in the spot market. We find that the proposed strategy has the potential to build markets, increase liquidity, influence expectations, and incorporate inflation targeting directly into the option pricing mechanism to combine the monetary policy objectives of the central bank and its intervention strategy.

In this paper, we demonstrate that the abandonment of currency options as a central bank intervention mechanism was premature, that the benefits of such a tool have not been fully appreciated in past literature, and that understanding the potential of currency options as a central bank tool is vital in this dynamic global economy.

Keywords: exchange rates, currency market intervention, currency options, international finance
A Research Perspective on Application of Cloud-Based Enterprise Resource Planning for Building Futuristic Organisation and Deliverance of Return on Investment

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Abstract
The remit of this article is to explore how technology acts as a catalyst and an enabling tool for organisational growth, sustainability and deliverance of Return on Investment (ROI) in a hyper-competitive, volatile and ambiguous business environment. Application of the right technology at the right time and the right cost is the building block of a future-ready globally integrated organisation. Thus the author endeavours to present a research perspective on the impact of cloud-based information technology solutions to an organisation’s business process architecture and management so as to make the organisational future ready by making it more flexible to scale up and integrate. The author also presents a perspective as to how adoption of a two tier approach of Enterprise Resource Planning (ERP) in a cloud-based technology platform can help the organisation to be future-ready by being more competitive and growth oriented. The success of tomorrow’s organisation lies in architectural arrangement of the processes and systems which will make it highly flexible to adapt and innovate better and faster than the competitors and ensure deliverance of ROI. In this process it is critical to apply the latest technology driven business processes in an integrated manner so as to enhance the scope of value delivery to customers and other stakeholders. This article contributes to develop a perspective and make a business case for application of cloud-based ERP for making the organisation futuristic.

Keywords: Enterprise Resource Planning, Seamless integration, Business Process Architecture, Return on Investment, Cloud-based platform, Future ready

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The Emergence of Patronage States in Central Europe: The Case of FDI-related Policies in Hungary after 2010

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Despite the profound development success of Central European economies of the past 25 years, Hungarian and Polish governments have started openly query the applicability of various elements of the “competition state”. They took measures to curtail the activity of multinational firms that have played an important role in the successful modernization process of the region. This paper makes an attempt to explain the rationale of this policy using the political economy approach. It defines economic policy changes as shifts in the power relations of national elites. It highlights the selective advantage and punishment measures which are labelled economic patriotism. Yet, economic patriotism is interpreted in this paper as the application of covert discrimination policies applied for the benefit of spatially defined interest groups. The discussed policies are targeted rather at closely defined companies. They are not here regarded as tools of economic patriotism but rather of state clientism, or a departure from a competition state towards a patronage state.

Keywords: multinational companies, economic patriotism, elites, patronage state

JEL classification indices: D72, H82, P16, P31

Introduction
The Central European transition process has been earmarked by the strong penetration of multinational business, especially in the Visegrad (V4) countries. The role of foreign capital in establishing state-of-the-art manufacturing industries and service sectors was seen as a systemic element with a remarkable historical background for the region, mainly on the territory of the former Austro-Hungarian Empire (Szanyi, 2003). Another rationale of the powerful presence of multinational business was the unfolding globalization process. Markets became global. Global competitiveness depended on the successful combination of traditional comparative (local) advantages and new, company-bound competitive advantages. These later could be most readily offered by investments of multinational firms. The combination of various competitiveness factors is reflected in the most commonly used FDI theory, the Eclectic Paradigm by John H. Dunning (1988, 2001). Nowadays technologies with large factory and batch sizes enable firms to build regional centers. Production facilities need not be repeatedly established in neighboring countries. First movers of the region, countries which opened up their economies early obtained significant advantages in FDI attraction. Today we note that multinational firms became stable and progressive elements of V4 economies. It is therefore rather surprising that the strong presence of multinational business has become a political issue in V4 with rather successful FDI attraction records. Political debates on multinational business have started and (populist) conservative parties called for action against their spreading influence. This is most visible in Hungary and Poland. The debates are usually heated by anti-globalist sentiments, strong criticism is articulated, and benefits are neglected. In order to conceptualize this trend it can be formulated as an expression of economic patriotism (Clift and Woll, 2012; Naczyk, 2014). This interpretation states that (populist) conservative political elite would like to modify the group of winners of the transformation process. However, international competitiveness still depends on the performance of multinational firms. Moreover, international institutions continue to safeguard important

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1 The paper was elaborated in the framework of the research supported by the Hungarian National Research, Development and Innovation Office (Grant No. 112069).
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achievements of liberalization in world trade and factor flows. The room for open protectionism is therefore still restricted but the application of new, covert forms has become more common. This practice is reflected in changing Hungarian and Polish state policies towards multinational business. These new policies also mean a departure from the concept of a competition state and a shift towards a patronage state. I argue in this paper that the kind of economic patriotism which has been applied currently in Hungary and Poland runs the risk of killing sources of dynamic economic efficiency by limiting not only global but also local competition.

In the remaining part of the paper I first introduce the concept of economic patriotism as a form of business-polity relationship, highlighting the role of business elites and their networks. In the second part of the paper I provide empirical evidence of changing FDI-related policies from Hungary to illustrate that these policies can be interpreted as a special form of economic patriotism. I also introduce results of an empirical survey that was conducted among multinational firms that signed strategic partnership agreements with the Hungarian government. These long-term cooperation agreements were conducted with selected multinational firms working mainly in manufacturing industries. The impact of this bilateral cooperation network will be evaluated together with restrictive policies against other multinational firms. The final part concludes.

**Economic patriotism and changing power relations of elites in CEE**

Shifts in FDI-related policies in Hungary and some other CEE countries (especially the V4) can be discussed from the political economy viewpoint. I interpret these changes as modifications in the business-polity relationships. In this regard three main strands of literature are applied in this paper. The first draws on the evolution of elites during the transition process. The second analyses the role of networks in business-polity relationships. The third approach combines the former two in a broader context and discusses the emergence of economic patriotism and clashes with the two decade long reigning neo-liberal economic thought of as a power shift in political and economic elites. In this paper I will use mainly the Hungarian example to illustrate tendencies that might have a more general Central European application. Yet, more research has to be done to work out details of similar processes in other countries.

In order to investigate the shift of FDI-friendly economic policy towards a more low-key and sometimes even hostile stance of the Hungarian government it is necessary to discuss briefly the starting point. In earlier papers I argued that the FDI-led economic development path that Hungary and other CEE countries took in their transition process had historic roots and was reinforced also by the urgent restructuring and modernization needs due to global competition. This later statement, however should not necessarily be taken as given (like an imperative of the globalization process) but can be conceptualized as a deliberate policy to capture economic and political power in CEE countries. I believe that in the case of Hungary FDI-led development was coded by the antecedents of the time of systemic transition starting in 1990. Such determining factors were the economic reforms of the planned economy, heavy debt burden that pushed privatization towards the sales method, severe undercapitalization of firms and the weak domestic bourgeoisie (Szanyi, 2003). Although transition background and policies differed in other CEE countries, development of V4 economies converged towards an FDI-led development model regardless of the differences. The dependent market economy (DME) model of Nölke and Vliegenhard (2009) conceptualized and criticized this development path. Based on this background I feel inclined to look after various policies that first intended to help multinational business dominate V4 economies later tried to reduce this dominance.

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4 The term competition state is taken from Drahokoupil (2008) and refers to liberal state policies allowing full penetration of global competition on domestic markets. The term patronage state is applied after Schoenman (2014), and refers to the importance of personal business-polity linkages in shaping economic policies, a strong, general curtailment of competition in local markets with the dominance of polity over business through the usage of selective advantage measures (business capture).

5 Some of this work has already been done and published in the literature that I will also use in this paper.
Elites

The CEE transition process was designed by an interplay of local political forces and the international advising institutions the recommendations of which stemmed from neo-liberal concepts. The aim of shaping social processes mainly supporting the emergence of a local bourgeoisie was an important aspect of the transition process. Liberal concepts of ownership change and the role of privatization emphasized the political impacts of the process. The reduction of state property was regarded as crucial element in institution building mainly because of its role in reducing chances of surviving paternalism between managers of state owned enterprises and politicians at various levels (Boycko et al. 1996; Rapacynski, 1996). The liberal concept emphasized the liquidation of incumbent management’s power position in order to make the transition process irreversible (Friedman and Rapacynski, 1996). Concerning the practical implementation the general concept did not make strong recommendations, e.g. in favor of foreign investors. Therefore, privatization practice varied among CEE countries. Yet, privatization was a key issue of the transition process in all transition countries.

Political economic approaches of the privatization process soon directed attention to the empirical fact that incumbent management’s influence and economic power could not be eliminated (Stark, 1996; Stark and Bruszt, 1998). Nevertheless, fears of reversing the transition process proved to be unfounded. Instead, new power networks evolved that included old and new players in the economy and in the polity as well. New types of alliances were set up, new elites were created. While penetration of multinational business was very quick in transitioning economies’ markets, local companies’ and entrepreneurs’ adjustment processes lagged behind (Szanyi, 1996). Therefore, market power shifted very quickly away from local firms to foreign companies. Foreign penetration increased to unusually high levels.

This process of economic restructuring was also reflected in relationships between business and polity. Both foreign and domestic business organized itself into various interest groups. Drahokoupil (2008) analyzed the emergence and impact of the new elite around foreign-owned companies. He regarded this elite as the ultimate winners of the transition process in CEE, especially in the V4 countries (as compared with the position of the incumbent technocratic-managerial elite and the new entrepreneurs). He called this elite “foreign investors with their comprador intellectual allies”, and claimed that “the domestic comprador forces rather than their foreign allies had … a major role in domestic politics” (p. 361). The rise of this sector was intertwined with the consolidation of the “competition state” the main aim of which was the insertion of the local economy into the structures of global capitalism. It is important to note, that the “domestic comprador elite” bound to foreign investors need not be a proprietor class. Based on the “strategic-relational state theory” Drahokoupil et al. (2008) argue that the social relations of production, institutions and ideas constitute “a (strategically selective) environment that provides advantages to some actors and certain strategies over others” (p. 363). If this environment is determined by one or another type of elite the advantages will be received by actors bound to the given ruling elite.

The dominance of one or another elite may or may not be politicized and bound to parties in power. In this regard we find observations for both solutions. Drahokoupil (2008) argued that the political support of the competition state went beyond party divisions in CEE. Thus, the connected “comprador elites” might work under the rule of various political parties. Post-crisis experience showed a more partisan approach towards foreign investors in some CEE economies, most importantly in Hungary and in Poland. Schoenman (2014) on the other hand made the type of business-polity connections conditional to political and economic uncertainty, and the strength and degree of organizations of networks 6

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6 Drahokoupil (2008) characterizes the FDI-related elite, the „comprador service sector“ and its recreation as follows: „I characterize the domestic actors linked to FDI as the comprador service sector… (It) comprises various groups providing service for foreign investors. It includes local branches of global consulting and legal advisory firms and their local competitors, companies providing other services to foreign investors and officials from FDI-related state bodies. This group is comprador as it is structurally dependent on transnational capital, whose interests it represents. Structurally, this sector is not a bourgeoisie, as it constitutes neither a proper class nor a professional managerial class…. (Its) links to foreign capital can be characterized mainly by the Weberian notions of ‘market capacity’ and ‘income class’….the comprador service sector helps to translate the structural power of transnational capital into tactical forms of power within the states…The structural power of capital is derived from the dependency of the state and society at large on the investment decisions (p. 366-7).“ This type of dependency is fundamental to the DME model of Nölke and Vliegenhart (2009), too.
(lobbying platforms). According to him all three above mentioned elites may or may not act in non-partisan ways in relation with polity, depending on their level and strength of organization and the level of political uncertainty of the ruling parties. In this approach the dominance of a certain type of elite may be challenged when determinants change. Moreover, Schoenman (2014) found different patterns of business-polity cooperation in the various CEE countries. We come back to this issue later. Local business has developed representative organizations, but direct links between businesspeople and politicians also persisted over time. Incumbent management of pre-transition state-owned enterprises as well as petty entrepreneurs formed local businesses. Some analysis of the Hungarian business elite showed that most influential entrepreneurs have had some kind of pre-transition career, either as party members and chief or second line managers of SOEs or petty entrepreneurs (Laki, 2002). It also turned out that local entrepreneurs could not keep pace with the dynamic development, superior technological and market competences, and wealth of multinational competitors (Laki and Szalai, 2013). Typically, influential Hungarian entrepreneurs participated in various service businesses (trade, logistics, hotels, business services, gambling, etc.), real estate development, construction and banking, and much less in manufacturing. They maintained good personal relationships with politicians and frequently also became officers of various parties. Therefore, the representation of Hungarian business towards polity was much more based on personal linkages than on representative organizations.7

Be it a temporary or long lasting phenomenon, business-polity elites do whatever they can in order to stabilize their privileged positions. State and corporate functions of the elites are integrated through personal ties, institutional channels, material benefits, and recruiting patterns. There is a frequent personnel exchange between business, polity (state, regional and local administration) and supporting institutions (consulting firms, developing agencies, law offices, etc.). Many persons hold several positions in various areas. Interactions between the state and business are usually institutionalized. Due to important agency problems the flows of material benefits between government and business are also frequent, giving way to rent seeking and corruption. Last but not least, personal careers usually combine positions in the various areas of business-polity interplay. The recruitment system gives preference for broader professional experience including both business and government positions. While Drahokoupil (2008) provided evidence on the establishment of FDI-based elites in various CEE countries, other authors described similar process featuring local business (Schoenman, 2014; Naczyk, 2014; Stark and Bruszt, 1998; McDermott, 2002).

**Networks**

Elites exercise influence through personal contacts and also using communication platforms of business networks. Depending on the main message of their study, authors describe particular sets of business networks. Drahokoupil (2008) highlighted the FDI-related networks and emphasized FDI-dependency. Naczyk (2014) interpreted the sharp turn in the orientation of government policies in Hungary and Poland from FDI-support towards local business preferences. He described therefore mainly local business networks and mechanisms of polity-local business interplay. TIH (2014) drew attention to the fact that after 2010 the then new Hungarian government closed the usual communication interfaces towards multinational business in its effort to thwart FDI dependence. Simultaneously, it allowed local business interest groups to exercise more influence on government decisions. I believe that networks and communication platforms are always important channels of business polity communication, however, participants may have different access to them over time. The intensity of that platforms’

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7 The career of Mr Gábor Széles is a good example of this. Up till 1990 he was president of Műszertechnika Coop, a small firm producing electronic devices for the Hungarian market. His firm was one of the two lucky Hungarian companies who could form a winning coalition together with Swedish Ericsson for the tender producing electronic switching centers for the Hungarian wired telephone network in 1992 – that is before the appearance of the cellular services. Despite of the opportunity Műszertechnika could not establish itself as a significant player in electronics. Thus, Mr Széles tried lobbying for another less technology and innovation intensive activity and could participate in the privatization process of the large Hungarian bus producer Ikarus. He could also acquire the large Hungarian electronics firm VIDEOTON. Neither of these projects proved to be successful in the sense that the original industrial activity could not be maintained. Both companies serve today mainly as real estate development agencies and component producers. Széles used to be a high-ranked official of MDF the larger right-wing coalition member party of the first Hungarian government after 1990. Széles’ is today also owner of a right-wing oriented media network.
usage may also depend on the political stance. If governments need more support for - example due to their weaker political power relations - they may rely more on networks and supporters.

As far as the concrete analysis of FDI-related networks is concerned, Drahokoupil (2008) provided an interesting comparison of the V4 countries. The networks are organized by different types of organizations. State agencies for the promotion of foreign investments, regional development agencies are most influential from the side of the state especially in Hungary and the Czech Republic, less so in Poland and Slovakia. In Slovakia the Ministry of Economy and the Governmental Assignee for Development of Automotive Industry (in the years 1997-2003) established themselves as centers of representation of FDI-bound elites. Where state institutions are less active business associations play a major role. In Hungary the American Chamber of Commerce (AmCham), the Hungarian European Business Council (HEBC) the Joint Venture Association (JVA), the British Chamber of Commerce in Hungary and the German-Hungarian Chamber of Industry and Commerce are the most influential organizations. They are also backed by diplomats of foreign embassies establishing powerful lobby organizations. The membership of the associations is not closed, thus they also integrate firms with other national backgrounds including Hungarian companies. Major international consulting firms have a strong presence in V4 countries too and act as hubs of the “comprador service sector”. It is important to emphasize that even more senior positions in the aforementioned firms and organizations are frequently filled by local managers. A similar pattern of representation has been observed in Poland and Slovakia.

In case of Hungary two main associations played a role in shaping institutionalized forms of local business-polity contacts. The Hungarian Chamber of Commerce and Industry is an association representing Hungarian small business. The National Association of Entrepreneurs and Employers represents Hungarian big business. Both organizations proved to support the actual governments, nevertheless, they both gained more in terms of influence with right-wing governments. This is due to traditionally bigger emphasis of these governments on local business support, which has always been openly declared and implemented in various policies during the transition process. Therefore, we may conclude that the two important business elites in Hungary always had partisan linkages to polity.

According to Naczyk (2014) Poland’s local business representation proved to be partisan, and the various organizations shared the political spectrum. The liberal Civic Platform has had close links with PKPP Lewiatan, the country’s largest employers’ association. And although the Polish Chamber of Commerce (representing small business) has not developed strong political ties, on a personal level its leaders had good contacts in the Civic Platform. The now ruling Polish party Law and Justice (PiS) had good contacts to the Sobieski Institute, a think tank that organized the “Poland Great Project” an action plan to support Polish local business. Naczyk also provided anecdotal evidence that representative organizations not only lobbied for members’ interests but intervened in political campaigns directly.

Schoenman (2014) compared Polish, Rumanian, and Bulgarian experience with business-polity exchanges. He found that these were more institutionalized in Poland than in the other two countries where even if formal representative organizations existed, they were overshadowed either by wealthy businesspeople (oligarchs) who used them to lobby for their own business interests, or by influential politicians. He also claimed that broad networks (with substantial membership) were less partisan and thus their lobbying power was larger in any political setting than personal contact-based lobbying. Business-polity networks that are based on the activity of broad representation can lobby for “broadly distributive” advantages in exchange for political support. In these, narrow networks where personal contacts playing dominant role create “selective advantage” institutions and distribute benefits to targeted recipients who are among the supporters of the ruling political party.

Schoenman (2014) states that this dichotomy of business-polity network structure works differently under high or low levels of political uncertainty. When political uncertainty is high and polity needs the (material and moral) support of broad business cooperation, a kind of concertation characterizes business-polity relations. In case of high uncertainty and narrow networks, influential oligarchs may capture the state (like pre-Putin era Russia or Bulgaria). Political uncertainty is usually high in transition economies, nevertheless, there may be periods of lower uncertainty (like in Hungary after 2010 or in Romania during the 1990s). Under the low uncertainty environment broad business networks may engage in new corporatist cooperation with the state. However, if business is less organized, polity may dominate the relationship and pick the winners of selective advantage measures. Schoenman calls this patronage, but the term business capture (see: Yakovlev, 2006) can be also applied for this setting.
We may conclude here that the organizational network of business-polity relation differs to a large degree among CEE countries. Meanwhile business representation has formal institutions in each of these countries. Their membership, bargaining power, and embeddedness varies. Multinational business’ representation is usually strong and well organized – in those countries where FDI has been strong. Local business representation’s characteristics are very different and are shaped by local political, economic, and social development factors. They are definitely less effective than FDI-based elites’ representation, and are usually less broad and often partisan. Besides them personal business-polity relationships may be also important, in some countries even determining, giving way to business or state capture positions.

**The emergence of economic patriotism**

FDI-bound elites dominated the first two decades of transition in CEE even in countries of less significant FDI stock. The neoliberal concept was reinforced by the international advising community that favored well established multinational players against weak local companies, investors or interest groups. The classic concept of free competition and its general impact on overall well-being determined transition policies with correction in favor of local institutions and infrastructure development. Massive financial and knowledge transfer has flown to the CEE region that largely contributed to the modernization process of these countries. The CEE region, especially the V4 countries, became integrated parts of the European economic space (the Single European Market). The level of integration can be regarded as extraordinarily high. Foreign penetration is dominant not only in market supplies, but also in local production. The share of foreign owned (mostly multinational) companies is over 50% in the majority of economic sectors in terms of production, investments, and exports. This high foreign share was regarded as excessive by many observers. Szentes (2005/6) wrote about unhealthy asymmetric interdependence, Nölke and Vliegenhart (2009) developed the “Dependent Market Economy” concept in the framework of the Varieties of Capitalism literature. Yet, economic policies remained crucially influenced by neo-liberalism until the financial crisis of 2008.

The crisis delivered extraordinary shocks to most developed market economies that needed rapid crisis management steps of various kinds that did not fit into the neo-liberal concept framework but rather into a neo-Keynesian one. Many forms of increased state intervention were applied temporarily (nationalizations, cash transfers to bail out important firms), others remained in place for the longer run (e.g. demand stimulation through increased public spending). However, even in the worse days of the crisis governments refrained from the application of “classic” protectionist policy tools like devaluation of currencies or export restrictions. This fact reflected the different level of today’s world economic integration compared with the times of the Great Depression, as well as the accumulated policy experience gathered since then. Thus, we may conclude that crisis management practice itself remained influenced in many areas by the neo-liberal concept. Many of the temporarily applied steps have been withdrawn since then.

However, many governments in CEE countries have gone against the current and did not limit increased state economic intervention but rather continued and even increased it after crisis shocks eased. The most striking examples are Hungary and Poland. Hungary entered open conflict with a series of policies that run against various EU regulations (mainly competition policy). And Poland was reported to have undertaken steps that aimed strengthening statist policies in the field of state property management for example. Many of these steps were taken already by the Civic Platform dominated government after 2010 (Naczyk, 2014). The new right-wing populist PiS government just continued and expanded these policies. Mihályi (2015) highlighted that in certain delicate issues social-liberal Hungarian governments of the 2000’s also pursued interventionist policies. Thus, the departure from the neo-liberal suit started before the crisis in Hungary as well. These facts allow me the conclusion that in some CEE countries politicians have started questioning the dominant neo-liberal policy agenda in general, and have increasingly favored interventionist policies. The tendency can be regarded as a kind of reaction to the

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8 A most striking action was the introduction of „Lex MOL”, an amendment of the commercial code that changed corporate governance regulation in order to help the Hungarian oil company repel the takeover ambitions of the Austrian competitor ÖMW. The legal changes were passed in a rare mutual agreement of government and opposition.
far reaching application of neo-liberal policies that produced strong dependencies in economies that started from the time of direct state control at the beginning of the transition process. Increased state intervention is currently referred as “economic patriotism” (Clift and Woll, 2012; Naczyk, 2014). Clift and Woll (2012) make a clear distinction against classic “economic nationalism”, the roots of which go back to Adam Smith and Friedrich List. The main difference lies in the limited toolkit of economic patriotism. This means, governments do not go back to outright protectionist measures but use covert tools to positively discriminate domestic players or they use liberalization measures selectively. The aim is reinventing control over open markets. The term itself was first used in 2005 by Dominique de Villepin, then French prime minister, who called the defense of local prerogatives in integrated markets ‘economic patriotism’ (Clift and Woll, 2012). They also state that the conflict of pursuing the special political economic interests of citizenry under conditions of complex economic, legal and regulatory interdependence had started well before the 2008 financial crisis. Having no exclusive control over large parts of economic governance, and facing deepening international trade and competition policy regulation, governments “had to become creative with policy strategies”.

I use the definition of economic patriotism given by Clift and Woll (2012, p. 308) as follows: “We define economic patriotism as economic choices which seek to discriminate in favor of particular social groups, firms or sectors understood by the decision-makers as insiders because of their territorial status. Economic patriotism entails a form of economic partiality: a desire to shape market outcomes to privilege the position of certain actors. Unlike economic nationalism, economic patriotism is agnostic about the precise nature of the unit claimed as patrie. It can also refer to supranational or sub-national economic citizenship.” An important feature of this approach is that it uses territorial references of political economic space in the definition rather than policy content. Thus, it can handle a wide range of state intervention including liberal economic policies that are applied selectively (Helleiner and Pickel, 2005). The novelty of present day economic patriotism over old fashioned economic nationalism and mercantilism is that it is a response to the reconfiguration of economic governance and market interdependence. Governments had to become creative to assure traditional economic policy objectives with new means. They can today transfer their particular objectives from the national to the supranational level. For example, the EU can reinforce liberalization within the EU for the sake of protection towards the outside. On national and sub-national levels, we can distinguish between the defense of existing local production advantages and the creation of these in the process of integrating markets.

Paradoxically, deregulation liberalization may itself serve the creation of new types of discrimination (Levy, 2006). Deregulation involves not only removing restrictions but also active reregulation that can be designed to promote particular outcomes. The need for re-regulation provided politicians new means to continued influence over the economy to get territorially beneficial outcomes. As Clift and Woll (2012) state, economic patriotism represents a shift from measures of classic protectionist barriers to trade to more indirect measures like discriminative product and process standards or state subsidies (as part of overall aid policy). Alternatively, practice may also prefer selective liberalization in strategic sectors or the introduction of competition rules that prohibit standards common abroad and other restrictions. These forms of protectionism cannot be easily detected and their usage had spread parallel with the mass-scale liberalization process (e.g. within WTO negotiations) already during the 1990s.

CEE relevance

As is seen from the above analysis, the roots of the practices that gave rise to the concept of economic patriotism are not new; moreover, they characterize all market economies not just CEE countries. What is really new is the way of selling the idea more openly taking on deliberate conflicts with safeguarding institutions of the neo-liberal concept. Occasionally, other governments also pursued policies that openly contradicted, e.g., EU’s liberal competition policy rules. Clift and Woll, (2012) interpreted these clashes as political messages to the electorate that lacked serious intention of realization. We can see similar attempts but on a rather mass scale from the Hungarian and more recently from the Polish governments. They are aware of the impossibility of the implementation under the current EU framework regulations; nevertheless, they would like to send political messages to both their electorate and Brussels. Yet, the amount of the new non-compliant measures can seriously undermine the classic market economic institutions and erode the rule of law in these countries.
The other, more important purpose of economic patriotism is a real reconstruction of power relations. In this sense the practice of the Hungarian and Polish governments goes beyond the rationale described in the above definition of the term. The Hungarian evidence shows that selective advantage measures have been applied to favor particular agents. This is in contrast with the notion that economic patriotism uses broadly distributive measures in favor of territorially determined groups of actors. The aim of such steps is not the general preference of citizenry but the promotion of selected clients: selected members of the local elite who were considered losers of the power competition during the transition process. Thus, this policy practice supports only a predetermined part of the local bourgeoisie.

This aim is more likely to be achieved if the new (local business-bound) elite has no strong organizations. Our previous analysis showed that local business associations in Hungary were rather weak, especially when compared with the lobbying platforms of foreign investors. Moreover, their leadership has always been politically determined, thus these organizations could not strongly enforce interests of their members. Weak, politically influenced networks, strong personal linkages of influential business people with politility makes the Hungarian business elite easy prey for the state. The usage of selective advantage measures does not serve the elite’s interest as a whole but only selected clients. This practice cannot be regarded an example of economic patriotism. The concept of economic patriotism is rather used as a politically good selling label for predator practices of the state.

The application of covert protectionism is sometimes justified with the historical (today not repeatable) success stories of the classic East-Asian developmental state. However, an important element of these was regulated competition on protected internal markets first and on global markets later. The system of a patronage state kills market competition all together. Clients are protected in domestic markets from unfriendly foreign and domestic competition alike. Without competition however, economic agents will rely solely on maintaining good relations with their patrons and do not enter the trying path of innovation and activity sophistication. The result is declining competitiveness, deteriorating product and service quality, decreasing income generation, and overall impoverishment. The concept of economic patriotism (neither economic nationalism and mercantilism) never ever negated the role of competition as a driving force of market economies. The political practice of the patronage state in Hungary eliminates competition and cannot be regarded therefore as an example of economic patriotism.

Empirical evidence from Hungary

Hungary is a small open economy, which started the transition process from socialism to the market economy in 1989. The establishment of minority foreign ownership in the form of joint ventures was legally allowed under communism already in 1972, and a USD 400 million stock of investments had been accumulated up to 1989. Moreover, regular contacts to world markets and to foreign firms allowed the accumulation of some network capital in the Hungarian economy that became an important lever of Hungary’s internationalization process. More significant volumes of FDI started to arrive to the country after 1991 when the privatization process was directed towards sales to foreign investors. When the privatization process decelerated at the end of the 1990s large scale greenfield investments started to uphold yearly FDI inflow levels in the range of EUR 3-4 billion. Later on the expansion of existing capacities also gained momentum. This is shown by the increasing share of reinvested profits in the source structure of FDI stock increments (Antalóczy et al, 2011).

Traditionally, FDI statistics have been provided from the balance of payment figures of countries. This source became rather problematic after the year 2000 but especially from around 2010. FDI flow figures became mixed up with capital flows of “special purpose entities”; and moreover, temporary capital flows were also reflected. The problem has been recognized internationally (UNCTAD) and figures were also cleared also by the Hungarian National Bank. However, despite the clearing procedure, international and also timely comparisons remained rather difficult and less reliable than earlier (Antalóczy and Sass, 2015).

Despite this, Hungarian FDI statistics clearly demonstrate the outstanding role of foreign investments. During the years of the transition process most of the largest multinational companies established a direct presence in Hungary in the form of an affiliated company. Foreign presence has been especially strong in the automotive and electronics industries of manufacturing, in retail trade, banking and financial services, telecommunication, and media. These are typically the most globalized businesses. The establishment of Hungarian affiliates in them reflects the fact of successful integration of the
Hungarian economy in global production networks. I regard this development as a key determinant of structural development, technological modernization, investment activity and economic growth in Hungary.

Positive and negative impacts, criticisms of the FDI-led development model

The strong influence of multinational companies in the Hungarian economy can be illustrated by several figures. They have contributed much to national investments creating a massive body of highly productive manufacturing and services base. The uneven spread of FDI is very much visible, too. In certain hot spots like Komárom, Győr, Székesfehérvár, various parts of the larger Budapest agglomeration new industrial districts have been created or old ones renovated. Foreign companies produce 70% of manufacturing production and 48% of manufacturing employment. Their share in retail trade, banking and financial services, their share in telecommunication is also exceptionally high. Since foreign firms, especially those in manufacturing, are partners in international value chains they by definition are export oriented. Over 80% of total manufacturing export is delivered by the foreign owned sector. In other V4 countries foreign ownership participation is similarly important.

9 The other main source of investment financing was EU transfers. The Hungarian national sources’ share was rather small.
Table 1. Share of foreign owned companies in sales, employment and gross investments in Hungary (selected economic branches, %)

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>sales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>manufacturing</td>
<td>64.9</td>
<td>69</td>
</tr>
<tr>
<td>energy supply</td>
<td>74.4</td>
<td>67.5</td>
</tr>
<tr>
<td>Trade</td>
<td>44.6</td>
<td>45.4</td>
</tr>
<tr>
<td>infocommunication</td>
<td>62.7</td>
<td>67.7</td>
</tr>
<tr>
<td>total non financial</td>
<td>50.1</td>
<td>53.3</td>
</tr>
<tr>
<td>Financial</td>
<td>53.8</td>
<td>70.1</td>
</tr>
<tr>
<td>employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>manufacturing</td>
<td>44</td>
<td>47.7</td>
</tr>
<tr>
<td>energy supply</td>
<td>51.5</td>
<td>51.9</td>
</tr>
<tr>
<td>Trade</td>
<td>21.5</td>
<td>24</td>
</tr>
<tr>
<td>infocommunication</td>
<td>29.8</td>
<td>37</td>
</tr>
<tr>
<td>total non financial</td>
<td>23.8</td>
<td>26.1</td>
</tr>
<tr>
<td>Financial</td>
<td>46.9</td>
<td>45.1</td>
</tr>
<tr>
<td>gross investments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>manufacturing</td>
<td>67.8</td>
<td>78.3</td>
</tr>
<tr>
<td>energy supply</td>
<td>61.6</td>
<td>65</td>
</tr>
<tr>
<td>Trade</td>
<td>49.4</td>
<td>41.3</td>
</tr>
<tr>
<td>infocommunication</td>
<td>74.2</td>
<td>79</td>
</tr>
<tr>
<td>total non financial</td>
<td>49.6</td>
<td>55.3</td>
</tr>
</tbody>
</table>

Source: Central Statistical Office

We can evaluate the strong presence of multinational business in various ways. My standpoint regards the development trends of the whole transition period up till now. Compared with the starting point the current economic structure of Hungary is more developed with a high share of high- and upper medium-tech manufacturing production and highly efficient services sector. I sincerely doubt this extraordinary change in economic structure would have been possible to achieve without the strong investment activity of foreign firms. It is important to see that global markets are dominated by firms who are also present in Hungary. Entry barriers of global markets are extraordinarily high; penetration is extremely difficult even for the most innovative small firms. True, there are some success stories of East-European born global companies, like Hungarian Graphisoft or Prezi as well as Estonian Skype. However, they all work on rather small market segments, and were sold to big multinational businesses when their further expansion to broader markets required large scale investments. Inserting V4 economies into the system of global value chains is hardly imaginable without the effective role of global players of the markets.

On the other hand, we can see clear drawbacks as well. The strong presence of multinational firms produced dual structures in V4 economies. Foreign firms have relatively few contacts to local companies along their main production activity. Local suppliers usually do not enter their value chain. The reasons for this are manifold. Firstly, existing technological cooperation links in the value chain are not likely be replaced by new entrants because of the high costs of entry. Secondly, local firms attained technological capabilities, financial and logistics capacities for cooperating with global business only gradually. At the moment of FDI penetration of the V4 economies, local firms were not fit for cooperation (Antalócy, et.al., 2011). Nevertheless, the scope of the essential contribution by local firms to the global value chains started to increase after 2000. Due to the 2008/9 crisis and recession, cost cutting considerations became even more important and moved multinational firms towards more intensive local sourcing. V4 countries launched support programs to enable local firms to cooperate with multinational companies (Kalotay, K. – Sass, M., 2012).
Another important issue that has been widely discussed is the extent of positive externalities stemming from multinational firms (spillover effects). Most studies tried to measure the externalities using various measures of productivity, assuming that the aggregate impact of spillovers will increase productivity of local firms. The results have been mixed and not very convincing. A meta-analysis of the related literature stated that a larger part of the findings supported the idea of measurable productivity increases (Iwasaki and Tokunaga, 2014). There are methodological and also logical explanations for the lacking positive results (Szanyi, 2002b).

Other critics of the FDI-based development model drove attention to systemic problems that could be far more important than the low level of positive impacts. Nöllke and Vliegenhart (2009) wrote an important paper in which they tried to conceptualize the CEE economic model (DME model). They picked out the role of foreign direct investments in shaping the structure of the establishing market economies of the V4 countries. They argued that the high share of multinational companies in the production and trade of these economies strongly influenced the development of some other economic and social sub-systems as well. Their impact on national innovation and education systems was negative, because their operation did not need high-end inputs from these systems. Furthermore, strong bias was exercised on a variety of national policies, since multinational companies’ tax reliefs deprived governments of financial tools, and also because their operation was largely independent from national policies.

But there has also been another, political criticism addressed to foreign investments and multinational companies’ activities. Populist parties hoped to receive social support and votes in the elections with such criticisms. Terms like “luxury profits” of foreign firms, treatment of profit transfers as an attack against national property, predetermined expectations of tax revenues treated as justified claims of the state towards foreign firms earmarked the populist sentiments that were articulated in Hungarian and Polish mass media. Similar statements served as moral justification, and political and social support for unfriendly changes in regulation and tax policy. This meant that political expectations of sharing a bigger part of the potential benefits of global economic integration were enforced by measures that reached beyond the usual action sphere of policies and market institutions.

**Hostile actions in Hungary**

While the main focus of the Hungarian government was set on supporting domestic business ventures after 2010, the strongly imbedded Hungarian economy continued relying on the activity of multinational firms. Populist political attacks were targeted against selected branches and even companies. Critical arguments (when applied at all) lost their general character when they were translated into policy measures. The Hungarian government identified a group of companies that were not treated well. Meanwhile other companies and branches received further (mainly political) support10.

Banks and financial institutions were repeatedly accused of unfair practices towards customers. They were also thought to realize above average profits. Foreign presence in the Hungarian banking sector was unusually high (80 %) which also annoyed the government. Actions were taken to change all this. The Hungarian was one of the first governments to introduce sector-specific extra taxes (on turnover and on transactions). Besides this banks had to bear much of the costs of the compensations of private debtors with (non-performing) foreign exchange debt. These changes in the regulation and new taxes brought banks into red when they still had problems with recapitalization after the 2007/8 financial crisis. Owners of private pension funds were blamed for the low level of returns by the government. Pension claims were then “secured” by the government with a second pillar of the pension system, that is claims of private pension accounts coming from the compulsory insurance system were taken and rechannaled to the pay-as-you-go first pillar state pension system. The most affected financial institutions were foreign-owned in both cases.

In 2014 the Hungarian state acquired MKB11 Bank from the German owners. The German parent bank was unwilling to run the Hungarian daughter at a loss and sold to the only serious buyer: The Hungarian state. The losses were, however, were caused by various negative changes in the business environment.

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10 Documents of various government officials’ media communication on the ideological differentiation between „good, productive” and „bad, speculative” business are analyzed by Mihályi (2015) and T.I.H. (2014).

11 Magyar Kölkereskedelmi Bank Rt: Hungarian Foreign Trade Bank Co., its previous owner was the Hungarian affiliate of Bayerische Landesbank until 2014.
initiated by the Hungarian government, and by the process of restituting the private foreign-exchange debtors. The achievement of 50% of national ownership in the banking sector was heralded soon after. Later that year FHB Bank was purchased by the Hungarian Post, increasing national ownership to over 60% of bank assets.

Retail trade chains and other trading companies, firms in the telecommunication and energy sector as well as media were also harassed by disadvantageous selective regulations, most importantly sector specific taxes and fees in Hungary. In order to save local business from the effect of the new taxes specific selection rules were applied. In the case of the tax on broadcasting advertisement for example, a high level turnover threshold was fixed so that the tax affected only one major foreign owned medium. A larger number of transactions and regulatory changes over a longer period of time was undertaken under the umbrella of limiting utility costs. The promise of savings on utility costs was a major campaign tool of the 2010 and 2014 election campaigns. The government already prohibited price increases of the public utilities in 2010. Later on prices were set by government agencies at significantly lower levels than before, thus eliminating profits from this sector. This was a measure that directly affected the profitability of private business. Limiting utility costs through price decreases resulted in companies going into the red. Owners soon felt encouraged to sell their loss-making assets. This process is regulatory taking: company revenues dry up because of unfavorable changes in market regulations or excessive taxes. Many of the utility firms were thus sold to central or local public bodies. Some of them received quite generous compensation (for example German RWE).

Selected advantage measures – the strategic partnership program
In order to make a formal difference between favored and punished firms, the Hungarian government signed strategic agreements with a number of foreign companies. The process started in the summer of 2012 when the macroeconomic situation of Hungary worsened. GDP fell and investments by major business ventures were postponed. The sluggish business conduct of large firms could not be counterbalanced by supporting SME activity. The Hungarian government decided to encourage the activity of selected multinational firms with the declaration of partnership. Up until September 2015, 60 such strategic agreements were signed, out of which 54 partners were foreign-owned company. The partners concentrated in three major manufacturing branches: electronics, automotive, and pharmaceutical industries. According to Transparency International’s calculations the contracts signed by mid-2014 covered firms presenting 18% of manufacturing employment and 40% of manufacturing exports, a significant share of Hungary’s manufacturing base (TIH, 2014).

Agreements were initiated mainly but not exclusively by the government. There is a set of conditions that applies to big multinational business (5 years track record in Hungary, significant contribution to GDP production and exports, investments exceeding HUF 5 billion, contribution to employment – at least 1000 own employment, intention to increase job creation for skilled workers, participation in education, and at least 10% local supplier input in production). The content of the agreements was rather uniform. Usually the intention of cooperation was declared to be in job creation, training and education, R&D, and local supplier network development. No concrete measures of cooperation were included. Our previous analysis of FDI attraction policies pointed out that these areas used to be the main foci after 2004. Thus, the Hungarian government did nothing more in the strategic partnership agreements than reassure selected foreign firms about the possibility of the type of cooperation and support, which had been normatively expanded to all business players before 2010.

Survey results
T.I.H. (2014) analyzed the usage of selective policies from the viewpoint of lobbying. The main conclusion of the analysis was that policies of the Hungarian government increased uncertainty not only in the regulatory environment but also in the communication channels between business and polity.

12 Government communication explained the measure with suspected tax evasion of the company. Yet, it was never explained why, if there was something illegal in RTL’s taxation, why this was not repaid by the responsible state institution the tax office?
13 It is of course another question if today’s sales revenues are sufficiently high for the necessary investments. Observers state that public utility companies are still in extremely bad financial situations and do not invest any more, which may threaten the quality of their services.
Though previous regulation on lobbying and control of corruption was also far from perfect, institutions with normative effects were curtailed or lifted (e.g., the law on lobbying), and arbitrariness of decision-making increased. Instead of using official channels practice of lobbying became informal. Business representatives used special occasions like soccer games and social events to meet influential politicians. Representatives of “bad” as well as “good” business equally used the informal channels. 

TIH’s survey of the practice with the partnership agreements looked back on a period of less than two years in 2014. Therefore, most interviewees expressed their hopes that the new tool will serve more efficient lobbying and communication with the Hungarian government. Some stated that signing the agreement was a symbolic gesture from the side of big business as well: companies expressed their good will in spite of the unfriendly policies of the government. In that early period interviewees expressed their satisfaction with the fact that based on the strategic partnership agreement they could directly contact medium or high level government officials, which was not possible between 2010 and 2012.

In the autumn of 2015 a series of interviews with CEOs of strategic partner companies was conducted by the Institute of World Economics. The aim of the survey was to collect firsthand information about the importance and practical application of the partnership agreements. Out of the then 54 foreign partners 12 were approached. All of them worked in manufacturing industries and nine had the necessary qualifications for the program and one was negotiating. Since TIH (2014) conducted another empirical survey in 2014 I also had an opportunity to check for timely development of the linkages (though answers were anonymous in both surveys, hence no panel comparisons could be made). Most interviewees expressed their hopes that the new tool will serve more efficient communication with the Hungarian government. Yet, they were not expecting quick results from negotiations. Some of them were most skeptical stating that the PR value of the campaign was most important and they did not hope to receive any kind of concrete benefits. Others reported some kind of success or at least hoped to have positive impacts on success in public procurement tenders in future. Several mentioned lobbying for easing some disadvantageous regulation. For example, firms felt it strange that the government-level expectation would include of having sizeable corporate social responsibility activities (sponsorship of sport clubs, financing sports infrastructure development).

Most firms seemed to have been engaged in the cooperation activities suggested by the partnership agreement anyway and could not report on substantial extra government support on these areas either. In sum, we could confirm the major findings of T.I.H. (2014) one year later. Most multinational affiliates used the strategic agreements as a communication channel, a platform for lobbying. But the success of their lobbying efforts did not depend on the conditions or content of the agreement. In fact, they mostly wanted to achieve results in areas that were not covered by the strategic partnership agreements.

**Conclusion and interpretation of the research results**

What does the dual treatment of domestic and foreign owned companies, and changes in the communication channels to business agents mean for the business model of Hungary? In another paper I argued that arbitrary involvement of the state in the ownership patterns of the Hungarian economy would bring important systemic risks (Szanyi, 2016). Basic market economic institutions like the security of the private property regime and the rule of law can be seriously undermined if the government does not apply the laws consequently to its own transactions. The dual treatment of local and international business seems to be a less dangerous practice. It is rather a different concept of regulation which is in conflict with competition policy principles. Yet, the ways how losers and winners are picked may also matter. The decline of normative regulation and preference of selective measures will deliver the wrong message to economic agents that their success will more depend on the development of their network capital than their business activity. Also, a danger of increasing corruption is bound to the process. This may all strengthen negative tendencies of the evolution of crony capitalism. In my understanding crony capitalism means a legally uncontrolled (badly controlled) interaction between a polity and business interests that works against the principles of free enterprising and fair competition. Policy makers and influential business people cooperate to create preferential treatment for “friendly business(es)” in exchange for material support of parties, politicians, and election

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14 The full transcript of the interviews was published in Szanyi (2016b)
campaigns. This type of cooperation is not unknown in developed economies, though a more developed institutional background and strong civil society control may limit the most harmful impacts of cronyism on market economic institutions. If the financial support of political parties is transparent and lobbying for industry (company) interests is institutionalized, then crony capitalism is under social control. It does not mean, of course, that the markets are free of marginal interest enforcement. In case cronyism is not transparent and not controlled it may lead to very high social losses and even illegal transactions. A major difference between most of the established market economies and most of the transition economies lies in the level of institutional and social control of polity-business interactions. Loose control in transition economies sees the investment and business climate deteriorate which is expressed in rather low level rankings in competitiveness reports and high costs of financing. State favoritism in Hungary ranging from public procurement to market regulation seriously contradicted normative regulation and violated the principle of equal treatment and EU competition law. For example, only in the first half of 2015 were three major processes launched in Brussels against the Hungarian government. Levies on retail trade supervision and taxes on tobacco products were suspended, and grants for road construction were ceased to be transferred to Hungary due to ongoing competition policy procedure infractions. In the first two cases tax policy measures were designed in such ways as to favor a selected number of politically linked agents. The public procurement cases were investigated because of unusually high prices. Road construction was also regarded by observers as one of the main areas of patronage.

Selective advantages have been provided to clients and simultaneously, competitors of clients were frequently punished by unfavorable regulation. This is most clearly visible in the example of punishing representatives of multinational business by selective disadvantages (extra taxes, exclusive regulation). Meanwhile other members of the same community were rewarded and included in the close circle of strategic partners of the Hungarian government. The simultaneous steps in opposite directions can be interpreted as a deliberate policy aimed at splitting the established business networks (that of foreign companies/multinational business). Using Schoenman’s typology, this is a move towards narrow networks and the patronage state (business capture), since political uncertainty is perceived very low in a government relying on a 2/3 majority support in the Parliament. These cases illustrate the departure from the “competition state” (Drahokoupil, 2008). The concept of an illiberal state reduces the free market system and democratic institutions. The above cases as well as the whole departure process from the Western values has been conceptualized in Hungary and is therefore regarded by the Hungarian government as a sovereign decision to establish a new economic system. Populist followers of the Hungarian agenda can be found also in Poland. The PiS party openly declared its appreciation of the concept declaring that hopefully there will be Budapest in Warsaw. But the essence of the opinion of Polish observers is that the concept of economic patriotism has already been introduced in Poland as well.

When comparing the fundamentals of the FDI-led development model and the current policy changes in Hungary (with an eye on potential changes in Poland), my assumption is that FDI-lose economic development cannot be run without an important decline of international competitiveness. I am not even sure if the replacement or substitution of multinational business is technically possible at all even in the long run. But if yes, I do not think that such a change could be carried out without a significant drop in economic activity, income generation, and living standards. Therefore, such an undertaking is also politically hardly feasible. Thus, I evaluate increasing cronyism not as fatal danger but rather as a factor that deteriorates economic performance due to less effort on improving levels and quality of business activity.

References


Is Facebook a Necessity for Nonprofits?

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Abstract

Facebook is the most popular social media platform in the world. Being a popular social networking site, Facebook is used by many marketers around the world. This site is also considered a cheaper way to promote products and services. This is very beneficial for some nonprofit organizations, because they have very limited funds for adequate marketing efforts. The article explains why nonprofits should use Facebook and how nonprofits can benefit from Facebook.

Introduction

Social media has become increasingly popular. According to Digital in 2016, there are 2,307 billion active social media users in the world and this number continues to grow every year (We Are Social, 2016). People use social media for sharing stories, pictures, videos and other types of shareable media. Rob Stokes and Quirk eMarketing suggest the following definition of social media:

Social media are media (from written to visual to audio) that are designed to be shared. Sharing means that it easy to comment on, send and copy the media, and that there are no high costs associated with this. And, because of the connected nature of the Internet, it means that sharing, commenting and viewing can all be tracked and measured. (Stokes, & Quirk eMarketing, 2013, p.366)

The most popular social media platform is Facebook. According to Business Dictionary, Facebook is:

A social media website first developed by Mark Zuckerberg while he was a student at Harvard in 2004. Since its creation it has become one of the most popular social media sites attracting people of all ages from all over the world. To use the site you must create a personal profile where you provide information about yourself that can either be made public or private, depending on your privacy status. Once your personal profile is created you can request friends, like pages, share articles with your friends that you have found and more. (Facebook, para.1)

Due to the popularity of Facebook, many businesses and nonprofit organizations use it for communicating with their constituencies, promoting products and services, and for exchanging information with the public.

While corporate organizations can afford expensive advertising and marketing campaigns, nonprofits often struggle with marketing and communication due to their budget limitations. Facebook, as a free service, can become a solution to nonprofit essential needs like creating awareness, fundraising, attracting volunteers. As Facebook is becoming popular globally, it is becoming a vital part of every nonprofit marketing activity. Despite many opportunities for better marketing, nonprofit agencies do not use Facebook to its full capacity, even though there is strong evidence proving the need for nonprofits to use it as a marketing tool.

Literature review

Nonprofit organizations are a very important part of our society. Most non-governmental schools, hospitals, and religious organizations are nonprofits. According to Merriam-Webster dictionary, nonprofit means “not existing or done for the purpose of making a profit” (nonprofit, 2016, para 1). Usually nonprofit organizations dedicate their work to a particular cause. Despite the similarity
in function, there are very many different types of nonprofits. N. Ton-profits vary in size, purpose, mission, and services and/or products they offer. To promote the services and/or products, nonprofits need to use marketing. There are very many ways for an organization to market, and Facebook is one of them.

Presence on Facebook helps nonprofits connect with their potential and current clients, donors, volunteers and community members. In other words, it helps to create relationships with individuals and groups of people. Social Network Theory supports the previous statement and can be applied to Facebook because friendship, interests, or willingness to take action connects people and organizations on this website. In Social Network Theory, individuals, groups of individuals, and organizations are called “nodes”, which can be linked to each other based on different interest and likes or dislikes (Katz, Lazer, Arrow, & Contractor, 2004). The same is observed on Facebook: people and organizations connect if they have similar interests or like/dislike certain topics, things or behaviors.

As mentioned earlier, Facebook is the most popular social media platform in the world. There are 1.04 billion daily active users on average (Facebook, 2015). Facebook has been operating for twelve years and it has many features that are very useful for nonprofit organizations. Nonprofit agencies use Facebook as a fundraising tool (NTEN, Common knowledge & Blackbaud, 2012). For example, some nonprofit organizations use Facebook to solicit individual gifts and donations. Facebook accesses potential volunteers, donors and clients without spending much money. Facebook’s platform enables agencies to utilize the interactivity by monitoring conversations about current news and trends on their page as well as on pages of other agencies and companies. Other uses of Facebook include getting feedback from the community and learning what is current in the community. Nonprofits do this by simply asking their followers about their services and value of their ideas (McCurry, 2014).

Since Facebook is the most popular social media platform, it might also be the most popular for use in nonprofit marketing. I will discuss the benefits of the Facebook site for nonprofits and nonprofit marketing. Although it is very popular among marketers in a corporate world, it is not used to its full capacity in nonprofit marketing specifically for fundraising. There are several reasons why nonprofits should be more active on Facebook as discussed further in this article.

**Discussion**

**Facebook helps to spread the word**

Many nonprofits cannot afford advertising. It is well known that organizations cannot be successful without adequate marketing efforts. Hiring a staff member or an outside marketing professional is expensive and complicated. It is very common for nonprofits, especially for those with a small organizational budget, to struggle with raising awareness and spreading the word about the agency and its mission and services. Although, Facebook might not be completely free, because it takes employees’ time to create posts and reply to messages from followers, it can help to spread the word quickly, possibly reducing the need for other types of marketing or public relations. While it can be difficult to spark conversations using the regular media channels like TV or radio, it is easy to create awareness about particular causes.

There are many examples of nonprofit organizations that became popular thanks to Facebook. For example, Diabetes UK was a very active Facebook user. One of Diabetes UK’s campaign objectives was to create awareness about Type 1 diabetes. This agency had many supporters on Facebook, giving their experiences and sharing this information with their friends and family. People’s comments, ‘shares’ and discussions created awareness about Type 1 diabetes and spread the word about Diabetes UK (McCurry, 2014). Another example is the Amyotrophic Lateral Sclerosis Foundation (ALS). In 2014, ALS had a successful campaign, which was called "ALS Ice Bucket Challenge". People were asked to make a video of themselves dumping a bucket of cold water with ice on their heads, post it on Facebook, or other social media sites, and then challenge friends to do the same within 24 hours or donate $100 to ALS (Steel, 2014). This campaign not only increased donations to the ALS Foundation, but also increased awareness about ALS disease, which was not very well known. About 2.4 million Ice Bucket Challenge videos were shared on Facebook alone (Stampler, 2014).
Facebook helps to fundraise

Facebook has great features that help nonprofits to fundraise, such as the “Donate Now” button. This button can be created by the organization’s page administrator and can be placed on the company’s website. It simplifies the process of donation, which is very important for potential donors. Since Facebook allows open conversation and sharing, it is very easy to communicate with donors, thank them for donations and encourage them to donate in the future.

Another great tool for fundraising on Facebook is the events tab, a very useful fundraising application. Fundraisers are crucial for fund development, and require lots of preparations, time and people. Facebook events can simplify the fundraiser preparations process by inviting people to attend the event and informing the media of the event to encourage their coverage. For example, one of Rockford city’s nonprofit organizations, KFACT (Keeping Families and Communities Together) utilized the Facebook events tool to invite people to the annual fundraiser – their Thrifty Fashion Show. They created a Facebook event two months prior to the actual event and started inviting “Facebook friends” to attend the event. Since KFACT does not have a very professional website or many followers, Facebook was utilized for sharing the information about the event. The Fashion Show event page included all the information about tickets, sponsorships, location, hosts, date and time - all the information about the event in one place. It simplified the process of spreading the word about the annual fundraiser. KFACT did not have to mail ‘save the date’ cards, spending lots of money on it – they simply utilized Facebook event page as a brochure. Monitoring their Facebook page for insight, I was able to find out that the page reach increased by more than 300 percent when the event was launched and the number of followers increased by more than 20 percent. This also raised the number of comments and posts of people who attended the previous year’s fundraiser. KFACT shared pictures with attendees from the last Thrifty Fashion Show. This reminded previous attendees to purchase a ticket, created interest in the community, and drew people to the event this year. KFACT also shared pictures and videos during and after the event, sharing stories about their youth mentoring program, which will help them to attract people for the next annual fundraiser. Without Facebook KFACT would have to spend money on printed mail, large posters and TV advertising. Since KFACT does not have a large budget, this organization would not be able to have such a successful outcome without utilizing Facebook.

Facebook helps to attract volunteers

Facebook is a great tool for display of digital content like pictures or videos. Pictures and videos are two of the best storytellers and are a good way to attract potential volunteers. Some nonprofits do a great job attracting volunteers on Facebook. Forest Preserves of Winnebago County is one of the organizations attracting many volunteers using Facebook. Forest Preserves of Winnebago County is a nonprofit organization, dedicated to protect, conserve natural lands of Winnebago County by connecting people to nature (Forest Preserves of Winnebago County, 2016). Volunteers are one of the biggest assets of this organization. This organization has an incredible volunteer coordination system, and Facebook is an essential part of it. The organization uses Facebook to demonstrate their appreciation of their current volunteers and to attract new ones. By posting pictures of volunteers in action doing the fieldwork or pictures of volunteers on a celebration picnic attracts people’s attention and makes them want to be a part of this organization. Forest Preserves of Winnebago Country posts information on Facebook of interest to current as well as potential volunteers. There are very many pictures of volunteers working in the forest, videos of volunteer training, posts about volunteer schedules and lots of other information regarding the organization as well as its volunteers (O’Malley, 2016). These posts have an appeal to local people who are interested in preserving their natural lands.

Conclusion

Facebook’s benefits to nonprofits are not limited to spreading the word, fundraising, and attracting volunteers, but my observations suggest that these three are the most important ones for nonprofit organizations. There are many other opportunities on Facebook from which nonprofit organizations can benefit. For example, Facebook connectivity can increase community engagement.
and grow organizational impact. Nonprofits can use Facebook to cut expenses on printed mail or on volunteer appreciation cards. Since nonprofits are highly dependent on donations and grants, they have very limited financial resources, and this means they have to spend as little money as possible on marketing. It is not very easy to do a low-cost and effective marketing without social media. TV commercials, radio and newspaper advertising is very expensive both to publish the information as well as paying staff time to create a successful message. With Facebook, it is possible to decrease the costs by sharing the same message without paying for publication. If Facebook is a cheaper way to promote nonprofit services, spread awareness, fundraise, attract volunteers; can nonprofits be successful without it? The answer is yes. But with Facebook, nonprofit organizations can be not only more efficient in marketing expenses, but also be more efficient at targeting their audience more effectively.

**Future Research**

Although social media is a very useful tool in helping nonprofits to grow, it is not used efficiently or effectively by many or, perhaps, most nonprofit organizations, thus reducing their full potential. According to 2015 *Northern Illinois*, in “Southern Wisconsin Nonprofit Needs Assessment for Northern Illinois Center for Nonprofit Excellence” social media is one of the professional development opportunities of interest (DeYoung et al., 2015).

This paper has discussed some of the reasons why nonprofits are interested in social media, but cannot implement a successful social media strategy. My future research will determine reasons why nonprofits do not use Facebook to its full potential, what prevents them from doing so and how nonprofits can improve their presence on Facebook in order to be more successful.

**References**


A Discrete Sparsity-Based Perspective on Information, Risk and Herding

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Abstract

Information-based herding, as categorized by Bikchandani and Sharma (2001), has been tested experimentally and empirically in various contexts (Anderson and Holt 1997, Broeders et al. 2016). In a different thread of research, sparsity-based models have recently been addressed in economics and finance contexts by Gabaix (2013) and Croce et al (2014). In this study, I combine these concepts of informational herding and sparsity-based information processing together in an agent-based model and study the dynamics of the complex system.

The model presented is an agent-based simulation model where agents decide on a decision $X$ using the information they have. Agents have different pieces of information available to them and information flows between agents according to a social network structure of a small-world type (Watts and Strogatz 1998). In this stochastic complex system, bounded attention and limited memory of information is modeled for agents. The effect of news and herding is discussed in this setup. Numerous insights regarding the impacts of sparsity of available information, herding among agents, limited attention and memory, network structure, and decision rules on the overall system are provided.

The model has implications for economics and finance asset valuation. Every asset valuation decision can be transformed into a binary decision (of the form “would you buy asset A at a price P?”). If pieces of information relevant to asset valuation, such as expected returns and perceived risks, are non-trivial to calculate, then there is room for informational herding. Thus, the model presented could shed some light on the dynamics of asset pricing and the financial system.
Impact of Box Stores on Localized Economies and Nearby Competing Retailers; Case Study of Toronto, Canada

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Abstract

The impact that big box stores can have on nearby retailers and communities has been subject to considerable contention. Whether the presence of box stores, both in numbers and size, is beneficial to communities with respect to added revenues versus potential retail and commercial losses from competition is of interest in this study. This study also examines some of the impacts that box stores have on communities when they convert to a supersize format. When a box store increases significantly in size and extends the range and depth of the goods and services offered it seems reasonable to suggest that it can noticeably amplify its impact in a region. This study is unique in that it examines the localized impact of four Walmart stores in Toronto, Canada over a 10 year period ending in 2011. All four of the stores opened as supercenters in 2006 and five years of data prior and after their opening is analyzed.

Three types of location are examined with respect to Walmart stores: Inner city, suburban, and exurban. This study also examines two formats of Walmart stores, those that opened as a supercenter and those that converted from discount to supercenter format. It is found that where a Walmart is located does affect to what extent it might adversely impact a community. In this study, retailers that are located near an inner city Walmart experienced the most closures. This adverse impact is somewhat less evident around suburban Walmart supercenters and least evident in the case of an exurban supercenter. As one moves from the inner city outwards the impact of Walmart stores on nearby competing retailers seems to dissipate. On a positive note, a Walmart that is located in the inner city generates the greatest potential tax revenues for local governments followed by those stores located in the suburbs, exurbs, and then rural areas. Finally, when294x223(126,564),(794,610) moves to a supercenter format, it does significantly amplify its impact in a community, both positively and negatively.

Keywords: Walmart, Toronto, retail, store, supercenter

Introduction

The purpose of this study is to examine the impact of selected Wal-Mart supercenters in the Greater Toronto Area (GTA). The study area is a highly populated Canadian metropolitan area with varying degrees of urban development. It is hypothesized that the Walmart supercenters identified in this study have adversely impacted retailers operating near them. It is also believed that the opening of the identified Walmart supercenters have positively impacted property values at each site. The locations of the four supercenters are shown in Figure 1.

The four Walmart stores being studied are within the Toronto CMA, which has slightly more than 6 million people and anchors a broader and fast growing urbanized area (called the Greater Golden Horseshoe) approaching 9 million (Statistics Canada, 2015a; Statistics Canada, 2015b). The four Walmart stores being studied were selected for their location attribute. One store is located in an exurban location, the town of Stouffville. Two stores are located in suburban locations, they being Brampton and Vaughan, and one store is located in the inner city, and identified as the Scarborough store (Figure 1).
Examining the identified stores by geographic area should be useful to understanding if box store impact on nearby retailers varies by location. Of other interest, two of the stores were converted from discount to supercenters in 2006 (the Brampton and Vaughan stores) and the other two (Stouffville and Scarborough) were opened as supercenters in 2006. As such, this study will explore whether converting a box store from discount to supercenter format has any added impacts on nearby retailers. It should be noted that few studies examine the impact of big box stores in the inner city. Walmart has announced for some time now its desire to open inner city stores. In spite of this, there are only a handful of Walmart stores located in the core of large North American cities. While this situation is probably hindered by income, transportation, and crime, to name a few, the Scarborough store identified in this study is very much located in a middle-income, densely populated neighborhood which is relatively safe and accessible by public transportation, hence the reason why Walmart probably chose to open at this site. Finally, it should be noted that this study would not have been possible without extensive longitudinal field work. Reconnaissance of retail activity on the ground on a yearly basis over a 10 year period spanning from 2002 to 2011 was obtained.

Figure 1. Location of Walmart stores in Brampton, Stouffville, Toronto, and Vaughan

Background

Recent decades in North America have seen dramatic shifts in the composition and type of retailing formats that exist in urban, suburban, and rural locations (Graff, 1997). The emergence and hegemony of large retail chains such as Wal-Mart, Home Depot, Best Buy, Costco, and Toys R’ Us have become commonplace in most commercial areas. Leading the structural change in the retail industry, Wal-Mart has grown from a small general merchandise discount retailer in the southern United States into a large multinational firm that operates in three segments: Wal-Mart US, Wal-Mart International, and Sam’s Club. In addition, the company employs over two million people and operates outlets in various formats in over 15 countries internationally (Reuters, 2015). Despite the expansion of Wal-Mart and other large retail chains, it is contentious as to whether these retailers provide wide scale benefits to their local or regional economies.
The prevalence of discount retailers - and Walmart alone - has undoubtedly altered the composition of the retailing industry. Sales in discount-retailing now outperform those in the entire retail industry (US Census Bureau, 2007). Furthermore, the success of large chain discount retailers (and other big-box retailers) and the pressure they exert on other related businesses are often tied to the demise of the contemporary shopping center (Hernandez & Simmons, 2006). Moreover, concentration in the retail industry is a concern in that the number of non-chain retailers has declined by 55 percent since the opening of the first Walmart (Basker, 2007). Retail chains with more than 100 stores have more than tripled in the United States (Basker, 2007). Research on the implications of Walmart stores has produced various results and despite the negative connotations that are associated with box stores in contemporary media, findings have suggested that not all impacts from the retail giant are negative (Hausman & Leibtag, 2007; Stone, 2003). Various studies have noted that the effect of a nearby mass merchandiser can actually aid some small retailers by acting as an anchor and attracting shoppers to them (Stone, 2003; Renkow, 2005). It has also been argued that the opening of Walmart stores can create significant increases in tax revenues for the host region (Hicks, 2007).

Other researchers have identified changes, both positive and negative, with respect to retail turnover, sales, gross leasable area (GLA), and property values to gauge the impact that box stores, such as Walmart, can have at the local scale (Hicks, 2007; McGee & Gresham, 1996; Stone et al, 2002; Stone, 1989). Stone (1997) provides one of the earliest studies on the regional, economic leakage effects caused by Walmart stores. He was able to document the phenomena by examining the impact of Walmart stores on small Iowa towns. He found that the smallest and least able communities are the most impacted, losing half their retail in a 13 year period (Stone, 1997). Prior to this study, outcomes were being studied from a more endogenic perspective, as evident in the work of Keon et al. (1989). They examined the impact of Walmart stores within, rather than between, counties and from an endogeneity perspective, not accounting for per capita retail and other growth. Still, it has been argued that small town America has been hurt by stores like Walmart as evident by boarded-up downtowns, declining sales for small independent retailers, and a milieu of erosive factors that depress the socio-economic environment of communities (Freeman, 2003). The extent to which this outcome is true cannot be attributed to Walmart alone, but to the collective impact of chain stores and the exceptional retail economies of scale that such stores and that of online retail giants possess.

While the vast majority of research on Walmart has concentrated on counties and small towns, understanding the location and impact of box stores in large cities at the neighborhood scale can provide additional insight. We do not know if box stores have the same type of impact in large cities as they do in small towns and exurbs. One of the only studies undertaken in a large city is with respect to Chicago (Merriman, et al., 2012). In the Austin neighborhood, northwest of the downtown core, there were 306 businesses in the neighborhood in 2006 before Walmart entered. Two years after Walmart’s entry, 82 businesses closed (Merriman, et al., 2012). Interestingly, the closer a business was to the Austin Walmart the more likely it would close (Merriman, et al., 2012). In fact, for every mile closer to the Walmart, 6 percent more stores closed. Bear in mind that in a rural location proximity to Walmart store can be advantageous. Though sales-tax revenues and employment both increased shortly after the Chicago store’s opening, these two economic indicators declined 2 years afterwards and to the extent of negating all earlier growth (Merriman et al., 2012). Additional evidence elsewhere shows that for every Walmart job that is created there is a loss of 1.4 retail jobs elsewhere in a community and that retail earnings across a county decrease by 1.5 percent (Neumark, et al., 2005).

The small numbers of Walmart stores that are situated in the core of large North American cities can be attributed partly to two factors: (i) a reluctance of large cities to entice Walmart to inner city locations and, arguably, (ii) Walmart’s low aspiration to situate into such areas. In spite of the slow movement of Walmart stores into the core of large cities, one contribution that supercenters can provide are groceries in an area that might be a food desert (Ivey, 2014). Though the supercenter store is not a new construct of Walmart, for the most part it is a suburban, exurban, and rural-based edifice. As such, understanding the phenomena as it enters the highly urban landscape represents an area of emerging research.
It is contended that Walmart stores can adversely impact small businesses and Mom and Pop type stores. Boyd (1997) argues that Walmart early on was able to dominate its competitors, particularly small stores, by pressuring suppliers to give Walmart unequal pricing advantages. Walmart’s sheer size gives it economies of scale advantages and associated supply chain leverage that small, independently operated stores cannot capitalize upon. It is this unequal footing in the market place between big box stores versus small store operators that can create unease among retail competitors when Walmart enters new locations/markets. Gereffi and Christian (2009) would argue that this concern is real in face of Walmart’s potential for eroding downtown retail in addition to being able to reduce wages, lower prices, and shift consumer behavior in regions. The hidden costs that are often overlooked when Walmart enters an area, according to Bonanno and Goetz (2012), are the local services that are eroded in favor of external supply chains and support services, some of which are overseas. It has been argued that large retailers like Walmart still create significant eternalization of support services due to a leakage of decisions, profits, and corporate services to the principal corporate headquarter (Bonanno and Goetz, 2012).

Hicks (2007) found that Walmart significantly increases local commercial property tax assessments, sales tax collections, and labor force participation. On the other hand, Hicks (2007) also found that the presence of a Walmart dramatically increased government assistance claims, the extent to which depended on if it was a discount store or supercenter. However, Johnson et al. (2009) examined the effect of Walmart’s entrance on residential property values in five Colorado communities and found that proximity to a Walmart decreases property values as a result of increased traffic, noise pollution, and garbage.

Basker (2005) examined the effect of Walmart on employment in 1,749 counties over a 23 year period and concluded that this retailer has a small positive effect on retail employment at the county level, though reducing the number of small retail establishments. After a Walmart supercenter enters a community the estimated effect on employment is thought to be zero (Basker 2005). Walmart’s entry into an area is not only about whether it impacts or benefits small retailers, but also how it increases the barriers of entry to new retail opportunities (Baum, et al., 2009).

Methods
Data collected for this study was collected from two primary sources. Information on the number of retail and commercial establishments operating within a 3 km buffer of each Walmart store was collected by field work and housed at the CSCA (2015). The number of store vacancies within each area was also collected by field work and housed at the CSCA (2015). Property assessments for each Walmart location were collected from municipal property assessment corporations, MPAC (2015). Conducting field work on a yearly basis from 2002 to 2011 involves substantial longitudinal resources as trained personal are continually required to undertake accurate and comparable visual observations over a lengthy period of time. The location of the stores and the extent of their buffers are shown in figure 2.
The stores chosen for this study were partly selected because they opened as supercenters in 2006. This made it possible to attain five years of data before and after each of them opened as a supercenter. The name, address, closing date, and North American Industry Classification System (NAICS) was collected of commercial establishments within each buffer and ascertained from the CSCA (2015). Using buffers to assess the local impact of box stores will vary by study and there is no universally agreed upon notion of what distance best captures ‘local’. For example, one study that examines an inner city Walmart uses a comparable buffer of 3 miles when examining box store effect (Merriman et al., 2012). One of the difficulties with measuring the socio-economic impact of any big box store in a highly urbanized location is being able to separate exogenous forces in a highly complex commercial, urbanized environment. If too big a buffer is used then the impacts are washed out by other exogenous factors.

Yearly property assessments are given from 2002 to 2011 in Canadian dollars (MPAC, 2015). The province of Ontario’s property assessments are collected and reported by MPAC or the Municipal Property Assessment Corporation. MPAC administers a uniform, province-wide property assessment system based on current value assessments in accordance with the province’s Assessment Act.

The Walmart Effect
This study examines the impact of four Walmart stores that opened as supercenters in Toronto, Canada in 2006. These stores are situated in Brampton, Scarborough, Stouffville, and Vaughan (Figure 1). These stores had a clear and positive impact on property assessments for each location (Table 1). The Stouffville store provides a good illustration of what happens when Walmart opens in an exurban location. Land values are typically cheaper at such locations as evident in this study. Prior to Walmart’s opening the immediate property area was assessed at $388,000. After the store opened its property assessment quickly increased to $4.8 million. Though it did decline a year later, perhaps due to pressure by Walmart on the local government for a better tax rate. This is not an unusual tactic by big box stores once they open, particularly in more rural and exurban locations where they can use their clout. Though
the Stouffville store managed to lower its property assessment shortly after opening, property values have been increasing nonetheless (Table 1).

**Table 1: Property assessments by Walmart location in Toronto, Canada in millions of dollars**

<table>
<thead>
<tr>
<th>Supercentre Location</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stouffville (New Supercentre)</td>
<td>.388</td>
<td>.388</td>
<td>.388</td>
<td>.388</td>
<td>4.87</td>
<td>1.59</td>
<td>2.59</td>
<td>2.74</td>
<td>2.74</td>
<td>2.89</td>
</tr>
<tr>
<td>Brampton (Converted Store)</td>
<td>20.16</td>
<td>27.07</td>
<td>27.21</td>
<td>27.21</td>
<td>30.44</td>
<td>34.58</td>
<td>34.58</td>
<td>34.58</td>
<td>42.6</td>
<td>42.6</td>
</tr>
<tr>
<td>Vaughan (Converted Store)</td>
<td>10.60</td>
<td>10.60</td>
<td>14.75</td>
<td>14.75</td>
<td>24.69</td>
<td>24.69</td>
<td>24.69</td>
<td>31.52</td>
<td>39.8</td>
<td>39.8</td>
</tr>
<tr>
<td>Scarborough (New Supercentre)</td>
<td>7.63</td>
<td>10.01</td>
<td>11.24</td>
<td>13.91</td>
<td>18.62</td>
<td>68.16</td>
<td>41.91</td>
<td>45.41</td>
<td>57.6</td>
<td>57.6</td>
</tr>
</tbody>
</table>

Source: MPAC, 2015.

The Brampton store, which was already a discount store prior to 2006, did not experience an equal increase in property assessments after 2006 due to its Walmart legacy. Still, because this store is located in one of Toronto’s fastest growing suburb’s its property assessment was significantly higher compared to the exurban Stouffville store (Table 1). The Brampton store was assessed 20 times higher than the Stouffville store (Table 1). Since the Brampton store is in a desired location and in a large thriving urbanized area, it is unlikely to get the same kind of tax breaks as a more exurban located store, such as Stouffville. This certainly seems to be the case when one examines the most urban-based Walmart in this study, the Scarborough store. Property assessments were highest for this store location. A declining land rent curve is apparent from the property assessments as one moves from inner city to exurban locations. Another unique attribute of the Scarborough site is that its property assessments dramatically increased after Walmart opened at the site in 2006, increasing from around 18 to 68 million dollars in 2006 to 2007, respectively.

Overall, it is apparent that local governments benefit from attracting Walmart supercenter(s) to their jurisdiction with respect to property taxes. This is partly supported by data shown in Table 1, which helps explains why local governments and counties are eager to seek-out box stores than chance having a neighboring community or county benefit from accruing any added tax revenues. Though tax revenues appear to benefit local communities that attract a Walmart store, the impact is less optimistic with respect to nearby competing retailers. In this study, only one of the four Walmart stores (identified in Table 2) showed an increase in the number of retailers operating nearby (or within a 3kms buffer). That location being Stouffville, the least urbanized location. Since this store is in an exurban location it has likely created retail growth nearby. However, the extent to which this growth will continue is hard to surmise. Unfortunately, the growth identified at the Stouffville site does not come close to offsetting declining numbers of commercial establishments at the other three locations. For example, the Scarborough store, which is located in the inner city, showed the greatest decline in competing retailers. There were 505 commercial establishments located near this Walmart in 2005 before the supercenter opened (Table 2). Five years later there were 100 fewer commercial establishments operating nearby (Table 2). A decline in the numbers of nearby retailers to the Walmart stores identified in this study coincided with increased store vacancies. The number of store vacancies at the Scarborough site increased from 38 in 2006 to 53 in 2011. Similar, but less dramatic, patterns are evident for the remaining two Walmart stores located in Brampton and Vaughan (Table 2). As with the property assessments, there is a spatial pattern to the findings. The most urbanized Walmart stores (such as Scarborough and Brampton) are witnessing the greatest declines in numbers of competing, nearby retailers and those that are situated in less urbanized locations (such as Vaughan and Stouffville) are not as affected.
Table 2: Number of retail and commercial establishments operating and store vacancies within 3kms of a Walmart location in Toronto, Canada

<table>
<thead>
<tr>
<th>Store Type</th>
<th>Year</th>
<th>Establishments</th>
<th>Store Vacancies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brampton Walmart</td>
<td>2002</td>
<td>118</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>114</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>2004</td>
<td>103</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td>98</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>95</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>2007</td>
<td>95</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>2008</td>
<td>92</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>82</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>81</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>2011</td>
<td>77</td>
<td>7</td>
</tr>
<tr>
<td>Vaughan Walmart</td>
<td>2002</td>
<td>228</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>226</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>2004</td>
<td>226</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td>227</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>222</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>2007</td>
<td>222</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>2008</td>
<td>228</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>218</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>220</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>2011</td>
<td>217</td>
<td>19</td>
</tr>
<tr>
<td>Scarborough</td>
<td>2002</td>
<td>527</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>517</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>2004</td>
<td>505</td>
<td>49</td>
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<td>2006</td>
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<td></td>
<td>2007</td>
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<td></td>
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<td>409</td>
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<td></td>
<td>2010</td>
<td>410</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>2011</td>
<td>404</td>
<td>53</td>
</tr>
<tr>
<td>Stouffville Walmart</td>
<td>2002</td>
<td>27</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>30</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>2004</td>
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<td></td>
<td>2005</td>
<td>18</td>
<td>1</td>
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<td></td>
<td>2006</td>
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<td>2</td>
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<tr>
<td></td>
<td>2007</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>2008</td>
<td>28</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>37</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>37</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>2011</td>
<td>40</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: CSCA, 2015.

Three retail sectors that compete directly with Walmart are Clothing, Grocery, and General Merchandise. When Walmart enters a community it is expected that these sectors will decline. In the case of the Scarborough store this is the case. All three sectors showed significant decline after Walmart opened in 2006 (Table 3). To what extent this can be attributed to Walmart or other exogenous forces requires further study. In all likelihood there has been a Walmart effect on retailers nearby.

Table 3: Number of establishments operating within three kilometers of the Scarborough Walmart by key retail sectors

<table>
<thead>
<tr>
<th>Sector</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clothing</td>
<td>88</td>
<td>86</td>
<td>80</td>
<td>78</td>
<td>64</td>
<td>67</td>
<td>60</td>
<td>57</td>
<td>52</td>
<td>49</td>
</tr>
<tr>
<td>Food and Beverage</td>
<td>36</td>
<td>37</td>
<td>35</td>
<td>35</td>
<td>28</td>
<td>29</td>
<td>24</td>
<td>25</td>
<td>25</td>
<td>24</td>
</tr>
<tr>
<td>General Merchandise</td>
<td>22</td>
<td>21</td>
<td>25</td>
<td>25</td>
<td>21</td>
<td>22</td>
<td>20</td>
<td>19</td>
<td>18</td>
<td>16</td>
</tr>
</tbody>
</table>

Source: CSCA, 2015.

Summary
This study examined the impact of four Walmart stores in Toronto, Canada from 2002 to 2011. All four stores opened as supercenters in 2006 thereby allowing for retail and property assessment trends before and after they opened. The four stores are located in Stouffville, Vaughan, Brampton, and Scarborough. These stores are unique in that one is located in the inner city (Scarborough), two in the suburbs (Brampton and Vaughan) and one in the exurbs (Stouffville). Two of the stores converted from discount to supercenters (Brampton and Vaughan) while the other two opened as supercenters in 2006.

It was found that all four stores generated higher property assessments/revenues for their local governments. In the case of the Stouffville store, being in an exurban location, property values were low for this site due to its location and prior to the stores opening, but increased considerably afterwards. Interestingly, a property reassessment occurred a year after for Walmart at the Stouffville (exurban) site. Something that box stores are reportedly apt to seek shortly after they open and for the purpose of generating lower property taxes. Overall, the closer a store was to the metro core the more likely a municipality could seek revenues from property assessments. The two stores that converted from discount to supercenters in 2006 also generated notably more in property assessments after they converted.

Impacts on nearby retailers varied by location. When observing commercial activity within a three kilometers buffer around each Walmart store it was found that numbers of retail and commercial establishments decreased more significantly if they were situated in a study area that was closer to the metro core. Another pattern also evolved with respect to store vacancies. They increased more rapidly...
in those study areas that are closer to the metro core and noticeably less in the exurb. When observing the inner city site, the most impacted in this study, it was found that key retail sectors had fewer stores after Walmart opened in 2006.

**Bibliography**


Individualized Literacy Instruction in High School: Two Case Studies

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Abstract

Between 2003-2012, the number of students with IEPs who spend more than 80% of the day in general education classes has increased from 49.9% to 61.9% (U.S. Department of Education, 2014). In terms of creating a more inclusive school experience for students with disability labels, it appears that we are moving in the right direction. At the same time, however, it is important that students – especially secondary students who struggle with reading – are getting the individualized instruction they need to be able to independently access print. In many cases, the needs of students have been conceptualized as an ‘either/or’ proposition. That is, either students are included in general education classes and receive the support (often Resource Room) to pass these classes but don’t receive literacy instruction; or they receive the majority of their instruction, including reading instruction, in a more restrictive setting.

The finite resource available in schools that seemingly creates this dichotomy is time: there are only so many hours and minutes in a school day. Is it possible to have inclusion and individualized instruction in high schools? The emergence of Response to Intervention (RTI) in recent years (Duffy & Scala, 2012; Fisher & Frey, 2013) has been one potential solution to this issue. Depending on the design of RTI in a given school building, RTI has the potential to maintain the spirit of principles of inclusion, while at the same time providing individualized instruction. However, for those students who have significant reading delays, is traditional reading instruction the best use of the students’ time in school? Could they be taught to make use of technologies to support their access to print, while at the same time being provided with modeling that is a necessary (but not sufficient) aspect of reading instruction? Combining technology with principles of literacy instruction provides students with both skills and confidence to be successful readers (Silver-Pacullia, Ruedell, & Mistrett, 2004). Although technologies are available and RTI does offer a possible resolution to the either/or structure of the past, school administrators do not always take advantage of these possibilities. In this article, I present two case studies of students who had significant reading delays and the approaches used in each case assist them in accessing print.

Keywords: reading instruction, learning disabilities, high school, assistive technology
Theoretical Exploration of Selected Corporate Governance Challenges

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Introduction

Corporate governance denotes ‘the relationships among the participants in determining the direction and performance of corporations’ (Monks and Minow, 2001). It tackles the intrinsic nature, purpose, integrity and identity of the corporation, as well as its strategic direction, socio-economic and cultural context, externalities and constituencies (Tipurić, 2008, 2011). Governance processes operate at multiple levels, which is reflected in definitions of corporate governance. Narrow meaning refers to the governance of the corporation in the interest of dominant stakeholder groups (usually the shareholders), raising the issues of board structure and performance, executive compensation, disclosure and accountability of management to shareholders (including the minority ones). Broader meaning of governance denotes legal and habitual frameworks defining corporations and governing the pursuit of business within society (Hendry, 1998a), and involves a more extensive concept of accountability to stakeholders. Despite the prevalence of the former approach in research and policy, governance failures of particular corporations in developed economies and the difficulties of Central and Eastern European countries to build effective corporate governance regimes provoke questions whether these problems should solely be attributed to the shortcomings of particular individuals and corporations, or whether they are symptoms of more systemic governance failures.

Agency theory dominance

The dominant paradigm of governance research and policy is agency theory (Jensen and Meckling, 1976; Fama, 1980). It views the relationship between shareholders and managers as a principal-agent problem whereby agent’s behaviour is derived from a set of assumptions, including opportunism, bounded rationality and maximisation of economic utility, which require monitoring and result in agency costs. Corporate governance thus becomes a regulatory process linked to the view of the firm as a nexus of private contracts. When the firm is viewed as a creation of private contract, outside influences, such as regulation and stakeholder pressures, require further justification and can only exceptionally override the firm’s autonomy in the pursuit of instrumental business goals. Shareholders are given a special position as principals and ‘residual claimants’ whose claims are contingent upon satisfaction of the contractual or legally enforced financial claims of other stakeholders (suppliers, employees, creditors and the state). Higher risk of their claims justifies higher expected returns, and the primacy of the shareholders’ interests expressed through their monitoring prerogatives over managers.

Effectiveness of this approach depends upon a combination of regulation and financial markets as external disciplinary mechanisms that should ensure partial transparency of crucial corporate practices and enable shareholders, analysts and other relevant actors to monitor company (financial) performance (Podrug, Filipović & Milić, 2010). The underlying intuition is that managerial accountability can best be ensured by arms-length governance mechanisms that are as specific and enforceable as possible. Board of directors - an institution whose members are appointed (predominantly) by particular shareholders, but representing the company as a whole - should mediate the requirements of external bodies and the strategies/policies enacted by corporate management. Governance mechanisms should be treated as performance-enhancing
constraints to managerial autonomy to control information on the company or disregard obligations to the company and stakeholders in general and shareholders in particular (Podrug, 2010). Among these mechanisms, laws, codes and contracts specify enforceable rules, whereas financial markets generate performance expectations that need to be met. In both cases, non-compliance results in sanctions, enforced either by regulators and the judicial system, or by financial markets (i.e. decrease of share price and/or deterioration of credit rating¹). The result is a system based on external market mechanisms (markets for managerial labour and corporate control).

The dominant paradigm has made important contributions to the public advancement of governance issues, and to the specification of instruments of corporate governance, particularly in Anglo-American countries, but also including the current global standard – OECD Principles of Corporate Governance. However, its empirical evidence has been equivocal (Hendry, 1998b). Moreover, analysis of its assumptions, principles, instruments and outcomes leaves it uncertain whether it can achieve its specified objectives (including the accountability of managers to the shareholders), let alone ensure effectiveness of the corporate governance regimes.

The dominant approach to governance primarily oriented towards arms-length control assumes that corporate governance becomes effective through hierarchical and market-based control mechanisms that limit managerial self-seeking behaviour through individualising processes and effects of accountability (Tipurić, 2011). That leads to the disregard of ‘system effects’ (Jervis, 1998) which may involve legitimising and even advancement of the very self-interest which was supposed to be curtailed, as well as underestimation of actual correspondence of interests of managers, directors and shareholders. The remedies offered for the curtailment of self-interested opportunism have fed the very mentality they have seemingly sought to control: explicit linking of individual executives pay with the performance of units they manage (through stock options and bonuses) has been associated with bidding up levels of senior executive pay (Tipurić, 2008). As for the actual congruence of interests between shareholders and executives, it occurs through the joint interest in increased stock price, and may be further reinforced by the collusive relationship between the board and senior executives. Although a degree of congruence is conducive to effective governance, it may also occur at the expense of the interests of other stakeholder groups or long-term organisational capabilities (cf. Froud et al. 2000). Since it views the company as a creation of private contract and treats stakeholders instrumentally, the dominant paradigm does not enable mechanisms that could restrain the effects of collusion between managers, directors and/or shareholders on the company and its less powerful stakeholders (apart from the improvement of position of minority shareholders). This contributes to underdevelopment of socialising forms of accountability – both within the board and in relationships with key stakeholders – and the neglect of trust-building they can facilitate (Podrug, 2010).

Corporate governance, as it is viewed and practised nowadays, mainly pertains to the publicly traded companies, which severely limits its scope in bank-based financial systems whereby the stock market plays an ancillary role in corporate finance, and the takeover threats are rare because of concentrated ownership structures. That leaves most large companies in such countries outside of an effective corporate governance umbrella. Although the principal-agent relationships may not pose particular challenges in this context, the issues such as disclosure and transparency of corporate practices, and the treatment of minority shareholders and other stakeholders, remain largely unresolved. Inadequate regulation and/or ineffective judicial systems, as it is witnessed in many transition countries of Central and Eastern Europe will further reinforce these problems. In other words, reliance on market-based modes is inadequate in the absence of markets for corporate control and a comprehensive and effective legal system that would enable efficient redress mechanisms.

¹ Both of these conditions make access to capital more expensive; the former also increases the threat of replacement of current management and/or (hostile) takeover.
Formation of markets necessary for corporate governance in the conventional sense needs to be addressed. Hereby the distinction between any exchange between operationally autonomous actors and organised and institutionalised exchange entailed by actual markets should be emphasised (Cao, 2010). Institutional and conventional characteristics of markets shape actors’ expectations, influence behaviour and can serve as a basis of trust. They include the definition of products, formation and publication of prices, establishing contacts among actors, definition of bargaining conventions, standardisation of contracts, norms, codes of conduct and contract enforcement procedures. The absence of such elements does not necessarily preclude exchange from taking place, but it is likely to increase costs of such fragmented exchange. The conditions where fragmented exchange prevails are linked to specificity of the exchanged resources and/or emergence or paradigmatic technological or institutional shifts. Unlike fragmented exchange systems, where obtaining relevant information is difficult, institutionalised markets promote the reduction of transaction costs and increase accountability of their participants through conventions, norms, codes of conduct and legal institutions. Legally and professionally defensible practices can be established and defended more easily when the information on the actors’ behaviour can be juxtaposed to some standards. Economically, socially or environmentally unsustainable practices are more easily disputed in markets than in fragmented exchange systems. Idiosyncratic transactions and the lack of applicable standards make the formation of markets as foundations of corporate governance quite difficult.

Systemic governance deficit

Defining corporate governance in terms of an instrumental relationship between shareholders and managers leads to an overemphasis on the governance of the corporation, which is defined too narrowly. The corporation is viewed as a closed system with predetermined objectives whose relationship with the environment is reduced to strategic communication – predominantly with current and potential investors. Governance is primarily viewed as a set of financial-performance-enhancing constraints to managerial opportunism, rather than as an interface integrating stakeholder interests for the purpose of longer-term benefit of then company and its stakeholders (Fahlenbrach, 2009). These conditions contribute to a systemic governance deficit – relatively widespread inadequacies in perception and management of governance risks at the organisational level, coupled with insufficiently comprehensive and/or effective regulative and market-based mechanisms within society. In addition to the inadequacies of regulative and market-based mechanisms discussed above, governance weaknesses and failures (meaning different degrees of inadequacies in managing risks and processes that define stakeholder relationships and create value for stakeholders, and the company’s reputation) often occur due to lack of stakeholder interaction and/or its perceived low importance. This is especially pertinent when external influences or intensified competition jeopardise institutional foundations of an organisational field. In such cases, due to the structure of incentives, actors may find it difficult to act in mutually beneficial ways (in dyadic relationships) or may resort to illegitimate collusion (in network- or market-based relationships), both of which may cause governance weaknesses or failures. The governance deficit occasionally becomes effectuated through governance failures of particular corporations, and contributes to the inadequacies of corporate governance systems.

Due to an exclusive focus on the narrowly defined governance of the corporation, the mainstream approach often fails to adequately integrate the interrelationship between the firm and the environment into governance concerns. That interrelationship tends to be either undervalued (e.g. stakeholder relationships) or taken for granted (e.g. legal and other institutions, including financial markets). The current approach undervalues risks and opportunities for productive cooperation stemming from a network of stakeholder relationships, thereby weakening the connection between corporate governance and corporate social responsibility, with detrimental
effects on both practices. Furthermore, the lack of context-related concerns leads to an implicit assumption of appropriateness and effectiveness of external governance mechanisms. Comprehensive and efficient financial markets, legal frameworks and judiciary systems seem to be assumed, resulting in automatic attribution of governance failures to practices of specific individuals or corporations, without sufficient attention to the contextual issues that might have exacerbated them. The preconditions and processes that facilitate effective regulatory and market pressures - which are far from certain – are not tackled. Due to reductionism and emphasis on formal regulation disembedded from the social context, the dominant paradigm stops at acknowledging the gap between ideal and actually operating markets, or between formal rules and actually institutionalised behaviour, thereby failing to take into account the learning processes that can reduce those gaps. Acknowledgment of these processes would require viewing of the corporation as an open system capable of learning and integrated into wider societal environment. An alternative view approaches governance as an ongoing learning process that defines and institutionalises stakeholder relationships (as opposed to contracts alone) and value creation processes at the level of particular firms and societies/economies in general. Its roots are in competence-based and knowledge based theories of the firm. Although such an approach can be applied in any context, it is argued that it is especially relevant for contexts that witness marked institutional change and/or widespread institutionalisation of antisocial/unethical behaviour – like the transition countries of Central and Eastern Europe.

Systems of corporate governance

Business practices within a firm correspond to productively motivated association and cooperation aimed at achieving viable economic outcomes and cultivating resources and relationships that will facilitate the future development of the firm. However, when we move beyond such general goals and enter the realm of processes, assumed purposes and the corresponding institutional and normative frameworks, dissimilarities arise. Since the practice of business is intertwined with other societal systems (culture, law, politics etc.), its institutional and normative aspects are inherently related to them. Since business practices are institutionalised in business enterprises, these dissimilarities are reflected in the concepts of the business corporation and the corresponding systems of corporate governance. Various (supra)national governance systems display various patterns of equity ownership (see La Porta et al., 1999; Takacs, & Hilmann, 2010), legal regulation, acquisition of financial and human capital (Filipović, 2012), and ethical conceptualising of business activities. Without attempting to marginalise these differences artificially, or to negate the current tendencies towards convergence of some aspects of the various systems, it can be argued that two large groups of systems can be identified according to the predominant concepts of the business firm – the shareholder and the stakeholder systems. The shareholder systems, predominant in the common law countries, view the corporation essentially as a creation of private contracts, what implies that its internal organisation and its relationships with the societal context should be defined autonomously (through negotiation), rather than by externally imposed norms. In the stakeholder systems, characteristic for the civil law countries, a corporation is viewed as a social institution whose objectives encompass the interests of multiple stakeholders, but cannot be equated with any of them (Kay, 1997). Therefore, it is assumed that the society has a legitimate claim to define the legal framework for the pursuit of business within it, as well that a relatively denser network of implicit and explicit understandings concerning both the relationships among the stakeholders and between the corporation and the society.

Although shareholder and stakeholder systems may display tendencies towards behavioural differences, the crucial element separating the systems is normative: they are justified through different discourses (Cennamo, Berrone, & Gomez-Mejia, 2009). The shareholder system

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2 Corporate governance focuses on the ‘hard’ issues of financial reporting, auditing and compliance. Corporate social responsibility mostly tackles ‘soft’ issues linked to reputation building or human resource management; environmental concerns might be the CSR concern closest to core business practices.
assumes that the company should be geared towards shareholder wealth and profit maximisation, respecting the constraints imposed by the law, customs or public opinion. This goal requires a simple, but all-encompassing ideology of free exchange between rational individuals disembodied from their contextual particularities. The foundations of free-market discourse are contractarian - it focuses on expressed choices and negotiated agreements, treating the social, psychological and ethical backgrounds of economic actions as contingent and open for overcoming and redefinition. This ideology tends towards commercially motivated questioning of the social order, having a potential for overcoming its restrictive aspects, as well as for ignoring intricate webs of meaning inherent to social systems. Integration of various interests and needs, inherent to the stakeholder system, assumes greater social complexity and, therefore, requires justification through multiple discourses related to various constituencies and social institutions that shape economic behaviour. The underlying assumption is that the autonomy of various social spheres should not be effaced in their integration through business. Institutional and normative channelling of business is expected to incorporate structures of meaning and power coming from the societal environment. The acceptance of a high degree of social embeddedness of business implies relatively complex processes of integration of business into the wider context, which may lead to entrenchment of special interests, lack of flexibility and discouragement of innovation.

Comparative analysis of the systems of corporate governance has partially overcome initial focus on Anglo-American systems, usually covering the issues such as ownership configurations, acquisition of capital, legal regulation (e.g. company and employment law) and the corresponding distribution of power within the corporation (Scott, 1997; La Porta et al. 1997, 1999; Filipović, 2012). Despite some arguments favouring common-law systems as facilitators of growth of capital markets due to better investor protections (in terms of character of legal rules and quality of law enforcement) (La Porta et al. 1997), there are few reasons to inherently prefer any system (Choi et al., 1999). Economic performance does not seem to be intrinsically related to governance systems (Hendry, 1998a). The effectiveness of any system can be analysed in terms of processes (e.g. levels of transparency and accountability of managers and firms to particular stakeholders) and economic, social and environmental outcomes. When it comes to accountability, systems also differ in terms of dominant forms - in particular in terms of relative weight they give to private and public accountability of companies. Depending on circumstances encountered by stakeholders, these differences may occasionally imply different aggregate levels of accountability.

Globalisation of business operations and financial markets, coupled with complementary political processes (e.g. integration and expansion of the European Union, formation of regional free trade associations and the World Trade Organization etc.), has spurred the interest in corporate governance (seen primarily as a means of securing investors’ claims) and the debate about the convergence of corporate governance systems (Hendry, 1998a). The requirements for increased transparency and consistency of governance practices across systems have been favouring a more widespread application of arms-length mechanisms, historically prevalent in Anglo-American systems of corporate governance, which have been endorsed by the current global standard. What should not be overlooked is that these elements are superimposed on the existing structure of legal and habitual instruments, which may not be entirely consistent with them; any re-institutionalisation in that case is gradual. If the new regulations related to corporate or national governance (sometimes labelled ‘best practice’) are adopted without sufficient legitimacy and/or leeway for adaptation to specific circumstances, the risk of non-compliance increases. On the other hand, increased complexity and interconnectedness of business operations and increasing importance of relational aspects of business redefine the corporation and its accountability

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3 Hereby we need to distinguish between corporate governance and more fundamental issues encapsulated under governance as a generic term used by economists to capture the impact of the political system (especially the government) on economic activity – which are relevant regardless of the system of corporate governance prevalent in a country. Kaufmann et al. (2003) divide governance indicators into the following groups: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law and control of corruption. Economic performance tends to be correlated with many of these indicators.
processes. The corporation becomes a flexible bundle of tangible and intangible resources, competences and relationships with shifting boundaries with the environment. The differentiation aimed at matching increased environmental demands requires a balance by the redefined integrating forces within the organization. Since the processes of acquisition, development and reproduction of these resources increasingly involve a wider web of stakeholders, the governance processes related to these resources become increasingly complex.

Consequently, a systemic governance deficit seems a likely condition faced by many corporations in many economies, including the most developed ones. Effective corporate governance entails building up of institutions at organisational and societal levels that contribute to the reduction of such deficits.

**Conclusion**

Contemporary governance is defined by the relationships of interdependency, which can be viewed from organisational and societal levels. From the perspective of corporations, strategies become increasingly dependent on complex learning processes and the networks of relations within which they are embedded. Moreover, interdependency has important implications for the public policy, particularly due to a legitimate concern for the development of social institutions through which these interdependent relations can be governed. Institutional considerations should not be reduced to their regulatory aspects; they also have significant implications for organisational strategy and systemic competitiveness of countries and regions.

The duality that pervades firms is based on the tension between exercising strategies and building relationships. Frequency and complexity of internal processes and interactions with the environment engender a tension between the use of material and symbolic resources to satisfy immediate goals, and development of resources (including relationships) that could enable future effectiveness. Their integration is captured in the notion of satisficing. Instead of maximising any single structure of objectives, actors within firms satisfice the ever-changing multiple objectives and influences. Satisficing was originally (Simon, 1976 [1945]) understood as a characteristic of administrative behaviour stemming from cognitive limits of bounded rationality, which prevents maximisation. Drucker (1980) extended the concept by including the political dimension – the relative strength of constituencies. Finally, the stakeholder theory addresses ethical implications of business decisions in the context of multiple constituencies. Being a complex of economic, political and ethical dimensions, satisficing is an ethically desirable process, rather than an obstacle to profit maximisation imposed by cognitive limits or negotiating realities. Satisficing stems from empirically determined balancing of the constituencies within particular firms and institutional environments. It includes an instrumental dimension embedded in organisational hierarchies and dominant discourses, which can ensure the necessary efficiency and prevent the collapse of intraorganisational processes into unsustainable distributional conflicts. But it also affirms the firm as a social entity whereby strategising and relationship-building are integrated. Satisficing also redefines the notion of stewardship as a relation of interdependence. Multiple material and symbolic resources required for effective business are preserved and enhanced through satisficing processes. Despite the differences in importance, excessive orientation towards any particular resource may jeopardise the attainment of other necessary assets. Moreover, the patterns of use of resources are constrained by the power of stakeholders, including both those directly affected, and the members of relevant political communities that can use explicit regulatory mechanisms and various forms of social pressure to influence the modes of using of those resources. The affected or interested parties may have different abilities to respond to one’s actions. Nevertheless, legitimacy, relationships with stakeholders and the ability of actors to exercise their strategies partially depend upon the perceived effects of their previous actions and their systemic consequences. The importance of social contextualisation of the use of resources via stakeholder influences increases, as the resources and modes of their utilisation become more complex and therefore interdependent with the environmental influences.
Being a result of a complex and chaotic learning process, accountability promoted by the market is admittedly partial. Responsible practices may result in higher costs (at least in the short term) or discursive disadvantages towards powerful stakeholders, which may impede their spreading across the business field. The pressures from the media, consumers, non-governmental organisations or institutional investors can be chaotic and without sufficient attention to systemic issues. Consequently, it should be complemented by wider public policy considerations. One should place corporate governance debates within a public policy domain, which places economic issues within wider legal and cultural frameworks. That results in various modalities of the market economy - labelled as social systems of production (Hollingsworth and Boyer, 1998), business systems (Whitley, 2000), varieties of capitalism (Hall and Soskice, 2001) etc. The main difference between developed and underdeveloped forms of the market economy comes from the processes of social satisfying that limit the ability of particular interest groups (e.g. political elites, trade unions, entrepreneurs etc.) to seek rents and/or hinder the restructuring of an economy, as well as the excesses of profit seeking that aim to transgress legal or social boundaries of economic activity. Effective satisfying is based on social institutions which define acceptable patterns of action and the means of conflict resolution. By enacting effective institutions - or failing to do so - economic actors help create particular social and natural environments that affect them and their stakeholders. Economic, social and environmental sustainability requires a balancing process that combines instrumental and other considerations and enables the not only utilisation, but also preservation and enhancement of productive capacities of actors and resources. This is related to the issue of systemic competitiveness of a country, based on the interaction of financial, production, innovation and governance systems (Bradford, 1997). Systemic competitiveness is highly related to the capacity for developing interactive governance at the public policy level. That is in turn related to meta-level factors such as orientation of groups of actors towards both learning and efficiency, the capacities of groups and organisations for strategic interaction and integration, and appropriate framework for protection of interests (Messner, 1997).

Strategic and public policy perspectives and motives for taking seriously the relations of interdependence within the corporate governance context may be different, but they seem to pinpoint in the same direction, giving a pivotal role to the processes of institution-building within and between organisations and across societies. More research into the issues in question is undoubtedly needed, which would link and extend the existing knowledge, which seems to be dispersed across different disciplines and theoretical perspectives. That would enable better understanding of the issues in question, as well as clearer guidance to business practitioners and policy makers who may want to practically implement adequate practices through their policies, strategies and managerial activities.

References


Integrating Students with Physical Disabilities in Academia – A Case Study

Where There's a Will There's a Way - Coping with Disabilities

Orly Kayam, Wingate Academic College, Israel

Integrating people with disabilities into society is a human value that reflects society's understanding that it needs to care for all individuals as well as the understanding that each person can contribute to society in their own different way (Ronen, 2007). This integration is accomplished by the mutual recognition that people with disabilities can contribute to society as well as society contributing to them (Reiter, 2007). Flavian (2010) states that people with special needs can be integrated into society but raises the question of whether they can be part of the teaching profession. In my lecture, I wish to present the case of one of our students, Beza Nebeveh, who applied for acceptance to Wingate Academic College with the goal of becoming a certified physical education teacher. As Beza did not meet the entrance requirements for acceptance, he was referred to our special preparatory program for students wishing to study at the college. Beza, who is blind from birth, arrived in Israel with his mother as a young child from Ethiopia and attended a school for the blind but did not complete the matriculation exams necessary for acceptance to higher education. Our goal was to prepare Beza for academic studies here at Wingate and to provide him with whatever assistance he required to meet that goal. In addition to the academic challenges, Beza and the college together needed to learn how to enable Beza to cope with physical classes and the facilities, which are not necessarily accessible to the blind. To accomplish this we created a support network of teachers, students and counselors who accompanied Beza throughout the year. This was an inspiring process of mutual learning that culminated in Beza's successful completion of the preparatory program and acceptance to Wingate Academic College where he is currently a student.


Primary Care Physicians in the New Clinical Commissioning Groups (CCGs) in England: Professional Identities in New ‘Calculable Spaces’

Zlatinka Blaber, Salem State University, USA

Abstract

This study investigates the redefined professional identities of English primary care physicians, commonly known as General Practitioners (GPs), in the newly-established healthcare purchasing organisations known as Clinical Commissioning Groups (CCGs). Theoretically, this research uses the concepts of ‘calculative practices,’ ‘calculable spaces,’ ‘territorialising,’ ‘mediating,’ ‘adjudicating,’ and ‘subjectivising’ (Miller, 1990, 2001; Miller and Power, 2013). The institutional field studied is CCG commissioning in contemporary England. This paper asks the following research questions: 1) ‘To what extent do hybridity and calculative practices affect physicians’ professional identities in CCGs?’ 2) ‘Have GPs in CCGs internalised their new commissioning roles as new professional identities?’ and 3) ‘What is the role of ‘territorialising,’ ‘mediating,’ ‘adjudicating,’ and ‘subjectivising’ in terms of GPs’ professional identities in CCGs?’ This research employs two research methods – semi-structured, in-person interviews and non-participant observation of CCG meetings with the public and NHS national conferences. The interview subjects are NHS managers and accountants, as well as NHS physicians, most of whom are GPs.
E-Commerce in India: Challenges and Innovation in the Changing Market Scenario

Manoj K. Sahoo, Pandit Deendayal Petroleum University, India
Vivek S. Gupta, Pandit Deendayal Petroleum University, India
S. Sreedharan, Pandit Deendayal Petroleum University, India

ABSTRACT

E-Commerce refers to the transaction of goods, services, information or funds over an electronic network between businesses, consumers or both. Since the advent of Jeff Bezos’ Amazon in 1995, the e-commerce industry has grown at an unprecedented rate. Therefore, it comes as no surprise that a rapidly growing market like India has witnessed a steep rise in popularity in the sector. The growth of the industry has direct implications for growth in the country’s GDP, not to mention the potential for inter-sectoral synergy and augmented levels of consumption and standard of living. This paper attempts to study the Indian e-commerce industry and its rapid growth trajectory under the framework of the global market scenario. This study critically analyses the e-commerce ecosystem in India for established ventures as well as start-ups to determine the challenges faced by the firms and innovations as specific growth drivers. Most importantly, this paper attempts to provide a future roadmap for the Indian e-commerce industry in the evolving market scenario.

Key Words: E-commerce, start-ups, innovations, growth challenges, future market scenario.

1. Introduction

Since the days of global growth experienced during the Industrial Revolution, mid-1990s witnessed introduction of digital economy in the world. Second half of that decade led to the creation of many dotcom companies like Jeff Bezos’ Amazon in 1995, and along with it the e-commerce industry globally has grown at an unprecedented rate. The journey started in advanced economies led to a global spillover of overall ICT revolution merging technological innovation in communication and information and communication technology. The emerging economies and the developing economies including India were not untouched from this technological spillover effect. And along with it started new business platforms and creation of firms dealing with digital marketplace. The unprecedented potential created by digital business platform and transaction of business and monetary flow leading to the transaction of goods, services, information or funds over an electronic network between businesses, consumers or both led to the recognition of this revolution by The Framework for Global Electronic Commerce, 1997 in following terms: “We are on the verge of a revolution that is just as profound as the change in the economy that came with the industrial revolution. Soon electronic networks will allow people to transcend the barriers of time and distance and take advantage of global markets and business opportunities not even imaginable today, opening up a new world of economic possibility and progress.” (Framework for Global Electronic Commerce, 1997)

The economic growth theories had already predicted the critical role played by technological growth and innovation in the overall growth and advancement of the brick and mortar economy, and bridging the gap between richer and poorer economies. Technological growth and innovation spillovers were recognized as the internal and endogenous factor of an economy’s growth, thus paving the way for

1 Vice President Albert Gore, Jr.
propounding of endogenous growth models as the new growth and development paradigm for the new economies. And in this way new economy with digitalization and modern electronic commerce based business transactions was created which acted not to replace the older brick and mortar economy but supplemented, supported and enhanced it further leading to the creation of new era of economy and business in the form of lunch of global e-commerce industry catering the transaction needs of Business to Business, Business to Consumers, Consumers to Consumers, Business to Government etc and thus creating a niche space for digital retailing market. The next two decades were the decades of e-commerce, with unprecedented growth of e-retailing and mobile-commerce (m-commerce) with the advent of smart phones and penetration of seamless internet connectivity in common man’s life.

2. Literature Review

(IBEF 2013) discusses about remarkable growth of E-commerce in India. The online market space is growing due to growth in activities in travel, movies, hotel reservations, books, matrimonial services, electronic gadgets, fashion accessories and groceries. To capitalise on the rising growth potential, a host of domestic and foreign investors, including VC and private equity firms, are closely eyeing opportunities in country’s e-commerce start-ups.

Nielsen 2014, finds global E-commerce to be getting bigger and bigger. Growth estimates from eMarketer predicted B2C e-commerce sales globally to reach USD1.5 trillion in 2014, increasing about 20 per cent over 2013. The most popular e-commerce segments were found to be non-consumable durables and entertainment products.

Delloitte 2015, finds the future of retail industry to be dependent on innovation and adaptation. The speed of innovation and disruption won’t cease to exist. The e-retailers that’s why have to respond quickly to the process of innovation with innovative products and processes, and also with right strategy, connectivity and special initiatives.

3. Global and Indian e-Commerce Industry

The global e-Commerce industry witnessed impressive growth in 2014 with goods and services transactions worth $1.5 trillion. Internet advertising has been seen to be on an increasing proportion of the overall marketing budgets of the advertisers. The advertisement expenditure was estimated to cross USD160 billion in 2015, of which more than USD58 billion spending on display advertising. (eMarketer) As per Euromonitor estimates global e-commerce sales was to the tune of USD 694 billion in 2013 and it was expected to cross USD 1500 billion by 2018. In terms of growth rates there is substantial growth in global e-commerce sales; 2013 and 2014 witnessing impressive 23 per cent and 21 per cent growth rates. Moreover, the projected growth rate till 2018 is estimated to be in the range of 13 to 18 per cent. (See Figure 1)
Figure 1: Global E-Commerce Sales (USD billions)

![Graph showing global e-commerce sales from 2013 to 2018](source: Euromonitor. Reproduced from AT Kearney Portal at www.atkearney.com)

Retail commerce is a vital part of e-commerce. The 30 country AT Kearney Global Retail E-commerce Index 2015 shows US, China and UK occupying top 3 places in the world due to substantial scores on the four components of online market attractiveness viz. online market size, consumer behaviour, growth potential and overall supporting infrastructure. (Table 1) India does not make into the 30 country rank despite robust growth in online user base and overall growth in e-commerce including e-retailing. However, India is ranked a lowly 83rd rank in a new index launched (as on Mar 2015) by UN Conference on Trade and Development (UNCTAD) for measuring e-commerce readiness of countries, i.e. UNCTAD B2C e-Commerce Index. It covers four indicators viz: internet use, secure services, credit card penetration and postal delivery services (Livemint.com). Globally Luxemburg, Norway, Finland and Canada are ranked with highest e-commerce readiness.

Table 1: The AT Kearney 2015 Global Retail E-Commerce Index of Top 10 Economies

<table>
<thead>
<tr>
<th>Rank</th>
<th>Change in rank</th>
<th>Country</th>
<th>Online market size (40%)</th>
<th>Consumer behavior (20%)</th>
<th>Growth potential (20%)</th>
<th>Infra-structure (20%)</th>
<th>Online market attractiveness score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+2</td>
<td>United States</td>
<td>100.0</td>
<td>83.2</td>
<td>22.0</td>
<td>91.5</td>
<td>79.3</td>
</tr>
<tr>
<td>2</td>
<td>-1</td>
<td>China</td>
<td>100.0</td>
<td>59.4</td>
<td>86.1</td>
<td>43.6</td>
<td>77.8</td>
</tr>
<tr>
<td>3</td>
<td>+1</td>
<td>United Kingdom</td>
<td>87.9</td>
<td>98.6</td>
<td>11.3</td>
<td>86.4</td>
<td>74.4</td>
</tr>
<tr>
<td>4</td>
<td>-2</td>
<td>Japan</td>
<td>77.6</td>
<td>87.8</td>
<td>10.1</td>
<td>97.7</td>
<td>70.1</td>
</tr>
<tr>
<td>5</td>
<td>+1</td>
<td>Germany</td>
<td>63.9</td>
<td>92.6</td>
<td>29.5</td>
<td>83.1</td>
<td>66.6</td>
</tr>
<tr>
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<td>+1</td>
<td>France</td>
<td>51.9</td>
<td>89.5</td>
<td>21.0</td>
<td>82.1</td>
<td>58.3</td>
</tr>
<tr>
<td>7</td>
<td>0</td>
<td>South Korea</td>
<td>44.9</td>
<td>98.4</td>
<td>11.3</td>
<td>95.0</td>
<td>58.9</td>
</tr>
<tr>
<td>8</td>
<td>+5</td>
<td>Russia</td>
<td>29.6</td>
<td>66.4</td>
<td>51.8</td>
<td>66.2</td>
<td>48.7</td>
</tr>
<tr>
<td>9</td>
<td>+15</td>
<td>Belgium</td>
<td>8.3</td>
<td>82.0</td>
<td>48.3</td>
<td>81.1</td>
<td>45.6</td>
</tr>
<tr>
<td>10</td>
<td>-1</td>
<td>Australia</td>
<td>11.9</td>
<td>80.8</td>
<td>28.6</td>
<td>84.8</td>
<td>43.6</td>
</tr>
</tbody>
</table>

Source: Euromonitor, International Telecommunication Union, Planet retail, World Bank, World Economic Forum, UN department of Economics and Social Affairs; AT Kearney Analysis. Reproduced from AT Kearney at www.atkearney.com Notes: 100 is highest and 0 is lowest for each dimension.

India is set to become currently the world’s fastest growing e-commerce market as per prediction by Morgan Stanley (Business Standard, 2015). As far as market size is concerned, India’s e-commerce market was valued at about USD3.8 billion in 2009, which rose to USD17 billion in 2014 and USD 23
billion in 2015. It is estimated to grow up to USD 38 billion in this year i.e. 2016 (Assocham). The importance of Indian e-commerce industry can also be viewed from the fact that it is poised to create 2.5 lakh jobs in online retailing in 2016 due to the increasing recruitment growth placed at 60 to 65 per cent. There are 3.5 lakh people working in the e-commerce industry in various activities like direct sales, supply chain, delivery network, logistics and ancillary support system and so on (Assocham).

In the past years, Indian e-commerce market has seen increase in turnover since generating immense opportunity for the further development of the industry. As per Boston Consulting Group and Retailers Association of India more than 400 million customers are likely to be digital influenced by 2020 (Economic Times, 10 Feb. 2016). There is rapid growth in mobile internet user base in India. As per Internet and Mobile Association of India (IAMAI) India will have 371 million mobile internet users and total internet users to be at 462 million by June 2016 (IAMAI, 2016). Moreover, increasing smartphone purchases and increased investment by the online-retailers are contributing in the robust growth of m-commerce in India.

Mobile-commerce has a share of 20 to 25 per cent of India’s e-commerce market which is further likely to rise with increased technology, smart phone and mobile internet usage. Industry expects that with further advancements in digital and mobile technology, enhanced safety and security of payment systems, rise in digital literacy and usage in rural population and improvement in broadband connectivity with next generation communications systems like 4G networks, there will be further growth in e-commerce market size, growth in sales and increased viability of online business in India.

In India approximately $250 billion of retail expenditure would be digitally dependent, accounting for about one fourth of overall spend (ET 10 Feb 2016). India’s growth in e-retailing will be depending upon overall growth in Internet users which are poised to grow to 650 million as of 2020 from 260 million at present including urban user base which is likely to be 1.5 times from 80 to 120 million.

So far as growth rate of e-commerce and e-tailing is concerned, during 2009 and 2013, e-commerce has grown at more than 53 per cent rate with CAGR of 40-50 per cent between 2010 and 2020. Whereas e-tailing has grown in the same period at more than 29 per cent in terms of US Dollar terms.

Figure: Growth in e-Commerce and e-Tailing in India

Source: Crisil, IAMAI, PwC Analysis and Industry Experts. Reproduced from Assocham-PwC 2014
4. Major E-Commerce Players in India

Major e-commerce market space is dominated by players in India like Flipkart, Snapdeal, PayTM, Infibeam, Amazon India, Shoppers Shop etc. Flipkart started in 2008 and between 2010 and 2012 it had impressive growth. In a short span of time its sales had crossed Rs. 200 crores. Gross sales growth rate were in the range of more than 290 per cent and 450 per cent respectively. But the gross profit and net profit were in the negative zone indicating losses. Flipkart’s losses have continued till end March 2014 and 2015. Its PBDIT growth rate was in very high negative zone about -400 per cent to a maximum of -7900 per cent during 2010-2015 except FY 2013 wherein it had positive profit growth of 100 per cent.

Likewise, Shoppers Shop sales growth had touched about 50 per cent by year 2007 with more than 33 per cent growth rate in the previous year. Moreover, PayTM had crossed Rs. 1.3 crores sales by 2012 with a 555 per cent growth rate in gross sales. But both of these companies profit i.e. PBIDT growth had been in the negative zone during the respective periods. But Infibeam had positive growth in sales and PBIDT in FY 2013 and 2014 by more than 3277 per cent and 457 per cent. So, the market trend shows that there is substantial growth in sales in the e-commerce market, but some firms are yet to make substantial amount of positive profit. Moreover, some major firms are experiencing negative growth in profit as measured by PBIDT. Hence, though Indian e-commerce market is showing promising sales growth, existing and new players have to wait for a gestation period to strike a viable and sustainable business model.

Table 2: Financial Performance of Major Indian e-Commerce Companies (Rs. Crores) (RoG in %)

<table>
<thead>
<tr>
<th>COMPANY NAME</th>
<th>FLIPKART</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>Mar-09</td>
<td>Mar-10</td>
<td>Mar-11</td>
<td>Mar-12</td>
<td>Mar-13</td>
<td>Mar-14</td>
</tr>
<tr>
<td>Sales Turnover</td>
<td>0</td>
<td>10.13</td>
<td>39.56</td>
<td>217.78</td>
<td>0.31</td>
<td>NA</td>
</tr>
<tr>
<td>Gross Profit</td>
<td>-0.01</td>
<td>-0.8</td>
<td>-23.11</td>
<td>-112.57</td>
<td>0.11</td>
<td>-0.36</td>
</tr>
<tr>
<td>Reported Net Profit</td>
<td>-0.01</td>
<td>-0.9</td>
<td>-24.01</td>
<td>-116.69</td>
<td>0.11</td>
<td>-0.36</td>
</tr>
<tr>
<td>Capital Employed</td>
<td>0.11</td>
<td>51.84</td>
<td>118.33</td>
<td>1.43</td>
<td>1.54</td>
<td>1.18</td>
</tr>
<tr>
<td>Gross Sales (Rate Of Growth)</td>
<td>0</td>
<td>290.52</td>
<td>450.51</td>
<td>-99.86</td>
<td>-93.55</td>
<td>NA</td>
</tr>
<tr>
<td>PBIDT(Rate Of Growth)</td>
<td>0</td>
<td>-7900</td>
<td>-2788.75</td>
<td>-387.11</td>
<td>100.1</td>
<td>-427.27</td>
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<table>
<thead>
<tr>
<th>COMPANY NAME</th>
<th>SHOPPERS SHOP</th>
<th></th>
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<tr>
<td>Year</td>
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<td>Mar-04</td>
<td>Mar-05</td>
<td>Mar-06</td>
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<td>Mar-08</td>
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<tr>
<td>Sales Turnover</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.04</td>
<td>0.06</td>
<td>0.06</td>
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<tr>
<td>Gross Profit</td>
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<td>0</td>
<td>0.01</td>
<td>0.01</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Reported Net Profit</td>
<td>0.1</td>
<td>0</td>
<td>0.1</td>
<td>0</td>
<td>0.1</td>
<td>NA</td>
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<tr>
<td>Capital Employed</td>
<td>0.5</td>
<td>0.5</td>
<td>0.6</td>
<td>0.6</td>
<td>0.7</td>
<td>0.7</td>
</tr>
<tr>
<td>Gross Sales (Rate Of Growth)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>33.33</td>
<td>50</td>
<td>NA</td>
</tr>
<tr>
<td>PBIDT(Rate Of Growth)</td>
<td>0</td>
<td>-100</td>
<td>0</td>
<td>0</td>
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<table>
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<tr>
<th>COMPANY NAME</th>
<th>MYNTRA</th>
<th></th>
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<tr>
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<td>Mar-13</td>
<td>Mar-14</td>
<td>Mar-15</td>
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<tr>
<td>Sales Turnover</td>
<td>67.16</td>
<td>213.06</td>
<td>418.01</td>
<td>746.02</td>
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<td>Gross Profit</td>
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<td>-128.43</td>
<td>-164.85</td>
<td>-711.42</td>
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<tr>
<td>Reported Net Profit</td>
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<td>-134.2</td>
<td>-172.84</td>
<td>-740.16</td>
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<tr>
<td>Capital Employed</td>
<td>99.93</td>
<td>190.76</td>
<td>322.92</td>
<td>356.95</td>
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</table>
5. Market Challenges and Innovation in Indian E-Commerce Segment

Though Indian market shows signs of growing e-commerce market, it simultaneously poses some critical challenges in front of existing and new e-commerce and e-tailing players; primarily these are related to survival and growth of the firms, making the business model viable and sustainable both in the short and long run, ensuring venture capital and angle investment for new start ups, and reducing cost of transaction and wage cost, ensuring a business model so that positive rate of return can be accrued on the capital employed, cost effective logistics and delivery network and innovative strategic e-commerce and e-retailing ideas along with strategic merger and acquisition and partnership for joint profit maximisation at the industry level (even if not at the firm level) and so on. The e-commerce infrastructure is critical for the growth of digital market in India. Government of India has launched Digital India programme to increase the intensity of internet usage and online provisioning of e-governance services to bridge the digital divide between the rural and urban India. The success of e-commerce that’s why will critically depend upon the success of this programme which will act as digital and mobile-commerce enabler and facilitator of online business environment. This however will depend on the ability of the existing and new players to create a secured and safe online payment and product delivery environment. Hence, this will require creating intangible goodwill and trust among the customers on the part of the e-commerce firms. The leading firms like Flipkart have successfully created this trust factor among the customers for safe and secured payment and genuine product delivery that to within shortest possible time. This helped Flipkart to create its brand within a short time period of its incorporation which led to attracting investment from foreign and domestic investors critically needed for its viability, growth and expansion.

Innovation in e-commerce can be in various forms. One classic example can be that of DaharaviMarket.com which was established in 2014 July, which provides online product information and marketing facilities to the prospective dealers and customers within India and abroad. Started by a young journalist-cum-urbanologist who is associated with the Asia’s largest slum Dharavi’s economic activity for more than half a decade, wanted to provide an online platform to the cottage and small scale manufacturers for showcasing their product information, price, product quality, contact information for placing order by providing mobile app to the manufacturers for uploading their products’ features and

<table>
<thead>
<tr>
<th>Gross Sales(Rate Of Growth)</th>
<th>0</th>
<th>217.24</th>
<th>96.19</th>
<th>78.47</th>
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</table>

<table>
<thead>
<tr>
<th>COMPANY NAME</th>
<th>MAKE MY TRIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>Mar-09</td>
</tr>
<tr>
<td>Sales Turnover</td>
<td>239.94</td>
</tr>
<tr>
<td>Gross Profit</td>
<td>-44.95</td>
</tr>
<tr>
<td>Reported Net Profit</td>
<td>-45.65</td>
</tr>
<tr>
<td>Capital Employed</td>
<td>99.94</td>
</tr>
<tr>
<td>Gross Sales(Rate Of Growth)</td>
<td>0</td>
</tr>
<tr>
<td>PBDIT(Rate OF Growth)</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: CapitaLine Data Base.
all other relevant information etc. It works like a middle man who facilitates in providing a market place to the prospective customer and the small manufacturers and charges a small commission for the service. DharaviMarket.com was established with a small capital of only INR 0.5 million for establishing the website, app and the basic infrastructure. Dharavi has thousands of small manufacturers who have to pay lot of share in their profit to the middlemen for marketing and selling their products, particularly in the export market. DharaviMarket.com helps in cutting down these multi middlemen and increase the producers’ profit share. (Economic Times, 2014)

Likewise, Bengaluru-based StoreKing, is a e-commerce startup that enables small towns store owners help their customers buy products with the help of a kiosk. It has installed 4,000 kiosks in south India to remove hurdles for the cutomers to online shopping such as lack of internet access, slow connectivity, lack of netbanking facilities or lack of knowledge to use internet. The innovative business model is such that the shopkeeper helps customers to select listed products in local languages, and after the payment, StoreKing dispatches the packaged product to the retailer within three days. The firm uses VRL Logistics, a road transportation firm, to reach the districts from where the services of local distributors like those of HUL and P&G are utilized for intra-district distribution. The customer after getting a text message collects its package from the store. The innovative e-commerce model taps into the network and trust built by local retailers over the years. StoreKing pays a commission to the store keeper after its own profit. The 2012 established StoreKing successfully attracted USD 6 million venture capital funding from Luxemburg based VC firm Mangove Capital. (Economic Times, 2015)

In Andhra Pradesh and Telangana, iPay is such kind of a major e-commerce player with 3,900 retailers and eDabba in the north with 800 retailers their network respectively. E-commerce firms like Novopay and Suvidhaa enable small-town customers for online recharge and payment of utility bills or money transfers. These e-commerce firms use innovative idea of offline availing the product catalogue via a software so that there is no loading delay due to slow 2G network, and simultaneously it makes possible to continuously update even on the slow internet. These models are innovatively working to tap the huge opportunity posed by 70 to 80 per cent of retail sales that takes place in Tier-III cities or smaller towns in India.

Indian e-commerce firms are increasingly recognizing the importance of small store keepers. Large e-commerce firms like Snapdeal and other firms are actively considering tie-ups with retailers and with next level players like StoreKing, iPay and eDabba. These partnerships will in fact reduce competition in the market and reduce undue costs thus making the ventures more viable and profitable.

6. Suggestive Policy Intervention

Government of India has launched a host of policies to support the business especially e-commerce. Digital India, Make in India, Start up India are such policies which will help boost the online infrastructure and hardware manufacturing in the country. The start-ups in the e-commerce segment are promoted by the government by its comprehensive start up policy which provides tax exemptions for three years prior to making profit. All these policies must work in tandem so as for the e-commerce to be successful in India.

7. Conclusion

E-commerce models are continuously changing with advanced creative and disruptive changes in innovation. Indian e-commerce market space is suffering now with coast escalation and firms are searching for cost effective avenues in e-retailing and online business. Reduction in logistics costs, tie-ups with secondary logistics and transport forms increasing efficiency in product delivery, enhancing factor of trustworthiness in relation with the customers, creating new and viable innovative business models so is to reach the smaller cities and towns which will go a long way in enhancing the e-commerce experience and overall digital business in India. The government of India’s start policy has to be pro
active in provisioning venture capital to the new ecommerce forms so that a vibrant ecommerce ecosystem can be created in the country. Ecommerce in future has to be a game changer so far as cost reduction and efficiency of product delivery is concerned. Much of the India’s ailments related to people’s access to cheaper and quality products from domestic and global players will be solved and it will facilitate in releasing true potential of the economy.

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Willingness to Pay for Adaptation Measures to Sea Level Rise: The Case of Coastal Areas in Batu Pahat District, Johor, Malaysia

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Abstract

Sea level rise is one of the major impacts of climate change which poses serious threat to enormous physical property and livelihood interests as well as economic growth and human development. Adaptation measures are an effective approach to reduce the vulnerability from these adverse impacts of climate change. Direct and indirect benefits of adaptation measures include avoiding physical damage, business interruptions, loss of working days, providing a sense of security and responsibility towards current and future generations among others. However, many of the adaptation measures are non-marketed public goods and services. Therefore, non-market valuation is important to estimate the monetary value of the benefits that a community derives from the adaptation measures. Based on a survey of 211 local residents in the coastal areas of Batu Pahat district in Johor, Malaysia, this article evaluates the value of willingness to pay (WTP) by using contingent valuation methods for the adaptation measure, i.e. building a geotube along the coastline. The survey results found that about 13% of the local residents were willing to pay for the adaptation measure while majority of them (73%) were not willing to pay. The average WTP for adaptation measures were estimated at RM54.00 (US $13) per capita which indicates the monetary value of adaptation benefits. The reason for low willingness for WTP might be due to the limited income as well as lack of education and awareness pertaining to climate change issues. Though the majority of the respondents were not willing to pay, 57% of the respondents opined that there is a need for adaptation funds and 58% of them urged that adaptation initiatives should be carried by the government. The results showed that majority of the local residents understood the potential benefits of the adaptation measure. However, the lower value of WTP may not reflect the adaptation benefits accurately rather the value of willingness to accept (WTA) compensation for the livelihood damage would be the correct measure. Thus, the value of WTP showed the moral satisfaction of contributing to public goods and services, not the economic value of the adaptation measure. Finally, the study suggests further research on compensation for the adverse impacts of sea level rise, which might be useful for developing countries to negotiate in climate change issues at the global level.

1. Introduction

In recent years, climate change accompanied by anthropogenic global warming has become a serious issue as the changes are predicted to cause large adverse impacts affecting enormous physical property and livelihood interests as well as economic growth and human development. Sea level rise is among the most profound effects of global climate change caused by the melting of glaciers and massive ice sheets around the world and the thermal expansion of the ocean when the average global temperature increases (Wei & Chatterjee, 2013). Over recent years, the global sea level has risen on average 2.4mm to 3.8mm (IPCC, 2007) and the sea level along Malaysia’s coastline has risen 2.73mm to 7mm during 1993 to 2010. This accelerating rate of global climate change is unprecedented in human history and is estimated to increase in the future. For instance, by the year 2100, sea level is projected to rise 2.5mm to 5.2mm in Peninsular Malaysia with the
maximum in Kelantan and Kedah, and 4.3mm to 10.6mm in East Malaysia with the maximum in north and east coast of Sabah (NAHRIM, 2010).

Sea level rise (SLR) is one of the major impacts of climate change which poses a serious threat to the coastal community including increased coastal erosion, higher storm-surge flooding, inhibition of primary production processes, more extensive coastal inundation, changes in surface water quality and groundwater characteristics, increased loss of property and coastal habitats, increased flood risk and potential loss of life, loss of nonmonetary cultural resources and values, impacts on agriculture and aquaculture through decline in soil and water quality, and loss of tourism, recreation, and transportation dysfunctions (Handmer et al. 2012). Furthermore, the economic cost of future sea levels rising without any adaptation measures is huge; US$20.4 billion for the coast of United States (Yohe & Schesinger, 1998), for instance, US$23 million for the coast of Montevideo, Uruguay (Saizar, 1997), and US$30 billion for the total cost of land loss for the coasts in Poland (Zeider, 1997). Thus, adaptation measure are a necessary approach to reduce the vulnerability of the adverse impacts of climate change and must be effective when made.

Climate change adaptation refers to any adjustments to human activities that reduce the vulnerability of humans and ecosystems to climate change impacts (IPCC, 2007). Common hard adaptation measures in the coastal areas include geotubes, ban land along the coast line, storm surge barriers, dikes, and sea walls. These adaptation measures offer both direct and indirect benefits. For instance, direct benefits of adaptation include avoiding physical damage to infrastructure (e.g. energy facilities, transportation, waste management, water resources), residential and cultural heritage buildings, business establishment, stock of inventory, mangroves, business interruption, loss of working days while indirect benefits of adaptation are those such as providing a sense of security and responsibility towards current and future generations. However, many of the adaptation measures are non-market public goods and services. In the absence of a market for public goods and services, non-market valuation techniques are important to estimate the monetary value of the benefits that a community derives from the adaptation measures (Nuva et al. 2009). Valuing the benefits of adaptation provides insights into the perspective of the residents as well as guides policy and decision making for managing climate change impacts. Thus, people are simply asked what they would do in a hypothetical situation, which is known as the contingent valuation method (CVM). CVM involves obtaining direct information from individuals about their willingness to pay to implement the adaptation measures to offset the damage of sea level rise. CVM has widely been used in climate change studies to assess respondents’ willingness to pay (WTP) for adaptation measures in the agricultural sector. For instance, Masud et al. (2015) assessed farmers’ willingness to pay (WTP) for a planned adaptation programme for addressing climate issues in the Malaysian agricultural sector and found that 74% respondents were willing to pay for a planned adaptation programme. Similarly, Ahmed et al. (2015) assessed WTP for adaptation in Pakistan's agricultural sectors for planned adaptation programme and reported that 67% respondents were willing to pay for it. In addition, 71.6% farmers were willing to pay for climate change mitigation policies in Ghana (Acquah, 2011). Gay (2005) also conducted a survey in the coastal town of Dumangas in the Philippines to know if farmers are willing to pay to reduce their vulnerability and found that 87% were willing to pay for planned adaptation programs. On the other hand, in Semarang Urban Area, Indonesia, only 38% of the people were willing to pay a maximum of 40000 rupiah (approximately RM 12) every year for the adaptation strategy dealing with urban air quality to reduce mobile pollution sources (Gravitiani and Rosalina, 2015). Similarly, Tapsuwan et al. (2014) found that WTP is low for most types of water conservation adaptation strategies (17%) except for greywater diversion devices (67%) in South East Queensland, Australia.

In Malaysia, most of the WTP studies for adaptation measures focused mainly on the agricultural sectors. However, there is a lack of WTP studies that measure the adaptation benefits in the coastal area. Therefore, our research has investigated the value of willingness to pay from local residents’ perspectives for a specific adaptation measure, i.e. building a geotube along the coastline in Batu Pahat. Batu Pahat district is one of the low lying coastal areas and is the second largest city in Johor state of Malaysia, which is significantly threatened by the sea level rise.

2. Data collection and WTP estimation
Data was collected through interviews with local residents of coastal areas in Batu Pahat district during August 2015. Interviews were conducted through face to face questionnaire survey administration where the ‘purposive random sampling’ method was used. The final analysis was based on a 211 sample of local residents. The sample is comprised of 72.6% respondents who were from Segenting, Rengit, Sungei (river) Buloh, Kelicap, Minyak Beku, Lapangan Terbang, Sungei Punggor and Sungei Lurus and 27.7% of respondents who were from Parit Botak, Parit Haji Bajuri, Parik Haji Moin, Parit Kuda, Pantai Simen, Sungei Ayam Luar, Sungei Kelambu, Telok Buloh, Lubok, and Bagan Laut. The selected samples are reasonably representative of the coastal residents in Batu Pahat.

2.1. Hypothetical market
The questionnaire asked for responses to questions concerning hypothetical scenario which was to evaluate local residents’ WTP to avoid the potential damage of sea level rise or not willing to pay and accept the worse situation. They were informed about the severe impact of sea level rise in Batu Pahat, as projected by NAHRIM (2013). For instance, within 100 years, sea level is projected to increase by average 0.253 meter to 1 meter at Batu Pahat. According to the projected sea level rise by an average of 0.253 meter, 46.88% of road networks will be lost, residential areas 14.08%, population by 10.46% and mangroves by 89.88%. On the other hand, with a 1 meter increase in sea level, all of the resources will be completely inundated and Batu Pahat will be threatened with submergence under the sea. They were also informed about the necessity of the funds to implement the adaptation measure (building a geotube) to reduce the damage of sea level rise. A geotube is used for erosion control and storm surge protection. They are sediment-filled sleeves of geo-textile fabric having an oval cross section of approximately 12 feet. Based on this scenario, respondents were free to decide their WTP.

2.2. WTP estimation
Due to the anchoring effect of the close-ended method, an open-ended question was used to estimate the WTP for implementation of adaptation practices. In the interview process, at first respondents were asked whether they were willing to pay (or not) for the adaptation practices. If “yes”, respondents were asked how much they would be willing to pay (by the open ended contingent valuation questionnaire) for implementing these adaptation measures to reduce the damage from sea level rise.

3. Results and discussion
3.1. Socio-economic characteristics of the sample
Respondents’ socio-economic characteristics consist of information related to the demographic such as gender, race, age group, occupation, monthly household income, and their education background. The majority of the respondents were male (70.1%) (female, 29.9%) and Malay (76.3%). The dominant age groups were between 26 to 45 years old and 46 to 59 years old, representing 32.7% and 37.4% of the total sample respectively.

A majority of the respondents (47.7%) only went to primary school. The main occupations of the respondents were businessmen (21.3%), farmers (17.5%) and fishermen (13.3%). Respondents’ incomes varied across the different income brackets with two particular dominant groups, which are the low income below RM1000 (7.6%) and lower middle income with income below RM 3000 per month (46%), comprising 53.6% of total sample. Table 1 summarises the socio-economic characteristics of the respondents.
Table 1
Socio-economic characteristics of the respondents

<table>
<thead>
<tr>
<th>Variable</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>70.1%</td>
</tr>
<tr>
<td>Female</td>
<td>29.9%</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
</tr>
<tr>
<td>Malay</td>
<td>76.3%</td>
</tr>
<tr>
<td>Chinese</td>
<td>13.3%</td>
</tr>
<tr>
<td>Orang Asli</td>
<td>10.0%</td>
</tr>
<tr>
<td>Others</td>
<td>0.5%</td>
</tr>
<tr>
<td><strong>Age Group</strong></td>
<td></td>
</tr>
<tr>
<td>18-25</td>
<td>6.2%</td>
</tr>
<tr>
<td>26-45</td>
<td>32.7%</td>
</tr>
<tr>
<td>46-59</td>
<td>37.4%</td>
</tr>
<tr>
<td>60+</td>
<td>23.7%</td>
</tr>
<tr>
<td><strong>Highest Completed Level of Education</strong></td>
<td></td>
</tr>
<tr>
<td>Never went to school</td>
<td>10.9%</td>
</tr>
<tr>
<td>Primary School</td>
<td>41.7%</td>
</tr>
<tr>
<td>Lower Secondary School</td>
<td>15.6%</td>
</tr>
<tr>
<td>High School</td>
<td>27.5%</td>
</tr>
<tr>
<td>Institute of Higher Education</td>
<td>4.3%</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
</tr>
<tr>
<td>Farmer</td>
<td>17.5%</td>
</tr>
<tr>
<td>Business</td>
<td>21.3%</td>
</tr>
<tr>
<td>Labourer</td>
<td>4.3%</td>
</tr>
<tr>
<td>Fishermen</td>
<td>13.3%</td>
</tr>
<tr>
<td>Housewife</td>
<td>11.8%</td>
</tr>
<tr>
<td>Others</td>
<td>31.8%</td>
</tr>
<tr>
<td><strong>Monthly Household Income</strong></td>
<td></td>
</tr>
<tr>
<td>Low Income (&lt;RM 1000)</td>
<td>7.6%</td>
</tr>
<tr>
<td>Lower Middle Income (RM 1000 – &lt; RM 3000)</td>
<td>46%</td>
</tr>
<tr>
<td>Middle Income (RM 3000 – &lt;RM 5000)</td>
<td>24.1%</td>
</tr>
<tr>
<td>Upper Middle Income (RM 5000 – &lt; RM 8000)</td>
<td>7.1%</td>
</tr>
</tbody>
</table>

3.2. WTP responses

Table 2 summarises the responses of the local residents according to their willingness to pay. This study found that 57.3% of the local residents agreed to set up an adaptation fund. However, only 12.8% local residents were willing to pay for building a geotube and 73% residents were not. On the other hand, 58.3% of the residents said government should pay for that adaptation and 7.1% of the respondents said they were willing to pay but didn’t have the financial ability. The reasons for not willing to pay might be due to limited income of the residents, and lack of education and awareness pertaining to climate change issues and knowledge about adaptation benefits.

Table 2
WTP responses of local residents

<table>
<thead>
<tr>
<th>Adaptation Practices</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>Set up Adaptation Fund</td>
<td>121</td>
<td>57.3%</td>
</tr>
<tr>
<td>Geotube</td>
<td>27</td>
<td>12.8%</td>
</tr>
</tbody>
</table>
3.3. WTP values

Table 3 summarises the maximum WTP values (RM) among residents from Batu Pahat. The results show that 5.2% of the respondents were willing to pay RM10 and 4.3% were willing to pay RM100 while 1.9% residents were willing to pay RM50 for the adaptation measure. On the other hand, the results indicate that 0.5% respondents reported RM20, RM50 and RM150 as their maximum WTP for adaptation measure. The average willingness to pay is estimated at RM54.00 (US$13) which shows that the coastal residents of Batu Pahat perceived the adaptation benefits in monetary values.

<table>
<thead>
<tr>
<th>Maximum WTP per person</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>RM10</td>
<td>11</td>
<td>5.2</td>
</tr>
<tr>
<td>RM20</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>RM50</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td>RM80</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>RM100</td>
<td>9</td>
<td>4.3</td>
</tr>
<tr>
<td>RM150</td>
<td>1</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Average WTP = RM54.00 (US$13)*

*Exchange Rate US$1= RM 4.15 during August 2015 when the survey was conducted

4. Discussion and Conclusion

Based on a survey of 211 local residents in the coastal areas of Batu Pahat district in Johor bahru, Malaysia, this article evaluates the value of willingness to pay (WTP) by using contingent a valuation method for the adaptation measure involving building a geotube along the coastline. The survey results found that about 13% of the local residents were willing to pay for the adaptation measures while the majority of them (73%) were not. The average WTP for adaptation measures were estimated at RM54.00 (US$13) that indicates the existence of monetary value of adaptation benefits. Moreover, as adaptation measures are public goods and services, the value of WTP responses may reflect the willingness to pay for the moral satisfaction of contributing to public goods and services, not the value of them (Kahneman and Ketsch, 1990). In addition, lack of education and awareness pertaining to climate change issues may have played a role in low levels of WTP responses. Since the majority of the respondents only went to primary school, they may not be fully aware about climate change and its severe impacts in the present and future. Therefore, when the households do not perceive that they are vulnerable, they may feel less incentive to pay for any adaptation measures (Veldhuizen et al. 2011).

Another reason for fewer responses supporting WTP might be the limited income of the local residents. For instance, about 54% of the respondents were from low to lower middle income households. Therefore, their WTP for adaptation measures to reduce climate change damage is likely to be minimal, merely because their incomes are limited. Similary, about 51% of the respondents’ occupations were directly threatened by SLR as they were fishermen, businessmen and farmers near the coast. Hence, those affected by sea level rise may not able to bear the financial responsibility of adaptation measures. However, this does not reflect that the magnitude of the adaptation benefit is small. Though a majority of the respondents were not willing to pay, 57% of the respondents opined that there is a need for adaptation funds and 58% of them urged that adaptation initiatives should be carried by the government. The results showed that a majority of the local residents perceived the potential benefits of adaptation measures that can significantly reduce the impacts of SLR in Batu Pahat.

Instead of respondents’ low WTP for implementing adaptation measures to reduce the destruction of their livelihoods, the correct measure of adaptation benefit for the population with
limited income would be the level of compensation that they accept having their livelihoods damaged due to SLR without any adaptation. Thus, evaluating the value of willingness to accept (WTA) for compensation of the livelihood damaged due to SLR would be the correct measure. Stage (2010) also emphasised the moral argument that the issue is not about how much the poor inhabitants are willing to pay to prevent the climate change, the issue is how much that rich countries should pay in compensation for the damage that they are causing for poor inhabitants to measure the impact of climate change.

The willingness to accept (WTA) when correctly measured is likely to be considerably larger than WTP when they are environmental assets, public goods and play a major role and have no close substitute in the lives of the respondents (Brown and Gregory, 1999; Graves, 2009 and Stage, 2010). In addition, Hanemann (1991) noted that “in the limit, WTP could equal the individual’s entire (finite) income, while WTA could be infinite”. Therefore, for adaptation measures to SLR in coastal areas, WTA could capture more of the adaptation benefit in monetary terms compared to the value of WTP. Finally, the study suggests further research on compensation for the adverse impacts of SLR, which might be useful for developing countries to negotiate the climate change issues at the global level.

Acknowledgements

The authors greatly acknowledge the research grants ‘Research University Grant (GUP 2014-040)’ and ‘Trans Disciplinary Research Grant Scheme (TRGS/1/2015/UKM/02/5/3)’.

References


Anxiety and Dependence to Media and Technology Use: Media Technology Use and Attitudes, and Personality Variables in Portuguese Adolescents

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Abstract

This study examined the relationships between anxiety/dependence of Information and Communication Technologies (ICT) involving the frequency of and attitudes towards its use and personality dimensions in a sample of Portuguese adolescents. The sample consisted of 322 subjects aged between 12 and 18 years. The Portuguese version of the scale Use and Attitudes towards Information and Communication Technologies (MTUAS-PY; Costa, Matos, Pinheiro, Salvador, Dias & Zenha-Rela, 2016) and the Ten-Item Personality Inventory (TIPI, Gosling, Rentfrow, & Swann Jr., 2003) were used. The results showed that individuals with high anxiety/dependency had higher averages in several ICT use indicators (emailing, social networking, etc.), attributed more importance to ICT, scored higher in the simultaneous execution of multiple tasks, and presented lower scores in the personality dimensions of emotional stability and consciousness. We can conclude that anxiety/dependence relates to the use and attitudes towards ICT as well as with personality variables.

1. Personal Internet use and explanatory hypotheses

The worldwide use of Information and Communication Technologies (ICT) is simultaneously extremely high and has an enormous potential of growth. Forty-six percent of the world population uses the Internet (3.419 billions of people) and 31% (2.307 billions) use social media, mainly Facebook which, in 2015, had 1.550 billion users, surpassing the world’s most populous country (mainland China with 1.354 billions) (Kemp, 2016).

The Millennial generation (people born between 1980 and 2000) have been using the Internet and mobile communications systems since birth and, because of that, are called “digital natives” (Prensky, 2001). Generation Z (people born between 1995 and 2015) increased dramatically the intensity and the complexity of ICT usage through smartphones, social networks, and always on-line behavior patterns.

Using the Internet and social networks is a very common activity both globally and in Portugal. Internet and social media access is a reality for 70% of Portuguese families, mainly in men, until the age of 44, and those with a higher level of education (high school and college). Data has also shown 70% of Portuguese are involved in social media interaction, and that 2/3 are using mobile Internet access with smartphones or tablets. In families with children over the age of 15, Internet use increases to 90% (INE, 2015).

The impact of information technology on humans has been receiving increasing attention from behavioral investigators. Rosen, Cheever and Carrier (2015) recently presented an excellent review of extensive contribution to the Psychology of Technology in understanding the social media phenomena and the preference for task switching. Research efforts have also been developed in order to improve our knowledge about gender patterns of ICT use, as well as positive and negative impacts of this use.
1.1 Gender

In the literature, many studies have explored Internet and social media use and differences between genders regarding the involvement with the Internet, type of activities, association with life satisfaction, academic achievement, peer pressure, disclosure of information, and friendship development.

Regarding online activities, studies found several gender differences. Joiner et al. (2005), with a sample of 608 English undergraduate psychology students, found greater male use of the Internet especially in the ownership of a personal page, game websites, and downloading of contents. Hinostroza, Matamala, Labbé, Claro, and Cabello (2014) studied secondary student’s computer use and found that usual activities included socializing, academic activities, gaming and production activities, with similar patterns within the same socio-economic group and equivalent levels in ICT experience and self-confidence in use. Searching for homework information and playing games were the most popular online activities for all adolescents. The variable that differentiated user profiles was gender. Girls presented higher values on socializing and academic activities while boys had higher values for gaming and production activities.

Jhala and Sharma (2016) studied Internet use among 1331 Indian adolescents between 13 and 19 years old. Results showed that Internet use is prevalent and influenced by place (rural areas showed greater interference with school activities and preference for online activities, as opposed to going out with friends); school grade (the 9th grade students were more affected) and gender (more intense use for boys). Lin and Yu (2008) found that searching for homework information and playing games were the most popular online activities for all Taiwanese adolescents. While girls tended to prefer searching for information and e-mailing friends, boys tended to prefer playing games and downloading software.

Durkee et al. (2012) studied Problematic Internet Use (PIU) in European adolescents with a special focus on demographic and social factors. Data from 11,956 adolescents (56% female and mean age of 14.9, SD = 0.89) showed that the preferred activities were watching videos, frequenting chat rooms, and social networking. Males had higher scores in playing single-user games and females had higher scores in social networking. Data also showed that lack of emotional and psychological family support were risk factors for PIU.

The link between life satisfaction and Internet use was also studied by Lachmann, Sariyska, Kannen, Cooper, and Montag (2016) who examined the relation of PIU with life satisfaction both in general and in specific aspects, like job satisfaction, leisure, and health. High and negative associations were found between life satisfaction, general and specific, and PIU, with stronger associations for females, although they had lower levels of PIU. The authors suggested that gender was a variable that influences the association between life satisfaction and PIU.

Another focus of research is on the relation between Internet use, academic achievement, and gender (Chen & Fu, 2009). Online searching for information had a positive impact on academic achievement but using the Internet for socializing, gaming, and going to Internet cafes had the opposite effect. Gender differences were found. If searching for information helped boys and girls, online socializing made girls particularly vulnerable to lower academic achievement, while online gaming and going to Internet cafes only impaired boys’ academic achievement.

Studying the importance of peer support, Kıranm and Gündoğdu (2010) evaluated the relationship between Internet addiction, peer pressure, and perceived peer support among 558 Turkish adolescents (52% female) from 9th to 10th grade. Results showed that low levels of peer pressure reduced Internet addiction, and the same effect was present when parental and teacher support was high. Furthermore, a lower incidence of Internet addiction was present in girls. The amount and type of information disclosed on the Internet was studied, by Sozio, et al. (2015), on a multi-nation study that included 8 countries (Brazil and seven European countries that included Portugal) on Internet use, with children from 9 to 16 years of age. Regarding gender, girls tended to present their social-media profiles as private more often than boys, but disclosed more information such as personal photos, full names, and personal address.

Finally, gender differentiation is also present in the strategies to develop intimate relationships with peers. Desjarlais and Willoughby (2010) reviewed several studies on gender differences in Internet usage of social media and concluded that while boys focus on shared online activities and interests, girls tend to engage in discussion (like talking about events, gossiping,
sharing compliments) and in personal disclosure behaviors.

The reviewed literature focused primarily on differential Internet use for girls and boys. However, Gross (2004), based on adolescent self-reporting, found that both genders described their online activities as occurring in private settings, as e-mail and instant messages, with friends that are part of offline lives and with common but intimate contents, such as gossiping or talking about friends. Online pretending was more associated with playing a joke than with identity exploration. No associations between on-line activities and well-being were found.

In a sample of Portuguese adolescents, aged between 11 and 15 years, Simões, Camacho, Reis, and Equipa Aventura Social (2014) found no associations between ICT activities and gender.

Bessière, Kiesler, Kraut, and Boneva (2008) in a survey conducted in 2001 and 2002, in the USA, found that almost all respondents reported using the Internet for information, entertainment, and communicating with friends and family. Only 20% used the Internet to meet new people and talk in online groups.

Erwina, Turk, Heimberg, Fresh and Natulab (2004) and Davis (2001) pointed out, as advantages of using the Internet, the access to a wider network of people with similar interests or concerns, and the increased ability to be in contact with geographically distant friends and family members.

1.2 Explanatory hypotheses

Huang (2010, 2012), in literature reviews, identified a debate as to whether the effect of Internet use on psychological well-being is beneficial (augmentation hypothesis) or detrimental (displacement hypothesis). The augmentation hypothesis suggested that the association was positive since the Internet use for communication provides a context for social interaction and interpersonal development, thus improving the user’s psychological well-being. The displacement hypothesis indicated that the association between Internet use and well-being was negative, because Internet use for communication replaces face-to-face interaction or real-life interaction. According to Huang (2010, 2012), in the literature reviewed, the findings about Internet use and psychological well-being were diverse. This author added that in two previous meta-analyses and in his meta-analysis with 40 studies about well-being (e.g., loneliness, depression, self-esteem, and life satisfaction), a relationship between Internet use and psychological well-being was not found. An emphasis was given to the need to ameliorate the measurement instruments of social networking use and the complexity of the studies (e.g., moderator effects should be studied).

Nie and Hillygus (2002, 2009) proposed the time-displacement hypothesis, asserting that the use of the Internet implies a reduction, in a non-work context, of the time spent in direct contact with friends and family.

It seems that, if on the one hand, the use of online communication could somehow encourage the development of online friendships, increase feelings of self-esteem and social support, on the other hand, it is associated with greater social isolation in real life, and lower quantity and quality of face-to-face friendships, implying a greater risk of online exploitation (Gapsiso & Wilson 2015; Wolak, Mitchell, & Finkelhor, 2003).

Other authors claimed that communicating with others on the Internet via text messages allows preventing certain unpleasant aspects of social interactions while partially meeting the needs for personal contact and belonging (Erwin, et al. 2004).

Desjarlais and Willoughby (2010), in a longitudinal study of adolescents, examined support for the social compensation and rich-get-richer hypotheses, including social anxiety as a moderating factor. The social compensation hypothesis suggests that adolescents with high levels of social anxiety may report more positive friendship quality if they use computers with friends or on line communication than other adolescents who also have high social anxiety but do not use ICT to compensate for their social anxiety. This was suggested to occur because computer-based interactions may create a more comfortable social situation for socially anxious adolescents in comparison to traditional face-to-face interaction. The rich-get-richer hypothesis proposes that subjects who are already comfortable in social situations can use ICT to look for additional opportunities for socialization, with the aim being talking on the phone, or in person. Results
showed that, among girls, the main effect of using computers with friends or online communication on friendship quality was positive, providing support for both hypotheses. For boys, social anxiety moderated this relation, supporting the social compensation hypothesis.

More recently, Kardefelt-Winther (2014a) provided a compensation theory that explains excessive Internet use without framing the behavior as pathological and considers the importance of motives. This author hypothesized that excessive Internet use may be a coping strategy to deal with life stress, driven by the necessity to escape real life problems and/or reduce negative moods, i.e., a strategy originated in the confluence of stressful life situations and the ubiquitous availability of Internet. This hypothesis of a coping strategy rather than a compulsive behavior could help explain why some people keep spending so much time online despite experiencing negative outcomes. Positive and negative outcomes were pointed out: an individual feels better because he gets the desired social stimulation but he may not go out and make new offline friends, which in the long run means he could become dependent on the Internet for social stimulation. According to Kardefelt-Winther (2014a), “this scenario would be labelled as an Internet addiction when approached through a pathological perspective” (p. 352). This author also suggested that studies to test this theory should move away from a focus on direct effects models and consider mediation and interaction effects between psychosocial well-being and motivations in the context of Internet addiction. In a study on online playing (World of Warcraft game), with 702 players from 14 to 60 years, Kardefelt-Winther (2014b) studied previously identified aspects as relevant for gaming: social anxiety, loneliness and stress, and motivations such as success, escape, and social interaction. The results showed that stress is the most important aspect, giving empirical support to the compensatory model. The results also revealed that although loneliness and social anxiety were correlated with excessive use, they lost significance when stress was controlled for. Furthermore, all psychological predictors lost significance when escapism and achievement were controlled for “upon entering motivations in the model all psychological characteristics lost significance” (p. 211). Higher levels of stress were associated with negative outcomes of play, but this was an indirect effect explained by the escapism motivation. The author concluded that these results suggested that the effect of psychological characteristics on negative outcomes was indirect, i.e., mediated by motivations.
2. Detrimental effects of Internet use

Most humans use the Internet without considerable negative outcomes, exploring its huge benefits. However, for some, use becomes misuse when problematic consequences arise.

The communication mediated by ICT can have a negative effect on the lives of individuals, particularly when its use becomes excessive, and can be particularly severe in subjects with pathologies such as social anxiety. These subjects tend to see the virtual social interactions as less threatening than the face-to-face interaction (Lee & Stapinski, 2012).

Several studies showed that excessive Internet use can lead to negative effects on the lives of adolescents, such as decline in mental health (De Leo & Wulfert, 2013; Shapira, Goldsmith, Keck, Khosla & McElroy, 2000).

Bessière, et al. (2008), in a longitudinal study, explored the impact of different uses of the Internet on a measure of depression, moderated by social resources. The use of Internet for information, entertainment, and escape had no impact on subsequent changes in depression level. Internet use for communicating with friends and family predicted lower depression scores six months later. However, Internet use to meet new people and talk in online groups predicted depression scores and this relationship was influenced by the initial levels of social support: those having high or medium levels of social support showed higher depression scores, and those with low levels of social support did not experience these increases in depression. These authors emphasized that those with lower levels of social support, i.e., fewer strong relationships to neglect, do not suffer the negative impact of this type of Internet use. They concluded that individual differences and people’s choices of how they use the Internet may account for the different outcomes.

Young (1998) pointed out that several studies revealed significant correlations between excessive time spent on the Internet and psychological and behavioral problems. This author emphasized that intensive Internet users often have negative changes in their lives within the family and/or in professional and educational contexts, and that this intense use remains despite the negative results: marriages, dating relationships, parent child relationships, and close friendships were disrupted by excessive use of the Internet. Work-related and financial problems were also found. Finally, mild to moderate physical complaints were noted among dependents, and user sleep patterns were typically disrupted, causing excessive fatigue, often making academic or occupational functioning impaired, and decreasing physical exercise. He also found that there was an increased risk for pathological Internet use with more interactive applications utilized by the on-line user.

Weiser (2001) proposed that the psychological effects of Internet use depend primarily on users’ reasons and goals. Studying those reasons and objectives allowed the identification of two dimensions accounting for more than 50% of the variance: Socio-affective Regulation (SAR) and Goods-and-information Acquisition (GIA). SAR was conceptualized as a social or affiliative orientation and GIA as a practical or utilitarian one. Social integration and psychological well-being were enhanced by GIA but reduced by SAR use.

Using a web survey and a sample of 1839 college students, Junco and Cotten (2012) found that students’ use of the ICT apparatus in several activities was not related with study during schoolwork. Data showed that the use of Facebook and texting during school related activities was negatively associated with overall Grade Point Average (GPA) in school.

Mark, Wang, and Niiya (2014) pointed out that the generalization of ICT use increased the number of multitasking situations, which revealed a relation with stress. Computer logs and data from biosensors of 48 college students during seven days were compared. A positive relationship was found between stress and daily time spent with computers and with the amount of multitasking but that relation is inversed with Facebook and social media use. Also, heavy multitasking was associated with more use of social media and lower positive affect, accompanied by longer duration of computer use for late-nighters.

Brown, Manago, and Trimble, (2016) analyzed the use of mobile phone during a face-to-face interaction and concluded that the higher the use the lower the quality of the interactions. David, Kim, Brickman, Ran and Curtis (2014) considered that the smartphone poses a challenge to individual self-regulation. During homework, frequency of multitasking by texting and using
social media was associated with task interference, mainly among owners of a smartphone and women. Larry, Alex, Mark and Nancy (2011) studied the impact of texting on memory recall in a classroom environment. Results showed that the high texting group scored significantly lower (10.6%) than the no/low text messaging groups and that the impact of texting on memory recall was inversely proportional to the time elapsed between receiving the message and answering.

3. Understanding Internet addiction

Research about problematic Internet use began with the work of Young (1996, 1998a, 1998b) and Griffiths (2000). Several authors (Davis, 2001; Griffiths, 1999, 2000; Yellowless and Marks, 2007) emphasized the importance of differentiating between addictions on the Internet and addictions to the Internet. According to Griffiths (1999, 2000), most Internet addicts use the Internet excessively as a medium to fuel other addictions (e.g., gambling). That is, with the Internet they find new ways of engaging in previous pathological behavior patterns. Other addicts show an addiction to the Internet itself (using idiosyncratic features and specific functions of the Internet like chat rooms and Facebook). According to Griffiths, Kuss, Billieux, and Pontes (2016), this differentiation remains important. In the last decade, research has been growing and developing in order to understand the serious psychological and social problems of this phenomenon, but theoretical models and specialized interventions need to be tested in order to pursue effective recovery programs from Internet addiction. Several variables may influence the use, abuse, and dependence on the Internet, like personality traits, interpersonal skills, and other well-known psychological problems such as depression and anxiety.

The Internet Addiction Disorder is described as excessive Internet use (Weinstein and Lejoyeux, 2010) concomitant with compulsivity and severe interference with daily life and has also been designated as Compulsive Internet Use (Meerkerk, Eijnden, and Garretsen, 2006), Problematic Internet Use (Aboujaoude, 2010; Davis, 2001) or iDisorder (Rosen, 2013). The term was also used to describe "the discomfort or anxiety caused by the non-availability of mobile phones, personal computers or any other virtual communication device in individuals who use them habitually" (King et al., 2013, p. 141).

Beard and Wolf (2001) mentioned that the "Excessive Internet users have been called Internet addicts, pathological Internet users, computer addicts, computer mediated communication addicts, and computer junkies" (p. 378). These authors believe that terms such as excessive, problematic, or maladaptive Internet use are most optimal for describing this behavior as they involve fewer theoretical overtones than terms such as Internet addiction.

Davis (2001) introduced the term Pathological Internet Use (PIU), as a distinct pattern of Internet-related cognitions and behaviors that result in negative life outcomes. This author proposes that there are two distinct forms: specific and generalized. Specific pathological Internet use involves the overuse or abuse of content-specific functions of the Internet (e.g., gambling). Generalized pathological Internet use is conceptualized as a multidimensional overuse of the Internet itself, i.e., for no specific purpose, which results in negative personal and professional consequences. Symptoms of generalized PIU include maladaptive cognitions and behaviors related to Internet use that are not linked to any specific content and occurs when an individual develops problems due to the unique communication context of the Internet. These individuals are drawn to the experience of being online in and of itself, and demonstrate a preference for virtual, rather than face-to-face, interpersonal communication.

In the process of development of the Generalized Problematic Internet Use Scale (GPIUS), with a factorial analysis, Caplan (2002) identified seven factors that characterize pathological Internet use: "mood alteration, perceived social benefits available online, negative outcomes associated with Internet use, compulsive Internet use, excessive amounts of time spent online, withdrawal symptoms when away from the Internet, and perceived social control available online."(p. 553)

Internet addiction has been extensively studied (cf. Montag & Reuter, 2015; Weinstein, Feder, Rosenberg, & Dannon, 2014) with revisions within the literature showing different numerical indicators. International prevalence rates for Internet addiction range globally from 1.5% to 8.2% (Petersen, Weymann, Schelb, Thiel, & Thomasius, 2009) with a survey of 11 European countries showing a prevalence of 4.4% (Durkee et al., 2012). Recently, Cheng and Li
(2014) presented an extensive review of studies from 1996-2012, that used the Young Diagnostic Questionnaire or Internet Addiction Test, and included a total of 89,291 subjects of 31 nations from seven world regions. Data indicated a global prevalence of 6% with highest values in the Middle East (10.9%) and lowest found in Northern and Western Europe (2.6%). Incidence rates vary according different evaluation criteria and various cut off points. The impact of these differences can be very important. With the same measurement instrument, Pontes, Patrãeo, and Griffiths (2014) found, in Portugal, a prevalence of Internet addiction of 1.2% using the initial cut off presented by Young in 1998 (Internet addiction = 70-100 point) but these values downsize to zero with the second cut-off criteria (Internet addiction = 80-100 points).

Cheng and Li (2014), in a multinational meta-analysis including data from 80 reports and 89,281 participants from 31 nations, found a prevalence of Internet addiction of 6.0% [95% CI 5.1–6.9]. The Internet addiction was positively associated with lower quality of life evaluated by subjective (life satisfaction) and objective (quality of environmental conditions) indicators.

It is very important to study the association between mental health problems and Internet use. Rosen, Whaling, Rab, Carrier and Cheever (2013) studied the association between mental health problems and Internet use, in a cross-sectional design, with a sample 1143 subjects from adolescents to adults, and found data that corroborate the amplification role of social media in psychopathology. Namely, they found that a positive attitude towards information technology was associated with fewer signs of mood disorders but negative attitudes were related with signs of major depression and dysthymia. A positive relation was found between mood disorders and anxiety about not checking Facebook predicted narcissism, antisocial, and compulsive disorders.

Yaghele (2014) found out, in a sample of 160 male adolescents, that Internet addicts have a greater level of anxiety than non-addicts, regardless of the environment (rural or urban).

In youth, although findings are controversial, loneliness or certain types of loneliness, like family-related or peer-related loneliness, are associated with Internet usage or problematic use (Kim, LaRose, & Peng, 2009; Morahan-Martin & Schumacher, 2000, 2003; Teppers, Luyckx, Klimstra & Goossens, 2014). Loneliness is also related with social anxiety (Huan & Chye 2014), which, in turn, is another variable clearly associated with problematic Internet use (Huan, Ang, & Chye, 2014; Lee & Stapinski, 2012).

The question about causality between Internet addiction and psychopathology has been studied with inconsistent results. Ciarrochi, Parker, Sahdra, Marshall, Jackson and Gloster (2016) recently presented a four-year longitudinal study, with 2068 subjects followed from grade 8 to 11. Results showed that compulsive Internet use predicted mental health problems but that mental health problems are not predictors of compulsive Internet use. Furthermore, results showed that both variables have increased values along the study, and that females presented higher values than males. On the other hand, in a longitudinal study with teens, young adults and adults, Ko, Yen, Cifhen, Yeh and Yen (2009) found that psychopathology predicts Internet addiction.

Cognitive-behavior theory attempts to develop models about the etiology, development, and outcomes associated with addictions and other health and behavior problems, and it has been applied to technology and Internet usage.

Young (1998) developed a cognitive model to explain why Internet users develop a habit or compulsive use and how negative self-thoughts maintain patterns of compulsive behavior.

Davis (2001) characterized the cognitive symptoms of PIU as a ruminative cognitive style, feelings of self-consciousness, low self-worth, a depressogenic cognitive style, low self-esteem, and social anxiety. This author described a cognitive-behavior model of PIU that emphasizes the role of maladaptive cognitions, along with reinforcement, in intensifying or maintaining the maladaptive responses. These cognitions can be divided into two subtypes: thoughts about the self and thoughts about the world. Thoughts about the self are guided by a ruminative cognitive style, like constantly thinking about problems associated with the individual’s Internet use, rather than being able to be distracted by other events in one’s life. This cognitive pattern interferes with instrumental behavior (i.e. taking action), and with engaging in effective interpersonal problem solving. The individual has a negative view of himself and uses Internet to achieve more positive
responses from others. Cognitive distortions about the world involve maladaptive cognitive processes, like all-or-nothing thinking, with Internet being the only place where the individual feels respected, which, in turn, exacerbates Internet dependence. These are the main proximal causes of PIU identified in the proposed model. As a distal cause that vulnerabilitizes for PIU, the role of existing psychopathology is emphasized.

4. Personality dimensions and Internet use

According to the Diathesis-stress model, used to explain abnormal behavior, we can conceive that one other distal contributory cause (“diathesis”) of PIU, besides existing psychopathology, is personality. Some dimensions of personality might render individuals vulnerable to pathological Internet use and interact with “stress” or life event (introduction to Internet or some new technology found on the Internet).

Users with different personality characteristics have their own preferences, needs, and motives, using new technologies in a variety of ways and obtaining diverse results. The personality characteristics can interact with Internet usage adding its negative or positive impact on psychological functioning and well-being.

Several studies, using the personality theory of the Big Five model (Costa & McCrae, 1992; 1994) to characterize the determinants of pathological and general Internet use were carried out in different countries.

Tan and Yang (2012), in a sample of 148 individuals, mainly young males, found that social networking and transactions were mainly influenced by levels of extraversion (higher levels of extraversion were associated with higher scores in social networking and transactions), and, in a lower degree, by neuroticism, but finance (e.g., online payments) was only affected by extraversion (also with a positive association).

Kuss, Griffiths and Binder (2013) studied the relationships between Internet activities and personality dimensions in 2257 English university students. Results showed that 3.2% of the students (1.2% for males and 1.9% for females) were classified as addicted to the Internet and that high neuroticism and low agreeableness combined with frequent online shopping and social online activities increased the probability of being Internet dependent. Furthermore, neuroticism and online shopping lowered that risk, but online gaming and openness to experience augmented it.

In the Netherlands, in a sample of 3105 adolescents, (Kuss, Van Rooij, Shorter, Griffiths, & Van de Mheen, 2013) found that 3.7% of the subjects were potentially addicted to the Internet (1.7% males and 2.0% females). The risk was expanded with online gaming and social applications activities and reduced for extraversion and conscientiousness.

Servidio (2014), in a sample of 190 Italian college students, found that it was more frequent that males had, not Internet addiction, but a “moderate behavior disorder” (11% for males and 8.18% for females), and that agreeableness and extraversion were negatively associated with Internet addiction, but that openness showed a positive relation to it.

Samarein, et al. (2013), among 400 Iranian university students, found that mean scores for Internet addiction were higher in males and, in general, positively related to neuroticism and negatively associated with extraversion, agreeableness and conscientiousness.

Öztürk, Bektas, Ayar, Özgüven Öztornacı, and Yaşcı (2015) studied 328 Turkey adolescents and concluded that extraversion and openness scores of adolescents at risk for developing Internet addiction were significantly higher than those adolescents that were not at risk. Logistic regression results showed that only 8.6% of the risk for Internet addiction was explained by personality traits and that only openness to experience presented statistically significant values.

Papastylianou (2013) studied the relation of Internet use, personality and depression, in a sample of 404 Greek college students, mainly females. They obtained that 9.4% of the individuals
were addicts/marginally addicts. Internet addiction was mainly related with openness and only marginally with neuroticism but further analysis controlling for depression and other aspects (gender and type of studies like social sciences, humanities and exact sciences) showed that only openness remained significantly correlated and that depression increased the probability of Internet addiction.

5. Aims and Methods

The main purpose of this research was to identify possible trends in youth’s Media and Technology Use (MTU) and Attitudes, taking in to account the possible influence of gender, and emphasizing the role of anxiety/dependence related to MTU and its possible association with personality. Specific aims were to study the relationships of anxiety/dependence with other dimensions of MTU, like smartphone use, emailing, gambling, media sharing, text messaging, internet search, online friendships, and attitudes towards MTU, also exploring their relationship with the personality dimensions of the Big Five model.

5.1. Participants

The sample was a convenience one and comprised of 322 students (58.91% female and 41.09% male) between 12-18 years of age, with an average age of 14.78 years (SD = 2.04), attending between the 6th grade to the 12th grade. Males (M = 14.62, SD = 2.09) and females (M = 14.72, SD = 2.12) did not differ in age [F(1, 330) = 0.200, p = .655]. Regarding educational level, 30% of the cases attended the 6th grade (second cycle of studies in Portuguese educational system), 35% of the subjects attended grades between 7th and 9th (third cycle of studies) and 36% attend grades between 10th and 12th (high school). There were no differences in the frequency of the three educational levels [χ²(2) = 2.168, p = .338]. In the second cycle of studies, 42.9% of the subjects were males and 57.1% were females, in the third cycle of studies, 51.5% were boys and 48.5% were girls. In high school, 25.0% were males and 75.0% were females. The differences between educational groups, regarding gender, were statistically significant [χ²(2) = 12.945, p = .002]. In the post hoc procedures for Chi-Square, we verified that the number of boys was significantly lower than the number of girls, in high school (p<.05).

Exclusion criteria were: (a) to be younger than 12 years or older than 18 years of age, and (b) clear evidence of difficulties in understanding that would preclude the correct completion of the assessment instruments.

5.2 Instruments

Media and Technology Usage and Attitudes Scale – Portuguese version for Youth (MTUAS-PY, Costa, et al. 2016)

The scale MTUAS-PY is a translation and adaptation to Portuguese youth, between 12 and 18 years of age, of the Media and Technology Usage and Attitudes Scale (Rosen, Whaling, Carrier & Rokkum, 2013) originally designed for adults. The MTUAS-PY is a self-report instrument that assesses technology and media usage (41 items), and attitudes toward technology (15 items). The first 40 items, regarding technology and media usage, are rated by frequency of use on a Likert scale of 10 points (1 = “Never” to 10 = “All the time”) and items 41 to 44 are assessed with a Likert scale of 9 points to evaluate the number of online friendships (1 = “0” to 8 = “751 or more”). As regards the use of Information Technology (items 1-41), the ACP oblimin rotation revealed ten factors that explained 72.81% of total variance: (1) Facebook use (11 items), (2) emailing (5 items), (3) media sharing/Internet searching (6 items), (4) smartphone usage (5 items), (5) picture and video recording (2 items), (6) video gaming (3 items), (7) information searching (3 items), (8) watching TV (2 items), (9) media searching (2 items), and (10) online friendship (2 items). Attitudes toward technology are assessed with 15 items on a Likert scale of 5 points (1 = "Strongly disagree" to 5 = "Strongly agree"). An ACP with varimax rotation found four factors that explain 60.92% of the variance: (1) anxiety and dependence (6 items), (2) preference for task switching (3 items), (3) positive attitude (3 items), and negative attitude (3 items). In our sample, Cronbach alphas for the 14 factors varied between .952 and .672.
TIPI

The Ten-Item Personality Inventory is a very short inventory (TIPI, Gosling, et al., 2003) based in the Big-Five personality dimensions model proposed by Costa and McCrae (1992, 1994). The TIPI is a 10-item self-report instrument which evaluates five dimensions: Extroversion (Item 1 - Extraverted, enthusiastic and Item 6 - Reserved, quiet), Agreeableness (Item 2 - Critical, quarrelsome and Item 7 - Sympathetic, warm), Conscientiousness (Item 3 - Dependable, self-disciplined and Item 8 - Disorganized, careless), Emotional stability (Item 4 - Anxious, easily upset and Item 9 - Calm, emotionally stable), and Openness to experience (Item 5 - Open to new experiences, complex and Item 10 - Conventional, uncreative). The items are rated on a Likert scale of 7 points (from 1 = "Disagree strongly" to 7 = "Agree strongly"). The authors present the instrument as a useful alternative to a personality evaluation when a brief measure is necessary. Original studies of validity emphasized its adequate level of convergence with the Big Five Inventory (BFI, John & Srivastava, 1999) and good test-retest reliability levels. The level of convergent correlations with the BFI were $r = .87$ (p < .01) for extraversion, $r = .81$ (p < .01) for emotional stability, $r = .75$ (p < .01) for conscientiousness, $r = .70$ (p < .01) for agreeableness, and $r = .65$ (p < .01) for Openness. The test-retest reliability was computed comparing evaluations in two sessions separated by six weeks. Results presented a mean $r = .72$, with values oscillating between $r = .62$ for Openness and $r = .76$ for Conscientiousness.

5.3 Procedure

The sample collection took place in 2016 and the questionnaires were administered individually. All the participants that volunteered to participate signed an informed consent and their answers were anonymous. Permission to conduct the study, integrated in a research project, was obtained from national entities that regulate scientific research.

6. Results

6.1 Data analysis

The IBM SPSS Statistics for Windows Version 22 (IBM Corp., 2011) was employed for the descriptive and inferential analyses.

Outliers were identified and accommodated with winsorization. The distribution of the sample was studied. Normalities were assessed by skewness and kurtosis coefficients. According to the Central Limit Theorem the sample was considered large, allowing the use of parametric tests.

Differences between genders, regarding MTUAS-PY and TIPI, were calculated with ANOVA. To test the homoscedasticity (Test of Homogeneity of variances) the Levene test was computed, and, when heteroscedasticity was found, the Brown-Forsythe correction was calculated.

The scores of the Internet anxiety and dependence factor were transformed into three categories: high, moderate, and low scores. The recoding was based on tertiles (tertile splits) in which each of the three groups contains approximately the same number of cases (rank cases procedure Nties of the IBM SPSS 22). Gender and age differences, between the three categories of anxiety and dependence to the Internet and between the three educational levels were tested using Chi Square test or ANOVA.

ANOVA was also used to test differences between the three categories of anxiety/addiction on the mean scores of the remaining 13 factors of MTUAS. The Scheffé test was calculated in post hoc comparisons and, in case of heteroscedasticity, the Games-Howell index was calculated.

The magnitude of the effect was obtained with the Cohen's $d$ test (Cohen, 1988). The interpretation proposed by Cohen (1988) was as follows: .20 - small; .50 - moderate; .80 - high. Significance was set at the .01 and .05 levels.

6.2 Descriptive data and comparison by gender

Descriptive statistics were calculated both for the total sample and for boys and girls on the MTUAS-PY and MIPI values. When the comparison of means by gender showed statistically significant differences, the magnitude of effect was computed.
Results for MTUAS-PY are divided in usage and attitudes (Table 1). For the sample considered globally, regarding the frequency of usage, the highest mean values were found on smartphone usage, Facebook usage, and media searching and the lowest values were found for online friendship and information searching. Concerning attitudes, the highest values were obtained for positive attitudes and the lowest for preference for task switching.

When boys and girls were compared, gender differences were found in MTUAS-PY usage and attitudes. In usage, boys present statistically significant higher values for video gaming \(F(1,321) = 50.545, p = .000, d = .79\). Girls, on the other hand, presented higher values in Facebook usage \(F(1,321) = 6.578, p = .011, d = .26\), e-mailing \(F(1,321) = 24.859, p = .000, d = .56\), and picture and video recording \(F(1,321) = 17.393, p = .000, d = .47\). In attitudes, boys presented higher values in preference for task switching \(F(1,321) = 10.338, p = .001, d = .36\) and girls had higher values in negative attitude \(F(1,321) = 9.153, p = .003, d = .35\).

In summary there were statistically significant differences between genders on usage and attitudes in 6 of the 14 sub-scales of MTUAS-PY. Boys presented higher values on video gaming with a moderate effect size. Girls have higher values for Facebook usage, e-mailing, pictures and video recording, and in negative attitudes also with a moderate effect size.

### Table 1. MTUAS-PY values for the total sample (N = 322) and comparison of means by gender

<table>
<thead>
<tr>
<th>MTUAS-PY</th>
<th>Total</th>
<th>Boys</th>
<th>Girls</th>
<th>F(1,321)</th>
<th>Cohen d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UF1 - Facebook usage</td>
<td>5.72 2.37</td>
<td>5.31 2.55</td>
<td>6.00 2.21</td>
<td>6.578**</td>
<td>0.26</td>
</tr>
<tr>
<td>UF2 - e-mailing</td>
<td>4.26 2.08</td>
<td>3.60 1.92</td>
<td>4.71 2.04</td>
<td>24.859**</td>
<td>0.56</td>
</tr>
<tr>
<td>UF3 - media sharing/Internet searching</td>
<td>4.91 1.81</td>
<td>4.80 1.91</td>
<td>4.98 1.71</td>
<td>0.843</td>
<td>-</td>
</tr>
<tr>
<td>UF4 - smartphone usage</td>
<td>7.67 1.83</td>
<td>7.53 1.86</td>
<td>7.79 1.68</td>
<td>1.769</td>
<td>-</td>
</tr>
<tr>
<td>UF5 - picture and video recording</td>
<td>4.15 1.68</td>
<td>3.70 1.51</td>
<td>4.43 1.63</td>
<td>17.393**</td>
<td>0.47</td>
</tr>
<tr>
<td>UF6 - video gaming</td>
<td>4.55 2.48</td>
<td>5.64 2.33</td>
<td>3.80 2.31</td>
<td>50.545**</td>
<td>0.79</td>
</tr>
<tr>
<td>UF7 - information searching</td>
<td>3.75 1.86</td>
<td>3.52 1.76</td>
<td>3.88 1.86</td>
<td>3.175</td>
<td>-</td>
</tr>
<tr>
<td>UF8 - watching TV</td>
<td>5.06 2.07</td>
<td>5.00 2.08</td>
<td>5.10 2.07</td>
<td>0.210</td>
<td>-</td>
</tr>
<tr>
<td>UF9 - media searching</td>
<td>5.72 2.14</td>
<td>5.68 2.29</td>
<td>5.75 2.04</td>
<td>0.076a</td>
<td>-</td>
</tr>
<tr>
<td>UF10 - online friendship</td>
<td>2.37 1.70</td>
<td>2.35 1.58</td>
<td>2.33 1.57</td>
<td>0.011</td>
<td>-</td>
</tr>
<tr>
<td>Attitudes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AF1 - anxiety/dependence</td>
<td>3.41 0.80</td>
<td>3.42 0.71</td>
<td>3.39 0.84</td>
<td>0.077a</td>
<td>-</td>
</tr>
<tr>
<td>AF2 - preference for task switching</td>
<td>2.42 0.85</td>
<td>2.59 0.84</td>
<td>2.29 0.82</td>
<td>10.338</td>
<td>0.36</td>
</tr>
<tr>
<td>AF3 – positive</td>
<td>4.25 0.57</td>
<td>4.26 0.54</td>
<td>4.26 0.52</td>
<td>0.300</td>
<td>-</td>
</tr>
<tr>
<td>AF4 – negative</td>
<td>3.11 0.82</td>
<td>2.94 0.76</td>
<td>3.22 0.84</td>
<td>9.153</td>
<td>0.35</td>
</tr>
</tbody>
</table>

a Significant Levene Test, with Brown-Forsythe correction. * p < .05; ** p < 0.01

### Table 2. TIPI means (M), and standard deviations (SD) for the total sample (N = 322) and comparison of means by gender

<table>
<thead>
<tr>
<th>TIPI</th>
<th>Total</th>
<th>Boys</th>
<th>Girls</th>
<th>F(1,321)</th>
<th>Cohen d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraversion</td>
<td>9.35 2.31</td>
<td>9.47 2.41</td>
<td>9.29 2.24</td>
<td>0.473</td>
<td>-</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>10.42 1.89</td>
<td>10.31 1.93</td>
<td>10.51 1.84</td>
<td>0.880</td>
<td>-</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>10.01 2.33</td>
<td>8.99 2.27</td>
<td>10.67 2.12</td>
<td>46.145**</td>
<td>0.77</td>
</tr>
<tr>
<td>Emotional stability</td>
<td>9.47 2.39</td>
<td>9.64 2.32</td>
<td>9.40 2.46</td>
<td>0.800</td>
<td>-</td>
</tr>
<tr>
<td>Openess to experience</td>
<td>10.32 1.96</td>
<td>10.22 2.11</td>
<td>10.36 1.85</td>
<td>0.418</td>
<td>-</td>
</tr>
</tbody>
</table>
Mean scores for TIPI on the 5 sub-scales ranged between a lowest value for Extraversion and the higher for Agreeableness (Table 2). Comparison of values by gender only detected statistically significant differences on Conscientiousness \( [F(1,321) = 46.145, \ p = .000, \ d = .77] \) with higher values for girls compared with boys.

### 6.3 Internet anxiety/dependence and the personality measured by TIPI

Three categories in the Internet anxiety and dependence factor of MUTUAS-PY (low, moderate or high anxiety and dependence) were considered and results were analyzed taking into account these different severity levels. The anxiety/dependence measure used is composed by 6 items: three items that belong to original anxiety and dependence factor of the MTUAS (Rosen et al., 2013) (“I get anxious when I don’t have my cell phone”, “I get anxious when I don’t have the Internet available to me”, and "I am dependent of my technology") associated with other three items that describe a positive, may be idealized, attitude toward technology ("Technology will provide solutions to many of our problems", "With technology everything is possible", and "I feel that I get more accomplished because of technology").

Descriptive data regarding the three categories are described in Table 3.

**Table 3. Descriptive data of the Internet anxiety and dependence categories**

<table>
<thead>
<tr>
<th>Anxiety/dependence</th>
<th>Count</th>
<th>Minimum</th>
<th>Maximum</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>112</td>
<td>1.49</td>
<td>3.00</td>
<td>2.53</td>
<td>0.40</td>
</tr>
<tr>
<td>Moderated</td>
<td>111</td>
<td>3.17</td>
<td>3.83</td>
<td>3.48</td>
<td>0.23</td>
</tr>
<tr>
<td>High</td>
<td>99</td>
<td>4.00</td>
<td>5.00</td>
<td>4.30</td>
<td>0.33</td>
</tr>
</tbody>
</table>

Differences regarding the anxiety and dependence categories across genders and ages were studied. No significant differences were found between genders \( (\chi^2(2) = 0.746, \ p = .689) \). There were also no differences in mean age between the three groups \( (F(2,321) = 0.746, \ p = .475) \).

Data showed that the three groups were homogenous regarding gender and age.

The differences between the three levels of Internet anxiety and dependence in the personality dimensions measured by TIPI were then analyzed (Table 4).

**Table 4. Means, standard deviations and ANOVA for TIPI dimensions, according to the categories of Internet anxiety and dependence**

<table>
<thead>
<tr>
<th>TIPI</th>
<th>Anxiety/dependence</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>F(2,321)</th>
<th>Post hoc</th>
<th>Cohen’s d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraversion</td>
<td>Low</td>
<td>113</td>
<td>9.30</td>
<td>2.12</td>
<td>0.122a</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>116</td>
<td>9.37</td>
<td>2.20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>102</td>
<td>9.44</td>
<td>2.63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agreeableness</td>
<td>Low</td>
<td>113</td>
<td>10.60</td>
<td>2.01</td>
<td>0.892</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>116</td>
<td>10.41</td>
<td>1.68</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>102</td>
<td>10.25</td>
<td>1.95</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>Low</td>
<td>113</td>
<td>10.27</td>
<td>2.13</td>
<td>3.558**</td>
<td>L&gt;H, p = .044</td>
<td>0.33</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>116</td>
<td>10.14</td>
<td>2.23</td>
<td></td>
<td>M&gt;H, p = .030</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>102</td>
<td>9.48</td>
<td>2.59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional stability</td>
<td>Low</td>
<td>113</td>
<td>9.85</td>
<td>2.35</td>
<td>5.694**</td>
<td>L&gt;H, p = .007</td>
<td>0.45</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>116</td>
<td>9.69</td>
<td>2.38</td>
<td></td>
<td>M&gt;H, p = .030</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>102</td>
<td>8.79</td>
<td>2.39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Openness experience</td>
<td>Low</td>
<td>113</td>
<td>10.19</td>
<td>1.81</td>
<td>0.494a</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>116</td>
<td>10.29</td>
<td>2.12</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\* ** p < 0.01
Significant differences were found for Conscientiousness and Emotional stability, but the three groups were homogenous on Extraversion, Agreeableness and Openness to experience. Regarding the Conscientiousness dimension, significant differences $[F(2,321) = 3.558, p = .030]$, were obtained between the Low and the High anxiety and dependence groups, with higher values obtained for the Low group when compared with the High group ($p = .044, d = 0.33$). Emotional stability also presented significant differences $[F(2,321) = 5.694, p = .004]$, revealing higher values for the Low group compared with the High group ($M = 8.70, SD = .007, d = 0.45$), and also higher scores for the Low group compared with the Moderate group ($p = .030, d = 0.38$). The effect sizes were low.

We can state that those who had higher anxiety and dependence on MTUAS-PY were those who had lower scores in Emotional Stability (described as calm, relaxed, and not anxious or easily upset) and lower scores in Conscientiousness (described as dependable, self-disciplined, organized, and careful).
6.4 Internet anxiety and dependence, and usage and attitudes measured by MTUAS-PY

The study of the differences between the three levels of Internet anxiety and dependence in the several factors of usage and attitudes measured by MTUAS-PY revealed that the only factor where there were no significant differences was watching TV. In all other nine factors statistically significant differences were obtained (Table 5).

Table 5. Means, standard deviations and ANOVA for the MTUAS-PY usage factors, according to the categories of Internet anxiety/addiction

<table>
<thead>
<tr>
<th>Anxiety/dependence</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>F(2,321)</th>
<th>Post hoc</th>
<th>Cohen d</th>
</tr>
</thead>
<tbody>
<tr>
<td>UF1 - Facebook usage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>112</td>
<td>5.02</td>
<td>2.24</td>
<td>16.585**</td>
<td>H&gt;L, p = .000</td>
<td>0.82</td>
</tr>
<tr>
<td>Moderate</td>
<td>111</td>
<td>5.53</td>
<td>2.46</td>
<td></td>
<td>H&gt;M, p = .000</td>
<td>0.55</td>
</tr>
<tr>
<td>High</td>
<td>99</td>
<td>6.78</td>
<td>2.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UF2 - e-mailing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>112</td>
<td>3.84</td>
<td>2.01</td>
<td>4.684**</td>
<td>M&gt;L, p = .010</td>
<td>0.42</td>
</tr>
<tr>
<td>Moderate</td>
<td>111</td>
<td>4.68</td>
<td>2.06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>99</td>
<td>4.25</td>
<td>2.09</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UF3 - media sharing/Low Internet searching</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td>111</td>
<td>4.97</td>
<td>1.68</td>
<td>8.717**</td>
<td>H&gt;L, p = .043</td>
<td>0.34</td>
</tr>
<tr>
<td>High</td>
<td>99</td>
<td>5.38</td>
<td>1.77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UF4 - smartphone usage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>112</td>
<td>7.07</td>
<td>1.83</td>
<td>13.759**</td>
<td>H&gt;L, p = .000</td>
<td>0.72</td>
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<tr>
<td>Moderate</td>
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<td>7.86</td>
<td>1.67</td>
<td></td>
<td>H&gt;M, p = .002</td>
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<tr>
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<td>99</td>
<td>8.26</td>
<td>1.49</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>UF5 - picture and video recording</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>112</td>
<td>3.74</td>
<td>1.44</td>
<td>7.701**</td>
<td>H&gt;L, p = .001</td>
<td>0.55</td>
</tr>
<tr>
<td>Moderate</td>
<td>111</td>
<td>4.11</td>
<td>1.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>99</td>
<td>4.60</td>
<td>1.70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UF6 - video gaming</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>112</td>
<td>4.13</td>
<td>2.35</td>
<td>3.782a*</td>
<td>H&gt;L, p = .013</td>
<td>0.39</td>
</tr>
<tr>
<td>Moderate</td>
<td>111</td>
<td>4.46</td>
<td>2.65</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>High</td>
<td>99</td>
<td>5.05</td>
<td>2.34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UF7 - information searching</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>112</td>
<td>3.21</td>
<td>1.49</td>
<td>8.726a*</td>
<td>H&gt;L, p = .000</td>
<td>0.58</td>
</tr>
<tr>
<td>Moderate</td>
<td>111</td>
<td>3.75</td>
<td>1.73</td>
<td></td>
<td>M&gt;L, p = .037</td>
<td>0.34</td>
</tr>
<tr>
<td>High</td>
<td>99</td>
<td>4.24</td>
<td>2.07</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UF8 - watching TV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>112</td>
<td>4.89</td>
<td>2.07</td>
<td>2.07</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Moderate</td>
<td>111</td>
<td>4.90</td>
<td>2.10</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>99</td>
<td>5.40</td>
<td>2.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UF9 - media searching</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>112</td>
<td>5.23</td>
<td>2.30</td>
<td>4.638**</td>
<td>M&gt;L, p = .035</td>
<td>0.33</td>
</tr>
<tr>
<td>Moderate</td>
<td>111</td>
<td>5.97</td>
<td>2.15</td>
<td></td>
<td>H&gt;L, p = .032</td>
<td>0.37</td>
</tr>
<tr>
<td>High</td>
<td>99</td>
<td>6.00</td>
<td>1.86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UF10 - online friendship</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>112</td>
<td>1.75</td>
<td>1.11</td>
<td>22.386a**</td>
<td>H&gt;L, p = .000</td>
<td>0.94</td>
</tr>
<tr>
<td>Moderate</td>
<td>111</td>
<td>2.23</td>
<td>1.46</td>
<td></td>
<td>H&gt;M, p = .000054</td>
<td>0.37</td>
</tr>
<tr>
<td>High</td>
<td>99</td>
<td>3.10</td>
<td>1.76</td>
<td></td>
<td>M&gt;L, p = .018</td>
<td>0.37</td>
</tr>
</tbody>
</table>

a Significant Levene Test, with Brown-Forsythe correction. * p < .05; ** p < 0.01

Data from table 5 showed that:

a) High anxiety and dependence is accompanied with a more frequent use of Facebook [F(2,321) = 16.585, p = .000]; post-hoc Scheffé showed higher values for the High group compared with the Moderate (p = .000, d = 0.82) and Low groups (p = .055, d = 0.55);

b) E-mailing use (UF2) only presented statistical significant differences between the Moderate group and the Low group (M = 3.84, SD = 2.09), [F(2,321) = 4.684, p = .010], with the adolescents with moderate Internet anxiety and dependence showing a more frequent use of emailing (p = .010, d = 0.42);
c) For Media sharing/Internet searching significant differences \(F(2,321) = 8.717; p = .000\), were found between the Moderate and Low groups (p = .000, d = 0.72), and between the High and Low groups (p = .002, d = 0.25), with the Moderate and High groups showing a higher usage of media sharing/Internet searching than the Low group;

d) In smartphone usage factor the same tendency just described for Media sharing/Internet searching factor was verified, i.e., significant differences were obtained \(F(2,321) = 13.759; p = .000\) between the Moderate and groups (p = .000, d = 0.82, and between the High and Low groups (p = .000, d = 0.72), with the Moderate and High groups showing higher values than the Low group;

e) For picture and video recording \(F(2,321) = 7.701; p = .000\), values of the High group were higher than those of the Low group (p = .001, d = 0.55);

f) In video gaming values \(F(2,321) = 3.782; p = .024\), values were higher for the High group when compared with the Low group (p = .001, d = 0.39);

g) The information searching factor presented significant differences \(F(2,321) = 8.726, p = .000\) between the High and Low groups (p = .000, d = 0.58), and between the Moderate and Low groups (p = .037, d = 0.34), with the High and Moderate groups showing higher values than the Low group;

h) The media searching factor revealed statistically significant differences \(F(2,321) = 4.638, p = .010\) between the Moderate and Low groups (p = .035, d = 0.33), and between the High and Low groups (p = .032, d = 0.37), with the Moderate and High groups showing a higher usage of media searching than Low group;

i) The online friendship factor presented statistically significant differences between the three groups \(F(2,321) = 22.386, p = .000\). Those of the High group had higher values than those of the Low (p = .000, d = 0.94) and Moderate groups (p = .000, d = 0.54). Also, the Moderate group values were higher than those of the Low group (p = .018, d = 0.37).

Summing up, individuals with high Internet anxiety/dependence had significantly higher averages in Facebook usage, media sharing/Internet searching, Smartphone usage, Picture and video recording, Video gaming, Information searching, Media searching and Online friendship. The Watching TV factor did not present significant differences in the three groups, and e-mailing only differentiated the Moderate group from the Low group.

The severity of Internet anxiety/dependence was associated with different levels of Internet usage in 9 of the 10 factors of the MTUAS-PY. Adolescents with higher anxiety/dependence tend to have higher values on the usage scales of MTUAS-PY, and the effect sizes were generally moderate.

6.5. Anxiety and dependence and other attitudes regarding MTU

After comparing MTUAS-PY factors regarding usage for the low, moderate and high Internet anxiety/dependence groups, we compared data regarding the MTUAS-PY Internet attitudes (Table 6).

Table 6. Means, standard deviations and ANOVA of the MTUAS-PY attitudes factors, according to the categories of Internet anxiety/addiction

<table>
<thead>
<tr>
<th>Anxiety/dependence</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>F(2,321)</th>
<th>Post hoc</th>
<th>Cohen d</th>
</tr>
</thead>
<tbody>
<tr>
<td>AF2 - preference for task switching</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>112</td>
<td>2.23</td>
<td>0.79</td>
<td>6.093**</td>
<td>H&gt;L, p = .003</td>
<td>0.49</td>
</tr>
<tr>
<td>Moderate</td>
<td>111</td>
<td>2.41</td>
<td>0.88</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>99</td>
<td>2.63</td>
<td>0.83</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AF3 - positive attitude</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>112</td>
<td>4.00</td>
<td>0.50</td>
<td>26.355**</td>
<td>M&gt;L, p = .000</td>
<td>0.74</td>
</tr>
<tr>
<td>Moderate</td>
<td>111</td>
<td>4.35</td>
<td>0.44</td>
<td></td>
<td>H&gt;L, p = .000</td>
<td>0.90</td>
</tr>
<tr>
<td>High</td>
<td>99</td>
<td>4.46</td>
<td>0.52</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AF4 - negative attitude</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>112</td>
<td>3.11</td>
<td>0.79</td>
<td>0.593a</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Moderate</td>
<td>111</td>
<td>3.04</td>
<td>0.72</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>High</td>
<td>99</td>
<td>3.17</td>
<td>0.94</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
a Significant Levene Test, with Brown-Forsythe correction. ** p < 0.01

Data showed statistically significant differences for preference for task switching and for positive attitudes towards the Internet, and no differences for negative attitudes towards the Internet. Regarding AF2 - preference for task switching there were significant differences [F(2,321) = 6.093, p = .003] between the High and Low group (p = .003, d = 0.49), with the former presenting higher values. For AF3 - positive attitudes, significant differences were found [F(2,321) = 26.355, p = .000] between the High and Low group (p = 000, d = 0.74), with a moderate effect size, and between the Low group and Moderate group (p = .000, d = 0.90) with a high effect size.

In conclusion, individuals with high scores of Internet anxiety and dependence had a more positive attitude towards the Internet and more frequently performed a simultaneous execution of multiple tasks when compared with adolescents with low scores on Internet anxiety and dependence. Subjects with moderate levels of Internet anxiety and dependence also presented a more positive attitude towards Internet than those with low Internet anxiety and dependence.

7. Discussion

Considering the aims of the present study, the authors examined the relationships established between the specific attitude of anxiety/dependence toward information technologies (score from MTUAS-PY - Attitudes scales), the different usage forms of the information and communication technologies (obtained from the MTUAS-PY- Usage scales) and personality dimensions (obtained from the TIPI).

Gender differences were observed in relation to four MTUAS-PY Usage scores in the present sample (higher usage frequency of Facebook, e-mail, and picture and video recording by females and higher usage frequency of the video games and multitasking by males). Males and females significantly differed in their MTUAS-PY on Attitudes towards multitasking (higher value for males) and negative attitudes towards ICT technologies (higher values from females).

Those findings concerning the technology and media usage by gender are consistent with other studies that showed that girls tend to favor conversations and prefer socializing while boys prefer gaming (e.g. Hinostroza, et al., 2014).

Concerning the age of the sample, no differences were found between the three categorized groups divided by their scores on anxiety/dependency towards ICT technology. Again, dissimilarly with the literature, age was not an important factor for anxiety/dependence. For Internet addiction, some studies (Demetrovics et al.; Morrison & Gore; Ni, Yan, Chen & Liu; Smahel, Brown & Blinka, cit in Pontes, Patrão & Griffiths, 2014), revealed age as an important factor, with younger people displaying higher levels of dependency than older people.

As mentioned by Pontes, Patrão and Griffiths (2014) a possible explanation for different studies’ outcomes may be the fact that most of the studies come from different countries where cultural effects may be playing an important role in terms of social representations of the Internet itself and its misuse. Furthermore, in terms of methodology, our study has a younger sample (the age ranged between 12 and 18 years) than the studies above mentioned (whose samples were composed by college students and young adults), which may account for some of the discrepancies regarding age.

Our data showed that higher levels of anxiety/dependence were associated with more frequent usage in 8 of 10 dimensions (Facebook usage, media sharing/Internet searching, smartphone usage, picture and video recording, video gaming, information searching, media searching, and online friendship) and with preference for task switching and a more positive attitude towards ICT. Therefore, the level of anxiety/dependence can be an overall differentiator of intense Internet use. The relevance of this finding is better understood if paired with the important problems associated with a heavy use of the Internet. High levels of Internet use are associated with decline in mental health (De Leo & Wulfert, 2013; Shapira, et al. 2000; Young, 1988) and with stress (Mark, Wang & Niiya, 2014).

Further investigations on disparities of use and attitudes towards Internet must consider the importance of establishing criteria/cut-off scores for problematic behavior and analyze the relation between anxiety/dependence and measures of problematic Internet use.
Our results also showed that personality and Internet anxiety and dependency were significantly associated, but only in some personality dimensions. Similarly with previous studies (Papastylianou, 2013; Samarein et al., 2013), more emotionally unstable (neurotic) adolescents scored higher on Internet anxiety and dependence, although in these studies the samples were composed not by adolescents but by college students. Kuss, et al. (2013) also found that higher levels of neuroticism associated with more frequent online shopping were related with Internet addiction. We can hypothesize that emotionally unstable adolescents, who are prone to negative affectivity, like anxiety and depression, may use the Internet to relieve these symptoms, for example by searching for information to reduce ambiguity that is usually related to anxiety or by searching for sources for online help. Regarding consciousness, adolescents who scored higher in this dimension presented lower levels of Internet anxiety and dependence, consistent with the findings of other studies with adolescents or youth (Kuss, Van Rooij, Shorter, Griffiths, & Van de Mheen, 2013; Samarein et al., 2013). It seems that more conscious individuals may be more careful with their Internet use, displaying less problematic Internet use. In the present study, extraversion, openness to experience, and agreeableness showed no relationship with Internet anxiety and dependence. Other studies, with adolescents or college students, showed positive relationships for agreeableness, (Kuss, Griffiths & Binder, 2013; Servidio, 2014) and openness, (Öztürk, et al. 2015; Papastylianou, 2013; Servidio, 2014), and contradicting associations for extraversion, that is, either positive, among adolescents (Öztürk, et al. 2015; Kuss, Van Rooij, Shorter, Griffiths, & Van de Mheen, 2013) or negative relations, in college students (Samarein, et al. 2013; Servidio, 2014).

Regarding the literature reviewed on the relationship between personality and Internet use or PIU, we would like to emphasize that some studies had problems related to small and not balanced samples. Although there are already some large-scale studies (e.g., Kuss, Griffiths & Binder, 2013; Kuss, Van Rooij, Shorter, Griffiths, & Van de Mheen, 2013), others have rather small samples (e.g., Samarein, 2013; Tan and Yang, 2012). Additionally, one of the studies reviewed included mainly young males (Tan & Yang, 2012) and others mainly young females (Papastylianou, 2013). These sample problems, and the heterogeneity of subjects’ age could have influenced some contradictory results found. In our study, there is a slightly higher number of girls, and although the variable Internet anxiety and dependence was not associated with gender, consciousness was (girls had higher scores than boys). Gender could have influenced the association obtained between consciousness and Internet addiction, and it will be important to make separate analysis for both genders in order to replicate this finding. Culture influences regarding Internet usage may also help to explain some differences between the studies reviewed and between these studies and our own. Regarding other dimensions, like extraversion and openness to experiences, we expected that there would be a significant association to Internet anxiety and dependence, because individuals with these personality characteristics usually seek stimulation from sources outside of themselves and seem to be attracted to a range of features that Internet offers. Nevertheless, no significant associations were found.

Specifically, our findings indicate that the adolescents that are more anxious, moody, easily upset or stressed and less calm and self-confident (emotional instability dimension of personality) have higher values of anxiety and dependence to Internet. Probably these individuals are more likely to go online to relax and find support and comfort, gaining confidence while online and modulating their negative moods. Additionally, the Internet environment allows an anonymity and greater control, which is usually aimed at by anxious individuals.

We also found that more disorganized, careless and impulsive and less self-discipline, and responsible adolescents (consciousness dimension of personality) tend to be more problematic in terms of anxiety and dependence to Internet. Less consciousness adolescents may be less careful in online usage.

All in all, online activities do not require the same problem solving and interactional skills compared to real life and may therefore attract individuals with these personality traits that may be less adapted to school work and social interaction in real life leading them to use the Internet more.

Gradually, adolescents with these personality characteristics may became more drawn to their online activity, using it as a mean to escape from real life struggles, like modulating emotions.
and be involved in work in a dependable and responsible way, and increasing emotional instability and lack of self-discipline and organization. With time, these individuals would have an increased risk to be involved in a compulsive use of the Internet and to have negative outcomes such as lowered academic achievement, missing school and avoiding social interactions face to face.

In future studies, we intend to study the associations between personality, Internet usage and attitudes, and other symptoms of PIU. Additionally, we would like to explore not only the importance of personality in determining behavior on the Internet and attitudes towards new technologies, but also the impact of this interaction on net users’ well-being.

According to our results, personality traits of emotional instability and lack of consciousness may be risk factors for Internet anxiety and dependence. These results suggest that parents and teachers should pay more attention to youth who show characteristics of these personality traits, helping them to lower the risk to become addicted to the Internet.

These results have other implications for prevention and early intervention work with adolescents, with respect to anxiety and dependence to Internet. Based on these findings, and other studies (see Young, 2015, for a revision), future research should develop treatment protocols and conduct outcome studies for effective management of this Internet anxiety and dependence.

In order to improve the efficacy of interventions on problematic use of Internet, namely anxiety and dependence to Internet, gender and characteristics of the personality must be taken in account. In line with other authors we suggest that therapy should not only address dysfunctional computer usage, but also promote lifestyle changes for life without the Internet (Hall & Parsons, 2001; Young, 2007). Cognitive Behavioral Therapy (CBT) will be an effective treatment for compulsive Internet use (Young, 2007).

There are several limitations involved in this study. The sample size is small and it is not well balanced by gender. There were more girls than boys, despite having demographically matched the three groups (low, moderate and high anxiety/dependence) by gender and age. Therefore, one must be cautious with the generalizability of results. This study is exploratory and focused on one symptom of problematic Internet use, anxiety and dependence. Further research should include larger sample sizes, well balanced in terms of gender.

Alongside personality (a distal cause), other psychosocial variables like loneliness and social anxiety (proximal antecedents) should be studied, to better understand and treat anxiety and dependence from Internet. These can be mechanisms (mediators) that transport the effect of the dimensions of personality like emotional instability, mechanisms through which personality exerts its influence (Davis, 2001). CBT can be the basis for this conceptualization and should be tested in future studies to account for a better understanding of Internet-related problematic behaviors.

Additional research should also examine the role of personality dimensions as risk, moderator or mediator variables of Internet use, abuse and dependence. The personality dimensions of the Big Five theory (Costa & McCrae, 1992, 1994), studied in the present research, correspond to enduring patterns of thoughts, feelings, and behaviors that distinguish one person from another.

Theoretically, these dispositional characteristics are conceptualized as antecedent variables, so the directionality of the relation between personality and Internet use and attitudes is not questionable. However, the exact nature of these linkages must be studied. Additionally, the effects of other variables (such as loneliness and social anxiety) in these relations, as the effect of personality in the relation to other variables (including Internet usage, attitudes and motives) need further investigation.

The impact of personality on Internet use or misuse may be influenced by the type of activities developed on line. So we intend explore the relationships of personality dimensions with the types of use (e.g., Facebook usage communication or emailing) and attitudes regarding Internet (multitasking, positive or negative attitudes regarding Internet) in the prediction of anxiety and dependence to Internet and other PIU symptoms. Longitudinal studies will be carried out in order to clarify the links between variables like personality, loneliness, social anxiety and Internet use/attitudes and PIU.

Loneliness and social anxiety can be both mediators between personality and problematic Internet use. Furthermore, psychosocial variables like loneliness, social anxiety, social isolation,
social rejection and depression can lead to PIU, and PIU can lead to further psychosocial problems, in reciprocal interactions that are established over time. Only longitudinal studies will allow the improvement of our understanding of these dynamics. Mediation analyses must be conducted to explore the mechanisms contributing to the relationship between variables of interest. Variables like gender and level of depression must be controlled, as did Papastylianou (2013).

Different instruments to assess PIU and not only Internet anxiety and dependence should be used in future studies. Another great challenge will be to refine theory-based instruments, namely based in cognitive-behavior models like the one of Davis (2001) for problematic Internet use (e.g., the Generalized Problematic Internet Use Scale, Caplan, 2002) and use them in order to test a theory that explains why Internet use appears to be problematic for some individuals and how PIU might be related to mental health.

Additional studies on the prevalence and incidence of PIU and its comorbidity with other psychiatric disorders are needed. Studies with clinical samples of youth and adults are desirable. All studies revised used subjects from general population to study the relationship of PIU and mental health disorders.

We have analyzed a wide set of Internet behaviors and attitudes, but some authors centered only on specific dimensions, like usage of social networking sites (e.g., O'Keeffe & Clarke-Pearson, 2011). With more than 35 years and staggering development (cf. the evolution of Conversation Prism between 2008 and 2014, Solis, 2014, conversationprism.com) the Web has been changing rapidly. As new applications develop, it becomes harder to define categories of usage, and this is important as it affects comparisons of studies over time. New and emerging Internet behaviors arise as the Internet evolves. Further research will be needed to confirm and further understand this phenomenon.

8. References


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Communication in a Multicultural Virtual Learning Environment: Learning Communication Skills in Higher Education

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ABSTRACT

Higher education institutes and global, transnational work life networks have created a real need for intercultural communication skills where using a foreign language is essential for successful communication. In higher education institutes’ courses are often organized virtually in a transnational environment that has an effect on the communication process. This paper reports upon a case study focusing on dimensions of communication competence in a virtual learning environment on a pilot virtual course shared between three Finnish Universities of Applied Sciences (FUAS) and taught by the authors in spring 2012. The empirical data were gathered from learning diaries, forums, and videos from the virtual course. By investigating the perceptions, attitudes and experiences of individuals of foreign origin and their Finnish peers participating in the course, the aim was to understand the existing communication skills and the competence needed for different agents to cooperate and work side by side in environments that are becoming even more transnational. From the findings it can be argued that the whole process of e-learning needs to be rethought, since it was seen by participants as something in addition to their studies that encroaches on extra-curricular time. A third culture in the virtual learning environment needs to be created. Results also indicate that motivations and attitudinal orientation are crucial in virtual communication: this course was seemingly task-oriented, but ultimately it also enhanced personal communication skills. As expected, acquiring new IT skills was seen as challenging but rewarding and learning the other party’s native language was seen as an asset in being accepted into the surrounding community. The crucial role of time-orientation in nonverbal communication for resolving communicative conflicts was also illustrated and highlighted more in the virtual environment.

Keywords: Third Culture, Virtual Learning, Communication Competence

1 Introduction

With globalisation and increasingly transnational work environments, intercultural communication skills have become a core competence for nationally and internationally effective businesses (Väyrynen 2000: 32-33) and need thus to be taught in higher education institutes. Transnational work and learning environments make it possible to practice these skills in various ways, but virtual learning environments are also becoming more popular. Learning in a virtual environment does, however, pose novel challenges. When teachers and students do not get to meet face-to-face, there is a need to consider many special factors when planning and implementing courses. Foreign language skills, selecting a common, shared language (usually English) and cultural and technology related issues are among the key issues one needs to be aware of. In the present paper these issues are discussed from the perspectives of virtual learning courses in higher education institutes. Virtual learning environments alter communication and may even hinder students from building social relationships needed to communicate and work effectively. Linguistic and communication skills, socio-cultural knowledge and personal attitudes
as well as transferring professional skills to a virtual learning and working environment are the key areas in effective co-operation. This is especially important to take notice of in virtual courses.

Virtual communication also has some benefits compared to face-to-face communication. When communicating via an e-mail or a blog, you do not have to wait your turn and you are not interrupted before you have made your point. You can take your time to read messages and think through, and also to formulate your answer and point of view. For many it is easier to read and write a foreign language than to listen and speak it. E-mail discussions are also easily shared with others and they serve as documents or memos of discussions. Berry (2011: 189–198) claims that virtual communication is more issue-specific than face-to-face communication, and emphasises the efficiency of issue-specific communication. In issue-specific communication, ideas presented by participants and feedback given to colleagues are more direct, and evaluations of fellows are based on their work rather than their personality. Moreover, there are fewer problems caused by stereotyping, power relations, personalities, group forming and political conflicts, and learning of all participants increases when different points of views are represented.

This paper introduces a research focusing on dimensions of intercultural communication competence in a virtual learning environment. A case study approach was used to study a virtual course organised by three Finnish Universities of Applied Sciences in spring 2012. The Federation of University of Applied Sciences (FUAS) is a strategic alliance formed by HAMK, LAMK and Laurea and Universities of Applied Sciences who have agreed on a common strategic intent for 2020. This strategic intent is to be an internationally respected federation of independent Universities of Applied Sciences that strengthens the international competitiveness of the Greater Helsinki Metropolitan Area, offering higher education, research and regional development services required by the metropolitan area’s business life and population.

This course (FUAS Intercultural Communication Today, 5 ECTS) was the first of three elective courses in the FUAS Intercultural Studies (15 ECTS credits) aimed at Bachelor level, to both full and part-time students. The three courses approached intercultural communication from different perspectives. The aim of this first course was to enlarge and deepen the students’ understanding of the core concepts, challenges and possibilities of intercultural communication from cultural, communication and language skills perspectives. The course also aimed at providing students with an understanding of the most popular theoretical frameworks and an understanding of the key terms of intercultural communication and cultures from various perspectives. The course was for the first time, so there was a real need to do a case study of it in order to be able to develop it further.

In the beginning of this article the conceptual dimensions of intercultural communication competence, namely cognitive dimension, skills and attitudinal orientation, are introduced and the use of common, shared foreign language is discussed. In the next chapter the case study in a virtual learning environment is introduced. The following chapter concentrates on analysing the gathered data, and based on that analysis the conceptual dimensions of intercultural communication competence in relation to virtual learning environments and their special features are discussed at the end.

2 Theoretical background

2.1 Intercultural communication

Intercultural communication in different contexts and professions will inevitably take different forms and requires different skills from individuals. Therefore, teaching the required skills for future professionals is demanding. The term *intercultural* can be defined as a situation where representatives on different cultures interact with each other. In case the communication is intercultural the interaction may include aspects of the counterpart the participants do not feel
they can relate to or understand. Cai, Wildon & Drake (2000) found in their respective study of intercultural negotiation situations that contextual collectivism increases the joint profit, but that the *culture in context* perspective facilitates both the negotiation and enhances the understanding of the cultural values of others. The following definition by Spitzberg and Cupach is significant for the aims of the present paper, as they write that intercultural communication is

> a symbolic, interpretative, transactional and contextual process in which the degree of difference between people is large and important enough to create dissimilar interpretations and expectations about what are regarded as competent behaviours that should be used to create shared meanings. (Spitzberg & Cupach 1993: 58)

In multicultural environments, the exchange of opinions and thoughts between individuals and groups is often uncertain: intercultural communication can be seen as communication between such social groupings whose shared images of the symbolic reality are not completely correlative to each other. When the communication is both verbal and non-verbal the risk of misinterpretations is smaller compared to virtual learning environments (later referred to as VLE) where communication means trying to bring the different worldviews and meaning attributions closer to each other through and with the help of verbal interaction. VLEs require various communicative skills from both the lecturers and the students, and it can be considered to be an intercultural communication culture in itself. Intercultural communication has not been researched in this context a lot.

### 2.2 Third culture

When discussing intercultural communication competence it is important to notice that the most important factor in effective, successful, reciprocal and equal communication is that all individuals approach the communication situation from the perspective of thirdness. Kramsch (1993, 2006) and Kramsch and Whiteside (2008) have developed the concept of *third culture* to describe situations where people use a shared language which is not a mother tongue to either party. According to the authors, in the situations of third culture, communication ends up being of better quality than in situations where someone’s native language is being used. A cooperative orientation that supports both communication and shared goals is easier to accomplish in social situations where other aids, such as shared and commonly known rules of action, common (professional) background knowledge, clear contextual restrictions such as time constraints or other resources, can also be utilised in order to help communication. On virtual courses the teachers have a big part in providing this kind of background information so the course can run smoothly.

It is more difficult to construct a third culture in virtual work communities where less information is shared than in face-to-face communities. The tools utilized in the communication have various effects, too. First of all, people may feel more insecure when they cannot utilise and interpret facial expressions and gestures in communicating via phone, chat or e-mail. Secondly, constructing a third culture slows down when people do not learn to know each other due to a lack of face-to-face connection, resulting in difficulties in understanding others’ beliefs and practices and creating false expectations. (Berry 2011: 189–195.) In addition, members of a virtual community do not necessarily know the restrictions or advantages of technological communication tools, and are not able to utilise them in the most beneficial ways (Grosse 2002: 22).

In this paper the emphasis is on the skills needed in constructing a third culture. A third culture does not need to be equal and it may favour some participants over others. However, as Kramsch (2006), Kramsch and Whiteside (2008) point out, the perspective of thirdness is an important requisite for successful reciprocal communication. In a VLE this might be easier than in a normal
classroom, since participation can be from wherever students wish to be. Thirdness is a crucial starting point in contemporary higher education: learning and innovation becomes easier with more voices and viewpoints. Working in a VLE might enhance equal intercultural communication, since all students are on their preferred locations and course parameters are the same to all participants. A prerequisite for this is that all participants know the shared rules of working in a VLE, goals of the virtual course and common rules of action. The teachers’ role in facilitating this kind of learning process is at the core, but taking part in a virtual course demands a lot from the students, too.

2.3 Intercultural communication competence
2.3.1 Cognitive dimension

The present study was based on examining third culture, intercultural communication and their components, one of them being cognitive dimension. The hypothesis was that intercultural communication in a virtual learning environment is effective only if the participating individuals share a common understanding about what communicative and professional practices are appropriate and meaningful. These practices include written and oral communication in different languages as well as virtual communication. If the participants in the communication situation are from different cultural backgrounds, this kind of shared basis may not exist or it may not be substantial. In VLEs differences in interpreting the meaningfulness of different aspects of intercultural communication are even greater, since the possibility of misinterpreting one’s behaviour and information is larger, due to lack of face-to-face contact and other factors of the virtual environment. Therefore, it is vital that participants are able to create and sustain a shared communicative basis by negotiation, and a common language is the core of this negotiation process. When this common language happens to be a foreign language to all participants, the manner in which this language is used, has to be negotiated, too. Otherwise the participating sides are not able to build a solid foundation for the communicative process.

2.3.2 Skills

In a virtual learning environment, people need various skills in communication and social interaction. This presents a challenge for higher education. It is not realistic to assume that internationalization can happen simply through foreign language education, language courses, international courses or short periods of student exchange, but it requires more thorough and long-term planning and dedication (Crawford & Bethell, 2009:189-213). The ability to jointly negotiate and develop a third culture framework upon which interaction and communication may be based may be considered as a competence consisting of many skills relevant to intercultural communication. At the core of all these aspects lies an ability to understand and process new (social) environments (Cummins 2000: 8), readiness for information transfer and acting together in social contexts (cf. Lasonen & Halonen 2009; Friedman & Antal 2005, Holden 2002; Hammar-Suutari 2005: 115; Sercu 2004). Information can be public or context-specific, subjective information. Koehn and Rosenau (2002) add the ability for listening and understanding to the previous list, whereas Fantini (1997) emphasises an ability to communicate effectively in a foreign language without changing the meaning of the message conveyed. When students cannot meet or communicate face-to-face, conveying a message effectively in a foreign language and listening to others become key skills in successful intercultural communication.

A common language is an important factor when negotiating meanings and practices of communication, i.e. constructing a third culture. People need skills in the given common language to be able to negotiate a shared set of rules, roles and expectations which guide their communication. When a common language is a foreign language for all participants of an intercultural encounter, its meanings and terms are not shared, and therefore must also be negotiated. If cultures are not shared, a variety of possible meanings exist. If participants are not
aware of the existence of various meanings, and if they are not able to explore and negotiate them, there is a risk of serious misunderstandings. Misunderstandings also happen because the participants may not understand a common language perfectly, or do not speak or write it very well. Various pronunciations and intonations may also be difficult to understand and netiquette not understood in a similar manner. Moreover, people use a foreign language easily in the ways they use their native language. For example, in different cultures people express politeness in different ways, and the normal way of talking in one culture may be impolite in another. Moreover, when working in a virtual environment, one may face challenges in adapting communication style to meet the demands set by technology.

Nonverbal communication is somewhat missing in a VLE, which makes achieving intercultural communication competence challenging and emphasizes communication skills, too. According to Taft (1981: 76-77), in a VLE, it is important to communicate in a relaxed and appropriate manner and to be able to change the communication according to feedback if so needed. In a VLE getting feedback may be delayed and that will have an effect on communication. Further, using communication technology requires different skills from the students, since the patterns of work, decision-making processes and social networks are different than in a normal classroom—even more so, when some of the work is asynchronous (Berry 2011:186). It is also important to remember that one does not have to master all the aspects mentioned above, but to be able to compensate the weaker skills with the stronger ones.

2.2.3 Attitudinal orientation

Motivations and attitudinal factors are also crucial for successful intercultural communication. Attitudes can be said to be comprised of three components: interests, values and tendencies towards self, others and the surrounding context (Inal, Ercan & Saracaloglu 2005:38-40). Attitudes by nature consist of cognitive, affective and behavioural components. Byram (1997) points out that positive attitudes are required in order to develop the skills to relate, discover, interpret and negotiate the differences between one culture and another. Socially constructed and communicated attitudes are often related to social and ethnic identities. In the present study the focus is on attitudes towards working on a virtual course, i.e. a virtual learning environment, since this context may propose novel challenges for students as well as teachers.

Learning and using a foreign language on a course that is not a language course poses both positive and negative challenges. When students’ language skills are not evaluated as they would be during a foreign language course, they may either feel free to use it or not see any reason to use it at all. Another factor is, naturally, the attitudinal orientation towards the VLE, which will have similar effects on the outcome (Berry 2011:199). Some students will more likely be at ease with using multimedia, VLEs and social media, whereas others may feel that the absence of face-to-face contact will make learning more challenging for them. Opinions and attitudes towards VLEs somewhat depend on the available options used in a given institute. However, we might not know how our background limits our thinking and action until we encounter misunderstandings or poor results in intercultural encounters (Cunliffe 2004: 412). Difficulties in performing well technologically i.e. lack of technological know-how, will have an effect on the whole learning process.

The lack of nonverbal communication may pose challenges to some students, and creating social relationships may be more difficult than it would be on a normal course (Walther 1995 in Berry 2011: 197). Resolving misunderstandings and conflicts is at the core (Berry 2011:202) when facilitating communication. Thus, leadership and clear roles in virtual teams are essential in order for the students to be able to finish the given tasks in time (Berry 2011:199-202). A virtual learning environment requires strong leadership from the teachers as well.
Many challenges in intercultural communication are solved more easily in face-to-face encounters than via virtual communication. Moreover, solving conflicts is more difficult when there are no natural possibilities for informal discussion (Starke-Meyerring & Andrews 2006: 34). On a virtual course there are bound to be differences in used learning platforms, course registration and common study guidelines. These differences will affect students’ attitudes towards learning. Hence, in a virtual learning environment there is a large amount of conscious and unconscious cultural assumptions and expectations that are utilized in interpretation of events and behaviour of colleagues. The construction of a third culture is vital, since without it, students interpret tasks, deadlines and messages by utilising meanings present in their own, local cultures. In the absence of a third culture the probability of misunderstandings increases (Starke-Meyerring & Andrews 2006: 33; Bjørn & Ngwenyama 2009: 227).

3. Data and methods

The research questions were as follows: (1) What kind of communication skills are needed in virtual learning environments and (2) how can a third culture be built in a virtual learning environment? In this article the focus is on utilising the transnational or intercultural networks and their possibilities in a virtual learning environment. Do the students see a lack of skills in a given language to be a hindrance or a barrier or do they use language merely as a tool for positioning, or do they define their identities through native or foreign languages? What kind of skills, attitudes and knowledge are required from virtual course teachers?

A case study research method was used in describing and analysing the data gathered from the VLE, due to the small size and heterogeneity of the sample. The aim was to create a discussion between data and theory in this specific contemporary context. In case studies, such as the present study, the phenomenon being studied can contain many variables that do not require control during the research. With this method it is possible to plan, design, collect, analyse and reflect on information both during and after the case project, and the information can then be shared to develop the virtual courses in the near future. After reading and theming the data the following themes emerged as the basis of the present research: a) cognitive dimension b) skills and c) attitudinal orientation in intercultural VLEs. This paper also illustrates the important notion of creating a third culture in order to facilitate and uphold effective communication in the virtual learning environments. The contents of the course and the researchers’ personal interests have had an effect on the research and the interpretations done on the basis of the data. (Yin 2009)

The material was obtained from eleven FUAS students, who took part in the virtual course during spring 2012. They represented eight nationalities and had various national, cultural and linguistic backgrounds. Both genders were represented almost equally (six women and five men). Among the eleven participants three of them considered themselves to have dual nationalities (two were Finnish/Russian and one Japanese/Chinese) the remaining nationalities were (three Finns; three Chinese; one Nigerian; and one Vietnamese).

The research data was gathered from various multimedia sources with the primary source being reflective learning diaries (referred to later as LD) which were written by the students during the course. Some of the spelling mistakes have been corrected in the LD quotations to facilitate understanding, but most of the entries are in their original form. Other sources include written or videoed responses to individual and group assignments, question and discussion forums, and email correspondence.

Moodle and Adobe Connect were chosen as the virtual mediums to conduct the teaching. Moodle is an acronym for Modular Object-Oriented Dynamic Learning Environment often referred to as a VLE. Moodle offers many tools that support the learning process and enable students to interact and reflect on what they see, feel and learn. These tools included learning diaries, in which students could reflect in lecturer-guided diaries (only viewable by the author of the diary and the
lecturers); forums that were used to facilitate discussion and were also used as places to return and discuss tasks; return folders that could be viewed by all the course participants were also used. Adobe Connect (AC) was used in this course for virtual presentations and virtual meetings with the whole group. The first and the last session in the course were synchronous sessions in which group forming and final reflection in a virtual learning café were conducted respectively. Asynchronous lectures during the course were created in AC and the links were added to Moodle on a fixed schedule. YouTube was also used as a distribution channel for the students’ videos as Moodle did not allow such large files to be uploaded. Students added their YouTube video links to the forums in Moodle, after which they were commented upon and discussed.

4 Findings

This paper focused on illustrating an intercultural virtual learning environment and the special skills it requires and discussing the notion of creating a third culture in a virtual learning environment. The main purpose was to investigate issues arising in the virtual space in which intercultural communication is realised, as well as the language of communication. The aim was not to simply describe the interpersonal communication situations between people from different cultural backgrounds, but more to analyse the aspects of intercultural communication competence that are essential in a VLE.

Due to this course being foremost a virtual course on intercultural communication, there was a lot of reflection on the role of language and cultural identity and how language affects behaviour: language “is a mirror to reflect your culture” (LD) and that “it gives a sense of belonging” (LD) without which “I will be lost and identity-less” (LD). One of the required tasks during the course was that students had to interview someone on intercultural issues in a working environment. One of the groups, consisting of one Finn and an international student, decided to conduct the interview in Finnish because they “didn't want the foreign language (English) to affect her expression (because language really does have an impact on it)” (LD). It was mentioned in some of the LD entries that poor English language skills do cause misunderstandings especially in oral communication. One LD entry mentioned that a student had lost motivation to study and even speak English due to people finding it hard to understand his accent. There were both negative and positive feelings towards using a foreign language (here English) as a lingua franca. Some students viewed it as a hindrance and also “When ... communicating with English I lost part of myself” (LD) “…my self-expression suffers when I do. I'm a slower speaker, my language is more simple and I think twice (sometimes three times) before I say anything...(LD). There were also positive feelings: “I always feel somehow more alive when I communicate in some other language than my own mother tongue.” (LD). The importance of finding a fairly equal third space between native speakers and secondary or tertiary speakers was highlighted as “native speakers have more advantage of communication or non-native speakers are quiet” . As this study was conducted in Finland some of the comments also reflected on the language and communication requirements needed in this country. Comments were made on the lack of contact with Finnish people and lack of Finnish friends is considered a barrier to accessing the society and acquiring the language. To support this there was a comment from someone who had learned Finnish to a certain degree and felt he was accepted differently and made friends more readily when he conversed in the language.

There seemed to be contrasting views on the role of mistakes in misunderstanding written communication: “Even though there are spelling mistakes, we can understand each other quite well.” and spelling or grammar mistakes rarely caused major misunderstandings, while others thought that there were often problems. This was also connected to the problem of finding the balance between informality and formality. Contextual communication and the ability to change communication style according to the recipient were also reflected on in the LD entries with plain simple, “unemotional” language being emphasised to facilitate understanding. The importance of proactive communication and opening alternative communication methods was mentioned, for instance, if an email is not responded to, then it is possible to call. The importance of reflecting on and clarifying one’s own communication intention was also mentioned and was also something
teachers had to focus on when communicating with students during the course. The lack of visual cues and gestures in this virtual course also caused problems according to some of the LD entries, an example of which can be seen from:

I've been missing face to face group work during this course and I've realized how much effort it takes to successfully inter-culturally communicate online without actually meeting the person...there have been some misunderstandings and difficulties that perhaps wouldn't have been there if we had met face to face. (LD)

This was actually tested in the course: One of the recorded lectures was given without a camera recording, i.e. the lecture only consisted of an oral presentation. The lack of visual cues and how it bothered the students and made the lecture harder to follow was actually noted in the LDs. The importance of using audio, visual and written communication in virtual courses and presentations was also commented on. This was highlighted as some of the group work was analysed by other groups from a multimedia learning perspective – how had the groups utilised sound, pictures and text. The importance of finding a balance between these three aspects was highlighted in the discussion forums and LD entries.

All the information was disseminated electronically (videos, online lectures, files, messages etc.) and all of the communication between students and lecturers was through the course forums, social media or email. This, as mentioned earlier in this paper, has an influence on communication and was reflected upon and commented on in many LD entries. These comments included problems and misunderstandings encountered during the course, as well as positive experiences in regards to communication. The negative aspects were important to experience, but were, at the same time, a challenge for the lecturers as it was necessary to ensure that student motivation did not suffer because of these negative aspects. The problem of establishing and maintaining the “virtual culture” learning environment was particularly a challenge for the teachers. Communication in the form of problems and questions flowed in from many directions. Channelling the discussion to the course forums helped communication to become open and visible, and it also saved time (as most of the questions were similar). Sometimes the teachers had to copy/paste email messages received from students into the forum to strengthen this communication culture.

Differences in responding to e-communications were evident “our communication style is not effective enough because ever since I sent him a mail, I never got a reply back and that frustrated me and left me confused...” (LD). This was evident in many LD entries and it seems as if some students left communication and assignments to the last minute. One positive aspect of using Moodle was that any messages in the course forums also went to the students’ email. Therefore, there was a constant reminder what was happening in the course. However, it has also been generally observed by us that some students did not check their educational email that often and “…it is hard to catch the person, if he doesn’t want to answer. He or she just doesn’t mind to answer for your e-mail and that’s it.” (LD). Some of the students reflected on the ‘less-committed’ attitude towards the VLE: “…virtual courses are easy to forgot (you don’t see your group mates who would remind you)” (LD). Therefore, it was important that the communication process was facilitated as much as possible and student queries were quickly responded to ensure that their motivation did not deteriorate. This facilitation was actually noticed and remarked on in the student feedback as some students reflected very deeply on how their communication had improved during the course.

As mentioned earlier in the paper, this course was approached with the assumption that the virtual course and e-tools would be treated as a culture themselves. It was anticipated that the majority of the students would not have the technical knowledge to fulfil all of the tasks during the course. This meant that new technical situations and experiences would be faced and hopefully overcome either individually or as a team. As expected there were a lot of comments on the e-tools. Many of the students had never made videos, shared them on YouTube, communicated through various channels such as Skype, Messenger, Facebook etc. or knew how to use some applications such as
Prezi or Google Docs. This was also reflected upon in the course feedback, where students wished for a more thorough introduction to the available ICT tools. During this period of acquiring the required IT skills, many negative feelings were encountered including shame at not being able to do something. However, students also mentioned that they were proud of their achievements once they had mastered certain IT skills and had actually shared them with others afterwards. One extremely interesting comment was on time usage while studying in a virtual course: “...the special challenge for this course is that we need to do the work during our spare time (weekends, evenings) after the actual school day.” (LD)

Research has shown that email and other e-communication allow for response time, which facilitates the possibility to reread and reflect on the content of messages and students “feel more comfortable and confident” having “enough time to think about what [to]say in most suitable way” (LD). The fact that this was a virtual course and the majority of communication was conducted either through social media or email with no ‘physical’ face-to-face communication was viewed as both positive and negative. Even when video or speech functions were available, i.e. in Skype, some students still preferred to use written communication: “…my partner’s English is not so fluent that talking may be more difficult for us to communicate. However, when we use writing, she would have enough time to think.” (LD)

Another problem in this virtual implementation was group formation. Teachers decided to facilitate the group forming process by initially splitting the enrollees into ten groups with three members per group. These groups were divided so that different UASs were represented in each group and also different nationalities. However, this did not materialize as hoped as there were students who did not show and there were many dropouts during the course. The initial idea was to get the groups to interact and exchange contact details in the initial synchronous session which proved very challenging as some of the enrolled students did not attend. This required emergency group forming while paying attention to the original group forming criteria. In the end it proved easier to encourage students to be active in the group forming process themselves by writing in the course forums if they were having trouble. The high dropout was actually discussed in one of the LD entries: “I think it is because students thought, that it will be just an easy course to have points. And they didn’t understand, that it will be the real school course with real tasks” (LD). It also became apparent that the following sociological differences were mentioned as reasons for group forming problems: studying in different UASs; age differences; marital and family differences; geographical location. This was interesting as intercultural differences were not really mentioned (only in one LD entry) as a hindrance to the process. More general competences, such as the need for open communication and listening, were highlighted for improving group work. Some of the LD entries reflected on the problems and misunderstandings encountered in the group work and how they were resolved: Group work caused feelings of frustration and anger and students actually reflected on what they did to alleviate and correct the situations. The final aspect that was interesting from a group perspective was the formation of roles in groups. For group work to succeed, it seemed as if one or two members needed to take on a leader’s role. In some groups this did not happen and they found it difficult to agree on deadlines and resolve differences: “I found also our weak point in a group...we don’t have any leader or the person who eager to lead the group” (LD).

5 Discussion

The results indicate that students understood the importance of choosing a shared language, both to themselves and for the others, i.e. the concept of creating a linguistic third culture was seen as the core skill in communicating this intercultural VLE. Using a foreign language was seen as important, but also challenging, as some students felt their identity was partly lost when communicating in a foreign language. So a language was not merely seen as a tool, but also a part of one’s identity. English was chosen as the language of communication, even if it did not have to be English –no-one questioned its position. In addition, native speakers of a given language were seen as having an advantage. However, there were positive feelings towards foreign
language use, too, since students were e.g. able to separate personal feelings from grammatical aspects to their own advantage. Learning the other party’s native language was seen as an asset in being accepted to the surrounding community. Teachers can aid in this part of the process a lot, since they can decide the language, modes of communication, team formation etc. Teaching virtual courses demands a lot more background work and a keen eye on individual, pair and team communication, too.

Results indicate that *attitudinal orientation* in successful intercultural communication is crucial. This virtual course was based on individual work that had to be negotiated within a small group and in groups that submitted their tasks the attitude towards either virtual work or communication or both was positive. Leaving the course or leaving tasks undone might have resulted, as LD entries indicate, on realising that virtual courses actually demand a lot of work in both the substance and in communication. Virtual courses seem to require a very active orientation and a communicative attitude towards course work. Additionally, it appears the course was seen as something extra, because the tasks were done “after school hours”. This is important as now when e-learning is being marketed as learning that can be done ‘anytime and anywhere’, it is still evident that the boundaries of ‘own’ and ‘study’ time are difficult to draw. If this is so, it is interesting because it means the whole *culture of e-learning needs to be rethought* – some people view it as something in addition to their studies that encroaches on extra-curricular time. This is an aspect that is also extremely relevant from the lecturers’ point of view, too, as they often found themselves responding to queries outside ‘normal’ working times to ensure that the course ran smoothly. Both teachers and students need to understand that working on virtual courses requires an active orientation towards individual and teamwork and that the workload is not consistent, nor is it restricted to office hours.

*Resolving communicative conflicts* was also seen as a challenge with delays in answering a message, and not meeting face-to-face being the key issues. Communicative conflicts also illustrate the crucial role of *time-orientation* in nonverbal communication, which is highlighted more in a virtual environment. Even if the students were from diverse backgrounds, intercultural differences were not really mentioned (only in one LD entry) as a hindrance to the process. More *general competences*, such as the need for open communication and listening, were highlighted for improving group work. *Group formation* was challenging for the lecturers due to the various challenges of VLEs compared to contact lessons. The groups themselves commented on the difficulties in *establishing suitable roles and group leaders*, resulting in difficulties in doing given group tasks. In this aspect of the course, the teachers ought to take an active role in guiding students to ensure effective and appropriate communication.

There were special challenges, however, in the VLE. Research has shown that email and other e-communication allow for response time, which facilitates the possibility to reread and reflect on the content of messages, and ultimately lets communication occur in such a manner that is both acceptable to others and comfortable to oneself. However, *e-communication* can also result in somewhat special communication challenges in the virtual classroom. Firstly, special attention needs to be paid to communicative competence in *self-disclosure*. On the present course it was either left out or delayed, resulting in formal communication instead of informal, more relaxed communication. Self-disclosure was reported to be either very easy or very difficult, so clearly it divided opinions. All participants had to put a lot of effort into creating *neutral and clear messages*, which became easier after the initial culture shock. Finding a balance between one’s preferred method of communication and general course requirements or peer pressure was crucial for success and creating a working group with suitable roles for all was reported to be demanding. Students seemed to learn a lot about themselves as communicators, but they did not see that virtual communication took much more effort and time than face-to-face communication in order to be effective. This course was (seemingly) task-oriented, but ultimately it also enhanced personal communication skills. This was highlighted in one of the LD entries which we feel was the best feedback we could ever receive on the course:
This study unit gave me an opportunity to realize communication’s role in my life. As each adult person, I understood its importance before, but now I can say that I know much more about communication, its methods, its history and especially about intercultural communication. With knowledge, gained during this study unit, I understand better how communication works and what methods or tools people are using to keep information flowing. Maybe I will take a topic “communication in organizations” for the final thesis, and it will definitely contain a section “intercultural communication”.

As expected, acquiring new IT skills was seen as challenging but rewarding. It is important to notice that in the present research the aspects of intercultural communication competence were overshadowed by the challenges in IT skills. Feelings of frustration and anger were mentioned by a few people in regards to the teamwork and technological tools. These feelings were important to experience and the students actually reflected on what they did to alleviate and correct the situations. These feelings were also important as they reflect similarities to culture shock and support our premise that a VLE can be considered to be a culture per se.

Development suggestions fall into two categories. Firstly, virtual communication and the development of VLEs need to be facilitated and the necessary competences need to be taught in higher educational institutions as well as work places to ensure that conflicts are minimised and ‘culture shock’ experiences are alleviated. This would ensure that virtual intercultural communication when transferred to the workplace, is as efficient and understanding as possible. To reach these goals a broader use of e-tools should be encouraged during studies in higher education institutes. Secondly, the concept of a ‘virtual, third culture’ needs to be researched further from both team work and e-communication perspectives. Both teachers and students need to be aware of the different skills dimensions required in virtual working teams and understand that they will have to adjust their communication to suit the virtual world. Building a third culture in a virtual learning environment is challenging, but it can be done if there are enough resources for the teachers to plan, evaluate and facilitate communication throughout the course and enough understanding for all participants of information, skills and communication processes needed on the course. This kind of information would, perhaps, aid in fostering positive attitudes towards using various languages, e-tools and working methods.

The final comment from a student sums up the positive aspect of working in an intercultural team:

“There are always communication problems between different people from different cultures. But do not be afraid of communication. When people from different cultures work together, something new or surprising may appear.” (LD)

Bibliography


Internet Finance, Moral Hazard, and Bank Fragility

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Abstract

This paper investigates the impact of internet finance on traditional banking business in a model with costly monitoring and failure. Facing potential premature deposit withdrawal, banks match asset liquidity and liability liquidity. With growing internet finance, bank competition increases the funding costs and reduces the core deposit stability of relationship banks, inducing a moral hazard problem of non-monitoring and value destruction of informationally opaque projects. The rise of internet finance thus not only challenges traditional credit assessment and risk management models but also increases systemic risk in the whole banking sector. The harsh penalty of bank failure is needed to resolve the moral hazard problem.

Keywords: Internet finance; relationship banking; moral hazard; bank fragility.
Dependency in Commodity Futures Using Extreme Value Theory and Copulas

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Abstract

This paper examines the intensity of dependency in commodity futures on the South African Futures Exchange (SAFEX), Chicago Mercantile Exchange (CME), Euronext/Liffe and Australian Stock Exchange (ASX) using extreme value theory (EVT) and copulas. The copula approach enables determination of both linear and tail dependency structure. Suitable ARMA-GARCH specifications are selected generating standardized innovations to apply the generalized pareto distribution (GPD) to identically and independently distributed series. Comparison of appropriateness of copula extensions is carried out using the Akaike criteria and the “hit” test. This approach allows ascertaining co-movement among comparable contracts during volatile periods determining if dependencies are varying over time. Asymmetry in lower and upper tail dependencies is characterized to understand joint extreme behaviour by employing tail copulas.

Keywords: Commodity markets; extreme value theory; copula; dependence; semi-parametric distribution
Satisfaction with ISO 9001 Certification and Future Use Intention

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Abstract

This study examines the factors which affect the level of satisfaction with ISO 9001 certification which influences future intentions to maintain the certification. Using the Technology Acceptance Model (TAM) as a theoretical lens, this study considers operational benefits and market benefits to represent perceived usefulness and level of difficulties in dealing with key aspects of implementing the ISO 9000 standard to represent perceived ease of use of TAM. However, different from the original model of TAM which is used for predicting the user’s behaviour prior to the actual usage, this study draws from the experience of firms which have adopted the ISO 9001 standard and attained certification. The dataset was drawn from 537 firms in Australia and New Zealand which have been certified to ISO 9001. The research model was tested using Structural Equation Modelling (SEM) techniques, and the results show that operational and market benefits have a positive effect on satisfaction with certification, while difficulties show a negative effect. The results further show that firm’s level of satisfaction with certification has a positive effect on future intent for certification. Finally, both operational benefits and difficulties also have a direct effect on future intent for certification with opposite directions (positive and negative respectively), while market benefit does not.
Interaction between Subsidy and Profitability Ratios

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ABSTRACT

The paper is a part of long-term research focusing on interaction between subsidy and company competitiveness. Existing results show that profitability and activity ratios of companies which drew subsidies from Operational programme Industry and Enterprise sub-programme Development surprisingly showed decreased profitability and activity ratios after the subsidy allocation. The main aim of this paper is to confirm the assumption that this negative trend does not represent real worsening of supported companies’ financial situation but it is only an accounting effect based on specific rule of subsidized assets depreciation. A sophisticated methodology is applied on data matrix contending with more than 25,000 values of 241 enterprises and appropriate industry sectors. The evaluated time period was extended especially for this paper from ten years (2001 – 2010) to thirteen years (2001 – 2013). This specific approach has enabled very useful conclusions concerning importance of input variables, managers’ decisions, depreciation and financing by subsidies.

INTRODUCTION

This paper is a part of long-term research focusing on interaction between subsidy and company competitiveness. Therefore, a short recapitulation of previous results should be done as a necessary context for the following chapters which focus on verification of previous assumptions.

The long-term research is based on evaluation of real effect of EU subsidies on supported companies. The main data matrix contents financial data of 241 Czech enterprises which drew subsidies from the Operational Programme Industry and Enterprise (OPIE), sub-programme “Development”. Analysis of roughly 25,000 figures gained from public registers brought very interesting results. Subsidized companies had had significantly better financial ratios than the market average before the subsidy allocation. Moreover, they had a more progressive rise of EBIT, turnover and especially assets than other companies on the relevant market in the time period after the subsidy. But surprisingly, financial ratios (especially profitability and turnover/assets ratio) were falling down to the line of market average at the same time. This fact is very important because profitability ratios and turnover/assets ratio are ordinary measures of company competitiveness. For example, Meric notes that “net profit margin and total assets turnover are two key determinants of firm competitiveness.” (Meric et al, 2011 p. 17) Habib uses both indicators with similar argumentation for company competitiveness evaluation as well. (Habib, 2006) Moreover, many other authors chose one of these ratios as their key competitiveness indicator. Tangen (2003), Bernolak (1997) and for example Berman (1999) represent authors which used profitability ratio and Liargovas (2010), Viaene (1998) or Gu (2006) represent authors which focused their paper on turnover/asset ratio. Thus, a decrease of these indicators after subsidy allocation is surprising and an alarming fact which should be further analysed.

What could be the reasons for this effect? Previous papers came with some assumptions. First of all, the main reason is a disproportional increase of above mentioned indicators. Assets growth exceeded the EBIT growth and it caused the decline of Return on assets (ROA). Additionally, the increase of EBIT was lower than turnover growth as well – that was the reason for Return on sales (ROS) worsening. Finally, decrease of Turnover/assets ratio was caused by higher raise of assets than turnover. (Sedlacek, 2015)

1 For further information about the research see Sedlacek (2011), Sedlacek (2013) or Sedlacek (2015).
Well, if these are the reasons for the surprising development of those several indicators, what actually caused this disproportional increase? Is there any connection to the subsidy? Author’s previous papers assumed that there is a logical accounting processes how subsidy influences it. Depreciations play an important role there – once the assembly line is subsidized, depreciated will be only the part of the property which the company pays on its own. For example, the total amount of depreciations from $ 1 million assembly line with 40% subsidy are only $600,000.\textsuperscript{2}. It means that the book value of the machine is only 60% of the initial cost. This fact leads to a manager’s dilemma resulting from the depreciation definition: “A non-cash expense that provides a source of free cash flow. Amount allocated during the period to amortize the cost of acquiring long-term assets over the useful life of assets.” (Ioannis, 2012) In other words, depreciations are financial funds continuously covered by tax expense (they are expenses but not expenditures) which could be used for property reinvestment. It means that this example company generates enough funds only for 60% reinvestment and therefore depreciations are not sufficient for purchasing new property at the end of the machine service life. On the other hand, this company generates (ceteris paribus) lower tax expenses and therefore a higher profit (the lower are the depreciations the higher is the profit). Managers who are aware of this fact are motivated to retain relevant part of the profit and use it for reinvestment costs in the future. But, how does it influence the above mentioned ratios? Because a subsidized investment has no effect on balance sheet total on its own. The rapid assets growth may be caused by retaining profits. The whole simplified logical process is as followed: subsidy caused higher EBIT, managers know that some part of the profit should be retained for reinvestments, this retained profit caused assets growth which is higher than the EBIT growth\textsuperscript{3} and it caused decreasing of ROA ratio. Similar processes are assumed for other ratios.

The main aim of this paper is to show evidence for the above mentioned assumptions – if they are valid there should be an improvement of these ratios after a depreciation period of subsidized property. In other words, the aim is to answer the question of whether the worsening profitability ratios are caused by accounting effects of the subsidy. The objective will be met with thanks to a unique analysis of new data from three years which were not investigated yet\textsuperscript{4}. Thus, this paper should be one of the key elements of the long-term research and will show possible further ways of subsidy effect evaluation.

**RESEARCH METHODOLOGY**

The research is based on analysis of 241 enterprises which were supported from Operational Programme Industry and Enterprise (OPIE), the sub-programme “Development” during the period 2004 to 2006. The main aim of this programme was to enhance competitiveness of these small and medium enterprises.

Data gathering was the first step of the evaluation - the basic data matrix contains characteristics of each enterprise (headquarters region, legal form, business sector, etc.), characteristics of particular project (budget, subsidy, term of subsidy drawing, etc.) and finally 17 financial values of every subsidized company and each year of the evaluated period (2001 - 2013). Data were gathered from public registers – firstly, database of subsidy drawing from Operational Programme Industry and Enterprise (Ministry of Industry and Trade, 2016) and simultaneously Commercial Register of the Czech Republic. (Ministry of Justice, 2016) Success rate of data acquisition was around 65% what means roughly 25 000 figures in the data matrix.

These financial data were verified and then used for the calculation of several indicators (Return on assets, Return on equity, Return on sales, Equity ratio and Turnover/assets ratio). Formulas used are exactly the same as formulas used by the Czech Ministry of Industry and Trade for National Analysis of Czech Industry (Ministry of Industry and Trade, 2013). Thus, results of

\textsuperscript{2} According to Czech accounting standards.

\textsuperscript{3} Assets are stock variable which may have accumulated in the past and continuously rise, on the other hand EBIT is flow variable which are generated every year without any direct influence of the previous year value.

\textsuperscript{4} Current research was carried out on data from 2001 – 2010 time period. This paper adds 2011 – 2013 years.
financial ratios of subsidized enterprises would be optimally prepared for comparison with relevant industry averages.

(1) Return on equity (ROE)

$$ROE = \frac{EAT}{Equity}$$

(2) Return on assets (ROA)

$$ROA = \frac{EBIT}{Assets}$$

(3) Return on sales (ROS)

$$ROA = \frac{EBIT}{Turnover}$$

(4) Turnover/assets ratio

$$\text{Turnover/Assets ratio} = \frac{Turnover}{Assets}$$

(5) Equity ratio

$$\text{Equity ratio} = \frac{Equity}{Assets}$$

(Ministry of Industry and Trade, 2013)

However, one step was necessary before the comparison. Ministry methodology calculates industry financial ratios in two steps: firstly, they gather data from enterprises of specific industry sector and calculate a total sum of particular value (assets, equity, etc.); secondly, financial ratios are calculated from these aggregated values. In other words, financial ratios for specific industry sector is not based on average of particular company financial ratios, they are based on previous aggregation of input values. This ministry approach formally strengthens the weight of large companies in the final results. Calculation used in this research was performed in the same way - firstly were aggregated particular financial values of subsidized companies from specific industry sector and then financial ratios were calculated. These results are perfectly comparable to the industry sector average values.

Calculation formulas for Return on assets of specific industry sector used by Czech Ministry of Industry and Trade (2013):
ROA<sub>IS</sub> = \frac{EBIT_{IS1} + ... + EBIT_{ISn-1} + EBIT_{ISn}}{A_{IS1} + ... + A_{ISn-1} + A_{ISn}}

ROA<sub>IS</sub> ... Return on assets of specific industry sector
EBIT<sub>ISn</sub> ... Earnings before interests and taxes of particular enterprise from specific industry sector
A<sub>ISn</sub> ... Assets of particular enterprise from specific industry sector

Calculation formulas for Return on assets of subsidized companies from specific industry sector (Sedlacek, 2015):

ROA<sub>SCS</sub> = \frac{EBIT_{SC1} + ... + EBIT_{SCn-1} + EBIT_{SCn}}{A_{SC1} + ... + A_{SCn-1} + A_{SCn}}

ROA<sub>SCS</sub> ... Return on assets of subsidized companies from specific industry sector
EBIT<sub>SCn</sub> ... Earnings before interests and taxes of particular subsidized company from specific industry sector
A<sub>SCn</sub> ... Assets of particular subsidized company from specific industry sector

Subsidized companies operate in 21 different industry sectors - the comparison (subsidized companies vs. industry sector average) was made individually for each sector with the necessity of final aggregation. Also in this situation normal average approach is not methodologically correct to use. The reason is the different number of enterprises in particular industry sectors - simple average gives the same weight to particular sector clusters (without taking into account the number of represented companies). Thus it was necessary to use weighted average, number of subsidized companies in a particular industry sector was used as a weight. The same approach was used for aggregation of industry sector values from ministry analysis. Thus, values of five above mentioned financial ratios for subsidized companies cluster on the one hand and for specifically aggregated industry average on the other are outputs of this method.

If we calculate these financial ratios for several years in a row, we form a curve of these ratios for subsidized companies and for industries’ averages. It is assumed that the difference of these two curves is caused by the subsidy; that is the only factor which influences the whole cluster of supported companies. Factors which are common for all industry (economic crisis, etc.) are counted in the industry curve. Factors which determines financial ratios of particular subsidized companies (contracts, invention, etc.), are not significant in the whole cluster of 241 supported companies. Therefore, mathematical difference of subsidized companies curve and industry average curve creates a “Comparison curve” which illustrates subsidy impact on the indicator.

Conclusions of the previous research mentioned in the introduction (worsening of subsidized companies’ profitability and some other ratios) are based on negative slope of a linear trend of the Comparison curve of Return on assets, Return on equity, Return on sales and Turnover/assets ratio. This negative slope is evidence of a worsening position of subsidized companies.

Calculation formula from the previous research used for confirmation of negative tendency of profitability ratios; illustrated on Return on assets (Sedlacek, 2015):

\[ \text{slope}_{\text{ROA}}^{2001-2010} < 0 \]

\[ 5 \] Values from particular industry sector were averaged with weights according to number of supported companies.

\[ 6 \] It measures a situation when subsidized company ratio rise but with lower dynamics than the industry average as well, i.e. financial ratio of subsidized companies seems to have positive trend but in fact it is an above average growth.
Added value of this paper is closely connected with the extension of the evaluated period from ten (2001 to 2010) to thirteen years (2001 to 2013). The logical background of this extension should be found in project cycles. As mentioned, subsidies from analysed program were allocated in 2005 and 2006; it means that the previous research focused on five years before the subsidy and around five years after the subsidy and compared the trend in these two different phases. This paper changes this approach and adds new specific time period containing a year after subsidized property depreciations as well (see the Table 1).

### Table 1: Chronology of evaluated period

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<td>Before subsidy</td>
<td>Subsidy Granting / Investment realization</td>
<td>Five years of subsidized property depreciations</td>
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Source: author

Finally, following hypothesis was defined with regard on above mentioned facts: profitability ratios of supported companies will rise after depreciation of subsidized assets.

Methodology for verification of this hypothesis should be the same as in the previous research with one exception - evaluated time period is extended. That is a necessity for analysis of “post-depreciation period”.

Operationalization of the hypothesis is similar as well. It is assumed that negative slope of Comparison curve will change in the 2013 year. It will be evidence, that the worsening indicators of supported companies were only an accounting effect of subsidies.

Calculation formula used for confirmation of the hypothesis:

\[ \text{slope}_{2001-2010}^{\text{ROA}} < \text{slope}_{2001-2013}^{\text{ROA}} \]

This calculation formula is specified for Return on assets, nevertheless the calculation will be carried out individually for each profitability ratio.

**PRESENTATION OF THE OUTCOMES**

The above mentioned method was applicable on defined data matrix which leads to following results. Graph 1 shows the dynamics of Return on assets – the darkest line represents subsidized companies, the lightest is for industry average and finally medium dark symbolises the Comparison curve. It is evident that subsidized companies curve is made of three different parts. Firstly, the period 2001 - 2007 when subsidized companies maintain a stable above-average Return on assets value. Secondly, the period 2008 – 2012 which could be characterized by lowers ROA values. And finally, the year 2013 when ROA starts to rise and come back to above-average values.

The important fact is that this development is not characteristic only for subsidized companies’ curve but for the Comparison curve as well. It implies a significant role of subsidy which probably caused this trend.
Graph 1 is a clear visualisation of ROA development. However, one more precise approach for quantification of subsidy and depreciation effect should be added – scope of linear trend of Comparison curve. That is the exact measure of hypothesis verification – higher slope (i.e. more positive) in the period 2001 – 2013 than in the period 2001 – 2010 implies that the profitability which were worsening till the year 2010 (according the previous research) is actually improving. Thus, it will verify the hypothesis of accounting effect of subsidy through depreciation influence.

The following table contents all equations of Comparison curves linear trends. It should be pointed out that slope of ROA Comparison curve linear trend for the period 2001 – 2010 is -0.7392 and for the extended period 2001 - 2013 is -0.564. When we compare these two results it is obvious that the level of ROA is improving in the last years. A minus sign symbolises that the final value is not as high as it was at the beginning yet, but it gradually improves.

Table 2: Equations of Comparison curves linear trends for particular financial ratios

<table>
<thead>
<tr>
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<th>2001 – 2010</th>
<th>2001 - 2013</th>
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</thead>
<tbody>
<tr>
<td>Return on assets</td>
<td>( y = -0.7392x + 8.6011 )</td>
<td>( y = -0.5640x + 7.8271 )</td>
</tr>
<tr>
<td>Return on equity</td>
<td>( y = -1.0027x + 13.545 )</td>
<td>( y = -1.0856x + 13.967 )</td>
</tr>
<tr>
<td>Return on sales</td>
<td>( y = -0.2902x + 3.7923 )</td>
<td>( y = -0.2532x + 3.6541 )</td>
</tr>
<tr>
<td>Turnover/assets ratio</td>
<td>( y = -0.0535x + 0.4618 )</td>
<td>( y = -0.0439x + 0.4196 )</td>
</tr>
<tr>
<td>Equity ratio</td>
<td>( y = -0.0312x + 4.1222 )</td>
<td>( y = 0.1454x + 3.4178 )</td>
</tr>
</tbody>
</table>

Situation of other profitability ratios is similar. Slope of ROS Comparison curve linear trend was firstly -0.2902 and it rises to -0.2532 after adding 3 years to the evaluated period. Simultaneously, Turnover/Assets ratio goes from -0.0535 to -0.0439. The only exception is Return on equity – the slope worsened by eight hundredths. These values are not visualised by graphs because of the space.

Equity ratio should be clarified individually. Its nature is in contrast to the profitability and activity ratios difference. It should not be maximized (as profitability or activity ratios) it should be optimized according to the situation’. Above mentioned values of the slope are not sufficient for proper description – it cannot be said that the higher the value is the better is the company’s situation. If we look at the slopes it is clear that Equity ratio declined in the period 2001 – 2010, but the positive value of the slope in the period 2001 – 2013 shows that it is roughly

7 Usually quantified by financial leverage and index of financial leverage.
above-average as it was at the beginning at the period. The following graph shows the development of Equity ratio for better presentation of this specific financial indicator.

Graph 2: Development of Equity ratio (%; 2001 – 2013)

![Equity ratio Graph](image)

Source: author

**DISCUSSION**

Five analysed ratios were not selected randomly. They together create major part of DuPont analysis. It means that they have important logical and mathematical interactions. Position of particular ratios in this system determines results of this research as well. (See the scheme below)

Scheme 1: DuPont Analysis

![DuPont Scheme](image)

Source: (Mangiero, 2004)

The scheme shows that a ratio at a higher level is determined by ratios on the lower level. Thus, we are able to explain higher ratio value by values of ratios on lower level. The following discussion will go from the bottom ratios to the top.

Return on sales, Turnover/Assets ratio and Return on assets have similar results. All of them had a negative slope of linear trends of Comparison curves during the period 2001 to 2010. This period contains around five years before the subsidy and around five years after the subsidy. This five-year period after the subsidy allocation is very important for clear understanding of the results. First of all, it is a time when the project is realized and is followed by the phase of mandatory project sustainability - in this (usually five year) phase is prohibited from changing basic characteristics of the project (method of using, capacity, sale etc.). Therefore, it is evident that the subsidized property was properly used during this period. Another important aspect of
subsidy conditions during the sustainability phase is an appropriate accounting of the property. That leads us to the next important point of this five year “after-subsidy period” - depreciations of property subsidized by Operational Programme Industry and Enterprise (sub-programme Development) lasts usually five years. These facts document the assumptions mentioned in the introduction of this paper. The question was if the trend of profitability ratios improves after this sustainability and subsidized property depreciations phase? Results of ROS, Turnover/Assets ratio and ROA confirm this assumption. Once we extend the evaluated period, slopes of Comparison curves of these ratios rise. That is evidence that these ratios have started to improve during the years 2011, 2012 and 2013 - negative effect of partial depreciations of subsidized property did not matter at this time. Managers are no longer motivated to retain a profit and that stops causing the disproportional rise of assets, turnover and EBIT. Consequently, the hypothesis was verified for these three financial indicators.

A different situation applies to Return on equity. In contrast to the previous financial indicators, the slope of Return on equity Comparison curve did not improve (-1.0017 for the period 2001 - 2010 and -1.0856 for the period 2001 - 2013). How it is possible that three ratios improve their values during the last three evaluated years and ROE did not? It is necessary to study the DuPont analysis again. ROE is determined by ROA and Equity ratio. Both of them have higher trend slope during the extended period than during the basic one. It means that the ROA and Equity ratio values rise during last three years. On the other hand, the Equity ratio should not be maximized that’s why we cannot assess its higher slope as a better financial position of a company. The logical and mathematical context is exactly the opposite - the higher Equity ratio the lower Return on equity\(^8\). In fact, ROA and Equity ratio impact against each other. If we quantify the change of ROA slope between the basic and extended period (from -0.7392 to -0.5640) and compare it with the change of Equity ratio (from -0.0312 to 0.1454) it is clear that the impact of Equity ratio is mathematically higher. That is the reason why the ROE slope slightly decreases. Therefore the hypothesis is not for Return on equity formally confirmed. However, this conclusion is not determined by low profitability ratios but it is caused by rise Equity ratio (i.e. lower financial leverage).

Once the hypothesis was not verified for all four profitability ratios, we should deal with the main issue of this paper: are the worsening profitability ratios caused by accounting effect of the subsidy? Answering this question for Return on sales, Turnover/assets ratio and Return on assets is very simple - all of them react as we assumed. They have started to improve after the depreciation period of subsidized property. This suggests that the decrease of financial profitability ratios of supported companies did not represent real worsening of financial situation but only an accounting effect of conservative managers’ strategies. On the other hand, how can we explain the development of ROE? As mentioned above, its situation is closely connected with understanding of Equity ratio trend. The Comparison line of equity share started to rise in the year 2006 when most of the subsidies were allocated. Consequently, the share of equity steadily rises up to the year 2010. Managers were probably retaining the profit for future reinvestments and therefore the Equity ratio was growing. During the years 2011 - 2013 the equity share is relatively stable (or very slightly decreasing) and it is logical. If we were retaining a profit some years in a row it ceteris paribus raised the share of equity on total assets. When we then suddenly stop doing it the equity share will remain stable at relatively high value\(^9\). This constantly above-average value of Equity ratio raises the slope of Comparison curve of Equity ratio and that results in the worsening of ROE.

One interesting fact should be pointed out in this context – reaction rate of particular ratios at the end of depreciations. As discussed above, Return on assets reacted very quickly and rose significantly during the year 2013. In opposite, Equity ratio remains relatively stable and caused a worsening of Return on equity. The cause of this phenomenon is different characters of input variables. ROA is determined by relation of EBIT and total amount of assets. Thus, it relates flow and stock variable. The flow variable in the numerator (EBIT) is measured over an interval

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\(^8\) This logical and mathematical interaction is based on financial leverage effect.

\(^9\) The slightly decrease of the Equity ratio may be caused by natural convergence of this indicator to the optimal position close to the “pre-subsidy period” where the companies effectively use debts financing.
of time – it perfectly quantifies the reality of the year and therefore immediately reacts on every actual company situation. If we compare this ratio with the Equity ratio the difference is evident – Equity ratio is relation of two stock variables. It means that both parts of the ratio quantify cumulated value from previous periods of time. If some factor stops influencing them they remain stable\(^1\). This logic stands behind the different reaction of evaluated indicators and explains the negative influence of Equity ratio on Return on assets as well.

Taking into account the facts discussed it is possible to draw the conclusions of this paper. The hypothesis that profitability ratios of supported companies will rise after depreciation of subsidized property was not confirmed because of the worsening ROE ratio. Simultaneously, reasons for the ROE’s surprising development were found in the negative influence of Equity ratio which according to DuPont analysis logically and mathematically determines ROE value. This negative influence is probably caused by slow response of Equity ratio on subsidized property depreciations changes. The end of depreciations cannot be quickly quantified because of the nature of stock variables which determine the Equity ratio and content values generated for previous years.

Notwithstanding the hypotheses were not verified; the above discussion confirmed that the worsening financial indicators of companies supported from OPIE sub-programme Development after the subsidy allocation did not represent real financial diminishing of these enterprises. It was probably caused by formal accounting effect based on special Czech depreciations rules for subsidized property. When this rule stops affecting the company’s accounting its ratios start to improve. For a definite confirmation of this conclusion it would be appropriate to carry out a final round of evaluation research containing a longer time interval after the depreciation period.

CONCLUSION

Conclusions and assumptions of previous research are the starting point of this paper. Existing authors’ researches concerning subsidies’ influence on company competitiveness showed that financial ratios (especially profitability and activity ratios) of supported enterprises decrease after the subsidy allocation. The assumption was that this surprising development does not represent real worsening of supported companies’ financial situations, but is based on the fact that only the part of the subsidized property paid by the company on its own is depreciated. In other words, the subsidized part of the acquisition value is not depreciated. Thus depreciations do not generate enough funds for final reinvestment of the property. The assumption was that managers were aware of this fact and retained a part of profit for future necessary reinvestment what significantly raised the total amount of enterprise assets (especially equity). Although the subsidized companies had an above-average rise of EBIT and Turnover, assets growth was the fastest and therefore worsened profitability ratios. This disproportional development of above-average rising values of supported companies caused a worsening of others financial indicators as well.

The main aim of this paper has been to evaluate the hypothesis that profitability ratios of supported companies will rise after depreciation of subsidized property. Verification of this hypothesis will confirm the above mentioned assumption that the worsening profitability ratios are caused by accounting effect of the subsidy. Thus, this paper has an important added value for all previous research phases.

The research uses data matrices with more than 25 000 values of 241 enterprises subsidized from the Operational programme, Industry and Enterprise, sub-programme Development. This sub-programme focused on enhancing of small and medium enterprises competitiveness by subsidies allocated during the years 2005 and 2006.

The research methodology employed several phases. Firstly, all necessary data of subsidized companies and relevant industry sectors were gathered from public registers and verified. The following step concerning calculation of five financial ratios (Return on assets, Return on equity, Return on sales, Turnover/assets ratio and Equity ratio) contents special

\(^1\) In contrast to flow variables which return to its default value.
mathematical approach leading into perfect comparability between the values of subsidized companies and relevant industry sector averages. A very important factor of the research was the evaluated time period. Existing researches focused on period 2001 – 2010 but this time period does not include any year after the depreciation period. The analysed time period was designed in the light of chronological phases of subsidized projects – the extended time period (2001 – 2013) contents being several years after the depreciations as well.

Three curves for each financial ratio are outcomes of the research. The first curve represents values of a subsidized companies cluster, the second shows values of industry average and the last “Comparison curve” is a visualization of mathematical difference of the two previous curves. In other words, the Comparison curve illustrates the net subsidy effect on the particular financial ratio.

Operationalization of the hypothesis is based on slopes of linear trends of Comparison curves. The hypothesis that profitability ratios of supported companies will rise after depreciation of subsidized property is evaluated by comparison of this slope for period 2001 – 2010 and 2001 – 2013. If the slope of the extended period (contenting the after-depreciation years) is higher than the slope of the basic period of time (without the after-depreciation years), it mathematically means that the ratio is improving after the end of subsidized property depreciations.

Results confirm the hypothesis for Return on assets, Return on sales and Turnover/assets ratio. These financial indicators have higher slopes for the extended period (see table 2) which implies an improvement of the ratio after the depreciations (see graph 1). The only profitability ratio which does not have improving value of the slope is Return on equity. DuPont analysis was used for explaining its slightly decreasing value of the slope. According to this systematization of several financial ratios, ROE is determined by ROA and Equity ratios. Both of these ratios have rising value of their slopes, but mathematically these tendencies influence against each other. The higher is the ROA the higher is the ROE. On the other side, the higher is the Equity ratio the lower is the ROE\(^{11}\). However, if we compare these two ROE determinants it is evident that the change of the slope of Equity ratio is higher than the change of ROA. Logically, it leads to deterioration of the Return on equity. This influence of the Equity ratio that caused the last profitability ratio (ROE) does not confirm the hypothesis verified by three previous ratios.

It seems that profitability and activity ratios really improve after the depreciation period but the Equity ratio does not react. The discussion pointed out the difference of input variables of profitability ratios and Equity ratios. Profitability ratios have a flow variable in the numerator – this kind of variable quantifies the exact value of the specific year and it is not directly depend on previous values. In other words, its reaction is immediate. On the other hand, Equity ratio is constructed by the relation of two stock variables. Therefore, it does not return to its default value when the influencing factor (depreciations of subsidized property) stops affecting it. If we look at Graph 2 it is clear that Equity ratio remains according to this logical explanation relatively stable and returns to its position before the subsidy (year 2005) very slowly. This fact implies the increase of the slope of the Equity ratio Comparison curve and according to the DuPont analysis negatively impacts the value of Return on equity.

Although the majority of evaluated ratios confirmed the hypothesis, it is not verified. Return on equity did not improve its value and formally rejects the hypothesis. However, the surprising development of ROE values was explained by the logical disability of Equity ratio to quickly respond to the changed situation after depreciations of subsidized assets. It is assumable that the Equity ratio will continue with slight decrease during the following years and Return on equity will improve similarly as other profitability ratios. This scenario confirms the assumption that the decline of some financial indicators of companies after the subsidy allocation was not evidence of real worsening of their financial situation. The relatively fast improvement of major financial indicators (and probably slower positive changes of ROE caused by stable character of Equity ratio) indicates that the decrease was only a manager’s decision based on accounting effect of depreciations rules for subsidized property. This conclusion is a very important added value of this paper. It will determine a direction of further research which will contain more years after the depreciations period.

\(^{11}\) This logical relation is known as financial leverage as well.
REFERENCES

Productivity Effects of ICTs and Organizational Change: A test of the Complementarity Hypothesis in Spain

Alberto López¹, University of Madrid, Spain

Abstract

Using firm level data, this paper explores the effect of information and communication technologies (ICTs) and organizational change on firms’ productivity. In line with the most relevant empirical literature, it focuses on the complementarity between these two practices. It is argued that there are significant productivity gains associated with new organizational practices in combination with investments in ICTs. I find evidence supporting the hypothesis that the use of ICTs is complementary with organizational change, although this result depends on which ICTs variable is used. Finally, results are consistent when analyzing manufacturing and services firms separately.

Keywords: ICTs; Organizational Change; Complementary

JEL Classification: D24; L22; O12; O33

¹ The research for this paper was conducted while I was visiting the Columbia Business School at Columbia University. I gratefully acknowledge the hospitality of Nachum Sicherman and also wish to acknowledge financial support from the Spanish Ministry of Education. Thanks are due to the INE for access to the data. All errors are mine.
Haze-related Air Pollution and the Tourism Industry in China

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Abstract: During the winter of 2015, most cities in China experienced serious air pollution, including some days in which people were advised to stay indoors. The pollutant at fault was haze, which contains fine particulates having serious health consequences. When inhaled, the particulates include various heavy metals as well as other toxins that cause respiratory disease and increase the incidence of cancer. Because the adverse health effects of air pollution are well known and data on pollution levels are widely available, the news media devoted substantial attention to the Chinese situation and even mentioned anecdotes suggesting a decline in tourism in the areas affected by haze. In this paper, we examine systematically the association between air pollution and the number of foreign tourists in a large sample of Chinese cities. We focus on the air quality in cities as measured by levels of PM$_{2.5}$ and PM$_{10}$ in the atmosphere. It is interesting that the descriptive results suggest a mixed relationship between haze pollution and tourist embarkations, while the multivariate results show a strong negative association between air pollution measures and foreign tourists. The pattern suggests that the negative media stories may understate the reluctance of foreign tourists to visit polluted areas. In combination with data suggesting adverse health consequences to residents of such areas, the finding suggests that pollution adversely affects localities both by causing health problems and by reducing the number of visitors. Pollution may encourage more pollution by reinforcing reliance on industries that cause haze and reducing the development of sustainable industries, such as tourism, that have generally benign environmental effects.

Keywords: PM$_{2.5}$, PM$_{10}$, impact, tourism industry

Introduction
Air pollution originating from rapid industrial growth and the absence of attention to environmental protection in China are creating significant environmental problems and threatening future health consequences across the country. Since 2012, haze-related air pollution has become epidemic, causing the government to require the daily measurement and reporting of PM$_{2.5}$ emission levels. Subsequently, other indicators of air pollution, such as levels of PM$_{10}$, sulfur dioxide (SO$_2$), and nitrogen dioxide (NO$_2$) have been regularly recorded and published. In addition, although policies and methods have been implemented to reduce the emission of pollutants such as PM$_{2.5}$, PM$_{10}$, and NO$_2$, profit-driven industries have not accepted the mandate. As a result, there has been at best moderate progress in reducing the emission of pollutants. The combination of population density and existing weather patterns has made pollution into a significant long-term problem for China.

Over 50 Chinese cities have become magnets for tourists during the past decade. They are often referred to as famous tourism cities because they attract thousands of foreign tourists each year.

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1 Particulate matter, or PM, is the term for particles found in the air, including dust, dirt, soot, smoke, and liquid droplets. Fine particle pollution or PM$_{2.5}$ describes particulate matter that is 2.5 micrometers in diameter and smaller - 1/30th the diameter of a human hair. Fine particle pollution can be emitted directly or formed secondarily in the atmosphere.
In turn, the tourists spend large amounts of money, which supports many businesses and families. Income from the tourism industry has boosted the development of local economies and created many jobs. If pollution reduces foreign visits the economic effect could therefore be large. Neither marketing expenditures nor reassurances from the Chinese government will mollify foreign tourists – who have been warned by the media, their governments, and data available on the web about the adverse health consequences of pollution. In recent years it has been common for foreign media to give warnings about pollution levels in China (Canadian Press, 2013).

Literature review
Many studies have shown that environmental catastrophes, such as floods, volcanic eruptions, earthquakes, and abnormal air pollution reduce tourist activity and the economic success of the hospitality industry (Kwabena and Looi, 2000). For example, Mathieson and Wall (1993) indicated that tourists consider economic, technological, international political, socio-cultural, and environmental factors when making decisions regarding vacation destinations or travel plans. Over the past few decades, it has been suggested that vacationers are especially interested in experiences in pristine environments, areas of natural beauty, and places that are relatively untouched by pollution (Sinclair and Stabler, 1997). Preferences for unspoiled beauty appear to be rising in tandem with the ongoing discussion of climate change and environmental degradation. Moreover, the availability of real-time information on pollution and other destination-related factors permits potential tourists to make informed decisions.

Given these apparent preferences, pollution likely affects the decisions of tourists. China offers an interesting test of this possibility (Nan and Sun, 2015; Lin, Yang et al., 2015; Bai, Ma and Zhou, 2015; Dong, Ma and Xie 2009). In recent years, much attention has been given to pollution in China, especially air pollution. The rapid growth of the Chinese economy and reliance on coal-burning power plants has caused obvious air pollution problems. The problem is obvious because the haze is visible for all to see. Moreover, data on various pollutants have been provided by sources outside of the Chinese government, which has made it possible to compare official numbers with the measures provided by other sources. For example, the US Embassy in Beijing has monitored various environmental pollutants and streams the information on the internet on an hourly basis. Such information enables tourists to monitor pollution and could influence their decisions.

Chart 1 provides information on one particulate measure, PM$_{2.5}$, which has been reported on an hourly basis by the US Embassy since 2008. PM$_{2.5}$ is a measure of fine particle pollution. It refers to particulate matter that is 2.5 micrometers in diameter and smaller. Particles of this size – and those generally smaller than 10 micrometers in diameter – can accumulate in an individual’s lungs. The accumulation can aggravate a variety of respiratory and other problems. Public health studies have suggested a positive association between exposure to fine particulate matter and early mortality (Yusuf and Resosundarmo, 2009).

Information in Chart 1 has been aggregated into quarterly measures and graphed. In addition, information is reported on the annual percent of hours with PM$_{2.5}$ levels in the ‘unhealthy’ range (a score above 151) and the “hazardous” range (a score above 301). The chart and underlying data suggest several observations. First, none of the quarterly average PM$_{2.5}$ levels is in the unhealthy or hazardous range. When aggregated to the monthly level, only four months over the period studied contained observations with an average in the unhealthy range. Second, despite monthly and quarterly measures within acceptable exposure ranges on average, a substantial portion of hours each year reflected PM$_{2.5}$ levels that were in the unhealthy range. In 2010 in Beijing, 28% of the hours in the year had fine particulate pollution in the unhealthy range. Third, while government efforts led to a reduction in the percentage of annual hours in the unhealthy range since 2010, there continues to be an increase in the percentage of annual hours in the hazardous range. That is, while particulate pollution has declined in Beijing in recent years, the percentage of hours with hazardous pollution has increased consistently. The bad days are getting worse.
These observations in turn suggest that aggregate data may understate the extent of fine particulate pollution and that the observed improvements in pollution levels may be offset by the increased severity of the most highly polluted days.

**Chart 1: Particulate (PM$_{2.5}$ Pollution in Beijing by Quarter, 2008-2016*)**

*Data collected and reported by U.S. Embassy at www.stateair.net/web/historical/1/1.html.

In light of these results, it is unsurprising that some scholars have examined the relationship between air pollution and tourism in China. Wang and Jiang (2006) used Dalian City as an example to argue that the ecological environment should be protected to encourage tourism. Similarly, Dong, Ma, and Xie (2009) surveyed foreign tourists visiting Xi’an City to determine the considerations leading to their visit. They reported that results suggested environmental issues were important, even when a city had a unique feature (the Terra Cotta Warriors) that could not be replicated elsewhere. Further investigation by Dong (2013) indicated that the tourist flow has become more coordinated to the environment. Based on macroscopic data analysis, Lin, Yang and Liang (2015) studied the impact of urban air quality on tourist activities. They reported an association between Air Quality Comprehensive Index (AQI) measures and tourist visits and revenues during China’s Spring Festival “Golden Week.” When city traffic and the resulting magnification of pollution occurs, tourism also suffers (Shao, 2013). Tourists are considering pollution and congestion when making destination plans. The Chinese tourist industry, which generated $56.9 billion in annual revenue from foreign tourists in 2014, could be severely affected by such decisions.

Haze-related air pollution has become a crucial problem in China. The problem is evident and data are widely available on its extent. The situation was critical enough that the Central government required the public announcement of a variety of haze-related pollution control measures beginning in 2013. While PM$_{2.5}$ has received much attention, other pollutants, such as PM$_{10}$, SO$_2$, NO$_2$, ozone (O$_3$), and carbon monoxide (CO) are also included in the AQI. Haze
pollution likely receives substantial attention because it can be seen. For example, Nan and Sun (2015) examined the relationship between haze-related air-pollution and tourism outcomes. Based on a survey and data analysis, they reported that haze is negatively associated with tourist destination decisions, in part because of concerns regarding safety and health.

Although available research on pollution and tourism in China is suggestive, most of the available studies have examined small areas, short time frames, or specific activities and festivals. There is a need to provide a more comprehensive analysis of the issue, both to tie available research together and to demonstrate the problem’s potential impact on the national economy. This study is meant to fill the gap by examining pollution and tourism data for 31 cities in China over the years 2003-2014. Because much available research has looked at haze-related pollution, we focus on fine particulate pollution, measured by PM$_{2.5}$ and PM$_{10}$. We also focus on the arrival of foreign tourists, who may have more information on pollution and alternative destination choices relative to domestic tourists.

Conceptual Framework
Much research has examined tourism and its antecedents (Lee, 2016; Saenz-De-Miera and Rosselló, 2014; Giannoni, Barros, and Peypoch, 2009; Anaman and Looi, 2000; Mathieson and Wall, 1993). In general, the literature suggests that tourism outcomes are affected by a variety of factors, including economic conditions, relative cost differences across destinations, as well as unique factors, such as special events, pilgrimages, etc. We see pollution as a factor that influences tourist destination decisions with other factors held constant. Individuals, especially young affluent people may choose less polluted destinations over more polluted ones. The availability of information on pollution makes such decisions easier, as places may be compared in real-time using pollution and other data.

Methods, models, and data
In order to isolate the influence of air pollution on tourism in China, we use ordinary least squares (OLS) to regress the number of foreign tourists on variables derived from our model, including measures of fine particulate pollution. The basic model is as follows:

$$\text{ForTourist} = \alpha + \beta_1 \text{PM}_{2.5} + \beta_2 \text{GDP} + \beta_3 \text{COSTDIF} + \beta_4 \text{Year} + \epsilon$$

We also estimate a variation of the model using data on PM$_{10}$ for a larger sample of cities and years. In the model, $\alpha$ refers to a constant term, $\epsilon$ represents a random error term, and the $\beta$ parameters represent the weights associated with the explanatory variables.

$\text{ForTourist}$ is the dependent variable and refers to the number of foreign tourists visiting a specific city in a specific year. We collected data from 31 cities that are viewed as “famous tourism cities” in China. Our foreign tourist measure refers specifically to individuals from other countries that entered the specific Chinese city for leisure as a tourist. The tourism information was derived from reports of the Chinese Bureau of Statistics on national economic and social development.

PM$_{2.5}$ refers to levels of particulate pollution less than 2.5 microns per cubic meter, as defined by the US Environmental Protection Agency. Our alternative specification uses PM$_{10}$, which reflects information on levels of particulate pollution less than 10 microns per cubic meter. These measures are widely accepted in the public health community and represent particulate sizes that can be ingested and produce negative health effects. The pollution information was available from various sources, including the World Health Organization and China Ministry of Environmental Protection.

GDP refers to the gross domestic product of each city in each specific year. This captures economic differences across cities that could affect tourist preferences. The information was collected from the Chinese National Economy and Social Development Report.
COSTDIF was also collected from the Chinese National Economic and Social Development Report. It is essentially a measure of consumer price differences across cities.

The models also include dummy variables for the year in which data were collected in order to capture any trends related to tourism or pollution over time.

Results

Descriptive analysis
Table 1 provides selected descriptive statistics. We report information for 2003, 2008, and 2014 in order to illustrate general trends in key variables across the cities at specific points in time. Table 2 reports zero-order correlations among the variables. Results indicate many statistically significant relationships across the correlations. The relationship between air pollution and foreign tourists is negative in each case but statistically significant only for PM$_{10}$.

**Table 1: Descriptive Statistics**

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2008</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N, Minimum</td>
<td>Maximum</td>
<td>Mean, Std. Deviation</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>31, 30.000</td>
<td>175.000</td>
<td>118.06452, 32.157877</td>
</tr>
<tr>
<td>Domestic Tourists</td>
<td>22, 2,719,700</td>
<td>87,370,000</td>
<td>23,014,031.82, 21,564,064.053</td>
</tr>
<tr>
<td>Foreign Tourists</td>
<td>23, 22,600</td>
<td>3,625,400</td>
<td>567,847.83, 982,772.733</td>
</tr>
<tr>
<td>PM$_{2.5}$</td>
<td>31, 43.000</td>
<td>145.000</td>
<td>96.64516, 25.292355</td>
</tr>
<tr>
<td>Domestic Tourists</td>
<td>28, 1,320,000</td>
<td>140,000,000</td>
<td>36,216,758.64, 33,352,932.005</td>
</tr>
<tr>
<td>Foreign Tourists</td>
<td>28, 7.900</td>
<td>6,403,700</td>
<td>993,817.86, 1,683,679.555</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>19, 42.000</td>
<td>172.000</td>
<td>104.15789, 32.012607</td>
</tr>
<tr>
<td>PM$_{2.5}$</td>
<td>29, 22.40</td>
<td>122.60</td>
<td>64.3724, 21.02043</td>
</tr>
<tr>
<td>Domestic Tourists</td>
<td>25, 6,668,900</td>
<td>268,181,100</td>
<td>82,542,632.00, 71,020,744.442</td>
</tr>
<tr>
<td>Foreign Tourists</td>
<td>27, 25,700</td>
<td>7,913,000</td>
<td>1,494,481.85, 2,153,333.582</td>
</tr>
</tbody>
</table>
Table 2: Correlations among the variables

<table>
<thead>
<tr>
<th></th>
<th>PM$_{10}$ Correlation</th>
<th>PM$_{2.5}$ Correlation</th>
<th>Foreign Tourists Correlation</th>
<th>GDP Correlation</th>
<th>COSTDIF Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM$_{10}$</td>
<td>N</td>
<td>348</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM$_{2.5}$</td>
<td>N</td>
<td>66</td>
<td>89</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.847**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td>N</td>
<td>314</td>
<td>81</td>
<td>334</td>
<td></td>
</tr>
<tr>
<td>Tourists</td>
<td>Sig. (2-tailed)</td>
<td>-.128*</td>
<td>-.048</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>GDP</td>
<td>N</td>
<td>347</td>
<td>88</td>
<td>333</td>
<td>371</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.033</td>
<td>.253*</td>
<td>.805**</td>
<td>1</td>
</tr>
<tr>
<td>COSTDIF</td>
<td>N</td>
<td>336</td>
<td>87</td>
<td>326</td>
<td>359</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>-.047</td>
<td>-.269*</td>
<td>.023</td>
<td>.047</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.388</td>
<td>.012</td>
<td>.683</td>
<td>.374</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Multivariate analysis

To determine more precisely the association between urban air quality and the embarkation of foreign tourists, we estimated the model described earlier using OLS. Tables 3 and 4 report the results for PM$_{10}$ and PM$_{2.5}$ respectively. The overall models are statistically significant and report between 71% and 80% of the variance in the dependent variable. With the controls in the model, we find a negative relationship between air pollution levels and the number of foreign tourists. In addition, several of the control variables are significantly associated with the number of foreign tourists.

Because of data limitations, the sample size varies for analyses of PM$_{10}$ and PM$_{2.5}$. Despite the sample size difference, similar patterns of results emerge from the equation. Specifically, when we run the model incorporating PM$_{10}$, GDP, COSTDIF and Year dummy variables, the overall equation is significant, explaining 71.4% of the variance in the dependent variable. The coefficient on PM$_{10}$ is negative and statistically significant, suggesting that potential tourists may monitor air pollution levels and avoid locations with relatively high pollution. Given controls for economic conditions, city-specific costs, and time, the pollution finding is robust.

The second model, examining PM$_{2.5}$, is statistically significant overall and explains 80.1% of the variance in the dependent variable. As this model also controls for economic factors, city cost differences, and time, the significant negative coefficient on PM$_{2.5}$ indicates that air pollution is negatively associated with the number of foreign tourists. The consistent negative relationship between pollution and the number of external tourists suggests the importance of environmental factors to potential visitors.

Several of the other independent variables display significant coefficients in accordance with our expectations based on theory. For example, GDP is positively associated with foreign tourist numbers in each model, which suggests that positive economic forces encourage tourism. This may occur because of investment in the tourism industry or it may reflect the existence of a link between positive economic times and choices by foreigners to travel to China. In addition, time-specific factors were related to the number of tourists. This is unsurprising because of the potential for specific events, such as the Olympics in 2008, to draw larger crowds than would normally be expected.
It is interesting that cost differences across cities do not appear to influence tourist numbers. Foreign visitors to China simply seemed to prefer less polluted cities over more polluted ones.

Overall, the results are as we expected. The negative association between air pollution and tourism is consistent with findings of other studies, as well as the reality that sophisticated tourists consult information sources on factors that are not widely mentioned in tourist handbooks. Relative to other studies, given our examination of a greater number of cities over a longer time period, the results provide more evidence of the negative association between pollution and foreign tourists. As the hospitality industry is a valuable source of foreign currency and provides an important employment source for cities, it is clear that recent government policies in China aimed at reducing pollution are wise and necessary. When air quality becomes bad, given available real-time data, foreign tourists appear to choose destinations outside China or less polluted ones in China.

Because we use panel data in the study, we conducted additional analyses to check the robustness of the results. First, we estimated the models using lagged independent variables. This approach assumes that variables in year t+1 are influenced by information in year t. In general, this...
estimation approach produced the same pattern of results described above, as negative coefficients were estimated for the air pollution variables. Second, we estimated the models with city dummy variables included along with the year dummy variables. In these models, the coefficient on the air pollution variable remained negative, though was no longer statistically significant.

**Observations and Conclusion**
This study suggests three primary observations. First, the findings confirm anecdotal studies showing a negative link between air pollution and tourism in China. Given the larger sample and use of multivariate methods, our results provide a robust confirmation. This in turn suggests that policies aimed at reducing China’s pollution for the health benefits will have a side benefit of enhancing tourism. Economic concerns associated with lower output from manufacturing could be offset if sufficient new tourist embarkations to affected cities occur. In addition, by investing income from government reserves associated with the manufacturing boom of the 2000s in an efficient tourism sector, it may be possible to replace jobs lost due to technology improvements and the closure of factories that emit high levels of pollution.

Second, it is noteworthy that our primary results were not consistently evident in the descriptive analyses. This suggests that many of the anecdotal studies and media reports of the link between pollution and tourism may understate the true extent of the problem. As pollution has a variety of well-known health and morbidity consequences, it would be wise to invest considerable attention today on links between pollution and other important outcomes. Such analysis will provide the government with better data to use in resource allocation decisions and will offer factual information in support of necessary policies.

Third, as this study examined only one tourism outcomes and one type of pollution, our results are focused – and narrow. It would be valuable for researchers to conduct broader analyses of the relationship between all types of pollution and other outcomes, such as tourist expenditures, domestic tourism, and external perceptions of China. As tourism offers a valuable source of income, while providing a showcase of the beauty and history of China, it is an important industry to nurture. Ultimately, exposure to pollution at harmful levels will express itself through a variety of adverse health results and negative outcomes for Chinese people, as well as others who live downstream from the pollution sources.

While this study is limited by its focus on one form of pollution, the general patterns it reveals are especially relevant to government policymakers and researchers. Application of robust methods to problems associated with the consequences of rapid economic growth will provide ideas on how to offer social value to the polity. This study suggests that efforts to reduce air pollution will generate foreign currency, while delivering the health benefits associated with a more pristine environment.
References


Board Nomination and Selection Process in Indonesian State-Owned Enterprises

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A transparent nomination and selection process is the first step towards obtaining qualified members of board. It is believed that as the representative (agent) of the owners, members of the board must consist of competent and professional people. However, the development of transparent and ideal nomination and selection processes in Indonesian State-owned enterprises (SOEs) has been based on relatively little research. Considering the relative importance attached by boards to conduct their roles in their principal’s interest in a variety of governance tasks in state-owned enterprises, the primary aim of this paper is to shed light on the extent to which the nomination and selection process impacts performance of the board in implementing good corporate governance in Indonesian SOEs. The exploratory nature of this study led to the adoption of a qualitative research methodology which uses semi-structured interviews and publically available documents to collect a range of data pertaining to board nomination and selection and the work of the boards. Interviews were conducted with four informants from three Indonesian SOEs and the Ministry of SOEs. Findings in this study demonstrate that unclear job description and expectations exist for board members as a result of unclear functions of the board in Indonesian SOEs and exists in a situation where making transparent and accountable nomination and selection processes is hard to actuate. This situation is vulnerable to the influences from political interests and that even the process itself can degenerate into situations of political interference. In the end, it often leads to choosing the wrong person for membership of the board. This study makes a significant contribution to several field: human resource management, corporate governance, and Southeast Asia studies by addressing the basic research gaps of board selection process issues in Indonesian SOEs. The gap is addressed by providing a more coherent framework for an effective nomination and selection system which reflects more clearly the real experiences of those actually involved at the board level.

Introduction

Studies of corporate governance have been discussed in developed economies since 1980s, however the practices of corporate governance did not become widely used in almost all countries in the world until after the world economic crisis in 1997-1998 (Barton, Coombes, & Wong, 2004). The global crisis in 2007 added further strands to corporate governance development (Lefort & Urzua, 2008). The board as governing body was accused being responsible as they breached their fiduciary duties (Cadbury, 1999; Clarke, 2004). More and more controversy was publicly aired by shareholders, resulting in responses that affected the makeup and operations of boards at the end of 1980s (Kakabadse & Kakabadse, 2008). These board issues appeared in the SOEs of many countries (OECD, 2005). The problems of passive boards and undue political interference in the work of boards have prompted public concern over the governance of SOEs (OECD, 2005). These facts ushered in a new era of pressure for change (Leblanc & Gillies, 2005). As a result, the interest in board activities grew in a short period, from little or mild, to high or keen interest (Maw & Cooper, 1994).

Reflecting this increasing interest, the literature and theory about boards in SOEs also developed with the emphasis on structural change (Tricker, 2012). There developed a major interest to have better boards in SOEs stressing the transparency issues such as the proportion of independent versus inside directors, the role of the audit committee, the committee membership (which was mandated to be entirely of independent directors), and the importance of the internal auditor role (Ingley & van der Walt, 2004; Kakabadse & Kakabadse, 2001). Despite those studies, the work of many boards in SOEs is still not fully effective (OECD, 2005). There are still broad gaps between the knowledge and practice of the roles of the boards in SOEs. This broad gap may also mean that the thinking of the roles of the
boards needs to evolve (Tricker, 2012). Indonesia, with the fourth largest population in the world provides a special case for the study of corporate governance because of its huge marketplace. It also gives an interesting contrast to corporate governance systems in the developed countries as Indonesian has a unique governance system.

According Hendry and Kiei (2004), boards will not be effective if they are only concerned with strategic control (such as supervisor management and being accountable) as this role is part of the control role (or conformance role). The boards are expected to be involved in strategic thinking such as vision or mission-building thus requiring members of the board with competent strategic vision, leadership skills and strategic “direction-giving” (Ingley & van der Walt, 2001). To achieve those desired requirements, member of the board must consist of competent and professional people that have the necessary skills, experience, knowledge and network to seek the information needed, to analyze the information given by the management, and to balance the work of the management (Ingley & Walt, 2005). If members of the board are professional, it means the board can not only direct the management, but can also make valuable contributions to strategy formulation and policy making to achieve good governance of the SOEs (duty of care) (Kakabadse, et al., 2010).

Some scholars who studied the board found the board’s competencies and the process of decision-making not only depends on the board structure, but also on the qualifications and style of each board member. A contribution from each individual member of the board is necessary for effectiveness of the board. The nomination and selection process is the first step to obtaining qualified members (Moodie, 2001). A transparent nomination process will help ensure good quality competitive candidates with high profile, good experiences, educated, and the desired characteristics are selected (Tricker, 2012b).

According to previous studies, a good job design/expectation is important for transparent nomination processes. This is because clear job design is able to define who should be nominated and guide selection of the right person for the job. If all the tasks, responsibilities, and authorities are well identified, then the organization may be able to conduct a transparent and accountable recruitment process because clear tasks, responsibilities, and authorities will establish clear measurements and requisites for the selection of the candidate. Furthermore, other scholars emphasized that job design is a key component in managing boards because it is one major way to translate company goals into the specific actions that are required of the board to perform their job (Lepak & Gowan, 2010).

However, data from OECD (2005) shown that most selection processes in SOEs are not transparent and accountable. Thus in practice, most SOE board members in many countries tend to lack substantial business perspectives, are of low quality and are often not independent, particularly the ones nominated by the state. These state representatives may also be deprived of some of their critical responsibilities, to the benefit of shareholding ministers or the management. Their presence may in cases transform SOE boards into a political negotiation arena as a transparent nomination process may be hard to conduct due to political interference and conflicts of interest in SOEs.

Despite the importance of clear job design and transparent selection processes, study on selection and nomination to board performance in SOEs has been based on relatively little research, particularly in Indonesian SOEs. Meanwhile for Indonesian SOEs, the board of commissioners (Indonesia’s term for the board) plays an important role as the internal control mechanism in implementing good corporate governance. Consequently, it is interesting to have further studies as to whether the selection and nomination process has an effect on the board of commissioner’s (BoC’s) effectiveness as measured by succession implementing GCG in the SOEs. The purpose of this study is to shed light on the extent of nomination and selection process impact performance of the board in implementing good corporate governance in Indonesian SOEs. By using qualitative approach through in-depth interview of members of the BoC, board of directors, and government officials, the “real” view and perception of the extent of the selection and nomination process impacting the performance of the board is revealed and it may lead to new interpretations of the process.

Following this introduction, this paper is presented in four main parts. The first part is a critical review of selection and nomination processes. The second part reviews the selection and nomination system in Indonesian SOEs. The third describes methodological approach in this study. After that, it continues by outlining the findings from the data collected through semi-structured interviews. The final section concludes the paper including recommendations for the government.
Critical Review: The Board Nomination and Selection Process

There are three situations which require the nomination of the board members (Tricker, 2009a): first is the appointment to fill a vacancy arising because of a resignation or death, or when the board members are unable to serve, second is the re-appointment on the expiry of the board members, third is on the creation of an additional commissionership. Tricker (2009a) and Garrat (2006) are of the view that there are criteria regarding individual characteristics for a good board member and the main one is integrity. Integrity means being able to distinguish right from wrong and to judge corporate behavior accordingly (Tricker, 2009a). As the board members are agents of the company, they must conduct their fiduciary duties with integrity, openly and honestly (Garratt, 2006). A person with integrity is trusted and trust is essential in the relationship between principal and agent (Fama & Jensen, 1983).

Other important criteria are intellect, strength of character, and a desirable personality (Leblanc & Gillies, 2005). Intellect is having “a good mind” (Earl, 1983). An intellectual person is the person who has an appropriate level of intelligence, able to think at a different level of abstraction and able to see situations from different perspectives. Strength of character means that a person is independently minded, objective, and impartial (Muller, 2009). Members of the boards are expected to be tough-minded, tenacious, resilient, have the courage to take a stand, be results-oriented with a balanced approach to risks, and to act wisely (Kakabadse & Kakabadse, 2008). A desirable personality means that the board members are expected to have flexibility, sensitivity, diplomacy, persuasiveness, the ability to motivate and a sense of humor (Garratt, 2006). These kinds of personalities are sufficient in the interaction between the chairman and his boardroom peers (Tricker, 2009a).

Along with choosing board members based on these characteristics, a transparent nomination process helps ensure that good quality competitive candidates with the desired characteristics are selected (Tricker, 2012b). Edwards (2006) notes that, ideally, a good nomination process has five main stages: preparation of the process and vacancy profile, locating suitable candidates, assessing and vetting potential candidates, selection and appointment, and an auditing process. She also adds that every step has its challenges but the critical steps where the process might be bypassed due to time pressures and cronyism are stages three and four. For example, if a minister or other influential decision-maker has personal, business or political connections with the chosen candidates, stages three and four could be perceived as compromised or flawed unless there is acknowledgement of any conflict of interest and it is appropriately handled (Edwards, 2006).

However, a report from OECD (2005) finds that the nomination process of the SOE boards in many OECD countries is too rigid and lacks transparency. There are many different ministries and government bodies involved and a strong political agenda influences the process (OECD, 2005). This kind of situation is frequently found in the countries that use a dual model ownership, where the SOE board usually is nominated by ministries and the final decision is in the hands of the prime minister or president (OECD, 2005). Some scholars argue that such a nomination process is vulnerable to influences from political interest and that even the process itself can degenerate into situations of political interference (Chang & Wong, 2004; Okhmatovskiy, 2010; Roe, 2003). The interference could be through complex negotiation among the ministries or government bodies or direct nomination of political appointees which sometimes involves the parliament or even the president (Okhmatovskiy, 2010; Watanabe, 2002).

A study by Rajagopalan and Zhang (2008) found that not just state representative but most of the independent members on China SOE boards are political allies or friends or relatives of senior managers or owners who may represent the majority shareholder (government). Their findings are supported by Lu (2009) who found that the selection of the board members in Chinese SOEs is often determined by the Chinese Communist Party rather than through any competitive selection mechanism, including the selection of independent board members. As a result, many board chairs and members are directly sourced from government officials. In addition, maintaining a good relationship is extremely important in the selection process and in the process of accountability in Chinese SOEs (JianYu, 2007). A study from Indonesia also indicates that the lack of nomination process reform is one of the reasons why independent board members have an insignificant relationship with a company’s performance (Prabowo & Simpson, 2011).

According to the OECD (2005), to avoid abuse of power, cronyism and political bias many countries had already started to establish regulations about the selection process for members of boards.
In Norway, the government has explicitly excluded the involvement of members of the Parliament, Ministries or State Secretaries on the boards of SOEs (OECD, 2005). As well, South Korea started a major reform in the nomination process by reducing the number of military or high level bureaucrats on the management and boards of SOEs on political grounds and forbidding nomination as a reward for career service (OECD, 2005). Even in China in September 2008, there was an agreement between the Chinese Communist Party and government that the leaders of Chinese SOEs will no longer come from the civil service or the management of the enterprise (Lu, 2009).

Lu’s (2009) study also found that many developed countries have started to make the process of recruitment one of open market competition. Their governments have set up structured nomination processes and skill-based nomination systems to ensure that the main selection criteria are competency skills (OECD, 2005). The UK has already developed principles including ministerial responsibility, merit, independent scrutiny, equal opportunities, probity, openness and transparency and proportionality, and a code of practice around the appointment of boards in the public sector (OCPA, 2005).

Some countries have also established a nomination committee, particularly for listed SOEs (OECD, 2005). Such a committee has duties to list requirements and develop further regulation of the nomination process. As an independent body, this committee is expected to make the nomination process more efficient, transparent and based on merit, and to exclude political activity and affiliation by using selection criteria as well as audits (OECD, 2005). Many countries have already built databases for qualified candidates as well as relying on the independent recruitment agencies to seek appropriate candidates (Lester, Hilman, Zardkoohi, & Cannella, 2008). However, the challenges of the nomination process rely not only on the systems and regulations but also on the lack of timeliness (Kakabadse, et al., 2010). Many nomination processes take excessive time because of their complexity and involvement of a number of bodies or entities. These challenges have an impact on the continuity and stability of the roles of the board (OECD, 2005).

Objectives

Based on the gap in knowledge of the boards and by using Indonesian SOEs as the context of the study, this research focuses on the extent of a board’s selection process impacting performance of the board in implementing good corporate governance (GCG) in Indonesian state-owned enterprises (SOEs). It assesses the link between the boards’ selection mechanism and the effectiveness of the BoCs. The following research question guided this study:

How effective is the boards’ selection mechanism process’s impact on the work of the Boards of Commissioners in Indonesian State-Owned Enterprises?

In addressing this question, two sub-questions are examined:

- To what extent does the selection process impact on the work of the Boards of Commissioners in Indonesian State-Owned Enterprises?
- To what extent is the selection process adequate for members of the Boards of Commissioners in Indonesian State-Owned Enterprises?

Selection and Nomination Process in Indonesian SOEs

The selection and recruitment of members of the BoC in Indonesian SOEs are less regulated than selection of BoD members. The arrangements for the selection process of the BoC are stipulated in Article 28 of Law No.19 (Undang – Undang BUMN (Indonesian SOEs Law) no. 19, 2003) which states that:

Members of the BoCare appointed on the basis of consideration of integrity, dedication, understanding corporate management issues related to one of the management functions, have sufficient knowledge in the field of the company, as well as to provide enough time to do their job. (p. 6)

Furthermore, Article 30 of the law states that “a further provision concerning the requirements and procedures for the appointment and dismissal of the BoC is set by the decision of the Minister” (p. 6). This means that the government gives full authority to the Minister of SOEs to design the selection process and select members of the BoC who have the characteristics (see Article 28 above) necessary to do their functions. However, the minister is usually a member of a certain political party. Sometimes the minister is appointed to represent the interest of a political party. Such authority may give
opportunities for the minister to select a person as President Commissioner in strategic SOEs because of their alliance (Wicaksono, 2009).

For listed SOEs, or SOEs that raise and manage public funds, or SOEs with products or services used by the public, or SOEs that have a broad impact on the environment, the assessment process of prospective members of the BoC is different (Nasution & Setiawan, 2007). The selection is meant to be conducted prior to the AGMS by the Nomination and Remuneration Committee and must consider the opinions of minority shareholders (Ministry of State-Owned Enterprises, 2006). To do so, the Government regulated four stages of the selection process of prospective BoC members (Ministry of State-Owned Enterprises, 2006). First, the Ministry of SOEs forms an evaluation team consisting of one or several members of the BoC and government officials from the Ministry of SOEs, Finance or other ministries. This evaluation team consists of at most five members, including a team leader. The evaluation team is chaired by a previous independent commissioner who is appointed by the BoC.

Second, the evaluation team receives suggestions from the nomination committee or the Ministry or previous BoC members or other sources, then the team searches for information about the candidates from other sources and establishes a long-list of candidates. This long-list is submitted to the deputy Minister of SOEs for approval. Third, after receiving approval, the team conducts a Fit and Proper Test (FPT) of the candidates. The fit and proper testing is one process that should be done by the Ministry of SOEs for recruitment (selection) of the BoC and the BoD. However, the fit and proper test is not an end but merely an instrument (tool) to get prospective directors in accordance with the criteria established.

Fourth, the deputy minister of SOEs, or another deputy minister, conducts the final evaluation from the short list in order to determine one candidate for each position of the BoC and the successful nominee is recommended to the Minister of SOEs for approval. The Minister of SOEs has to give the final result no later than 30 (thirty) calendar days from the date he receives the recommendation of the BoC members. This four stage process was established in order to avoid the intervention of other parties, be it from political parties or from other power holders, who have vested interests which can lead to biased decision-making (Arafat & Fajri, 2009). In the past, SOEs became fertile grounds for the practice of ‘looting’ and often served as ‘cash cows’ for the political interests of certain parties. It is necessary to prevent the candidate ‘surrogate’ because the candidate surrogate is contrary to the principles of GCG, especially the principle of fairness and freedom from conflict of interest (Arafat & Fajri, 2009).

After the candidates of the BoC are selected, then the process continues to an agreement (called Statement of Corporate Intent - SCI) on members of the BoC to be appointed (Ministry of State-Owned Enterprises, 2002b). The SCI is one tool that is quite important to improve the transparency of SOEs. This tool can be used as a guideline for the management of SOEs, the Ministry of SOEs, and the public to promote the establishment of GCG practices in SOEs. This SCI have been prepared by the BoD and approved by the BoC. Preparation of the SCI is intended to create a transparent indicator of the performances of SOEs in order to ensure optimal performance of SOEs and the effective, efficient, and sustainable use of resources. It is also considered to be a commitment of SOEs and their shareholders to the performance and accountability forecasts for the next few years. The agreement in the SCI include a promise from the BoD, the BoC and all staff that they will try earnestly to advance the company in accordance with short and long term plans that have been defined with emphasis on the achievement of corporate value (Arafat & Fajri, 2009).

However although the regulation states that members of the BoC are appointed and dismissed by the AGMS through a transparent process, in practice many selection processes are not transparent (Rosser, 2003). In many cases, the appointed members of the BoC are only based on respect, family relationships, or other close relationships (referred to as nepotism) (Abeng, 2010). As a result, many members of the BoC are former members of BoD from other SOEs, former officers from the Ministry of SOEs, Finance or another related ministry, former military Generals, and former ambassadors (Kirana & Habriansyah, 2004). Since they are not totally independent, in some SOEs there is a tendency for the BoC to influence the directors in carrying out their duties (Abeng, 2001). Meanwhile, for others SOEs, the BoD are usually in a strong position, are reluctant to share authority and do not provide proper information to the BoC because they lack competence and integrity (Arafat & Fajri, 2009).

Thus it may necessary to have further research regarding how effective the nomination and selection process in Indonesian SOEs is and how it impacts the performance of the BoC.
Research Methodology

Since this present study is primarily around exploring the perceptions and thoughts of key participants to search for the answers to the research questions, a qualitative research methodology was used. By engaging with the key actors who were involved with the work of the BoCs which are government officials as shareholders’ representative, members of the BoD represent management board, and members of the BoC represent the supervisory board, this study explores the extent of the selection process and how the selection process impacts the BoC’s performance in Indonesian SOEs.

Due to nature of the study, it is believed that it is important to gain in-depth understanding from the experiences and perspectives of the actors to the extent that they influence the effectiveness of the BoC in Indonesian SOEs which had never been done previously. The adoption of a qualitative approach may enhance an understanding the real practices of the BoC in Indonesian SOEs. In order to answer the research questions, this study was designed to use triangulation method for data collection, including conducting semi-structured interviews as well as utilizing documentary analysis from the government, international and national agencies, the SOEs, mass-media outputs, and virtual outputs.

Primary data was collected by semi-structured interviews from a selection of three SOEs, which consist of one listed and two non-listed companies. A total of five in-depth semi-structured interviewes were conducted for and average one hour from participants in order to allow participants to reveal their “real” views and perceptions (List of Participants provided in table 1 below). The data were also collected based on the scholars’ perspective in analyzing and explaining the impact of selection mechanisms of the process and tying it to the performance of the BoC. They do not statistically represent the views of Indonesian SOE boards but provide preliminary perspectives on their operation.

<table>
<thead>
<tr>
<th>No</th>
<th>Company Code</th>
<th>Company Type (code)</th>
<th>Listed (L) or Non Listed (NL)</th>
<th>Age</th>
<th>Years of Work Experiences</th>
<th>Years of Tenu re</th>
<th>Position</th>
<th>Participant Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BRA</td>
<td>Banking (BK)</td>
<td>NL</td>
<td>51</td>
<td>28</td>
<td>3</td>
<td>Government Commissioner</td>
<td>Gov. Comm-BK-17</td>
</tr>
<tr>
<td>2</td>
<td>BMI</td>
<td>Banking (BK)</td>
<td>L</td>
<td>66</td>
<td>42</td>
<td>10</td>
<td>President Commissioner</td>
<td>Pres. Comm-BK-6</td>
</tr>
<tr>
<td>3</td>
<td>JSK</td>
<td>Financial Institution (FI)</td>
<td>NL</td>
<td>64</td>
<td>40</td>
<td>9</td>
<td>President Commissioner</td>
<td>Pres. Comm-FI-9</td>
</tr>
<tr>
<td>4</td>
<td>FCI</td>
<td>GCG Consultant (GC)</td>
<td>n/a</td>
<td>43</td>
<td>20</td>
<td>5</td>
<td>Indonesia CG Scholar</td>
<td>CG Expert-GC-20</td>
</tr>
<tr>
<td>5</td>
<td>Ministry of SOEs</td>
<td>Ministry of SOEs (MS)</td>
<td>n/a</td>
<td>55</td>
<td>31</td>
<td>28</td>
<td>Government Officer</td>
<td>Gov. off-MS-21</td>
</tr>
</tbody>
</table>

Table 1; List of Participants

(Sources: Prepared by the author)

A purposive sampling approach was used to draw sample from relevant SOEs. There was also an attempt to effect snowball sampling when some participants suggested or introduced other relevant people with the same characteristics to participate in our research. Access to participants was ultimately through personal contacts.
Findings and Analysis

This section starts with presentations and analyses of data from participants regarding their perception of the extent to which job design/expectation and the nomination and selection process impacts on the work of the BoCs in Indonesian SOEs. As discussed in Chapter 2, the clarity of job design may determine transparent and accountable nomination and selection processes (Lepak & Gowan, 2010). Without a clear job design/expectation, it is not just difficult to determine the job responsibilities and candidate requirements, but it is also very hard to have a transparent selection and nomination process (Wright, Dunford, & Snell, 2001). A transparent nomination and selection process is the front line to getting qualified members that may contribute to the board’s effectiveness (Lester et al., 2008).

Findings in this study support this view. Questions regarding the participants’ perceptions of the job design for, and expectation of, members of the BoC were raised. The comments of the President Commissioner about his understanding of the job design/expectation for each member of the BoC in his SOEs follow.

In my point of view, the working mechanism in the SOEs is the interaction between agents. As you know, a major shareholder in SOEs is the ministry. But, who is the ministry? They are agents of the government, not the real owners. And who is the BoD or the BoC, they are also agents. How could this thing happen? It is because the SOE does not have a clear owner. Unfortunately, if the interaction on the company is only between agents, this company is vulnerable to bad governance. Thus, in order to solve this problem, the company needs members of the BoC and the BoD who have special characteristics. The intellect, strong character, desirable personality, knowing corporate law and having integrity become very important requirements for members of the BoC and the BoD in our SOEs (Gov. off-MS-21).

From this response it seems that he has misunderstood the meaning of the job design. He related the job design more to the desired characteristic of members of the BoC rather than to the task, responsibilities, and authority. Another interviewee from the government commissioners responded in a similar manner. He underlined the qualifications of members of the BoC rather than discussing the process of how the SOEs design the jobs for members of the BoC.

There are three requisites in the selection process; first, members of the BoC have competency in their respective business sector; secondly, members of the BoC recognize the mechanism of corporate legal, and third they have integrity. While the nomination process members of the BoD has ten terms (Gov. Comm-BK-17.)

From these responses it is seen that those participants do not have a good understanding of the job design/expectation of members of the BoCs. Their answers refer more to personal characteristics rather than the responsibilities of the position and authority over members of the BoC. According to Lepak and Gowan (2010) clarity of the task, responsibilities and roles of the employee are necessary to build job descriptions. Thus, it probably indicates that the lack of clarity about BoCs’ responsibilities in Indonesian SOEs causes this misunderstanding of participants about job design (see previous section).

In their study, Lepak and Gowan (2010) also claimed that job design is a key component in managing boards because it is one major way to translate company goals into the specific actions that are required of BoCs to perform their job. Furthermore, the job design may help to identify the necessary competencies, backgrounds, education and experiences that are expected from the candidates in order to have a functional BoC (Moodie, 2001). A functional BoC is made up of people who can work together and contribute to the ‘positive chemistry’ of the group and arrive at decisions after thoughtful discussion; those boards who cannot work this way have been labelled ‘dysfunctional’ (Leblanc & Gillies, 2005). Therefore, without clear a job design and clear expectations, many members of the BoCs in Indonesian SOEs find it difficult to establish functional BoCs.

Furthermore, Wright et al. (2001) argue that the job design/expectation is important for the organization to be able to nominate and select the right person for the job. If all the tasks, responsibilities, and authorities are well identified, then the organization may be able to conduct a transparent and accountable recruitment process because clear tasks, responsibilities, and authorities establish clear measurements and requisites for the selection of the candidate. The transparent and accountable nomination and selection process is important to identify persons who have necessary
requirements (OECD, 2004) as well as help to ensure good quality competitive candidates are selected (Tricker, 2012).

Therefore, because Indonesian SOEs do not have a clear description of the job responsibilities or expectation for each member of the BoC, it is very hard for the nomination committee to conduct the process of nomination and selection based on merit, efficiency, and transparency (see duties and tasks of the nomination committee in Appendix C). This study finds that due to unclear job design, the process of searching and recruiting the desired candidates is challenging. As a result, candidates are frequently selected based on their network, political affiliation, and personal relationships. One of the participants who is President Commissioner expressed this argument:

The selection and nomination of a BoC depends on the Minister and his subordinates… However, I **questioned the capabilities of the ministry** to find a good and suitable person. If they want members of the BoC to become professional, then the selection and nomination process must professional, too (Pres. Comm-Fi-9.)

The sentence ‘I questioned the capabilities of the ministry’ has to been highlighted. It is presented in this way because it also means that frequently the person selected is not the right person for the job as the current nomination and selection process tends to be based on the network approach rather than one based on merit and transparency. According to Okhmatovskiy (2010) and Watanabe (2002), the network approach in the selection process of the members of the boards impacts on the quality and independence of the candidate selected because the network approach is vulnerable to political and personal influence.

A CG expert participant also indicated the same idea. He addressed the implementation of the selection and nomination process and said they are different to that which is written in policies (see Chapter 3 for details). Frequently, the process of selection and nomination of members of the BoC in Indonesia SOEs becomes shortened and ignores the principles of transparency and accountability. We should differentiate between the policy and the reality in the nomination or selection of the BoC members. As long the roles of the BoC have not been defined clearly, and the BoC have little attention from the government and public then it is difficult for the SOEs to have ideal mechanisms in the recruitment process of the BoC as it written in the policy. For the government, practitioners, and most of the public, the BoCs in Indonesia is the entity that been treated as something that the law required incorporated SOEs to have, but in reality very little was known about the real functions of the BoC (CG Expert-GC-20).

He also added that the difficulty of having a transparent nomination and selection processes is not just because of unclear job descriptions, but is also because of limited availability of candidates and an unattractive remuneration of the BoC.

Responsibilities of the BoC are written in the government policies. However, it is too general. According to my point of view, based on this policy each SOE should determine the job and duties of members of the BoC more specifically, so each member of the BoC knows what kind of performance they are expected to deliver. Furthermore, it was not so easy to find professional persons with integrity, strong character and desirable personality who can be nominated as the BoC members without having any knowledge of what they are expected to perform. In Indonesian SOEs, the **limited human resources** and the un-attractive remuneration become reasons for the difficulties in finding qualified candidates (CG Expert-GC-20).

The impression of ‘limited human resources’ here should also be highlighted because candidates with the desired qualifications are not always available. An independent commissioner of a bank in Indonesia, when interviewed by Prihatiningtias (2012) confirmed that only a few people, particularly few women, are qualified and available to be members of the BoCs. However, Ellig and Lang (2008) argue that qualified candidates are available; it is a matter of how the company may attract the right candidate at the right time with a transparent process and attractive remuneration.

Furthermore, by cross-checking the position against backgrounds of members of the BoC in Indonesian SOEs, it was found that there are BoC members who have experience and education that are not aligned with the position they represent. For example, in a particular agro-industrial SOE, there was a priest appointed as a member of the BoC. A priest is not going to know anything about the agroindustry. He was appointed just because the majority of people at the plantation were Christian. As a respected priest, the community will likely listen to and trust him and will not bother the plantation’s operations.
Studies from previous Indonesian scholars show similar results. They have found that former ministers or diplomats, former government civil servants, ambassadors, and academics have been appointed as members of the BoCs in Indonesian SOEs and they often do not have any understanding of how to direct the enterprise or deal with listed companies (Abeng, 2001; Hardjapamekas, 2000; Kamal, 2008a). Most of their appointments are more as a form of reward for their services as public servants rather than for their being professionals in the business (Abeng, 2001). Unfortunately, by only experience as leaders, but without having appropriate capabilities and understanding about directing a business, may not be enough to form a functional BoC in SOEs (Tan & Wang, 2007).

Furthermore, these former ministers or diplomats, former government civil servants, ambassadors, and academics who been selected as members of the BoC frequently have a personal relationship with the appointees who are the bureaucrats. As one government commissioner participant comments, sometimes the Indonesian government has to appreciate the seniors by giving them ‘prestige’ positions (such as members of the BoC in SOEs). In this situation, personal recommendation becomes the most-important factor rather than independence, transparency, and accountability in selecting members of the BoC.

Placing their people into the BoCs, particularly in strategic Indonesian SOEs might be used by political parties, as well as particular groups, to promote their agenda (Habir, 2005). By using their allies inside the ministries, these particular parties and groups will ensure that members of the BoC and the BoD secure their interest in particular SOEs. With the support of the culture of Indonesian SOEs (see the Chapter 3), it is not surprising if abuse of power, cronyism and political bias flourishes in nomination and selection of members of the BoCs; particularly in strategic Indonesian SOEs. Under such conditions, finding qualified members of the BoC is no longer the enterprise’s objective.

Meanwhile, without good qualifications, it hard for a person be able to be immediately productive in the BoC’s because they need motivation, training, and development to achieve the necessary competencies (Moodie, 2001). Nevertheless, despite many disadvantages of the network approach, some scholars argue that, due to organizational culture, sometimes recruitment based on the personal recommendation may bring stability in the operation of SOEs (Prabowo & Simpson, 2011; Jianyu, 2008). Thus, it may be necessary to analyze the part played by organizational cultures in the nomination and selection process of members of the BoC.

A summary of findings in this sub-section is shown in Figure 1 which presents the inter-relationship between variables with respect to job design, nomination, and the selection process (shown by the full line) and between other factors (shown by the dashed line).

Figure 1: The relationship between variables related to job design, and the nomination and selection process.
Conclusion

The implementation of the process for nomination and selection of members of the BoCs in Indonesian SOEs has been far from perfect. The process of nomination and selection is still largely driven by relationship rather than by professionalism and competency considerations as there have been no clear and standard rules about the BoCs’ criteria. Based on the above findings and discussion, this study suggests that the process of selection is not getting professional people who have credibility and authority to execute the roles of overseeing and directing the SOEs and the current process is inter-related with other factors. It starts with the choice of the governance structure model that determines the roles members of the BoC are expected to play in SOEs. This expectation summarized under the job description. In the case of Indonesian SOEs, since there is ambiguity about the roles of the BoC and the job description for members of the BoC is not clear. This unclear expectation of members of the BoC impacts on the selection and nomination process of the BoC. The interviewees revealed that to gain desirable attributes (including individual characteristics like integrity, intellect, character traits, and personality) and competencies (such as knowledge, skill, and experience) it is necessary for the SOEs to have a clear understanding about the job of each member of the BoC.

This study also demonstrates that members of the BoCs in SOEs should be selected and nominated through transparent processes as happens in listed SOEs because the government does not always act as the main decision body regarding the nomination and selection of members of the BoCs and, more particularly, in determining independent commissioners. Political influences are less involved. As a result, many of the members become active members, perform better, and contribute more to the SOEs. In the SOEs where the nomination of SOEs boards is sometimes complex and there is lack of transparency, board members are frequently passive and may maintain the status quo instead being the drivers of change processes because they are usually affiliated with political or other interest groups. In SOEs where the state is the sole owner and there is an atmosphere of complexity and lack transparency, there is greater political influence from bureaucrats or others groups. This political influence is either through the nomination process itself, involving complex political negotiations between different government organs, or through direct nomination of political appointees. In such situations, the members of the BoCs are populated with people chosen for their political allegiance rather than because of their business acumen.

Acknowledgments

We would like to acknowledge several institutions for their help:

First, the authors are like to express their gratitude towards Bina Nusantara and the Indonesia Directorate General, Higher Education for their funding of this research.

Second, the authors are grateful to the anonymous referees of the journal for their extremely useful suggestions to improve the quality of the paper
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Total Factor Productivity Efficiency: A Comparative Analysis of South African Banks Using a Two-Stage Non-Parametric Approach

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Zvikomborero Nyamazunzu, The Independent Institute of Education, South Africa

Abstract

The banking sector in South Africa is heavily concentrated with four largest banks together representing over 80 percent of the balance sheet size of the entire banking sector. As a result, on the one hand, there are speculative concerns of possible inefficiency on account of perceived monopoly power emanating from dominance by these larger banks. On the other hand, by reason of their size larger banks are more likely to gain economies of scale and scope resulting in greater efficiency. In order to shed light on this inconclusiveness, the primary objective of this paper is to measure the level of total factor productivity efficiency (TFPE) of a panel of eight South African banks and to explore if large banks are necessarily more efficient than their small counterparts. A two-step methodology approach is applied over a nine year period spanning 2003-2011. In the first stage, we utilize the non-parametric Data Envelopment Analysis (DEA) technique to generate and decompose Hicks-Moorsteen total factor productivity (HM-TFP) indices into TFPE and several other efficiency measures. In the second analysis, we then apply the non-parametric Mann-Whitney U test to explore the difference in the mean efficiency scores of these two categories. We follow the widely acknowledged intermediation approach in defining bank inputs and outputs. First stage DEA results reveal that average TFPE for all the banks is 59 percent implying that the observed or actual TFP is 41 percent short of the maximum TFP possible using the available resources. Further examination reveal that larger banks exhibit a higher TFP efficiency score of 67 percent compared to smaller banks which have an average score of 51 percent. Empirical evidence obtained after running the second stage Mann-Whitney Wilcoxon test verified that indeed larger banks significantly outperform smaller banks. In light of this fact, we propose that smaller banks re-examine their business model to keep abreast with changing financial and economic outlooks. We postulate that this disparity in efficiency could be due to the fact that larger banks and smaller banks operate different business models and therefore emphasise different focus areas. We therefore propose an optimal balance of both retail and wholesale activities to diversify business operations of smaller banks in order to improve their total factor productivity efficiency.

Keywords:
total factor productivity efficiency, productivity, data envelopment analysis, South African banks, censored Tobit.

JEL Classification: C24 D24 G21

1 This work is based on research supported by the National Research Foundation (NRF) and any opinion, finding and conclusion or recommendation expressed in this material is that of the authors and the NRF does not accept any liability in this regard.
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1. INTRODUCTION
The banking sector in South Africa is heavily concentrated with four largest banks together representing over 80 percent of the total balance sheet size of the entire banking sector. As a result, on the one hand, there are speculative concerns of possible inefficiency on account of perceived monopoly power emanating from dominance by these larger banks. On the other hand, by reason of their size larger banks are more likely to gain economies of scale and economies of scope resulting in greater efficiency. In order to shed light on this inconclusiveness, the primary objective of this paper is to measure the levels of total factor productivity efficiency at which South African banks operate with a view to comparing and contrasting the performance of small and large banks and to determine the significance of the bank size factor on efficiency and suggest possible ways for improvement. In particular, we seek to answer the following research questions: What is the level of TFP and TFPE of the entire South African banking sector during the period under review? Are they any differences regarding levels of efficiency based on bank size? In other words are large banks necessarily “large” in efficiency compared to smaller banks? Is the difference in performance statistically significant? In order to achieve this end, we employ a two-stage non-parametric procedure. In the first stage, the DEA-based non-parametric technique which uses Hicks-Moorsteen (HM) aggregator functions is used to generate TFP and further decompose it into TFPE and several other efficiency measures. Paramount to the current study is TFPE which captures the relationship between the observed TFP and the maximum TFP* possible using the available technology. Any discrepancy between the observed and the maximum possible represents inefficiency.

In the second stage analysis, a non-parametric test for comparing outcomes between two independent groups called the Mann Whitney U test (hereafter referred to as the WMU test) is applied to substantiate if there is a statistically significant difference in their mean efficiency performance over the study period.

The structure of the paper is set out as follows: In section 2, we present an overview of the South African macro-economy from 2003 – 2011. The theoretical and empirical literature surrounding the nexus between bank performance and bank size is discussed in section 3. In section 4, we discuss the data issues and methodological framework while the empirical findings are reported and discussed in section 5. We then conclude with a discussion of policy recommendations in section 6.

2. AN OVERVIEW OF THE SOUTH AFRICAN BANKING SECTOR.
South Africa has a well-developed banking system which parallels many in developed economies and this distinguishes South Africa from many other emerging economies. The banking system in South Africa is the largest and most sophisticated in the whole of Africa (AFD, 2011). Claassen and Brooks (2003, p.5) state that the “sophistication of the South African banking sector has its origin in the colonial history of the country whereby the country’s banks were modelled according to European standards.” To date, the South African banking sector has a composition of 17 registered domestic banks, 3 mutual banks, 2 co-operative banks, 14 branches of foreign banks and 40 representative offices of foreign banks (SARB, 2015). An analysis of the number of registered entities during the reference period for this study (2003-2011), is contained in Table 1. Overall, the number of banks has been declining over the years particularly domestic banks 2003 to 2011 (see Table 1). There are various reasons for this trend ranging from liquidation, to mergers or amalgamation.

| TABLE 1. SOUTH AFRICAN BANKING SECTOR: NUMBER OF BANKS REGISTERED (2003 – 2011) |
|---------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Domestic Banks                  | 22     | 20     | 19     | 19     | 19     | 19     | 18     | 17     | 17     |
| Mutual banks                    | 2      | 2      | 2      | 2      | 2      | 2      | 2      | 2      | 2      |
| Branches of Foreign banks       | 15     | 15     | 15     | 14     | 14     | 14     | 13     | 13     | 12     |
| Representative offices           | 44     | 43     | 47     | 43     | 46     | 43     | 42     | 41     | 43     |

The South African banking sector is dominated by the “Big Four” namely, the Amalgamated Bank of South Africa (ABSA), FirstRand Bank, Nedbank and Standard Bank. In December 2011, these four largest banks, contributed 84.1 percent to the balance-sheet size of the total banking sector (SARB Annual Report, 2011). The rest of the banks accounted for the remaining 15.9 percent indicating a very high level of concentration. Using a bank’s total assets size (balance sheet size) as a proportion of the entire banking industry’s assets to approximate a bank’s market share, Table 2 portrays a highly dominated South African banking market.

**TABLE 2: MARKET SHARE BY TOTAL ASSETS, 2011**

<table>
<thead>
<tr>
<th>Bank</th>
<th>Total Assets (R Millions)</th>
<th>Proportion of Banking Total Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>STANDARD BANK</td>
<td>889250</td>
<td>26.1%</td>
</tr>
<tr>
<td>ABSA</td>
<td>725679</td>
<td>21.3%</td>
</tr>
<tr>
<td>FIRSTRAND</td>
<td>665525</td>
<td>19.5%</td>
</tr>
<tr>
<td>NEDBANK</td>
<td>585033</td>
<td>17.2%</td>
</tr>
<tr>
<td>OTHER BANKS</td>
<td>541751</td>
<td>15.9%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3407238</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: SARB Bank Supervision Department, Annual Report 2011

In terms of composition of foreign shareholding, SARB (2011, p. 56), reported that foreign shareholders held 43.2 percent of the nominal value of the total banking sector’s shares in issue at the end of 2011. ABSA, the second largest bank in the country accounts for a high percentage of foreign shareholding. For instance, foreign shareholders represented 55.5 percent of the nominal value of ABSA’s total shares in issue in December 2011.

3. LITERATURE REVIEW

In this section, we review empirical papers that have studied the relationship between bank size and bank performance. Evidence emanating from a number of studies is however inconclusive and in some studies a non-linear U-shaped relationship has been found. In the subsequent sections we identify two types of camps, those that found (i) the size of bank to be an important factor for efficiency (ii) and those that conclude that size does not matter for efficiency.

3.1 Size Matter

According to Gwahula (2013) who evaluated efficiency of Tanzanian banks using DEA in the first stage and the Tobit model in the second stage, size is an important factor that matters for bank efficiency. The author found that in terms of size, large banks perform better than their small peers stating that when economies of scale are achieved large banks are able to attract more loans and deposits. Similarly, Toci (2009) studied efficiency of south-eastern European banks and found that the large banks were more efficient than the small banks. The author found the difference in efficiency to be more pronounced under the variable returns to scale (VRS) model specification. In a study of Malaysian banks, Sufian and Majid (2007) using the DEA technique also found that technical efficiency was positively related with bank size implying that larger banks were more efficient compared to their smaller peers.

For Kenyan banks, Kamau (2011) investigated the state of bank productivity and intermediation efficiency for the period 1997 - 2009. The author adopted DEA to analyse intermediation efficiency and the Malmquist approach to estimate productivity growth. Examination of efficiency scores by size revealed that in general large banks were the most efficient followed by medium banks which performed relatively better compared to small banks. Kamau’s results were consistent in that in terms of technological innovation it was also found that large banks exhibited the best performance relative to small and medium banks by a large margin. Given that the composition of large banks was mainly foreign-owned, the author suggested that large banks had resources to spend in new technology which contributed to their increased efficiency. In her conclusion the author recommended small and medium banks to create capacity for innovation in order to enhance their efficiency. In another study of Kenyan banks, Gitau and Gor (2011) applied the DEA Malmquist TFP approach with constant returns to scale (CRS) specification to measure productivity growth and its component for a panel of 34 banks from
1999-2008. They found that small banks had the highest productivity growth of 5.8% followed by large banks which had 1.3% while medium banks had the lowest growth of 0.6%.

In South Africa, Ncube (2009) conducted a study to analyse the cost and profit efficiency of banks. His study employed the parametric stochastic frontier approach to determine both cost and profit efficiency of four large and four small South African banks over the period of 2000-2005 classified according to the number of employees. The large banks whose number of employees exceeded 10 000 included ABSA, FirstRand Bank, Nedbank and Standard Bank. The small banks with employees less than 10 000 included African Bank, Capitec Bank, Investec Bank and Teba Bank. His study showed that small banks were more ubiquitous cost and profit efficient compared to large banks. However, ANOVA test revealed that these differences were not significant.

Kiyota (2009) conducted a study to determine both profit and cost efficiency of commercial banks located in 29 Sub-Saharan African (SSA) countries for the period 2000-2007. A two-step methodology was adopted. Within the first step, the translog stochastic frontier approach was employed to calculate the profit and cost efficiency scores of the sampled banks. In the second procedure, the Tobit model that was utilised to examine the impact of environmental factors on efficiency showed that medium size and large banks were more cost efficient while smaller banks were more profit efficient.

3.2 Size does not Matter

By contrast, a number of studies have reached the conclusion that the size of a bank has no significant bearing on its efficiency performance. Among them is the study by Bos and Kool (2002) who found that size is not an important factor for cost efficiency. Kraft et al (2002) also reached the same conclusion that cost efficiency does not change considerably across bank sizes. In a study to shed light on the determinants of bank efficiency in Poland, Havlychyk (2006) found that bank size does not significantly influence a bank’s efficiency. For 64 Indian banks covering the period 2000-2010, Sharma et al (2012) examined the determinants of productivity and efficiency and its relationship with bank specific factors using a two stage approach. In the second stage analysis of DEA efficiency scores, results from a censored Tobit model found that bank size was insignificant in influencing bank efficiency in India.

The above literature review demonstrates that there are mixed findings regarding the relationship between bank size and bank efficiency. In banking literature, most papers have concentrated on employing parametric approaches such as OLS and censored models to analyse non-parametric DEA efficiency measures in the second stage analysis. Simar and Wilson (2011) argue that second stage Tobit or OLS estimation is consistent only “under very peculiar and unusual assumptions.” This paper instead focuses on a non-parametric MWU test which does not assume any functional form or make any assumptions regarding the probability distribution of errors.

4. DATA ANALYSIS & THE TWO-STAGE NON-PARAMETRIC APPROACH

The sample in this paper consist of eight South African banks grouped into small and large to be analysed for the period 2003-2011, making a total of 72 observations. The criteria of grouping was based on the total assets of the balance sheet of each bank as at 31 December 2011 (see Table 1). All the data variables used in this paper were obtained from Bankscope database and all monetary values are expressed in millions of rands. The sample in this study is a fair representation of the entire banking sector given that the largest 50 percent of the entire sample represents over 80 percent of total banking assets and liabilities.
A critical aspect of efficiency measurement for any decision making unit be it banks, hospitals or universities is the choice of what constitute inputs and outputs. In banking literature, a number of approaches have been used to define what qualifies to be a bank input or bank output. In keeping with empirical literature on the subject, the intermediation approach is considered in this study. Previous studies that have used this approach among others include [Elyasiani and Mehdian (1990) and Berger and Humphrey (1997)] who argue that the intermediation approach is more desirable as it is more inclusive of interest expenses which generally account for over fifty percent of total banking expenses. Elyasiani and Mehdian (1990, p. 543) maintain that deposits are more suitably classified as inputs rather than outputs since banks “buy rather than sell deposits”. Each variable has been chosen to reflect important characteristics of the main activities of commercial banks as indicated in South Africa’s banking industry and empirical literature. As such labour, total operating expenses, fixed assets, and total deposits were considered inputs while interest income, non-interest income and loans & advances were considered as output variables. These variables and their descriptive statistics are presented in Table 2 respectively.

A two-stage process is followed. Applying the DEA technique in the first stage, the Hicks-Moorsteen Total Factor Productivity (HMTFP) indices are generated and further decomposed into several types of output- and input-oriented efficiencies. For more details about decomposing productivity index numbers (DPIN) see the work by O’Donnell (2011). The obtained mean TFPE scores constitutes the main variable of interest in this study for further exploitation. Recall that efficiency ranges from zero to one. A score below unity represents an inefficient bank which is located below the production frontier while a score of one implies that the bank is fully efficient and lies on the frontier of the production technology.

For second stage analysis of DEA scores, numerous studies have extensively utilised the Tobit model which empirical evidence [see McDonald (2009), Simar and Wilson (2007)] proved to yield biased and inconsistent results. This present study attempts to fill this gap in the literature by departing from this traditional second stage procedure of using OLS or censored models. Ramalho et al (2010) recommend against this practice arguing that these linear models “do not constitute a reasonable data generating process for DEA scores.” Cooper (2007) and Golany and Storberg (1999) recommend the MWU test for evaluating differences between two groups stating that the MWU is more appealing since the distribution of DEA efficiency scores is not known. Generally, a rule of thumb is that non-parametric tests are appropriate when the outcome does not follow a normal distribution and the sample size is small. Therefore, to investigate the null hypothesis that there is no difference in the mean efficiency

### Table 1: The Number and Classification of Banks in the Sample

<table>
<thead>
<tr>
<th>LARGE BANKS</th>
<th>Total Assets (R Millions)</th>
<th>SMALL BANKS</th>
<th>Total Assets (R Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>STANDARD</td>
<td>889 250</td>
<td>AFRICAN BANK</td>
<td>49 236</td>
</tr>
<tr>
<td>ABSA</td>
<td>725 679</td>
<td>CAPITEC</td>
<td>22 230</td>
</tr>
<tr>
<td>FRB</td>
<td>665 525</td>
<td>UBANK</td>
<td>3 586</td>
</tr>
<tr>
<td>NEDBANK</td>
<td>585 033</td>
<td>SASFIN</td>
<td>2 767</td>
</tr>
</tbody>
</table>

Source: SARB Supervision Department, Annual Report, 2011

### Table 2: Descriptive Statistics for First Stage Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>MEAN</th>
<th>MEDIAN</th>
<th>MAX</th>
<th>MIN</th>
<th>STDEV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Income</td>
<td>22008</td>
<td>14957</td>
<td>82797</td>
<td>135</td>
<td>23148</td>
</tr>
<tr>
<td>Non-interest Income</td>
<td>8078</td>
<td>6805</td>
<td>37665</td>
<td>4</td>
<td>8563</td>
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<tr>
<td>Gross Loans</td>
<td>195072</td>
<td>114158</td>
<td>561552</td>
<td>164</td>
<td>207069</td>
</tr>
<tr>
<td>Customer Deposits</td>
<td>179537</td>
<td>78943</td>
<td>623295</td>
<td>49</td>
<td>195641</td>
</tr>
<tr>
<td>Number of Employees</td>
<td>16581</td>
<td>14149</td>
<td>39738</td>
<td>435</td>
<td>15145</td>
</tr>
<tr>
<td>Fixed Assets</td>
<td>2766</td>
<td>1461</td>
<td>12026</td>
<td>39</td>
<td>3178</td>
</tr>
<tr>
<td>Operating Expenditure</td>
<td>22908</td>
<td>15763</td>
<td>79746</td>
<td>281</td>
<td>23684</td>
</tr>
</tbody>
</table>

A score below unity represents an inefficient bank which is located below the production frontier while a score of one implies that the bank is fully efficient and lies on the frontier of the production technology.
performance between the two categories of banks in the sample, the MWU test otherwise known as the Mann Whitney Wilcoxon test or simply the Wilcoxon Rank-Sum test is run in the second stage. The results of both stages are reported and discussed in the subsequent section.

5. DISCUSSION OF RESULTS

5.1 Data Envelopment Analysis

Running DPIN 3.0 (Decomposing Productivity Index Numbers) a computer program that uses DEA linear programs, we obtained total factor productivity efficiency (TFPE) scores for all the banks for each period as reported in Table 3. The original output results are presented in the appendices.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>MEAN</th>
<th>MAX</th>
<th>MIN</th>
<th>STDEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>LARGE BANKS</td>
<td>2003</td>
<td>2004</td>
<td>2005</td>
<td>2006</td>
</tr>
<tr>
<td>MEAN</td>
<td>1.00</td>
<td>0.73</td>
<td>0.47</td>
<td>0.74</td>
</tr>
<tr>
<td>MAX</td>
<td>1.00</td>
<td>0.88</td>
<td>0.80</td>
<td>0.87</td>
</tr>
<tr>
<td>MIN</td>
<td>1.00</td>
<td>0.51</td>
<td>0.24</td>
<td>0.58</td>
</tr>
<tr>
<td>STDEV</td>
<td>0.00</td>
<td>0.19</td>
<td>0.24</td>
<td>0.12</td>
</tr>
<tr>
<td>SMALL BANKS</td>
<td>2003</td>
<td>2004</td>
<td>2005</td>
<td>2006</td>
</tr>
<tr>
<td>MEAN</td>
<td>0.90</td>
<td>0.39</td>
<td>0.37</td>
<td>0.33</td>
</tr>
<tr>
<td>MAX</td>
<td>1.00</td>
<td>0.80</td>
<td>0.90</td>
<td>0.70</td>
</tr>
<tr>
<td>MIN</td>
<td>0.79</td>
<td>0.03</td>
<td>0.14</td>
<td>0.07</td>
</tr>
<tr>
<td>STDEV</td>
<td>0.11</td>
<td>0.35</td>
<td>0.36</td>
<td>0.31</td>
</tr>
<tr>
<td>ALL BANKS</td>
<td>2003</td>
<td>2004</td>
<td>2005</td>
<td>2006</td>
</tr>
<tr>
<td>MEAN</td>
<td>0.95</td>
<td>0.56</td>
<td>0.42</td>
<td>0.53</td>
</tr>
<tr>
<td>MAX</td>
<td>1.00</td>
<td>0.88</td>
<td>0.90</td>
<td>0.87</td>
</tr>
<tr>
<td>MIN</td>
<td>0.79</td>
<td>0.03</td>
<td>0.14</td>
<td>0.07</td>
</tr>
<tr>
<td>STDEV</td>
<td>0.09</td>
<td>0.32</td>
<td>0.29</td>
<td>0.31</td>
</tr>
</tbody>
</table>

An examination of the results showed large banks to exhibit a higher TFP efficiency score of 67 (0.67) percent compared to their small peers with an average score of 51 (0.51) percent. TFPE score represents the main performance indicator of particular interest in this study. TFPE is a measure of overall productivity performance. It actually measures the difference between observed (actual) TFP and the maximum TFP* attainable using the available technology. This measure was an average 59 percent for all the banks which means that for the nine year period 2003-2011 banks fell short by 41 percent to realise the maximum productivity that was achievable with their technology. Another way of putting it is that all banks needed 59 percent of the resources actually consumed in generating banking output.

The standard deviation figures suggest that dispersion or variability of both performance indicators is marginally wider for small banks compared to large banks indicating more scope for improvement particularly among the small banks. For instance, large banks had a standard deviation of 8 percent compared to 24 percent for small banks respectively. These highly dispersed scores show more scope for improvement particularly among the small banks. We postulate that this disparity in efficiency is due to the fact that large banks and small banks operate different business models and hence emphasise different focus areas. For instance, the business model of retail banking is mainly associated with small banks while large banks mostly operate in the wholesale corporate market. Akhigbe and McNulty (2005) argues that the business model of small banks generally require relatively high cost whereas larger banks preserve low costs. The authors (p.298) argue that the business model of the small bank is designed to offer “customized and personalized service but at high cost, while larger banks aim to deliver relatively uniform financial services to large groups of customers at lower cost”.

Studies [Vittas, 1991; Casu et al, 2006] in banking literature have also confirmed that in general the cost to income ratio is relatively higher for a small bank compared to a large bank. Okeahalam (2001) also noted that for corporate banking interest income and fee income spreads are competitively determined resulting in
higher levels of efficiency within this business-type bank model. Moreover, Berger (1995) suggests that the large market share usually associated with large banks maybe the result of better efficiency and lower costs.

The reported TFP efficiency score for large banks is identical to the findings obtained by Mlambo and Ncube (2011) who found average technical efficiency to be 67 percent for the period 1999-2008. However, the current findings are much lower than those obtained by Okeahalam (2006) who found an efficiency score of 83.1 percent for 61 bank branches of one large South African bank. It is essential to indicate that these results are not easily comparable to previous studies due to a number of reasons. These include but are not limited to estimation technique or type of TFP index generated, the varied sets of inputs and output variables, the sample size, the duration and actual coverage of the time frame all add to the complexity of carrying such an exercise.
Figure 1 Results indicate that over the reference period the highest score was recorded in 2003 with the lowest recording in 2005. Thereafter, performance then started recovering until stagnating in 2007 and 2008. A downward trend is evident during the period 2008-2009. This period coincides with the worst performance noted at the height of the sub-prime global financial crisis.

Figure 2: Average TFP Efficiency by Bank Class

As illustrated in figures 1 and 2 by a red dotted line, 75 percent of the large banks exceeded the banking sector’s average of 59 percent while only 25 percent of small banks surpassed this average. The rest of the DEA findings are in Appendix 1 through Appendix 2. The TFPE scores for each bank in the sample was later used in the second stage analysis of the MWU.

5.2 Mann-Whitney U Test (Wilcoxon Rank Sum Test)
Apart from estimating and decomposing TFP indices it was imperative to determine if there is a significant difference in the efficiency of South African banks on account of size. Thus far, evidence deduced from inspecting the DEA scores reveal that large banks outperform small banks. In this section,
it is empirically established if this difference is statistically significant by employing the student’s MWU test.

**TABLE 5: SUMMARY OF EFFICIENCY OUTCOMES**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMALL</td>
<td>0.90</td>
<td>0.39</td>
<td>0.37</td>
<td>0.33</td>
<td>0.47</td>
<td>0.60</td>
<td>0.53</td>
<td>0.44</td>
<td>0.57</td>
</tr>
<tr>
<td>LARGE</td>
<td>1.00</td>
<td>0.73</td>
<td>0.47</td>
<td>0.74</td>
<td>0.73</td>
<td>0.61</td>
<td>0.51</td>
<td>0.60</td>
<td>0.69</td>
</tr>
</tbody>
</table>

Inspecting the scores at a glance, it is apparent that large banks have higher scores relative to smaller banks. However, there is need to establish if this is statistically significant. In order to investigate whether the difference in efficiency of banks for large banks is statistically and significantly different from small banks over the study period, the Mann-Whitney U (M-WU) test is employed. The test is performed to investigate the null hypothesis that the means of these two classes of banks are identical against the alternative that they are different. Denoting the small bank’s mean efficiency with $\mu_1$ and large bank’s mean efficiency with $\mu_2$, the test is set up as follows:

$H_0: \mu_1 - \mu_2 = 0$

$H_1: \mu_1 - \mu_2 \neq 0$

In the first step, ranks are assigned from the lowest score to the highest score. The assignment of ranks ranges from 1 to $n_1*n_2$, that is from 1 to 18 in this study. Where there is a tie, the average of that particular rank and the successive rank is considered.

**TABLE 6: RANK ASSIGNMENT & THE U-STATISTIC**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>$\sum R_i$</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMALL</td>
<td>17</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>5.5</td>
<td>10.5</td>
<td>8</td>
<td>4</td>
<td>9</td>
<td>60</td>
</tr>
<tr>
<td>LARGE</td>
<td>18</td>
<td>14.5</td>
<td>5.5</td>
<td>16</td>
<td>14.5</td>
<td>12</td>
<td>7</td>
<td>10.5</td>
<td>13</td>
<td>111</td>
</tr>
</tbody>
</table>

After summing the ranks, the test statistic for the MWU test denoted $U$ is the smaller of the two values, $U_1$ and $U_2$. The MWU statistic is then compared to the MWU critical value at the 0.05 level of significance using $n_1 = n_2 = 9$. Note that the number of observations for each group category over a nine year period (2003 – 2011) is 9 hence $n_1 = n_2 = 9$. The respective Us are calculated as follows:

$U_1 = n_1n_2 + \frac{n_1(n_1 + 1)}{2} - R_1 = 66$

$U_2 = n_1n_2 + \frac{n_2(n_2 + 1)}{2} - R_2 = 15$

To verify the calculated measures, the sum of the two Us should be identical to the product of the sample observations, that is, $U_1 + U_2 = n_1 \times n_2$. In this study, $66 + 15 = 9 \times 9$. The decision is to reject the “null hypothesis of no difference” if the calculated statistic is less than or equal to the appropriate critical value of 20\textsuperscript{4} in this case. It is important to highlight that unlike most statistical tests the “Wilcoxon and

\textsuperscript{4}For a level of significance of 0.05 and $n_1 = n_2 = 9$, the obtained critical value from the Mann-Whitney table is 20.
Mann-Whitney tests are the only tests where a statistic is significant when it is below the critical value” (Walker, 2010, p. 237). The calculated $U$ statistic value obtained of 15 is less than the critical $U$ value of 20 ($U_{\text{CALC}} = 15 < U_{\text{CRITICAL}} = 20$) at the 0.05 level of significance. Hence, the decision is to reject the null hypothesis that efficiency scores of large and small banks are equal in favour of the alternative that there are not.

5. CONCLUSION
The primary focus of this paper has been to generate TFPE for South African banks using DEA and to determine the significance of the bank size factor on TFPE using the MWU test. First stage results revealed that the average banking sector total factor productivity efficiency (TFPE) over the reference period was 59 percent. A further comparison of performance revealed that large banks were better performing than small banks in terms of TFPE. Large banks exhibited a higher average score of 67 percent compared to small banks with an average score of 51 percent. Larger banks are more likely to reap economies of scale due to their size resulting in greater efficiency. We also noted that the variation or dispersion was wider for small banks than for large banks highlighting that there is more scope for improvement particularly for small banks. In view of the fact that large banks outperformed smaller banks in terms of efficiency, we recommend that smaller banks re-examine their business models to keep abreast with changing economic times. We hypothesize that this disparity in efficiency between large and small banks could be due to their different business focus. We therefore suggest an optimal blend of retail and wholesale activities to diversify business operations of small banks in order to improve their efficiency. However, we acknowledge that in South Africa some small banks handle corporate transactions but not at the same scale as large wholesale corporate banks.
6. REFERENCES


## APPENDIX 1

### LARGE BANKS: LEVELS COMPUTED USING HICKS-MOORSTEEN AGGREGATOR FUNCTIONS

<table>
<thead>
<tr>
<th>Year</th>
<th>TFP</th>
<th>TFP*</th>
<th>TFPE</th>
<th>OTE</th>
<th>OSE</th>
<th>OME</th>
<th>ROS</th>
<th>OSM</th>
<th>ITE</th>
<th>ISE</th>
<th>IME</th>
<th>RISE</th>
<th>ISME</th>
<th>RME</th>
</tr>
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<tr>
<td>2003</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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<td>1.00</td>
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</table>

**MEAN:** 1.131  
**MAX:** 2.167  
**MIN:** 0.000  
**STDEV:** 0.007
159

GAI International Academic Conferences Proceedings
New York, USA
APPENDIX 2 SMALL BANKS: LEVELS COMPUTED USING HICKS-MOORSTEEN AGGREGATOR FUNCTIONS
Year

TFP

TFP*

TFPE

OTE

OSE

OME

ROSE

OSME

ITE

ISE

IME

RISE

ISME

RME

2003

1.000

1.265

0.790

1.000

1.000

1.000

0.790

0.790

1.000

1.000

1.000

0.790

0.790

0.790

2003

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

2003

1.000

1.222

0.819

1.000

0.819

1.000

0.819

0.819

1.000

0.819

1.000

0.819

0.819

1.000

2003

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

2004

2.318

6.858

0.034

1.000

0.767

1.000

0.034

0.034

1.000

0.767

0.955

0.036

0.034

0.045

2004

1.340

8.307

0.161

1.000

1.000

1.000

0.161

0.161

1.000

1.000

1.000

0.161

0.161

0.161

2004

0.815

1.466

0.556

0.712

0.960

1.000

0.780

0.780

0.932

0.734

1.000

0.597

0.596

0.813

2004

1.386

1.738

0.798

1.000

1.000

1.000

0.798

0.798

1.000

1.000

1.000

0.798

0.798

0.798

2005

1.770

8.411

0.210

1.000

0.747

1.000

0.210

0.210

1.000

0.747

0.992

0.212

0.210

0.282

2005

1.514

11.10

0.136

1.000

1.000

1.000

0.136

0.136

1.000

1.000

1.000

0.136

0.136

0.136

2005

1.009

4.669

0.216

1.000

0.530

1.000

0.216

0.216

1.000

0.530

1.000

0.216

0.216

0.408

2005

1.257

1.394

0.902

1.000

1.000

1.000

0.902

0.902

1.000

1.000

1.000

0.902

0.902

0.902

2006

2.372

31.60

0.075

1.000

0.724

0.479

0.157

0.075

1.000

0.724

0.965

0.078

0.075

0.104

2006

1.224

2.687

0.456

1.000

1.000

1.000

0.456

0.456

1.000

1.000

1.000

0.456

0.456

0.456

2006

1.223

17.36

0.070

1.000

0.579

1.000

0.070

0.070

1.000

0.579

1.000

0.070

0.070

0.122

2006

1.398

1.986

0.704

1.000

1.000

1.000

0.704

0.704

1.000

1.000

1.000

0.704

0.704

0.704

2007

0.963

1.496

0.644

0.988

0.947

0.736

0.885

0.652

0.989

0.946

0.991

0.657

0.651

0.688

2007

1.309

3.024

0.433

1.000

1.000

1.000

0.433

0.433

1.000

1.000

1.000

0.433

0.433

0.433

2007

1.233

13.46

0.092

1.000

0.515

1.000

0.092

0.092

1.000

0.515

1.000

0.092

0.092

0.178

2007

1.605

2.276

0.705

1.000

1.000

1.000

0.705

0.705

1.000

1.000

1.000

0.705

0.705

0.705

2008

1.014

1.291

0.786

1.000

1.000

0.946

0.831

0.786

1.000

1.000

1.000

0.786

0.786

0.786

2008

1.461

4.075

0.358

1.000

0.793

1.000

0.358

0.358

1.000

0.793

1.000

0.358

0.358

0.452

2008

1.302

4.797

0.271

1.000

0.952

1.000

0.271

0.271

1.000

0.952

0.996

0.273

0.271

0.285

2008

3.205

3.205

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

2009

1.089

1.255

0.867

1.000

1.000

1.000

0.867

0.867

1.000

1.000

1.000

0.867

0.867

0.867

2009

1.094

3.528

0.310

1.000

0.823

1.000

0.310

0.310

1.000

0.823

1.000

0.310

0.310

0.377

2009

1.610

10.32

0.156

1.000

0.667

1.000

0.156

0.156

1.000

0.667

0.974

0.160

0.156

0.234

2009

1.327

1.720

0.771

1.000

1.000

1.000

0.771

0.771

1.000

1.000

1.000

0.771

0.771

0.771

2010

1.098

1.358

0.808

1.000

1.000

1.000

0.808

0.808

1.000

1.000

1.000

0.808

0.808

0.808

2010

1.299

8.412

0.154

1.000

0.864

1.000

0.154

0.154

1.000

0.864

0.944

0.164

0.154

0.179

2010

1.745

9.796

0.178

1.000

0.602

1.000

0.178

0.178

1.000

0.602

1.000

0.178

0.178

0.296

2010

1.897

3.147

0.603

1.000

1.000

1.000

0.603

0.603

1.000

1.000

1.000

0.603

0.603

0.603

2011

1.104

1.496

0.738

1.000

1.000

1.000

0.738

0.738

1.000

1.000

1.000

0.738

0.738

0.738

2011

1.751

7.901

0.222

1.000

1.000

1.000

0.222

0.222

1.000

1.000

1.000

0.222

0.222

0.222

2011

1.355

4.486

0.302

1.000

0.857

1.000

0.302

0.302

1.000

0.857

1.000

0.302

0.302

0.353

2011

1.257

1.257

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

MEAN

1.398

6.982

0.509

0.992

0.893

0.977

0.526

0.516

0.998

0.887

0.995

0.511

0.510

0.547

MAX

3.205

6.858

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

1.000

MIN

0.815

1.000

0.034

0.712

0.515

0.479

0.034

0.034

0.932

0.515

0.944

0.036

0.034

0.045

STDEV

0.472

12.06

0.326

0.048

0.155

0.096

0.333

0.329

0.011

0.156

0.013

0.326

0.327

0.315

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May 22-25, 2016


Choosing Effective Colors for Red Wine Labels

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Bettina König, University of Applied Sciences Eisenstadt, Austria
Régis Monyédodo Kpossa, ESCE International Business School, France
Violetta Buller, University of Applied Sciences Eisenstadt, Austria

Structured abstract

Purpose
Since there is usually no sales assistance available in supermarkets, wine labels represent the pivotal source of information for consumers at the point of purchase. In particular, it is the colour of the label which largely influences consumers’ wine choice. The purpose of our study was to reveal customers’ sensory expectations in relation to the flavour of red wines based on their label colours. Moreover, our goal was to examine whether there are any differences in the consumers’ expectations according to their frequency of wine purchase and sex.

Methodology
A survey was carried out among respondents who were intercepted in the wine aisles of two stores of an Austrian supermarket chain.

Findings
The results indicate that label colours have a strong influence on flavour expectations. While, for example, red and black are most likely to create tangy flavour expectations, red and orange are most associated with fruity and flowery flavours. Moreover, it appears that frequent buyers have stronger expectations than infrequent buyers with respect to most of the colours analysed. Finally, the customers’ sex seems to have little influence on flavour expectations.

Practical implications
The results may be considered by wine producers in their label design to create sensory expectations in accordance with the actual flavour of their wine and, hence, avoid any disconfirmation of consumers’ expectations when they taste the wine. This is of particular importance when wine is sold in retail stores and consumers cannot rely on their taste experience prior to their purchase.

Originality/value
Despite the currently dominant theoretical framework of multisensory integration, higher-level cognitive factors, especially expectations, were considered. Furthermore, the influence of both frequency of wine purchase and sex on flavour expectation was explored.

Keywords: red wine labels; sensory marketing; cross-modal correspondences; colour; flavour; sensory expectations, retailing
Social network sites are “web-based services that allow individuals to construct a public or semi-public profile within a bounded system and articulate with a list of other users with whom they share a connection” (Boyd and Ellison 2007). As the Internet becomes more pervasive and available, we are witnessing an explosion of internet-based messages transmitted through social media. They have become a major factor in influence various aspects of consumer behavior including awareness, information acquisition, opinion, attitudes, purchase behavior, and post-purchase communication and evaluation (Mangold and Faulds 2009).

The emergence of social media has opened up a window of opportunities for individuals and businesses alike. Individuals can utilize social media to create, initiate, disseminate, and circulate content, to express themselves, and to engage with a larger number of people. Businesses can benefit from a convenient platform to engage with their consumers, develop brand awareness and build brand relationships. Businesses that actively participate in social networks give consumers a notion that they are “alive” online and keen to interact with consumers, thus making their content worth following (Moran and Gossieaux 2010).

Despite widely-acknowledged attractiveness and the increasing adoption rate of businesses, the effect of social media marketing still remains limited (Clemons et al. 2007). It is necessary to have an in-depth understanding of factors and processes facilitating the communication, interaction, and identification between businesses and consumers. A structured, academic analysis in this field is still outstanding and it has yet to be addressed from different perspectives (Richter et al. 2011).

While businesses actively manage their brand pages on social media, celebrities can also use the medium to create brand awareness or build positive brand attitudes. However, no research has examined the effect between different sources on consumers. Or, specifically, how consumers respond to and interact with the same content delivered by businesses or celebrities.

In this paper, we investigate the factors that influence the level of online customer engagement on social networking brand posts. Specifically, we analyze three basic elements: source effect, content type, and content style with the various levels of online engagement. We measure the engagement level through the number of likes over the content created by the company, number of comments, and number of shares.

The rest of this paper is structured as follows: first, we describe brand fan pages and brand post popularity, and then develop the conceptual framework and hypotheses. That initial section is followed by a description of the study design. The empirical results are then described and discussed. We conclude with implications for managers, and identity some limitations that provide opportunities for further research.

**Source Effect**

Past research in social media brand posts has not looked into the impact of different sources on the engagement level of the followers. Will similar messages delivered by celebrities, friends, or companies elicit different results? Many studies on source effect have already found evidence, yet how it will be reflect on the social media platform is worthwhile to look into.

What have not been investigating the process of building relationships and the effect of different sources. Since it is difficult to collect data about friends’ posting due to the privacy considerations, we...
use online celebrities as a surrogate. Many online celebrities have a large number of followers because their posts are either highly entertaining or are consistent with the followers’ personal interests. Therefore, they serve either as an information or entertainment source. Due to the level of shared interests, they have a high level of personal identification with the followers. This close-knit relationship and pure connection without any interests involved is similar to ‘virtual friends’.

There are three characteristics of sources that affect persuasion: credibility, attractiveness, and similarity.

Source credibility refers to how credible (believable or trustworthy) the source is judged to be by the target audience. Credibility depends on two sub-characteristics: source expertise and source independence. Judgments of source expertise are made based upon the profession, education, or personal experience of the source. Source independence refers to the separation of the source from the company that would benefit from the message.

The second source characteristic that determines a source’s effectiveness is source attractiveness- the quality of making an emotional connection with the viewer.

The third and last characteristic that influences persuasion is source similarity, which refers to how similar to themselves consumers judge the spokesperson to be. This is the reason ordinary people used as spokespersons may sometimes have a more persuasive effect on the audience than would a celebrity. This is also why a lot of advertisers have always used models that look like most of us.

Real celebrities tend to already have an established success and possible expertise in their field. Their followers tend to look up to them as role models and tend to imitate their behavior. Also they are very likely to interact with the celebrities on a personal level to reduce their social distance. In consumers’ eyes, messages sent by real celebrities tend to have higher level of source independence and source attractiveness than by businesses themselves.

Social media is perceived by consumers as a more trustworthy source of information regarding products and services than corporate-sponsored communications transmitted via the traditional elements of the promotion mix (Foux, 2006). While corporate-sponsored communications through social networking sites seem more personal and interactive, they might still lack the objectivity stand as third-party celebrities do. Therefore, we propose:

**H1**: Posts by real celebrities generate more engagement than posts by companies.

Content Type

The three main motivations to participate in brand-related social media are entertainment, information, and remuneration (Muntinga, Moorman and Smit 2011). Information seeking has often been identified as one motivation to use social media (e.g. Sangwan 2005; Park et al. 2009). Specifically, users engage in social media for opinion and advice seeking (Kaye 2007), information exchange (Ridings & Gefen 2004), voyeurism (Bumgarner 2007), and surveillance (Courtois et al. 2009).

Entertainment has been identified by many researchers as one important motivation to use social media. For instance, Shao (2009) found it as a relevant motivation for consuming user-generated content, and Park et al. (2009) found that participation in a social networking site is partly driven by entertainment. Muntinga et al.(2011) found that the entertainment motivation can be manifested as escaping or being diverted from problems or routine; emotional release or relief; relaxation; cultural or aesthetic enjoyment; and passing time (Muntinga, Moorman and Smit 2011).

Several social media motivations studies have found remuneration to be a driver of participation of online social media. Remuneration motivation involves people engaging in social media because they expect to gain some kind of future reward – e.g., economic incentives (Wang & Fesenmaier 2003).This motivation has also been found in earlier studies on engaging with brand-related content on social media (Hennig-Thurau et al. 2005; Goldsmith & Horowitz 2006).

Therefore, brand posts with content that appeals to the three main motivations of social media users should lead to higher engagement levels. Moreover, Cvijikj and Michahelles (2014) found that of the three motivations, entertainment has the larger effect compared to information while remuneration has the smallest effect. Therefore, we hypothesize:
H2a: Posts which contain entertaining content cause higher levels of engagement than posts which contain information about the brand.

Online celebrities attract followers mainly by having interesting post content. They usually form a certain style or focus on a theme in their posts. When they post information for an external company, they may choose to discuss the product, brand or event straightforwardly, may include an external link, or the information can be integrated with the style or theme of their everyday posts. When the followers read these disguised brand posts, they might not even be able to identify that these are for another company until at the very end. It is very similar to product placement; only in that the media is not movies, TV series, or even books; the embedded messages appear in the posts from a popular social media account. It is of interest to find out whether this kind of post is more effective to generate more engagement with the audience, and then lead to a more favorable attitude toward the featured brand and company.

Product placement has been considered as an attractive form of communication in an age of media fragmentation and consumer sophistication, where the prevailing objective of advertisers is to get onto the radar screen of the target market. With product placement being ranked almost on a par with subliminal advertising (Balasubramanian, 1994), there is probably no better way to achieve this objective than to get one’s product placed casually but prominently within a popular film or television program. Most studies on the effect of product placement have used explicit memory tests. Russell (2002) investigates plot integration as a possible factor in successful placement. She concludes that well-integrated but visual-only placements appear to be more persuasive in changing attitudes than prominent but incongruent auditory placements.

Shapiro et al. (1997) conducted research showing how little-noticed material may still be absorbed by viewers and committed to memory, even though the memory may not be accessible to the subjects’ consciousness. Therefore, we hypothesize:

H2b: Posts of Information disguised as entertainment lead to a higher level of engagement than information alone.

Content Style

Vividness

Vividness reflects the extent to which a brand post stimulates the readers’ multiple senses (de Vries, Gensler, Leeflang 2012), especially visual and auditory senses. Vividness can be enhanced by manipulating colors, pictures, external links or inclusions of dynamic animations or videos (Cho 1999; Dreze and Hussersh 2003; Fortine and Dholakia 2005; Goldfarb and Tucker 2011; Goodrich 2011). Dual-coding theory (Paivio 1971) postulates that visual and verbal information are processed differently and along distinct channels in the human mind, creating separate representations for information processed in each channel. The ability to code a stimulus two different ways increases the chance of remembering that item compared to if the stimulus was only coded one way (Sternberg, 2003). Vivid messages, including pictures, mental imagery, and verbal elaboration are even more effective in promoting understanding and learning from text (Paivio 2006).

Similarly, the superiority of highly vivid messages is also supported multimedia learning theory (Mayer YEAR/REF). It occurs when readers use information presented in two or more formats—such as a visually presented animation and verbally presented narration—to construct knowledge. Multimedia learning happens when we build mental representations from words, pictures or videos. The multimedia cues could support the visualization and the mental representation process and facilitate learners to further explore respective phenomena (Betrancourt, 2005).

Media richness theory (Daft and Lengel 1986) also postulates that media vary in information richness based on their capacity to facilitate the shared meaning within a given time interval. Richer media, which transmit multiple cues, enable users to communicate more quickly and to better understand messages (Appiah 2006).
Previous research has shown that highly vivid online advertisements are more effective in engaging respondents, measured by the intention to click (Cho 1999) and click-through rates (Lohtia, Donthu, and Hershberger 2003). Highly vivid content is also an important factor of enhancing attitudes towards a website (Coyle and Thorson 2001; Lohtia et al. 2003; Fortin and Dholakia 2005).

We propose that more vivid brand posts lead to a better understanding of and more extensive coding with brand posts, and in turn leads to a higher engagement with the brand posts. This higher engagement should then compel brand fans to like, repost or comment on a brand post.

**H3: The higher the level of post vividness, the higher the engagement level is.**

**Interactivity**

Although it is intuitive that interactivity should improve communication effectiveness, research on the effects of interactivity effects is actually very mixed due to the various interpretations and operationalizations of the concept. Some studies found that greater interactivity improves memory and learning (Cho 1999; Ariely 2000). In other studies, interactivity has produced no effects on learning (Haseman, Nuipolatoglu, and Ramamurthy 2002) or attitudes (Coyle and Thorson 2001), and has even led to decreased usage through click-throughs (Lohtia, Donthu, and Hershberger 2003).

Interactivity is defined here as “a psychological state experienced by an individual during an interaction” (Chen 1984). Brand posts vary in the degree of interactivity. For example, a brand post with only text has little interactivity, while an enclosed external link is more interactive (Fortin and Dholakia 2005) since viewers can follow that link to another website. Moreover, a question has high interactivity because it invites viewers to participate in the conversation (de Vries et al. 2012).

Neuman's (1991) notion of optional or perceived interactivity suggests that people enjoy having optional or perceived interactivity, but they may not always make an effort to interact. Moreover, Liu and Shrum (2009) suggested that messages with high interactivity are more effective than those with low interactivity when internet users view the presence of interactive features as a peripheral cue. As previous studies showed that social media is mostly used in short sessions (Pempek et al. 2008), we expect that users tend to have a relative low involvement with the message, therefore, we propose:

**H4: The higher the level of post interactivity, the higher the engagement level is.**

The relationships between influencing factors and the engagement level are illustrated in the following conceptual framework:
Figure 1. Conceptual Framework
Method

We empirically investigated data of 20 international brands that are actively posting content at their brand fan pages on a Chinese social networking site for a month. The brands are from six different product categories: cosmetics, alcoholic beverages, mobile phones, leisure wear, accessories, and food. We will gather the number of likes, shares and comments on a brand post, as well as other brand post characteristics.

The vividness of brand posts is operationalized as three levels: Low vividness is reflected by text message or pictorial message (photo or image), medium level of vividness is typically manifested as event, application at the brand page and announces an upcoming (offline) event of the brand, and videos are considered as high level of vividness.

The operationalization of interactivity is also divided as three levels. Link of websites, and voting requests for alternative (such as which taste or design they think is best) are considered as low interactivity, Call to act, and contest which urges fans to take certain actions such as like, comment, tweet are considered as medium interactivity, and questions and quizzes are considered as high interactivity. No vividness and no interactivity are used as base categories in the analyses.

Brand posts are regarded as informative when the brand post contains information about the company/brand and/or its products. On the other hand, entertaining brand posts contain content that is unrelated to the brand, such as funny movies or anecdotes. Some brand posts are neutral; they are neither entertaining nor informative and are used as base categories in the analyses. An example of a non-informative, non-entertaining brand post is asking a neutral question, such as: ‘What color/taste do you like most?’.

Dependent variables used in this study, i.e. number of likes, comments and shares represent count variables with a Poisson distribution. In addition, since the distribution variance and mean were different for all of the dependent variables, we used a Negative Binomial estimation method which overcomes the problem of over dispersed count data (Cameron and Trivedi 1998). Thus, the model to explain the engagement over moderator posts can be expressed as:

$$\log(y_i) = b_{0i} + \sum_{j} b_{1ji} content_{Type_{j}} + \sum_{j} b_{2ji} media_{Type_{j}} + \sum_{j} b_{3ji} source_{Type_{j}}$$

where $y_i$ refers to the likes, comments, shares .

contentType indicates the presence of a particular content type in the post

Similarly, mediaType indicates the presence of a particular media type in the post.

Results

To gain a general understanding on how Facebook pages are utilized to dissipate brand information, we first looked into the descriptive statistics for the selected factor variables.

In general, company’s own brand pages are most active with brand messages (287, 62.8%) than real celebrities (96, 21%) and online celebrities (74, 16.2%). In regard to the content type, posts containing INFORMATION were most frequently used by page moderators (311, 67.9%). These were followed by posts containing ENTERTAINMENT (116, 25.3%), while Remuneration (19, 4.1%) and Disguised information (12, 2.6%) occurred. As to vividness, low vividness such as text massage or pictorial message were most frequently used (374, 81.8%), and followed by medium vividness such as events, application, and announcements (70, 15.3%), and high vividness such as videos were least frequently used (13, 2.8%).

Also, most page moderators still use low interactivity messages (such as voting requests for alternatives) most frequently (341, 74.6%), followed by medium interactivity (such as call to act) (106, 23.2%) and high interactivity (questions and quizzes) (10, 2.2%).

Specifically, when comparing the usage of content across brand, celebrities and online celebrities, it is interesting to find that celebrities (47, 49%) and online celebrities used entertainment most frequently (34, 45.9%), while brand posting with entertainment occurred (43, 14.9%) significantly less frequently. However, in terms of vividness and interactivity, all sources relied more frequently on
low vividness and low interactivity messages. It may also indicate that celebrities could be more attractive sources in that they engage with the audiences on a more fun and entertaining side. However, all moderators could improve their posting by increasing the vividness and interactivities of their postings.

As to responses, participants were far more likely to click on “likes” (mean = 27259) rather than share (mean = 53335) and comments (mean = 20620). Specifically, followers of celebrities (mean = 2252.59 vs. 2847.42) and online celebrities (mean = 143.36 vs. 195.24) were more likely to comment compared to share than followers of brand pages (mean = 1540.00 vs. 4625.00). This finding may indicate that the followers of the celebrities are engaged at a deeper level than followers of the company’s brand pages.
## Model Evaluation

Empirical results obtained from the estimation of the proposed model for engagement over moderator posts are presented here in Table 1.

<table>
<thead>
<tr>
<th>Source Effect</th>
<th>In(likes)</th>
<th>In(comments)</th>
<th>In(Shares)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>B</td>
<td>Std. Err</td>
<td>B</td>
</tr>
<tr>
<td>brands</td>
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<td>0.139</td>
</tr>
<tr>
<td>real celebrities</td>
<td>2.523</td>
<td>0.001</td>
<td>2.843</td>
</tr>
<tr>
<td>online celebrities</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>information</td>
<td>-0.835</td>
<td>0.003</td>
<td>-1.176</td>
</tr>
<tr>
<td>entertainment</td>
<td>-0.172</td>
<td>0.003</td>
<td>-0.398</td>
</tr>
<tr>
<td>disguised information</td>
<td>0.345</td>
<td>0.003</td>
<td>0.091</td>
</tr>
<tr>
<td>remuneration</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>low</td>
<td>0.239</td>
<td>0.001</td>
<td>1.877</td>
</tr>
<tr>
<td>medium</td>
<td>0.105</td>
<td>0.002</td>
<td>1.087</td>
</tr>
<tr>
<td>high</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>content type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>low</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>medium</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>high</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>interactivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>low</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>medium</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>high</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vividness</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>low</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>medium</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>high</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>product category</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>retail</td>
<td>-1.867</td>
<td>0.011</td>
<td>-1.011</td>
</tr>
<tr>
<td>energy</td>
<td>-1.132</td>
<td>0.006</td>
<td>-0.842</td>
</tr>
<tr>
<td>real estate</td>
<td>-4.183</td>
<td>0.042</td>
<td>-4.605</td>
</tr>
<tr>
<td>auto</td>
<td>-0.985</td>
<td>0.008</td>
<td>-1.099</td>
</tr>
<tr>
<td>pharmacy</td>
<td>-0.365</td>
<td>0.007</td>
<td>0.283</td>
</tr>
<tr>
<td>communications</td>
<td>-0.378</td>
<td>0.006</td>
<td>0.29</td>
</tr>
<tr>
<td>health</td>
<td>-5.49</td>
<td>0.078</td>
<td>-5.802</td>
</tr>
<tr>
<td>finance</td>
<td>-1.107</td>
<td>0.01</td>
<td>-1.11</td>
</tr>
<tr>
<td>electronics</td>
<td>-0.798</td>
<td>0.008</td>
<td>-1.642</td>
</tr>
<tr>
<td>software</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>entertainment</td>
<td>-0.461</td>
<td>0.001</td>
<td>-0.546</td>
</tr>
<tr>
<td>sports</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Public figures</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Posting time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>peak</td>
<td>1.415</td>
<td>0.0577</td>
<td>1.944</td>
</tr>
<tr>
<td>Off peak</td>
<td>0.09</td>
<td>0.0588</td>
<td>0.471</td>
</tr>
<tr>
<td>LR χ² (42, 457)</td>
<td>41265552.19</td>
<td>684377.8</td>
<td>907037.2</td>
</tr>
<tr>
<td>Deviance/df</td>
<td>37955.96</td>
<td>588.529</td>
<td>1027.622</td>
</tr>
</tbody>
</table>

a. p<.001 for all coefficients and the entire model.
b. Unstandardized coefficients are reported in the table.

Table 1: Estimation results for engagement over moderator posts

As shown in Table 1, the proposed model for the like is significant as a whole (LR χ² (42, 457)=41265552.19, p<.001). The same applies for the comments whole (LR χ² (42, 457)=684377.8, p<.001), and shares whole (LR χ² (42, 457)=907037.2, p<.001). In addition, significant effects of independent variables were found to exist over individual engagement measures. Details of the obtained results for each of the analyzed factors are presented as follows.
**Source Effect**

Source effect was found to be a significant factor for all measures of engagement, the likes and the shares. Specifically, “real celebrities” was found to be a significant factor which increases the likes ($b_{like}=2.523$, $p<.00001$), comments ($b_{comment}=2.843$, $p<.00001$), and shares ($b_{share}=2.404$, $p<.00001$). Moreover, real celebrities have the larger effect compared to brand postings on the three measures of engagement. These results fully supported the H1.

**Content type**

Content type was found to be a significant factor for all measures of engagement, the likes, and the shares. In terms of individual content categories, *disguised information* was found to be a significant factor which increases the likes, comments and shares. Moreover, disguised information has the largest effect compared to Information and Entertainment. These results fully supported the H2a and H2b.

**Content Style**

Vividness and Interactivity were found to be significant factors for all measures of engagement, the likes, the comments and the shares. However, even though vividness was found to be a significant factor all measures of engagement, the likes and the shares. Higher level of vividness led to higher level of engagements for likes and comments, but lower level of comments. Therefore H3 was only partially supported. The observed effect of vividness was opposite to the expected impact for comments. Specifically, higher interactivity leads to lower level of engagement. Therefore, these results fully supported H4.

**Summary**

In this paper, we analyzed the characteristics of the content created by companies and by endorsing celebrities as factors that might influence the level of engagement on Facebook. We developed a model which explains the relationship between these constructs. We also found that celebrities are a more effective source than companies. Postings by celebrities lead to higher levels of engagement than company postings. Our results showed that providing entertaining and disguised information content significantly increases the level of engagement. However, the level of interactivity might lead to a decrease in level of engagement. This reduction might be accrued to the extra time and effort required with high-interactivity information. Similarly, we also discovered that higher level of vividness also contributes to lower levels of shares. This indicated that consumers are more likely to engage with highly vivid content through like and comments, but are not as motivated as to share with others.
References:


The Effects of Market Entry Strategy Dimensions and Customer Relationship Management (CRM) on Business Performance: An Empirical Study of Firms in Nigeria

Scholastica Ebarefinia Udegbe, Lagos State University, Nigeria
Maurice Inedegbor Udegbe, Lagos State University, Nigeria

Abstract

Marketing Entry Strategy (MES) dimensions and Customer Relationship Management (CRM) have been suggested to be vital issues for considering firm survival and improved business performance. To test this assertion empirically, this study looks into the nature of the correlational between marketing entry strategy dimensions and business performance and likewise, customer relationship management and business performance using sample data from firms in Nigeria. The study data were collected in a six-month period from a sample of 200 firms in both service and manufacturing sectors of the economy. Each firm was randomly drawn from a data base of the Corporate Affairs Commission. The respondents were asked to answer the questions in the questionnaire, which contained items related to market entry strategy, items related to CRM, six (6) items related to performance measurement and eight (8) items related to company and respondent background. 54% duly completed and useable questionnaires were returned. The reliability for the scales exceeds 0.70, the threshold Nunnally (1994) recommended for empirical research. Our findings support the significant correlational relationship between market entry strategy dimensions and business performance, and likewise the significant correlational relationship between CRM and business performance.

Keywords: Market entry, Strategy, Customer-relationship, Management, Order-of-entry, Scale of entry, Product Positioning, Knowledge Management, Technology, Business, Performance, Nigeria
Comparative Financial Ratio Analysis - A Case Study of Nestle India Ltd and Brittania Industries Ltd

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Harsh Patel, Pandit Deendayal Petroleum University, India
Jay Vyas, Pandit Deendayal Petroleum University, India

Abstract

In this paper, we exhibit the use of actual financial data for financial ratio analysis. We construct a financial and industry analysis for Nestle India Ltd as well as for Brittania Ltd, both the companies are involved in the processed food industry and are giants of the industry. The aim of the study is to show the current status of the food processing industry and within the food processing industry, a comparative ratio analysis on Nestle India Ltd and Brittania Ltd is made. This research provides insights on a widely used financial tool, ratio analysis. An attempt has been made to undertake ratio analysis for actual companies. This study was done with the help of secondary data as research in finance subjects is done on performance and not potential. This paper also gives insights over the food processing sector of India. The study demonstrates the difficulties in applying the principles of ratio analysis to the actual business situation. The intentions behind carrying out a comparative ratio analysis between the two companies were to unveil why one company is more efficient in its activity as compared to the other. We have selected Nestle India Ltd and Brittania Ltd as both are multinational companies in the growing food processing industry. This case study illustrates the complexity of financial analysis. The food processing sector is one of the major sectors which is growing and has a wide scope of operations in India.

Keywords: Food processing Industry, Comparative ratio analysis, financial data, Insight, Analysis, Multinational Company.
Abstract
In the aftermath of the global financial crisis, US regulators have required banks to disclose more details regarding the valuation techniques of their assets and liabilities. Using 2013 and 2014 10-K reports for nine US primary dealers, we examine the determinants of the choice of the valuation techniques in a game theory setup. Consistent with their publicly disclosed shareholder policy, we assume that the banks’ objective is to maximize their Return on Equity (ROE). Our key findings are threefold. First, we show that the optimal strategy for the Global Systemically Important Banks (G-SIBs) is to select the valuation techniques associated with a lower level of risk. Conversely, the optimal strategy for the Non G-SIBs is to select the valuation techniques associated with a higher level of risk. Finally, we demonstrate that the above optimal strategies are consistent over time. These findings are in line with the regulators’ mindset to reduce the balance sheet riskiness of G-SIBs.

JEL Codes: C72, D78, G11, G23, G24, G28
The Relationship Between Inflation Rate and Nominal Interest Rate: The Case of Turkey

Mehmet Mucuk, Selçuk University, Turkey
Ayşen Edirneliğil, Selçuk University, Turkey
Mustafa Tahir Demirsel, Selçuk University, Turkey

Abstract
This paper investigates the relationship between inflation rate and nominal interest rate over the period 1980-2014 for Turkey. In this context, Johansen cointegration test and vector error correction model is applied to determine this relationship. Empirical findings show that there is a causal link between the two variables. This results support the Fisher effect. Additionally, according to impulse-response functions a shock in inflation rate has positive impact on interest rates. On the other hand, shocks to the interest rate have a negative impact on the inflation rate. The findings of this study have important policy implications.

Keywords: inflation rate, interest rate, Turkish economy

Introduction
The relationship between interest rates and inflation is one of the most important subjects of macroeconomics. There are abundant studies about the interaction between inflation and interest rates both in theoretical and empirical dimensions. One of the most well-known hypotheses on these variables is the Fisher hypothesis which holds that the expected inflation rate affects the nominal interest rate and this requires that the real interest rate is not systematically and permanently influenced by the expected rate of inflation. Also before Fisher, the research by Gibson, and Yohe and Karnosky state that expected inflation is not fully reflected in the interest rate. (Levi and Makin, 1981: 963).

Inflation is defined as a persistent and significant increase in the general price-level in a period of time. There are two types of inflation including demand inflation and cost inflation. Inflation generally occurs when demand is more than supply which is called as demand inflation. Also, if the cost of production factors and the cost of inputs increase in a production process, causes an inflation which is called as cost inflation (www.mahfiegilmez.com, 18.02.2016).

The type of relationship between the inflation and the interest rate is shaped by the type of inflation. If there is demand inflation, inflation and interest rate are inversely correlated. If there is cost inflation, the relationship between interest rate and inflation is directly proportional. If both types of inflation is exist, the result depends on the gravities (www.mahfiegilmez.com, 18-02-2016).

Inflation is very important for investors and dealers on the financial market since it gives substantial information. Inflation is the cost of holding cash whereas the interest rate is the cost of holding wealth in any other asset. Hence, as the inflation rate increases those holding their wealth in the form of cash lose. Also capital becomes costlier as the interest rate increases. An investor prefers to equalize his options for gaining or losing by holding cash and alternative assets. This investment decision includes planning, which depends on expectations. Interest rate implementations by the central bank are made to influence such expectations (Jaradat, et al., 2014: 55).

Suppose \(i\) is the nominal interest rate, \(r\) is the real interest rate and \(\pi\) is the inflation rate, then the relationship between these variables is;

\[ r = i - \pi \]
The real interest rate is equal to the difference between the nominal interest rate and the inflation. If the equation is recomposed, it can be said that the nominal interest rate is equal to real interest rate plus inflation rate (Mankiw, 2010: 100).

\[ i = r + \pi \]

This form of equation is called Fisher equation and it states that the nominal interest rate change by two variables: Real interest rate and expected inflation rate (Mankiw, 2010: 101). Fisher equation shows one-to-one relationship between the expected inflation and the nominal interest rate, assuming the real interest rate is constant.

The Fisher equation states that a unit increase in \( \pi \) causes a unit increase in the nominal interest rate, so there is a positive relationship between the variables (Ayub, et al., 2014: 51). If inflation rate is expected to increase, the supply of loanable fund decreases and the demand for loanable fund increases (Jaradat, et al., 2014: 55).

It can be said that the equation is suitable for the countries where the inflation and the interest rates are smaller than 10, since the real interest rate is assumed constant. Therefore it is necessary to recompose the equation for the countries that have high interest rates like Turkey. In these countries, the high risk perception causes the high level of real interest rates. Thus, the real interest rate can’t be constant in analyzes in such countries (Eğilmez, 2001).

**Literature Survey**

There are numerous studies about the relationship between interest rate and inflation rate in the literature. While some of them support the Fisher hypothesis, others reject it. Table 1 shows the literature survey.
## Table 1: Overview of Previous Studies

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Methodology</th>
<th>Period</th>
<th>Country</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doğan et al. (2015)</td>
<td>Granger Causality Test, Johansen Cointegration Test</td>
<td>2003:1-2015:2</td>
<td>Turkey</td>
<td>There is not a causality relation through the interest rates to inflation, there is a causality relation from inflation to interest rates.</td>
</tr>
<tr>
<td>Tanrıöver and Yamak (2015)</td>
<td>ARDL Bound Test</td>
<td>1990:1-2014:2</td>
<td>Turkey</td>
<td>There is a relationship between nominal interest rate and general price level. Unidirectional causality runs from interest rate to general price level.</td>
</tr>
<tr>
<td>Ayub et al. (2014)</td>
<td>Johansen and Engle-Granger (Residual Based) Cointegration Test</td>
<td>1973-2010</td>
<td>Pakistan</td>
<td>There exist a long run equilibrium relationship between the nominal interest rate and the inflation</td>
</tr>
<tr>
<td>Jaradat et al. (2014)</td>
<td>Regression Analysis, Granger Causality Test</td>
<td>1990-2012</td>
<td>Jordan</td>
<td>There is a bidirectional causality relationship running from interest rate to inflation rate and vice versa.</td>
</tr>
<tr>
<td>Mercan (2013)</td>
<td>ARDL Bound Test</td>
<td>1992:1-2013:1</td>
<td>Turkey</td>
<td>Inflation rate affected the nominal interest rate statistically significantly and positively.</td>
</tr>
<tr>
<td>Teker et al. (2012)</td>
<td>Threshold Vector Error Correction</td>
<td>2002:1-2011:03</td>
<td>Turkey</td>
<td>The interest rate and the inflation are positively affected by their past two and one periods respectively.</td>
</tr>
<tr>
<td>Oktar and Dalyançl (2011)</td>
<td>Cointegration Test, Granger Causality Test</td>
<td>2003:1-2011:6</td>
<td>Turkey</td>
<td>The policy rate of the CBRT does not Granger cause of the inflation, but the inflation does Granger cause of the the policy rate of the CBRT in the short run. On the other hand, in the long run, these variables are co-integrated and affect each other directly and mutually.</td>
</tr>
<tr>
<td>Onur (2008)</td>
<td>Cointegration Test, Granger Causality Test</td>
<td>1980-2005</td>
<td>Turkey</td>
<td>Interest rate has an effect on inflation rate.</td>
</tr>
</tbody>
</table>
Data and Methodology
For analysis in this study, it was used annual data for the period 1980 to 2014. The remaining variables were obtained from Central Bank of Republic of Turkey (CBRT). Table 1 indicates data and data resources.

<table>
<thead>
<tr>
<th>Data</th>
<th>Explanations</th>
<th>Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT</td>
<td>Interest Rate</td>
<td>CBRT</td>
</tr>
<tr>
<td>INF</td>
<td>Inflation Rate</td>
<td>CBRT</td>
</tr>
</tbody>
</table>

Table 2: The Data Set

To determine relationship between interest rate and inflation rate, the following empirical methods were employed:
- Unit Root Test
- Johansen Cointegration Test
- Vector Error Correction Model
- Impulse-Response Functions
- Variance Decomposition

Empirical Findings
In order to examine the stationarity of the series Augmented Dickey Fuller test was used. Table 3 shows the results of unit root test.

Table 3: Results of ADF Unit Root Test

As shown in this table, t-statistics values are smaller than MacKinnon critical values at all three levels of significance. Therefore two series are nonstationary in level but stationary in first difference.

In order to estimate VAR model, it is necessary to examine optimum lag length. The optimal lag length is important to identify the true dynamics of the model. To determine optimal lag length of VAR model, the sequential modified LR test statistic (LR), Final prediction error (FPE), Akaike information criterion (AIC), Schwarz information criterion (SC), and Hannan-Quinn information criterion (HQ) lag selection criteria are used (Akçay, 2011: 86).
Table 4: VAR Optimal Lag Length

<table>
<thead>
<tr>
<th>Lag</th>
<th>LogL</th>
<th>LR</th>
<th>FPE</th>
<th>AIC</th>
<th>SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-275.0704</td>
<td>NA</td>
<td>113685.3</td>
<td>17.31690</td>
<td>17.40851</td>
</tr>
<tr>
<td>1</td>
<td>-245.9325</td>
<td>52.81247*</td>
<td>23650.34*</td>
<td>15.74578*</td>
<td>16.02061*</td>
</tr>
<tr>
<td>2</td>
<td>-245.5751</td>
<td>0.603127</td>
<td>29817.55</td>
<td>15.97344</td>
<td>16.43149</td>
</tr>
<tr>
<td>3</td>
<td>-243.8860</td>
<td>2.639185</td>
<td>34769.46</td>
<td>16.11788</td>
<td>16.75914</td>
</tr>
</tbody>
</table>

* indicates lag order selected by the criterion.

LR: sequential modified LR test statistic (each test at 5% level), FPE: Final prediction error, AIC: Akaike information criterion, SC: Schwarz information criterion, HQ: Hannan-Quinn information criterion.

According to the results of Table 4, the optimal lag length was determined to be one for the VAR model. The stability of the VAR model was tested with the help of AR roots test as a graph. The AR roots graph is shown in Figure 1.

Figure 1: Stationarity Of The VAR (1) Model

Inverse Roots of AR Characteristic Polynomial

Figure 1 reports that the inverse roots of AR characteristic polynomial are in the unit circle. This finding confirms that the estimated VAR model is stable.

Johansen cointegration test was used to determine the existence of a long run relationship between the variables of the study. Table 5 indicates the results of Johansen cointegration test.
Table 5: Results of Johansen Cointegration Tests

<table>
<thead>
<tr>
<th>Hypothesized No. of CE(s)</th>
<th>Trace Test</th>
<th>Maximum Eigenvalue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Trace Statistic</td>
<td>0.05 Critical Value</td>
</tr>
<tr>
<td>None *</td>
<td>0.644756</td>
<td>34.95747</td>
</tr>
<tr>
<td>At most 1</td>
<td>0.024073</td>
<td>0.804137</td>
</tr>
</tbody>
</table>

Johansen cointegration test shows that inflation and interest rates are cointegrated. In other words, there is a long run relationship between these variables in Turkey.

Since the variables of the study are cointegrated, vector error correction model (VECM) is used to test of the long and short run causality. Table 6 indicates the results of VECM test.

Table 6: Results of Vector Error Correction Model

<table>
<thead>
<tr>
<th>CointegratingEq:</th>
<th>CointEq1</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT (-1)</td>
<td>1.000000</td>
</tr>
<tr>
<td>INF (-1)</td>
<td>-0.965413</td>
</tr>
<tr>
<td>C</td>
<td>-5.983909</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ErrorCorrection:</th>
<th>D(INT)</th>
<th>D(INF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CointEq1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[-1.97295]</td>
<td>[ 2.66044]</td>
<td></td>
</tr>
<tr>
<td>0.079378</td>
<td>-0.143580</td>
<td></td>
</tr>
<tr>
<td>[ 0.39317]</td>
<td>[-0.54393]</td>
<td></td>
</tr>
<tr>
<td>-0.132350</td>
<td>-0.005250</td>
<td></td>
</tr>
<tr>
<td>[-1.00900]</td>
<td>[-0.03061]</td>
<td></td>
</tr>
<tr>
<td>-1.140949</td>
<td>-0.976109</td>
<td></td>
</tr>
<tr>
<td>[-0.48362]</td>
<td>[-0.31645]</td>
<td></td>
</tr>
</tbody>
</table>

VECM test shows that the error correction term is negative and statistically significant. These results confirm that there is a long run relationship between inflation rate and interest rate. Error correction term shows how fast the model returns to stability at any disturbance or shock. In this context, the speed of adjustment is -0.53 which means 53 percent of the short-run deviations from the long run equilibrium is corrected every year.

Figure 2 presents the impulse-response functions. The impulse response functions graphically illustrate the expected response of inflation rate to the change in interest rate and by inflation rate itself and also
show the response of interest rate to the change in inflation rate and by interest rate itself. This functions enable characterization of the dynamic interactions among variables and allow us to observe the speed of adjustment of variables in the system.

Figure 2: Results of Impulse-Response Functions
Response to Cholesky One S.D. Innovations

According to impulse-response functions a shock in inflation rate has positive impact on interest rate. On the other hand, shocks to the interest rate have a negative impact on inflation rate.

Finally, variance decomposition analysis was used to measure the proportion of forecast error variance in a variable that is explained by innovations in itself and the other variables. The variance decomposition of the VAR was presented in Table 7.

Table 7: Results of Variance Decomposition for Interest Rate and Inflation Rate

<table>
<thead>
<tr>
<th>VAR Decomposition of INTEREST:period</th>
<th>INT</th>
<th>INF</th>
<th>VAR decomposition of INFLATION: Period</th>
<th>INT</th>
<th>INF</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100.0000</td>
<td>0.000000</td>
<td>1</td>
<td>63.28987</td>
<td>36.71013</td>
</tr>
<tr>
<td>2</td>
<td>95.34683</td>
<td>4.653171</td>
<td>2</td>
<td>74.72666</td>
<td>25.27334</td>
</tr>
<tr>
<td>3</td>
<td>93.79957</td>
<td>6.200426</td>
<td>3</td>
<td>80.24323</td>
<td>19.75677</td>
</tr>
<tr>
<td>4</td>
<td>93.70704</td>
<td>6.292962</td>
<td>4</td>
<td>82.58906</td>
<td>17.41094</td>
</tr>
<tr>
<td>5</td>
<td>93.51391</td>
<td>6.486089</td>
<td>5</td>
<td>84.39434</td>
<td>15.60566</td>
</tr>
<tr>
<td>6</td>
<td>93.34170</td>
<td>6.658296</td>
<td>6</td>
<td>85.66714</td>
<td>14.33286</td>
</tr>
<tr>
<td>7</td>
<td>93.24180</td>
<td>6.758198</td>
<td>7</td>
<td>86.56950</td>
<td>13.43050</td>
</tr>
<tr>
<td>8</td>
<td>93.16605</td>
<td>6.833951</td>
<td>8</td>
<td>87.26896</td>
<td>12.73104</td>
</tr>
<tr>
<td>9</td>
<td>93.10399</td>
<td>6.896007</td>
<td>9</td>
<td>87.82575</td>
<td>12.17425</td>
</tr>
<tr>
<td>10</td>
<td>93.05479</td>
<td>6.945206</td>
<td>10</td>
<td>63.28987</td>
<td>36.71013</td>
</tr>
</tbody>
</table>

According to variance decomposition, around 7 percent variation in interest rate was explained by
inflation rate in the 10th term. On the other hand, around 63 percent variation in inflation rate was explained by interest rate.

**Conclusion**

High inflation is an important problem for the Turkish economy. Nominal interest rates are accompanied by inflation. High interest rates have a negative impact on consumption and investment expenditures. This situation affects economic growth adversely. There are different views about the relationship between inflation and interest rates. According to Fisher effect, the positive correlation between inflation and nominal interest rates is expected. This study examined this relationship for the Turkish economy over the period 1980-2014. For this purpose, cointegration test and vector error correction model were applied. Obtained findings support the Fisher hypothesis being valid for Turkey. In other words, there is a relationship between inflation rates and interest rates in the long run.

**References**


http://www.mahfiegilmez.com [2016.02.18]
Teaching Advanced Analytics in Big Data to Business Students

Farnaz Sharifrazi, National University, USA

Abstract

Ever since organizations have been faced with an overwhelming amount of data as a result of transactions, customer purchasing data, web browsing, and network accesses, these data have become a source for finding facts. It is common practice to capture, index, and use structured data. For example, data in spreadsheet format is structured by using tables and columns with indexing information. These can be analyzed in databases with statistical software such as SAS, SPSS, or Tableau. Log files lack indexing and structure for a streamline analytics; therefore, these non-indexed and unstructured log files data need specific tools.

In this paper, the focus is on the analysis of log file data, called Event Access (EA), in any network. Log files are the result of accessing websites, applications, etc. through the network. As one may imagine, the amount of EA generated by Google or Amazon sites every hour is huge. Every nanosecond mass amounts of EA gets placed into a network that is globally generated from all types of devices.

An important challenge is how to manage the log file data in order to identify threats. To perform analytics modeling on unstructured data, it is essential that the data be converted into a structured format for performing analysis to find anomalies. It can be overwhelming for business students to perform analytics utilizing open source software such as: Python, R, and databases, since using these require in-depth knowledge of programming languages that most business students lack. Thus, there are tools for less technical individuals to learn to use for parsing and analyzing data to discover anomalies and applying security measures to the network.

Keywords: Anomalies, Big Data, Log Files, Machine Learning, Unstructured Data

Introduction

Analytics teaching programs are on the rise in many academic institutions due to the market demands for graduates in this field. It is important to differentiate analytics programs from each other. At National University, there are three analytic programs that stem from one main branch called Analytics (ANA). ANA provides big data concepts, statistical methods, and models in the first six of the 12 courses. Business analytics (BAN) and analytics in health (ANH) are the other two programs that use the first six courses from ANA and build another six to seven courses onto that core that are specific to BAN or ANH. In this paper, the focus will be on a course in the BAN program that teaches the analysis of data in organizations in the business arena.

The majority of courses in the three programs use statistical application analysis (SAS) software in their curriculum. SAS provides in-depth statistical analysis on structured data. Structured data is organized and indexed in columns and rows format. Data with formatted structure can be easily imported into databases and analytical models can be applied. The challenge is when there is data with no structure or indexing. In its raw form, the data is portrayed by lines of numbers, letters, and characters that are combined as log file data. This must be normalized to be made ready for statistical analytics purposes.
Structured or Supervised Learning

It is important to check the structured data and the way it is indexed. “Structured” means that the data is defined by labels, which are definitions that are created in rows and columns. The best example of what supervised data looks like is a spreadsheet. Spreadsheets hold items in specific cells that have names and numbers. These data can be easily used for estimation and for forecasts. For example, to forecast sales for the months of Oct., Nov., and Dec., an estimate of the demand can be derived from the previous years’ sales data.

<table>
<thead>
<tr>
<th>Name</th>
<th>Balance</th>
<th>Age</th>
<th>Employed</th>
<th>Write-off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mike</td>
<td>$200,000</td>
<td>42</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Mary</td>
<td>$35,000</td>
<td>33</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Claudio</td>
<td>$115,000</td>
<td>40</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Robert</td>
<td>$29,000</td>
<td>23</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Dora</td>
<td>$72,000</td>
<td>31</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

This is one row (example).
Feature vector is: <Claudio, 115000, 40, no>
Class label (value of Target attribute) is no

Analytics in Security Log Files

Data extraction through query languages was the only tool that organizations used to make decisions in the past (Balduccini, Kushner & Speck, 2015). The analysts had to use their tacit knowledge to interpret the results and then write reports to describe the situation. However, in recent years, every organization has begun to rely on Big Data that are generated from their information systems to make data-driven decisions. Analytics in security, like any other area that depends on Big Data, utilizes tools to parse, add normalizations, and to apply the applicable analytical software for finding patterns that identify abnormalities of access.

Performing analytics in log files involves various types of tools. A few open source software are: Python and R programming, a database for managing the data and an SQL tool to retrieve, as well as make, statistical applications to find patterns (Talabis, McPherson, Miyamoto, & Martin, 2015). Since learning and applying these components is too laborious in a one month course, National University uses Splunk Enterprise software. The software provides all the needed steps in one location. Using Splunk Enterprise, students can parse data, store it based on the time and date stamps, and file data in storage buckets (databases). These can be used for queries to attain certain results and to provide query results on the fly (Talabis, et. al, 2015).

First View of Log Files

Viewing log files with notepad software shows the way the data looks at the first glance. It is filled with numbers, letters, and characters that portray the codes to the viewer. This is the way Big Data is generated as a result of individuals’ continual access of the internet every nanosecond from desktops, laptops, tablets, and smart phones across the globe. Searching for anomalies should be done in real time, and, as one can imagine, it is not possible with human eyes to check for threats without proper tools. Performing analytics with unstructured data is considered advanced analytics (Gartner Group, 2015).
Data for Security Analytics

Analyzing log files is complicated, since they are not structured and do not have a specific format that includes indexing to help the viewer readily identify the data. Therefore, managing log files can be challenging if specific tools are not used. The amount of log files can be overwhelming to store, sort, and search for patterns without proper knowledge of programming, data bases, and query languages (Balduccini, et. al, 2015).

Talabis et, al. (2015) suggested utilizing open source software, such as Python, for parsing the data, Arena for simulation, and Hiveql for queries. All are required to tag and structure the data. Utilizing three kinds of open source software is justified in a course that is created for technical individuals who are geared toward creating analytical systems. However, in a one month course created for business students, a software that has all the components of parsing, storing, and querying is needed. Therefore, we will examine a software with these embedded components. Below are log files that have been parsed and are ready for query. It is important to note that Splunk Enterprise software has been used to construct the files. Splunk provides the capability to work with mass amounts of files; it provides statistical information on any part of the file, such as status codes. According to Apache http’s status codes, 200 means successful access without threat. However, http status code 404, which means; ‘site cannot found,’ should be subject to investigation. Apache status codes are provided at the end of the report for further study.

9/20/13
8:00:55.000 AM
216.185.64.79 - - [18/Sep/2009:00:00:55 -0800] "GET /sample.php?page=<iframe src='firefoxurl://example.com' -chrome "javascript:alert(0)'></iframe>  HTTP/1.1" 200 3164 ""Mozilla/5.0 (compatible) Feedfetcher-Google; (+http://www.google.com/feedfetcher.html)"

9/20/13
8:00:55.000 AM
216.185.64.79 - - [18/Sep/2009:00:00:55 -0800] "GET /ALTER TABLE 'users' CHANGE 'password' 'password' VARCHAR(255) CHARACTER SET gbk COLLATE gbk_chinese_ci"
Security analytics requires a basic knowledge of statistics. Knowledge of means (averages), medians, and modes, as well as standard deviation and visualization, are important. Applying inferential and descriptive statistics provides analysts with the ability to measure the level of threats, system abuse, and security performance throughout systems. Statistical models find various trends: patterns of what is normal and abnormal access, as well as for failed access. Finding patterns of abnormalities in log files is like finding a needle in a haystack—especially considering the huge amount of data; it is impossible to find threats unless there is a robust query tool that checks for every word and entity in strings of data. Analytics in Big Data requires statistics knowledge and software to perform.
descriptive and inferential statistics as quickly as possible. In the case of log file analytics, Splunk provides responses to all types of statistics requests from the users, including graphs.

**Artificial Intelligence in Machine Learning**

Security software contains Artificial Intelligence (AI) to find patterns of abnormalities in access by checking for anything out of the ordinary. Based on previous incidents, Machine Learning rejects access and reports abnormalities. The reason that, at times, attacks become successful and penetrate into networks, is that Machine Learning software is not programmed to identify and reject malicious codes.

**Unstructured Data or Unsupervised Learning**

The data in unsupervised learning is unstructured without fields, identification, or any type of model set of data for the viewer to compare with the unsupervised data in order to aid in understanding. As shown in the log files, these data do not have a specific structure of formatting; therefore, they are called unstructured data and need to be normalized for finding arrays in Big Data. This process is complex for analysts, who must parse data and utilize statistical tools to find patterns that portray breaches and anomalies that needs mitigation. Parsing is finding similarities or any attribute that can be used to organize the unstructured data into clusters.

**Unknowns in an Unknown Environment**

In the case of an attack, an investigator should check the log files for the intrusion access code and the source of where the attack took place. However, if the code for intrusion is generated toward the web server, the responder should search for the incident in the web server logs. That is where the investigator searches for abnormalities. In some cases, the investigator uncovers the unknown and tries to correct the situation and mitigate risks. Problems occur when the investigator does not find the unknown and does not know where to start the search.

**How Analytical Software and Tools Work with Log Files**

In the business world, the end user expects to view analytical information in the form of reports and other visual formats designed for humans to use in making decisions. There is support for the idea that this can be more beneficial for visual learners in particular - than reading texts without illustrations. Therefore, providing visual information in the form of graphs, pictures, and charts will support the decision-making scenario for most individuals.

**Log files**

Every access made to an organization’s network structure is considered an event that is time stamped. The interest here is not the mass amount of data that are generated from the systems; it is how to find unknowns. Every security officer cares about the anomalies that may be present in the data. Discovering abnormal activity in the log files provides the knowledge necessary for inserting codes to defend systems and to send alerts to administrators.

Analyzing log file data with the naked eye is impossible due to the mass amount of rows it is necessary to examine without knowing what to look for. Having an experienced security professional with a forensic science background, on the other hand, is helpful, since they can simulate data and apply various models to grasp patterns of how fraud can take place. Applying statistical models in log files provides information on access types, and, by using patterns, statistical models may be able to identify the behavior of attacks or attackers.
SQL Injection Attack

Sony Pictures, PBS, Microsoft, Yahoo, LinkedIn, and the CIA have all been hacked in previous years. These organizations and their websites have all been successfully breached by injecting SQL codes through accesses (Weiss, 2012). SQL, or the Structured Query Language, is the command-and-control language for relational databases such as Microsoft SQL Server, Oracle, and MySQL. In current web development, these databases are often used on the back end of web applications for content management systems – meaning that both the content and behavior of many websites is built on data in a database server. A successful attack on the database that drives a website or web application can potentially give a hacker a broad range of power, from modifying website content to capturing sensitive information, such as account credentials or internal business data.

The Danger of Data Input

Generally speaking, a SQL injection attack sends malicious commands to the database by sneaking through unauthorized channels. Hackers send malicious codes to penetrate systems and access profile data. Mostly, hackers are searching for password dictionaries so they can use individual authentication codes. This type of attack is difficult to catch, since the hacker is disguised under an insider’s credentials. This is an important reason to do research in insider attack scenarios and to upgrade Intrusion Detection Systems (IDS) equipped to identify attacks coming from inside the network.

How does this work? Consider a website login form, for example. A savvy hacker can try to compromise this form by submitting data that is intentionally malformed in an attempt to push an SQL command into the underlying database. Vulnerability arises when a web application fails to clean the user input – i.e., filter out dangerous or non-conforming data – prior to handing it off to the database.

Machine Learning

Machine learning is a form of Artificial Intelligence that operates according to pre-programmed security commands. These commands are based on previous attacks, anomalies, and intrusions. Programmers write codes that, if the systems come across any of the scenarios that have been identified, it should alert the administrators. In Security Environment Firewall Software, or in any access gate, Machine Learning should be a part of the defense mechanism. For example, at National University, multiple access accesses are offered to email and ERP systems users. If one of the users signed into the system from inside the premises, and also, at the same time, signed on to the system from another country, would the administrators want to know about this incident? Of course. This is the type of scenario that machine learning should be programmed to detect.

Analysis for Incident Response

Accesses to organizational networks originate from various sources. The following are some of the key log files generated: server logs, proxy logs, mail log, firewall logs, Intrusion Detection logs, authentication logs, virtual private network logs, wireless, and so on. It is notable that records of badge entry and exit are also used to generate log files that should be considered for intrusion detection. For example, security analytics should be utilized in the case below:

Case

An employee signs on to his desktop computer at work at 9:00 a.m. At 9:30, the same individual ID and password is used to sign on remotely. At this point, it is important to check the badge access log to identify the entrance of the employee into the building, this is an abnormality that needs to be monitored and checked on immediately. In other words, this scenario and others like it should be
programmed into the machine so that, if the situation exists, an incident responder will notify the system’s administrators.

Conclusion

It is essential to protect an organization’s network with cutting edge tools, since hackers are constantly trying to outsmart systems’ security and thereby access valuable information. Using a system that parses, sorts, and analyzes log files in real time is important for the management of networks and for ongoing protection against malicious attacks. Since many attacks are not detected until a major problem arises, it is vital to improve artificial intelligence’s (AI) ability to detect anomalies.

References


Determinants of Working Capital Requirements: Evidence from Selected Non-Financial Firms Listed on the Johannesburg Securities Exchange

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Agyapong B Gyekye, University of Venda, South Africa

Abstract
Working Capital is an important aspect of corporate financial management because it affects profitability, liquidity and firm value (Smith, 1973; Deloof, 2003; Nazir and Afza, 2008). For this reason, firms try to keep an optimal (desirable) level of working capital that maximizes their value. In essence, working capital management is vital for the survival of businesses, regardless of their size. Previous studies suggest that the working capital requirement of an enterprise is influenced by numerous factors such as firm size, GDP growth rate, inflation, and foreign exchange rates, among others. The study analysed the key endogenous (internal) and exogenous (external) factors influencing working capital requirements and WCM of a sample of five large non-financial firms listed on the JSE. Data for the study was collected using a semi-structured questionnaire. The result revealed that sales growth, capital expenditure and debtors’ management are the three most important endogenous factors influencing working capital requirements of the sampled firms. Other factors identified are inventory ordering efficiency, board requirements, centralization of supply, operating expenditure, and products offered. The study further revealed that interest rates, foreign exchange rates, economic growth and inflation rate are the four key exogenous factors influencing working capital requirements of the sampled firms. Additionally, 40% of the sampled firms indicated that sales affect WCM to a very high extent while 60% indicated that capital expenditure affected WCM to a high extent. Finally, 60% indicated that debtors’ terms affect WCM to a high extent. 60% of respondents indicated that economic growth to a very high extent affected WCM while 80% indicated that interest rates affect WCM from some extent to a high extent. 20% are of the view that exchange rates affect WCM to a very high extent.

Key Words: Johannesburg Securities Exchange, non-financial firms, South Africa, working capital management.

1. Introduction
Corporate finance theory contends that the primary objective of the firm is shareholders’ wealth maximization (SWM) (Fabozzi and Drake, 2010). An often ignored mechanism by which shareholder wealth can be realized is working capital management (Smith, 1980; Chan, 2010). This neglect exists, in spite of the fact that working capital comprises a significant portion of total assets and managers spend more than half of their time in managing working capital (Richards and Laughlin, 1980; Laux, 2012). More importantly, inefficient working capital management (WCM) has been cited as a major cause of business failure (Altman, 1968; Altman; Shin and Soenen, 1998). Working capital management involves the application of economic and management principles to managing short-term assets and short-term liabilities, as well as the management of all the relationships that exist between them in order to enhance liquidity, profitability, and concomitantly firm value. Generally, WCM entails two vital decisions. The first focuses on determining the optimum (desirable) level of investment in short-term assets, while the second entails determining the appropriate mix of short-term and long-term financing needed to finance this investment in short-term assets (Jain, 2004; Moyer; Brigham and Ehrhardt, 2006; Chandra, 2007; Parrino and Kidwell, 2009; McGuigan and Kretlow; 2009; Mole, Parrino and Kidwell, 2011). Despite its vital role in the success of businesses, most studies addressing the key factors affecting working capital requirements (WCR) tend to focus on developed economies with a dearth of research on emerging economies. This study attempts to fill this
gap by examining the key factors that influence working capital requirement and WCM of a sample of JSE-listed non-financial firms.

1.1 Research questions
The following research questions were addressed in the study:

- What are the endogenous (internal) factors that influence working capital requirements of JSE listed firms?
- What are the exogenous (external) factors that influence working capital requirements of JSE listed firms?
- To what extent do both endogenous and exogenous factors influence WCM of JSE listed non-financial firms?

1.2 Objectives
The objectives of the present study are:

- To determine the endogenous factors that influence working capital requirements of JSE listed firms
- To determine exogenous factors that influence working capital requirements of JSE listed firms
- To analyse the extent to which both endogenous and exogenous factors influence WCM of JSE listed non-financial firms.

2. Literature review
Previous studies suggest the existence of endogenous and exogenous factors that affect a company’s working capital requirements and their effect on working capital management. The internal (firm-specific) factors include, but not limited to, company size and growth rates, organizational structure, and borrowing and investing positions/activities/capacities. The exogenous factors include banking services, inflation, interest rates, new technologies and new products, state of the economy, and competitors, among others. According to Moussawi, LaPlante, Kieschnick and Baranchuk (2006) there is strong evidence that industry practice, firm size, future firm sales growth, proportion of outside directors on a board, executive compensation, and CEO share ownership significantly influence the efficiency of large non-financial listed US firms. In another study, Chiou and Cheng (2006) analysed the effect of the key factors influencing working capital management in Taiwanese firms. The results show that factors such as type of industry, operating cash flow, growth opportunities, and firm size have their effect on working capital management. The results further show that leverage and operating cash flow has a significant relationship with net liquidity balance and working capital requirement.

Using data from a panel of U.S. corporations from 1990 to 2004, Kieschnick, Laplante and Moussawi (2006) found that industry practices, company size, future sales growth, number of outside directors on the board, executive compensation (current portion), and CEO share ownership have a significant impact on the efficiency of working capital management of companies.

In a recent study, Zariyawati et al. (2010) examined important factors, which affect working capital management in Malaysian firms. The results suggest that firm size, debt ratio, and sales growth have a negative relationship with working capital management (represented by the cash conversion cycle). In addition, the study revealed that firms with more debt operate with less working capital since the cost of external financing is higher for these firms. A negative relationship was found to exist between CCC and sales growth indicating that firms use short-term financing to supply future demands. The positive relationship that was reported between economic growth and working capital indicated that firms expanded their investment on working capital during the economic boom. Finally, the study found no evidence for the impact of corporate governance variables on working capital management.

Hill, Kelly, & Highfield (2010) examined the key factors which affect working capital management in US firms. The results show that Working Capital Requirement (WCR) is positively related to the operating cash flow, and negatively correlated to financial distress and market-to-book ratios. The study
found no evidence for relationships between gross margin profit, market share, and WCR. Manoori and Muhammad (2012) use panel data analysis including Pooled OLS, random effects and fixed effects estimations, to determine the determinants of WCM in Singapore. The findings revealed that firm size, operational cash flow, capital expenditures, and gross domestic products are negatively correlated to working capital management. Moreover, they found that firms with more profitability have longer cash conversion cycles. The study, however, did not find any significant relationship between cash conversion cycles and debt ratios.

Valipour, Moradi and Farsi (2012) used correlation and multiple regression techniques to determine the effect of company characteristics on working capital management. The sample comprised 83 firms listed on Tehran Stock Exchange for the period of 2001 to 2010. Company characteristics include profitability, operating cash flow, company size, sale growth, current ratio, quick ratio, and debt ratio. The analysis was conducted in two stages. In the first stage the relationship between the company characteristics with cash conversion cycle were assessed in all companies and the result indicated that profitability, operating cash flow, company size, sale growth, and debt ratio affect the company’s working capital management. In the second stage, the companies were divided into 3 categories: large, medium and small. Then the relationship between company characteristics with cash conversion cycle was assessed separately. The results indicated that the effective factors in large firms were profitability, operating cash flow, debt ratio, and sales growth. In medium firms, the effective factors were profitability, company size, sales growth, and debt ratio, and small firms were affected by profitability, sales growth, current ratio, quick ratio, and debt ratio. This study clearly reveals that, in Tehran, profitability, sales, and debt are the key factors that affect WCR for firms regardless of their size.

Smith and Fletcher (2009) use net liquid balance (NLB) and working capital requirements as proxies for working capital management to examine the factors influencing working capital management in South African industrial companies. These proxies were tested for influence of industry, turnover, debt ratio, cash flow, and return on assets on the measures. The study found no significant industry effect on working capital management.

In a recent study, Gill (2011) used panel data, OLS regression and correlational techniques to analyse a sample of 166 Canadian firms listed on the Toronto Stock Exchange for the period 2008-2010 to determine the factors that influence the working capital requirements. The results indicate that operating cycle (OC), return on assets (ROA), internationalization of firm, firm’s growth, and firm size influence the WCR in Canada. The study also found that OC, ROA, leverage, internationalization of the firm, Tobin’s Q, and firm size influence the working capital requirements in the Canadian manufacturing industry, while OC, ROA, sales growth, and firm size affect the WCR in the Canadian service industry. In a similar study, Nazir and Afza (2008) used regression analysis on panel data for 204 non-financial firms over a span of nine years. Researchers found evidence that operating cycle, leverage, return on assets, and Tobin’s q significantly influence working capital requirements.

Chiou, Cheng and Wu (2006) explored the key factors of working capital management, using 19,180 company-quarter data from the Taiwan Stock Exchange in the period from 1996 to 2004. Their study suggested that debt ratio and operating cash flow affected the working capital of companies. On the other hand, no evidence was found to support the impact of business cycle, industry effect, company growth, company performance and company size on working capital management. Nazir and Afza (2008) studied the key factors on the requirements of working capital management, using 204 manufacturing companies from 16 industrial groups listed at Karachi Stock Exchange, Pakistan, in the period from 1998 to 2006. The authors found that operating cycle, leverage, ROA and Tobin’s Q had a significant impact on working capital requirements. Appuhami (2008) investigated the impact of corporate capital expenses on working capital management, using data collected from listed companies in the Thailand Stock Exchange, from 2000 to 2005. The study found a negative relation with capital expenses, suggesting that companies tended to manage working capital efficiently when they could find opportunities to grow by investing in fixed assets. The study also found a positive, significant relation between working capital requirements and operating and finance expenses, suggesting that companies tended to increase their working capital levels as debt and interest expenses increased.

### 3. Methodology

A semi-structured questionnaire was used to collect data on a sample of non-financial firms listed on the main market of the JSE Securities Exchange over the period, 2003 to 2012. A combination of Likert...
scale and open-ended questions were asked to elicit respondents’ view. The questionnaire is a 7-page document that contains 31 questions, divided into three major parts: A, B, and C. Part A focused basically on company information. Part B asked questions related to aggregate working capital management with emphasis placed on working capital policy, the use of technology in managing working capital, and factors determining working capital requirement. Lastly, Part C dealt with inventory (supply chain) management, accounts receivable (revenue) management, and accounts payable (expenditure) management. Data was collected on a sample of five non-financial firms.

4. Data analysis
The first question addressed here is: *What are the internal factors influencing WC requirements of non-financial listed firms?* Table 1 shows the key internal factors (by rank).

Table 1: Endogenous factors affecting WCR of JSE-listed non-financial firms

<table>
<thead>
<tr>
<th>Firm</th>
<th>Industry sub-sector</th>
<th>Factors</th>
<th>Rank of the key factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Industrials</td>
<td>Sales/Growth</td>
<td>Factor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Debtors terms</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Debtors collection efficiency</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inventory ordering efficiency</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Consumer Services</td>
<td>Board requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Firm growth rate</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Capital expenditure</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Service requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Products offered</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Consumer Services</td>
<td>Sales</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Capital investment</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Debt repayment</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Centralization of supply</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Financial position</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Consumer services</td>
<td>Growth rate</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Consumer services</td>
<td>Gearing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Capital Investment</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Capital Expenditure</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dividend Policy</td>
<td></td>
</tr>
</tbody>
</table>

According to Table 1, the sampled firms ranked sales (1st), capital expenditure (2nd) and debtors (3rd) as the three most important internal factors affecting their WC requirements.
Table two presents results of the analysis regarding the second research question: *What are the external factors affecting WC requirements?* The rankings given by the sampled firms are shown in Table 2.

<table>
<thead>
<tr>
<th>#</th>
<th>Industry sub-sector</th>
<th>Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Industrials</td>
<td>Retail cycle</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exchange rate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interest rates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Creditors’ terms</td>
</tr>
<tr>
<td>2</td>
<td>Consumer Services</td>
<td>State of economy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Seasonal factors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exchange rate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Regulatory factors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interest rates</td>
</tr>
<tr>
<td>3</td>
<td>Consumer Services</td>
<td>Interest rates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exchange rate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inflation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GDP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer demand</td>
</tr>
<tr>
<td>4</td>
<td>Consumer services</td>
<td>Interest rate</td>
</tr>
<tr>
<td>5</td>
<td>Consumer services</td>
<td>Economic growth</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inflation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interest rates</td>
</tr>
</tbody>
</table>

The four key exogenous factors (by rank order) are interest rate (1st), exchange rates and GDP (tied for 2nd), inflation rate (4th) positions respectively.

Table 3 and 4 provide further analysis to answer the third question: *What are the effects of the endogenous and exogenous factors on WCM?*

<table>
<thead>
<tr>
<th>Factor</th>
<th>To a very high extent</th>
<th>To a high extent</th>
<th>To some extent</th>
<th>To a low extent</th>
<th>Not all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>2 (40%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3 shows that 40% of the sampled firms indicate that sales affect WCM to a very high extent while 60% indicate that capital expenditure affect WCM to a high extent. Also 60% indicate that debtors’ terms affect WCM to a high extent.

Table 4: Impact of exogenous factors on WCM

<table>
<thead>
<tr>
<th>Factor</th>
<th>To a very high extent</th>
<th>To a high extent</th>
<th>To some extent</th>
<th>To a low extent</th>
<th>Not all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic growth</td>
<td>1 (20%)</td>
<td>1 (20%)</td>
<td>1 (20%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflation</td>
<td></td>
<td>2 (40%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest rate</td>
<td>1 (20%)</td>
<td>3 (60%)</td>
<td>1 (20%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exchange rate</td>
<td>1 (20%)</td>
<td>2 (40%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to Table 4, 60% of respondents indicate that economic growth affects WCM from to some extent to a very high extent, while 80% indicate that interest rates affects WCM from to some extent to a high extent. 20% are of the view that exchange rates affect WCM to a very high extent.

5. Conclusion

The study analysed the key endogenous (internal) and exogenous (external) factors influencing working capital requirements and WCM of a sample of five large non-financial firms listed on the JSE. The result revealed that sales growth, capital expenditure, and debtors’ management are the three most important endogenous factors influencing working capital requirement of the sampled firms. Other factors identified are inventory ordering efficiency, board requirements, centralization of supply, operating expenditure, and products offered. The study further revealed that interest rate, foreign exchange rate, economic growth and inflation rate are the four key exogenous factors influencing working capital requirements of the sampled firms. Additionally, 40% of the sampled firms indicate that sales affect WCM to a very high extent while 60% indicate that capital expenditure affects WCM to a high extent. Finally, 60% indicate that debtors’ terms affect WCM to a high extent. 60% of respondents indicate that economic growth to some extent to a very high extent affects WCM while 80% indicate that interest rates affect WCM from some extent to a high extent. 20% are of the view that exchange rates affect WCM to a very high extent.
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The Importance in Using a Quantitative and Computerized Approach to Resolve Public Conflicts

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Abstract

Getting into conflict is very common in a democratic society. Conflict can help us to explore problems more deeply and from a wider perspective through discussions and negotiations. Through the process of conflict resolution, the relationships between conflict parties can be improved. New opportunities can also be created as well. However, people are often stuck in the situation of positional bargaining when they get into a conflict that hinders them from the above benefits. The situation may get complicated in public decisions in which a large number of stakeholders are involved. In this paper, the conflict among the stakeholders for choosing the most appropriate road junction control (RJC) method (e.g. traffic light, roundabout and interchange etc.) is taken as an example to illustrate the importance in using a computerized and quantitative approach to resolve public conflicts. The limitations of the three commonly used alternative dispute resolution (ADR) methods, namely negotiation, mediation and arbitration to resolve the conflict in the example are discussed. A computer-aided conflict resolution methodology is proposed so as to make the decision process more efficient and the result generated less biased.

Keywords: group decision making, public conflicts, alternative dispute resolution (ADR) methods, information technology, management

1. Introduction

“Negotiation is a fact of life.” (Fisher, Ury, & Patton, 2011) Conflicts exist everywhere owing to the nature of human diversity. It is especially common in a democratic society where people have the freedom to express their own views. Conflict itself is a good phenomenon. It functions as an alarm signaling some form of abnormality in a social system and urging people to deal with the problem in a timely way before it gets worse. If conflicts are properly managed, they can even help improve trust and relationships and create new opportunities (Innes & Booher, 1999). However, managing conflicts is not an easy task. People often see conflicts negatively as if they are battles to be fought. The word “conflict” comes from the Latin word “confligere” which means “to fight" (“Definition of conflict,” 2016). People are usually trapped in a positional bargaining situation, i.e., to take a position, stand up of it, and intend to force others to compromise. Fisher et al. (2011) argue that positional bargaining seldom reaches an optimal outcome.

This situation may even become worse in public conflicts. In a democratic society, people desire getting involved in public decisions that interest them, but few people are willing to look into the decisions made by others (Fisher et al., 2011). The large number of stakeholders with conflicting views and interests make the consensus-building process even harder. Therefore, it is important to develop a systematic way to manage conflicts in a group decision process in order to help the government and the stakeholders to manage their conflicts in a more efficient and constructive way.

This paper is divided into five sections: following the present introduction, Section 2 describes conflict comprehension that provides the basic idea of conflicts that may involve in the RJC method selection process. The difficulties in conflict resolution and conflict intervention strategies are discussed in Section 3 and Section 4 respectively. Finally, conclusions are drawn in Section 5.
2. Conflict Comprehension

Glasl (2008) claims that it is important to diagnose a conflict in order to develop the best intervention strategy for it. To diagnose a conflict situation properly, it is essential to know what parties are involved in the conflict, their inter-relationships, attitude towards the conflict, points of view regarding the problem and the potential for escalation (Glasl, 2008).

2.1 An Overview to RJC Method Selection

From the point of view of quarrying theory, road junctions are seen as processors which form queues and cause traffic congestion. In the United Kingdom, from 2005 to 2012, over 50% of the traffic accidents happened at road junctions (STATS19 data (accident, casualties and vehicle tables) from 2005 to 2012, 2014). Therefore, an ill-formed road junction not only wastes the drivers’ time in passing through it and puts the lives of both the drivers and passers-by at risk, it also causes pollution and diminishes the economy of a city. Hence, it is essential to choose a proper RJC method for each road junction. It is not an easy task. Presently, there are many RJC methods proposed, ranging from a simple fixed time traffic light controlling system to a 4-level graded interchange. Each of them has its advantages and drawbacks that best suit a particular situation.

2.2 The Conflict Parties Involved and their Primary Goals

People are always concerned about the quality of their lives and are more willing to express their opinions when they believe they will matter. The RJC method selection consultation can lead to a hot debate in a democratic society. Examples of conflict parties include urban planners, drivers who usually pass through that junction, engineers and government. Each conflict party has different primary goals: urban planners are concerned mostly about efficiency; drivers are concerned about efficiency and safety; engineers are concerned about project and geographical feasibility; governments are concerned about the cost. Incompatibility is observed with respect to standards, expectations, and assumptions on the performance of the RJC methods. These are obstacles that hinder the parties to conflicts in achieving their primary goals.

2.3 Escalation Potential

This conflict cannot be underestimated or ignored. Burton (1990) (as quoted in [Sandole, 2001]) points out that any attempt to suppress conflict relating to human needs will lead to conflict escalation, often in an exponential manner. Choosing a proper RJC method for a road junction can easily be transformed to a political issue if some commonly acceptable ideologies are added via the media, e.g. be democratic or be environmental friendly. The conflict escalation potential is high.

2.4 Conflict Parties’ Relationship and their Common Goals

Though the conflict parties have different primary goals, the conflict is possible to be settled. It is because each conflict party is inter-related and depends on the others. For example, the government depends on the residents, urban planners and engineers depend on the government’s decision on the funding. At the same time urban planners and engineers can be a part of residents of that area along with environmentalists. Hence, the relationship among the conflict partners is usually inter-dependent. In addition, the conflict parties share some common goals, e.g. all of them consider safety and efficiency although these two factors may not be their top consideration.

2.5 Conflict Characteristics

Speaking of the nature of conflict, conflicts in the RJC method selection process should be classified as a realistic (concerning concrete and objective issues) and substantial (clearly identified problem)
conflict, which involves plenty of conflict objects, e.g. legal, economic and strategic issues, as well as conflicts of interests and values. Thus, it is a realistic conflict because everything in such conflict can be quantified, e.g. money, pollution, and efficiency. It is a substantial conflict in the sense that the main cause of conflict can be clearly identified and the task becomes one of choosing an RJC method which can benefit most of the people at minimal cost. In addition, such conflict has high escalation potential and consequence because an ill-formed road junction affects every stakeholder’s life from day to day. If the conflict is not settled in a proper way, it may be turned into a political issue and hence affect the reputation of the government.

In terms of the conflict parties’ characteristics, this conflict should be seen as inter-group (between different groups in the same society), symmetrical, endogenous, and organized. It is symmetrical because every conflict party should have the same level of bargaining power. Although the bargaining power of the government may be slightly higher, a democratic government is usually willing to listen to its citizens in order to gain their votes in the next election. It is endogenous because every conflict party is within the same society and hence they all may have a chance to use that particular junction. It is organized because all conflict parties are easily and clearly identifiable, because all the stakeholders in this conflict shall automatically show up to express their voice as the RJC method selection is a public issue.

Therefore, this conflict can be considered as “technical” as defined in Heifetz’s book “Leadership without Easy Answers” (Heifetz, 1994), in which he classifies a problem into two types: technical and adaptive. For a technical problem, it is clearly identified and hence a routine technical solution can be used to settle it.

3. Difficulties in Managing Conflicts

3.1 Large Number of Conflict Parties/Stakeholders

Since the selection of the RJC method is a public issue in a democratic society, any party who is concerned about this issue is regarded as a stakeholder and should be automatically counted in the decision process. Speaking of the implementation, it is unfeasible to group together such a large number of conflict parties/stakeholders at the same table for discussion. The workload on information processing is high.

3.2 High Escalation Potential

As an ill-formed road junction brings negative impacts to people and even an economy as mentioned in Section 2, these problems are especially prevalent for major road junctions in a town as people have no choice but to use the road junctions anyway. The road junction users usually are not able to change the current unfavorable situation but tolerate and use the road junctions, but their dissatisfaction will build. Provided they are given a chance to express their views regarding betterment of the road junction, it is likely it will turn into a hot debate having different stakeholders with different opinions based on their own interests. Also, since choosing a proper RJC method is a public issue, it may also intensify the emotion of the people with regard to the people’s dissatisfaction to other current issues and government policies. Hence, if there is no strong reason to persuade them, they usually stand firm on their position.

3.3 Serious Escalation Consequences

According to Glasl’s conflict escalation model (Glasl, 2004) as explained by (Gerner, Heurich, Günther, & Schraml, 2011), if the conflict is not manifested properly in time, the conflict will escalate along the nine-phases and head towards a mutually destructive outcome (a lose-lose solution), which is the downside of conflict – a damage of relationship and creation of greater loss to the social system as a whole. In the case of RJC method selection issues, similar to many other popular public issues, if the demand of the stakeholders are always ignored in the negotiation process, they may go for demonstrations for even higher level of actions, e.g., destroying the opponents’ image, threatening other
conflict parties and forcing them to compromise. If the conflict keeps escalating without being managed, all the parties will move towards mutual destruction by eliminating those who are “enemies” in their eyes. If that stage is reached, a high cost will be incurred by the government to deescalate the conflict and cater to the stakeholders. Hence, it is always wise to identify and manage the conflict as early as possible, let everyone who is concerned with the issue express their view and make them feel their views are taken into consideration in the decision process.

3.4 Different Hierarchy of Human Needs

Each conflict party in the RJC method selection conflict fights for different ‘needs’ under Maslow’s Theory of Human Motivation. Maslow (1994) defines human needs in terms of a hierarchy, ascending from the most basic need for survival, e.g. food and water, to the highest category for self-actualization, which is the tendency for a person become what he potentially wants to be, i.e. “A musician must make music, an artist must paint, a poet must write, if he is to be ultimately happy” (Maslow, 1994). Adopting Maslow’s theory, the urban planners and engineers fight for affiliation acceptance, esteem or even self-actualization needs. They can get more respect from others and self-esteem in their professional field. They would like to develop some innovative solution to the traffic congestion or endeavor to make a construction breakthrough, what the environmentalists fight for is often a self-actualization need – to protect the environment. However, what the drivers and residents fight for is only the security and safety need to drive safely and to have a good living environment. The difference in the hierarchy of need is the major incompatibility among them and hence agreement is not easily reached through simple discussion.

Moreover, when it comes to tackling a problem as a group, humans often perform acts of heroism according to the Becker’s Human Paradox Theory. Becker (2007) points out that humans are afraid of death without having achieved any significant thing. Hence, most people spend their life on overcoming this anxiety by attempting to acquire some forms of distinction. They will imagine themselves as heroes and think that they are the only one who can deliver a unique contribution to the society. Hence, it may be difficult to ask those who are self-actualizing to change their view without any strong reason or rule that they can refer to.

3.5 The Prisoners’ Dilemma

According to Thomas and Kilmann’s Conflict Mode Instrument (Thomas & Kilmann, 1974) as discussed in (Lincke, 2003), which is for evaluating people’s typical behavior in conflict situation, there are five types of typical behavior when people are facing conflict according to their degree of assertiveness and cooperativeness:

1. The unassertive and uncooperative turtle – A person simply just wants to postpone and avoid to deal with the conflict.
2. The assertive and uncooperative shark – A person eager to pursue their own needs at the other sides’ expense if necessary.
3. The unassertive and cooperative teddy bear – A person attempts to accommodate the other sides, if necessary at his/her personal expense.
4. The assertive and cooperative owl – A person who is determined to come out with solutions which are acceptable to all parties.
5. The compromising fox (in the middle in terms of assertiveness and cooperativeness).

In terms of arenas, Morris et al. (1998) conclude that there is a difference in conflict management (negotiation) style between Western and Asian people. Western people tend to be of a competing style while Asian people tend to an avoiding style.

Since in this RJC selection conflict, a public issue, the stakeholders may not recognize each other and know the degree of assertiveness and cooperativeness of other stakeholders to the conflict in the consensus building process; they do not know the degree of compromise necessary in order to reach a
consensus. Under the environment in which information is incomplete, people are wise to protect themselves by standing firm in their position according to what the Prisoners’ Dilemma suggests (Poundstone, 2011). Yet, this act is not advantageous in reaching a consensus.

3.6 Leaders of Some Conflict Parties Are Not Easy to Be Identified

In order to conduct effective negotiation, there should be representatives (usually the leaders from different conflict parties) at the negotiation table. The leaders of the government, engineers and urban planners concerned with the RJC method selection are relatively easy to be identified as they are usually the secretary-general or project holders of the road junction construction projects.

On the other hand, in the era of the Internet, it is easy to call for campaigns or even protests demanding one’s own rights with the help of the social media, e.g. Facebook and Twitter. Yet, it is hard to search for leaders to represent such a large segment of the general population, each with different interests, in the negotiation with the groups which have relatively more power such as the government, engineers, and urban planners. This explains why it is not always clear how to identify leaders of the general public.

3.7 Easy to Gain Allies (Hardliners) Using Some Common Ideologies

The conflict among the stakeholders for choosing the most appropriate RJC method is likely to turn into a political issue with the presence of politicians in a democratic society. Some politicians may amplify the conflict by injecting some commonly acceptable ideologies to it and hence more surrounding communities concerning those ideologies will appear and get involved to the conflict. The first ideology that can be applied to the conflict is democracy, regarding whether the general public has the right to choose a road junction design they are going to use frequently. From the general public’s perspective, the government, academic scholars and professionals like engineers and urban planners are always criticized as living in an ivory tower, disconnected from reality. The general public often thinks that they should have the right to participate in public issues. The second one is environmental sustainability. Nowadays, people are more concerned about environmental protection so as to provide a sustainable living environment for the next generation. The third one is the cost efficiency. Citizens want the government to use their public funds in a cost-effective way. In short, the above are the three common ideologies conflict parties will typically refer to when searching for allies.

4. Intervention Decision – The ADR

Traditionally, an often common way to settle a conflict is to go for litigation (going to the court). However, the cost of litigation can be extremely high and litigation takes a relatively longer period of time (Fiadjoe, 2013). This is the reason why another form of conflict resolution method called Alternative Dispute Resolution (ADR) has been introduced and is increasingly popular these days. The pros and cons of using the three commonly used ADR methods (negotiation, mediation and arbitration) (Goltsman, Hörner, Pavlov, & Squintani, 2009) to reach agreements on the RJC method are evaluated in this section.

4.1 Negotiation

Negotiation is the simplest way for conflict resolution. It involves all the conflict parties or their representatives sitting together and discussing the issue face-to-face in order to reach a mutually accepted solution. However, this method is not very effective and feasible when the number of conflict parties/stakeholders is large or the escalation level is high. Dalkey and Helmer (1963) point out that direct negotiation invokes: impulsive construct of biased notions, a tendency to choose one’s mind’s novel ideas, an inclination to defend oneself on his own stand when being challenged by others, and quite often in the end, one person may dominate the ideas of the group. Hence negotiation is not always to be preferred.
4.2 Mediation

Mediation is an increasingly popular ADR method. It is to manage the conflict with an assistance of a “neutral” third party. The mediator acts as a catalyst to stimulate the effectiveness of negotiation between the conflict parties so as to increase the chances for reaching a consensus. All parties who are interested in the decision are invited to work together and explore all the views, expectations, options as well as obstacles in order to get a solution which can satisfy the needs of most parties. This method creates a higher chance to settle the problem in a way that everyone is satisfied (a win-win situation).

However, the effectiveness of mediation decreases when many parties lack obvious leaders. Also, it does not guarantee that a solution can be formed before the conflict is escalated to an irreversible level (Stage 9 of Glasl’s conflict escalation model [Glasl, 2008]). According to mediation statistics for the cases related to civil justice reform in Hong Kong, only 48% of the reported cases by the Hong Kong District Court in 2015 resulted in full or partial agreements (“Mediation statistics for civil justice reform related cases,” 2016).

Moreover, the key assumption behind the mediation approach is that the mediators are ideally independent, neutral and have enough knowledge and experience to understand the complexity of the conflict. Yet, this may not be the reality for many big, broad conflicts, given the mediators are also human. It is possible that they are affected by mood, friendship, and news media etc. no matter how professional they are.

4.3 Arbitration

Arbitration is different from negotiation and mediation in the sense that it relies on an arbitrator, a “neutral” person, to render a final and binding decision to the conflict similar to what is done by the judge in court. However, unlike litigation, the arbitrator is chosen and agreed by the conflict parties and the time for arbitration is usually relatively short. This method can ensure a solution to the problem can be reached in a relative short time. However, similar to litigation, the decision granted by the arbitrator usually only favors one party, which is a win-lose situation. This will exacerbate the downside of a conflict – and damage relationships. In addition, similar to the limitations of mediation, for some big, broad conflicts, it is difficult to find a real independent and neutral person who has enough knowledge to comprehend the conflict and grant a decision.

To conclude, the above three commonly used ADR methods all have their limitations: e.g. unable to perform effectively when the number of conflict parties/stakeholders is large, and difficulties finding an independent and neutral third party for making decision. Hence, none of them can fit in the situation of the RJC method selection conflict nor is preferred to be used as its conflict intervention strategy.

4.4 Proposed Methodology – Computerized Mediation-Arbitration

With the development of computer technologies and artificial intelligence, it is desirable to develop a quantitative decision framework and let the computers guide the conflict parties to reach a consensus for conflicts, especially for those which involve many stakeholders and criteria. The advantage of using computers is that it can generate a less-biased decision in the sense that it will not consider or be affected by factors which are unrelated to the decision subject and stakeholders’ mood. Hence, the results generated can be more acceptable to the stakeholders. In addition, using computers and the internet can let many conflict parties/stakeholders enter their views and opinions at the same time. The information handling capacity is better than that by any human. Moreover, one of the drawbacks of group decisions is that substantial time and resources are wasted in information sharing and may be directed only at influencing other parties’ opinions (Ben-Arieh, Easton, & Evans, 2009). If computers are used, some optimization process can be done in the quantitative decision framework to reduce the number of rounds of negotiation, so as to shorten the time and reduce the cost as well as resources related to time. Lastly,
since the result is generated based on quantitative data instead of vague and qualitative reasons, the data can be reserved for analysis for similar future projects.

The intervention strategy proposed in this paper is something in between mediation and arbitration, but in a computerized way as shown in Figure 1. Theories of Delphi Method, Analytic Hierarchy Process (AHP), Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS), Vague Set Theory and Minimum-Cost Consensus Model (MCCM) are used. (For details, please refer to (Kwok & Lau, 2016) and (Kwok, Chau, & Lau, 2014).)

![Figure 1 Overview on the Proposed Methodology](image)

### 4.4.1 Preparation

**Approaching and Grouping the Stakeholders**

From the point of view of statistics, the quality and representativeness of a decision are driven by the number and knowledge of the participants. Hence, it is crucial to involve the right participants with sufficient knowledge and interest on the decision subject in the decision process. Engaging the stakeholders on public issues is relatively easy because often they will appear and express their views during the consultation period as a matter of course. This group of people should have enough knowledge and interest as they are the individuals directly affected by the decision.

After the stakeholders are identified, they should be grouped according to their interests or professions, so as to balance the bargaining power of each conflict party and to prevent the decision being dominated by a single party. As a result, a more accurate and reliable decision can be generated.

### 4.4.2 Mediation

**Delphi Survey Together with MCCM Algorithm for Identifying Evaluation Criteria, their Relative Importance and their Key Performance Indicators**

Fisher et al. (2011) points out that people usually get into positional bargaining in a conflict: taking a position, arguing for it, and forcing others to compromise. Positional bargaining is not in favor of producing optimal and long-lasting results. Hence, instead of asking the stakeholders to evaluate and choose the RJC method options directly, it is suggested that they should focus on reaching a consensus on the evaluation criteria, their inter-related importance, and their key performance indicators (e.g. construction cost, efficiency in time and safety accident rate etc. of similar junction designs). To do so, several rounds of Delphi surveys are performed on-line. The participants are required to suggest and evaluate the relative importance on the criteria that have to be considered in the RJC method selection. Similar to most traditional Delphi processes, at the end of each round of the survey, their choices are summarized (Hsu & Sandford, 2007). What is different in this proposed method is that, MCCM
algorithm is used to calculate and suggest the optimal changes for each party and participant so as to lead everyone in the decision process to reach certain level of consensus more quickly. This act is similar to a human-performed mediation in a sense that a human mediator summarizes all the points given by the conflict parties and makes suggestions to every participant so as to push the parties to reach a consensus. What is different is that this proposed method can ensure efficiency in the decision process and a less biased decision is generated.

4.4.3 Arbitration

AHP together with TOPSIS for Judging the Optimal Choice of RJC Method

After a consensus is reached on the evaluation criteria, their relative importance and their key performance indicators in the computerized mediation step, a final judgment on the RJC method to be used is granted by computers using two algorithms, namely, AHP and TOPSIS. The former algorithm summarizes the evaluation criteria concluded in the computerized mediation process and prioritizes them according to their importance, while the later judges the best RJC method for that particular junction based on the prioritized evaluation criteria and their agreed key performance indicators of the RJC method options.

5. Conclusion

Public consultation and group decision-making are the foundations of a democratic society. They can help to explore problems in a society more deeply and create new opportunities for fine-tuned solutions. In this paper, conflicts that occur in the RJC method selection process is used as an example to illustrate the importance in using a quantitative and computerized approach for making public decisions. A full analysis has been done with that conflict and the limitations of using the commonly used ADR methods, namely, negotiation, mediation and arbitration as the intervention strategies for that subject matter were also discussed. Lastly, a computerized mediation-arbitration method is proposed to illustrate how public conflicts can be resolved using a quantitative and computerized approach yielding the most desirable outcomes.

Reference


Utilization of Cloud Computing Services in Developing Knowledge Management Systems for Private Higher Education Institutes

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Abstract

Public Universities are generally well funded and enjoy big budgets for their sustained development programs and strategic initiatives. However, private universities are always constrained with limited budgets and expect higher returns for small investments. With regard to Knowledge Management Systems (KMS), it is proven that KMS can enhance efficiency and facilitate ongoing knowledge transfer process. However, development of such KMS may require investments in heavy infrastructure. Cloud computing (CC) services can be utilized availing customized infrastructure to develop KMS progressively within the financial constraints. The proposed study analyses the prospects of developing KMS for private higher education universities utilizing cloud computing services. A methodology will be proposed that can provide a platform to build a decision support system for private universities to aid in availing CC services for KMS. A case study of a higher education institute in Saudi Arabia is considered for the study and initial survey results of the potential of adaptability of CC services will also be presented.
The Dynamics of the Equilibrium Margin for Soybean Processing

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Abstract

A non-linear serial correlation approach is used to analyze the behavior of margins for converting soy to meal and oil over time. Unlike traditional approaches, the margin in the paper is measured in percentage terms instead of dollar terms. The regression result suggests that there is a tendency for the margin to converge towards some equilibrium level and that this equilibrium is not constant but dynamic.

Introduction

Soybean processors convert large volumes of soybean into soybean meal and soybean oil every month. The value of the output (meal and oil) and input (soybean) are reflected in the prices of contracts for soybean, soy meal, and soy oil in the futures market. The profit for such conversion is called the margin, which is usually calculated as the value of the output in excess of the cost of input. It is the level of the margin that provides processors the incentive for such conversion. Processors can hedge in the futures market, which in effect locks in the margin by buying beans and selling meal and oil contracts in advance. The profit margin has been measured traditionally in dollar terms.

The margin for processing one bushel of soybean is traditionally calculated as:

\[ \text{Dollar Margin per bushel of soybean} = P_m Q_m + P_O Q_O - P_s \]  

Where \( P_s \) is the price per bushel of soybean, \( Q_m \) is the quantity of meal produced from one bushel of soybeans and \( P_m \) is price for that quantity, \( Q_O \) is the amount of oil produced from one bushel of soybeans and \( P_O \) is the price for that quantity. Simon (1999) used data for soybean, soy meal, and soy oil contracts from 1985-1995 to analyze the long-run equilibrium level for the margin. He found that there is a tendency for the margin to revert toward its most recent 5-day average. Furthermore, he found that the equilibrium level is characterized by strong seasonality. In particular, the equilibrium level for the margin tend to be lower in the period from February to June when soybean tends to be more expensive, and higher in the period between September and November when soybean tends to be cheaper. This is reasonable because soybean is an input for the process, thus lowering the cost of soybean would enhance the margin.

Margin Percentage and its Equilibrium

In our paper, we will adopt a different method for analyzing the equilibrium level for the margin. First, we will measure the margin in percentage terms, which was rarely done in past literature. The margin in this paper is calculated by dividing the dollar margin, equation (1), by the price per bushel of soybean:

\[ \text{Margin} = \frac{P_m Q_m + P_O Q_O - P_s}{P_s} \]  

The denominator in equation (2) is the price for one bushel of soybean which may be considered an initial investment since soy must be purchased first prior to processing.

Afterward, the profit from selling the soymeal and soy oil derived from the soybean can be calculated as a percent of soybean cost. Thus, the margin in percent is similar to the conventional measure for...
return on investment which is measured as a percentage of initial investment. Below is a graph for the margin percentage based on the November 2013 contract for Soybean and December 2013 Contracts for Soymeal and Soy oil on a daily basis:

Graph 1. Margin Percentage for December 2015 Soymeal and Soy Oil Contracts

Suppose the margin percentage is excessively high, the incentive for processing beans into meal and oil would become strong, which will increase the demand for soybean for processing and thus will lead to higher price for soybean. The higher price for soybean would lower the margin and brings the margin back to a more normal level. Besides the higher price for soybean, the higher level of processing will lead to a greater supply for meal and oil, which leads to lower prices for these items and thus reduces the revenue for the process. All these factors will help lower the margin to equilibrium. Thus, there should be a tendency to revert to the mean or equilibrium level; such equilibrium level of margin will be called NORMt.

If an equilibrium for the margin were to exist, then what is this equilibrium level? Furthermore, is there a tendency for the margin to converge to equilibrium over time? These are the issues to be examined in this paper.

We will use the concept of disequilibrium to analyze the tendency of convergence toward the norm. Disequilibrium is defined here as the magnitude of deviation from the norm, which is the equilibrium point.

\[ D_t = \text{MARG}_t - \text{NORM}_t \]  

(3)

The way we will analyze the disequilibrium is treating it similarly to the stochastic error term in conventional regression equations which has a normal distribution with a mean of zero and a certain standard deviation.
Disequilibrium is similar to the stochastic error, measured by derivation from the predicted value in that the disequilibrium is measured by the deviation from the norm. The disequilibrium is also assumed to have a normal distribution with a mean of zero.

In first order serial correlation, the regression error of period $t$ is correlated with the error of period $t-1$ only. Furthermore, the nature of such correlation is assumed to be linear without an intercept:

$$e_t = \rho e_{t-1} + v_t$$ (4)

Where $e_t$ represents the residual at period $t$, $\rho$ represents the correlation coefficient, and $v$ represents the stochastic error term of the linear serial correlation function.

In simple serial correlation, the error of today is regressed against the error of the previous day. The correlation coefficient is normally less than one, yielding a phenomenon where today’s error tends to be smaller than that of the previous day. This means that the size of the error term tends to become smaller over time.

Under the conventional linear serial correlation, rho is a constant which yields a condition where the strength of the tendency for the error to converge to zero is the same regardless of the size of the error.

In some cases, we believe the nature of the serial correlation or convergence of error can be better captured by a non-linear specification. A non-linear specification for the serial correlation equation allows the strength of the tendency for the error to converge to zero to vary depending upon the size of the errors. After all, it is conceivable that larger errors have a stronger tendency to converge than smaller errors given that they are farther off from the equilibrium. In order to minimize the number of parameters, we propose a polynomial of the third order with a symmetry restriction. Under the symmetry condition, residuals with the same absolute value have the same expected value of residual for the following period. For example, if the expected value of residual or deviations based on yesterday’s residual of .2 is .1, then the expected value of another residual based on its previous week’s residual of -.2 would be -.1.

With such symmetry restriction, the second term of the serial correlation function, which is of the second power, reduces to zero. Thus, the third order polynomial function boils down to:

$$e_t = \rho_1 e_{t-1} + \rho_2 e_{t-1}^3 + v_t$$ (5a)

Where $\rho_1$ and $\rho_2$ are the coefficients of the serial correlation function, and $v_t$ is the stochastic error term for the serial correlation equation.

Based on the above specification, when $e_{t-1}$ is high, the force of converging to a lower $e_t$ is stronger than if $e_{t-1}$ is low already; Thus, a non-linear serial correlation specification allows for such possible variability (rather than strictly a constant) in the tendency for convergence based on the size of the error term. This is less restrictive than the conventional linear serial correlation which allows for only a constant tendency for convergence regardless of the size of the error.

**Empirical Result**

The behavior of the disequilibrium term over time might be similar to that of the error term in first order serial correlation. This concept can be applied to the disequilibrium term for the margin.

The size of the disequilibrium ($Dt$) is treated as a stochastic error ($et$) in this paper. If the behavior of $Dt$ is similar to that of $et$, then the size of the disequilibrium, as measured by the magnitude of deviation from the norm or the equilibrium point, may be used to determine its tendency to converge to the equilibrium.

Regression based on the specification similar to equation (5a) is applied to the disequilibrium.
The equation for disequilibrium is written similarly to the non-linear serial correlation:

\[ D_t = \rho_1 D_{t-1} + \rho_2 D_{t-1}^3 + \nu_t \]  

(5b)

Substitute equation (3) into (5b), we get:

\[ \text{MARG}_t - \text{NORM}_t = \rho_1 (\text{MARG}_{t-1} - \text{NORM}_{t-1}) + \rho_2 (\text{MARG}_{t-1} - \text{NORM}_{t-1})^3 + \nu_t \]

Because \( \text{NORM}_t \) include unknown values, it is moved to the right hand side of the equation to be estimated:

\[ \text{MARG}_t = \text{NORM}_t + \rho_1 (\text{MARG}_{t-1} - \text{NORM}_{t-1}) + \rho_2 (\text{MARG}_{t-1} - \text{NORM}_{t-1})^3 + \nu_t \]  

(6)

Equation (6) represents one possible regression equation for estimating the parameters, including \( \text{NORM}_t \).

The actual daily closing price for November 2013 contract for Soybean and December 2013 Contracts for Soymeal and Soy oil are used to calculate the margin as defined in equation (2).

The sample period covered 254 days from first day of trading to expiration on the November 2013 contract. It was necessary to ensure that all three contracts exist simultaneously, thus, the data used were from October 9th of 2012 to October 24 of 2013 on a daily interval.

\( \text{NORM}_t \) can be set as a constant parameter or treated as a function of time. To see if \( \text{NORM}_t \) changes over time (equilibrium is unstable), we create an explanatory dummy variable called HALFD. The sample period is divided into first half and second half. HALFD for the first 127 days were assigned a value of zero and the latter 127 days was assigned a value of 1.

\[ \text{NORM}_t = A_{\text{NORM}} t + B_{\text{NORM}} t \times \text{HALFD} \]  

(7)

Where \( A_{\text{NORM}} t = \) equilibrium level of margin for the base period (first half of the sample period where HALFD=0).

\( B_{\text{NORM}} t = \) coefficient for the dummy variable HALFD, which represents the change in equilibrium margin from the first half to the second half of the sample period.

Substituting (7) into (6), we get the final regression equation for the two period model:

\[ \text{MARG}_t = (A_{\text{NORM}} t + B_{\text{NORM}} t \times \text{HALFD}) + \rho_1 (\text{MARG}_{t-1} - (A_{\text{NORM}} t + B_{\text{NORM}} t \times \text{HALFD})) + \rho_2 (\text{MARG}_{t-1} - (A_{\text{NORM}} t + B_{\text{NORM}} t \times \text{HALFD}))^3 + \nu_t \]  

(8)

We assume a processing cost per bushel of 30 cents, which is incorporated in calculating the margin since this amount of processing cost yields the strongest result for the regressions in terms of statistical significance.

The regression result for (8) is summarized in Table 1 below:
Table 1. Regression Results with two sub-periods.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>Error</th>
<th>t-statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANORM_{1}</td>
<td>.080262</td>
<td>.745455E-03</td>
<td>107.668</td>
<td>.000</td>
</tr>
<tr>
<td>BNORM_{1}</td>
<td>.749472E-02</td>
<td>.104774E-02</td>
<td>7.15323</td>
<td>.000</td>
</tr>
<tr>
<td>p_{1}</td>
<td>.767496</td>
<td>.057100</td>
<td>13.4413</td>
<td>.000</td>
</tr>
<tr>
<td>p_{2}</td>
<td>4575.50</td>
<td>1706.27</td>
<td>2.68157</td>
<td>.007</td>
</tr>
</tbody>
</table>

Based on the regression result in Table 1, the average margin or equilibrium level for margin for the base period, which is the first half of the sample period where HALFD=0 (ANORM_{1}) is about 8.02%. Because the estimated value for BNORM_{1} is positive and significant, this implies that the equilibrium margin for the second-half period is higher in the period where HALFD is set to one, which covers the second half of the sample period. This implies that the equilibrium level for the margin does change with time and thus is unstable.

Simon found that the dollar equilibrium was higher in the Sep to Nov period than in the Feb to June period. In an attempt to duplicate his result using percentage margin, we create two dummy variables (instead of one as before): FEBD for the February to June period and SEPD for the September to November period. The values for FEBD is set to one during the Feb to June period and zero otherwise. Similarly, SEPD is set to one during September to November period and zero otherwise. With these two dummy variables added, NORM can be written as a function of these periods:

\[
NORM_{t} = ANORM_{t} + BNORMFEB * FEBD + BNORMSEP*SEPD
\]  \tag{9}

Where ANORM_{t} = equilibrium margin for the base period (dates where all dummy variables are zero).
BNORMFEB = change in equilibrium margin from base period to February period.
BNORMSEP = change in equilibrium margin from base period to September period.

Substituting (9) into (6), we get the final regression equation for the three-period model:

\[
MARG_{t} = (ANORM_{t} + BNORMFEB * FEBD + BNORMSEP*SEPD) + p_{1} (MARG_{t-1} - (ANORM_{t} + BNORMFEB * FEBD + BNORMSEP*SEPD)) + p_{2} (MARG_{t-1} - (ANORM_{t} + BNORMFEB * FEBD + BNORMSEP*SEPD))^3 + v_{t}
\]  \tag{10}

The regression results for (10) are summarized in Table 2:

Table 2: Regression Results with three sub-periods.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>Error</th>
<th>t-statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANORM_{1}</td>
<td>.081784</td>
<td>.858281E-03</td>
<td>95.2883</td>
<td>.000</td>
</tr>
<tr>
<td>BNORMFEB</td>
<td>.507598E-02</td>
<td>.154104E-02</td>
<td>3.29386</td>
<td>.001</td>
</tr>
<tr>
<td>BNORMSEP</td>
<td>.639861E-02</td>
<td>.148915E-02</td>
<td>4.29683</td>
<td>.000</td>
</tr>
<tr>
<td>p_{1}</td>
<td>1.10672</td>
<td>.040126</td>
<td>27.5809</td>
<td>.000</td>
</tr>
<tr>
<td>p_{2}</td>
<td>-2198.99</td>
<td>710.196</td>
<td>-3.09631</td>
<td>.002</td>
</tr>
</tbody>
</table>

Based on the results in Table 2, the equilibrium level for the margin during the base period is 8.17%. Comparing to the base period, the margin is about .507% higher in Feb to June and .639% higher in...
September to November, which partially confirms Simon’s result in that the margin for September to November period tends to be higher. Both our results and Simon’s suggest that the prices of soymeal and soy oil do not drop proportionately with soybean price during harvest time for the bean, thus yielding higher margins for the processor.

It is interesting that we obtain a similar result even though we calculate the margin in percentage terms (instead of dollar terms). Furthermore, we use non-linear serial correlation, which is a very different technique from the one used by Simon.

**Conclusion:**

The regression result seems to indicate that there is an equilibrium level for the margin and that the equilibrium level does change with time. This suggests that meal and oil prices do not always change proportionately with soybean and that the processors do not shift the entire change in soybean cost to customers. This also suggests that limited processing capacity might not allow the volume of processing to increase proportionately with soybean supplies during harvest time to take advantage of the higher margin. Further works are needed to understand which other factors can cause the equilibrium level of margin to change over time.

**Reference**


Blackboard as an Online Testing Tool

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Ling Chen, BMCC-City University of New York, USA

Abstract

Blackboard-based online testing can be used to attain the following goals: 1) to engage and to motivate students learning chemistry, 2) to understand how students solve difficult problems, 3) to assess students’ learning outcomes as listed on the course syllabus, and 4) to provide just-in-time procedures to assess and evaluate student progress. Online testing includes online test questions and assessment questions. Both are made available on Blackboard. The online tests include chapter quizzes, pre-post lab questions, and homework tests. Students can improve their grades with multiple attempts. Whenever mistakes are made, students are encouraged to review the course material, and to re-solve the problems. For each online test, it normally takes a student three attempts to fix his/her mistakes. From these activities, students learn to be accountable for their performance and to use resources effectively. From the “Grade Center” tool of Blackboard, instructors can “View Grade Details” and understand how students have handled difficult concepts. For the course assessment, however, only one attempt is allowed to measure if student progress is satisfactory. Blackboard-based online testing is not just innovative and effective but also a free pedagogical tool that is advantageous for community college students mostly coming from low-income families.
Fashion Involvement of the First Time Mother: 
Online Consumption or Face to Face Consumption

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Becoming a mother for the first time - behavior and demographic characteristics

Transitions in life separate the person from the key role to which he was accustomed, and engage him in creating new roles to fit the gaps. The individual will begin to formulate possible selves and to envision himself as he might possibly become (Markus & Nurius, 1986). The mother's new selves struggle with serious questions such as, what kind of mother do I want to be? Or, will I be a good mother? What is a good mother? And, will I be able to balance my new work and life with my new role as a mother? (Banister & Hogg, 2006).

Demographic changes were seen over the last two decades in Israel regarding the mother's identification. The new mother is older (27.7 years of age on average) and more educated (45% up to college education).

Consumption often expresses who we are and, according to Thomsen and Sorenson (2006), there is a relationship between symbolic consumption and personal role transitions. Roles of uncertainty, achieving the ideal self, and assisting in creating an ideal new role are a few of consumption's target and significant objectives (Thomson & Sorenson, 2006).

These roles of consumption during the transition to motherhood often enhance the clothing and other baby products as an important issue of new mother's behavior reflecting her self-esteem, especially the married mother (Gertner Moryossef, 2014). Samson, Mehta & Chandani (2014) find that for customers buying a car, the internet has a more positive and impressive influence on decision-making than does television or print media or word of mouth media. The positive impact of the internet was also shown in the study by Dai, Forsythe, and Kwon (2014) where early positive online knowledge has a positive impact on the customers’ purchasing and also in high involvement products (high perceived risk products).

Due to the fact that baby’s goods are high involvement products for the first-time mother (Gertner Moryossef, 2014), the first source of information is family and friends while salespersons and the internet are secondary sources for the mother's decisions (Senecal & Nantel, 2004; Guy, Park & Konana, 2011).

Preliminary research (O'Cass & Choy, 2008) demonstrated a significant relationship between fashion involvement for the baby's clothes and demographic parameters including education (negative influence), price perception, self-confidence, and media usage (positive influence) with variables like age, income, and marital status having no influence on the fashion involvement of the new mother in her baby's clothes (Gertner Moryossef, 2014).

The present research aimed to examine the digital consumption of baby clothes by the new mother.

Methodology

The empirical research involved qualitative group interviews with two groups of partnered new mothers. The interviews were recorded and transcribed verbatim. The mothers’ group was comprised often first time mothers aged 24-37 with their first child aged 6-18 months.
The first group included five mothers (Dorit, Sharon, Gal, Mayyan, and Shira) with their first child aged eight to ten months, and the second group included four mothers (Rachel, Odelia, Efrat, and Rinat) with a new baby one to two years of age.

The participants included mothers living in different households with diverse incomes.

Results

Figure No 1: Participants' description

<table>
<thead>
<tr>
<th>Participant</th>
<th>Dorit</th>
<th>Shira</th>
<th>Gal</th>
<th>Sharon</th>
<th>Maayan</th>
<th>Rachel</th>
<th>Odelia</th>
<th>Rinat</th>
<th>Efrat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother's age</td>
<td>34</td>
<td>29</td>
<td>27</td>
<td>30</td>
<td>26</td>
<td>25</td>
<td>24</td>
<td>26</td>
<td>37</td>
</tr>
<tr>
<td>Baby's age (months)</td>
<td>9 m girl</td>
<td>5 m girl</td>
<td>5 m girl</td>
<td>6 m boy</td>
<td>7 m boy</td>
<td>15 m boy</td>
<td>17 m girl</td>
<td>18 m girl</td>
<td>14 m girl</td>
</tr>
<tr>
<td>Mother's income compared to the average</td>
<td>High</td>
<td>Average</td>
<td>Average</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Mother's marital status</td>
<td>Solo mother</td>
<td>Married</td>
<td>Partnered (cohabiting relationship)</td>
<td>Married</td>
<td>Married</td>
<td>Married</td>
<td>Married</td>
<td>Solo mother</td>
<td></td>
</tr>
<tr>
<td>Mother's education</td>
<td>High school</td>
<td>2nd degree</td>
<td>1st degree</td>
<td>1st degree</td>
<td>High school education</td>
<td>High school education</td>
<td>High school education</td>
<td>1st degree</td>
<td>1st degree</td>
</tr>
</tbody>
</table>

The findings (Figure no. 1 above) suggest that the new mother seeks and shares information using the web but hardly buys online. Regardless of her demographic variables the new mother goes to the store to see the clothes and decide what to buy. The experience of buying the first clothes must be face to face in the traditional way and the new mother does not want to miss it.

Consumption was not related to the baby's age as mothers from the first and the second group (baby's age younger and older than one year) had the same consumption behavior.

Based on Bar Zuri (2009), Punj (2011), and Kutucuoglu, Arikan Saltik, Firat, and Tuncel (2013) online consumption more commonly typifies the younger consumer (aged 18-25) who is more innovative, less suspicious of giving their credit card, and are more sensitive to time. Still, in this study no relationship between the new mother's age and online consumption behavior was seen, and young as well as older mothers preferred traditional consumption.

Online consumption is conspicuous consumption categorized as consumers having identities through products and goods. They are “consume now”, and characterize themselves through consumption, use consumption to be happy and to advertise what they have (Wang & Griskevicius, 2014).

In fact, modern fashion consumption refers to “you are what you wear” (Kutucuoglu et al., 2013; Belk, 2014). The new mothers use baby clothes to identify themselves as “perfect mothers”.

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It was interesting to see that solo mothers, on the other hand, are less self-consciousness and less influenced by the opinions of those around (Bock, 2001; Banister & Hogg, 2006; Gertner Moryossef, 2014).

**Discussion**

The above themes obtained from the interviews point to the fact that the new mother is highly involved in baby fashion. She treats clothing as symbolic items, positioning her as a perfect mother and is deeply influenced by web sites and the internet.

Since the higher the involvement indicates more media usage and more time the consumer will dedicate to viewing advertising (O’Malley, 2006; Zaichkowsky, 1986) it is logical to suppose that new mothers will use the internet to share information to gather conclusions and to share from their experience, but they will not miss the experience of buying the first baby’s clothes face-to-face.

Results indicate that solo mothers are more price perceptive, and partnered mothers are more publically self-conscious, but both solo and partnered mothers are similarly and highly involved in clothing for their first child.

Both solo and partnered mothers have high involvement in fashion clothing but the more educated the mother is and the older she is, the lower is her involvement (O’Cass 2002, 2004).

For the new mother clothing for the baby is symbolic in terms of status and the importance of positioning, so looking on the web site for the latest trend or the outfit celebrities are wearing is essential if mothers want their baby to be fashionable (Belleau, McFatter, Summers, Yingjiao, Xu, & Garrison, 2008). Still, the buying decision will be at the store because this is a new product, a new experience, and she treats shopping as participation in the new and enjoyable job of her new role as a mother.

Marketers in the baby clothes segment should be aware of the fact that information must be shared using the web forums and blogs but the main decision will be made at the store. These findings suggest that marketers advertise all the information on the web, but allow the new mother to use a coupon or other sales promotion to go to the store personally to buy the clothing.

It will be of interest to examine the consumer behavior of the new mother after her new born is older (more than 2 years) or to explore her buying consumption procedure for the second baby.

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Delay Analysis of Construction Projects

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Abstract

Construction delays can be defined as the late completion of works compared to the planned schedule or contract schedule. Construction delays can be minimized only when their causes are identified. The objective of this study is to identify the major causes of construction delays in India; in particular the Manipal Town. This study was carried out based on literature review and a questionnaire survey. The questionnaire was designed based on forty-two factors of delays under six distinct categories targeting the contractors, clients and consultants. The Likert’s scale of five ordinal measures was used in this survey. The level of importance of each factor of delays was established by computing Relative Importance Indices (RII). The analysis was made using Microsoft Excel. The major cause of delay out of 42 causes is identified as the category of Owner Related Factors which was found to be due to delay in payments (RII-0.812).

Key Words: construction delays, questionnaire, Likert scale, delay factors, relative importance indices

Introduction

Delay is generally acknowledged as the most common, costly, complex and risky problem encountered in construction projects. Because of the overriding importance of time for both the owner (in terms of performance) and the contractor (in terms of money), it is the source of frequent disputes and claims leading to lawsuits.

Delays caused by the client such as late submission of drawings and specifications, frequent changes in orders and incorrect site information generates claims from both the main contractors and subcontractors which many times entail lengthy code battles with significant financial repercussions. Delays caused by contractors can generally be attributed to poor managerial skills. Lack of planning and a poor understanding of accounting and financial principles have led to many a contractor’s downfall (Rahul Kolhe and Milind Darade, 2014).

Delays can be minimised when their causes are identified. Identification of the factors that contributed to the causes of delays has been studied by numerous researchers in several countries. Delay is a situation when the contractor, consultant and client jointly or severally contributed to the non-completion of the project within the original or the stipulated or agreed contract period.

Construction delays are for the most part costly and completing projects on time is beneficial to all the parties. Therefore, it is essential to identify the actual causes of delay in order to minimize and avoid the delays and their accompanying expenses.

Types of delay

Before analysing construction delays, a clear understanding of the general types of delays is necessary. There are four basic ways to categorize delays:
The Role of construction actors in the industry

There are diverse interests in the construction industry. The principal interests or actors in the construction industry are:

- Clients,
- Consultants,
- Contractors

Literature survey

1. Chan and Kumaraswamy (1997) conducted research on potential delay factors in Hong Kong construction projects as seen by clients, consultants. Five principal factors are identified: Poor risk management and supervision, unforeseen site conditions, slow decision making, client initiated variations and work variations.

2. Mezher and Tawil (1998) conducted a survey of the causes of delay in construction industry in Lebanon from the view point of owners, contractors and architectural or engineering firms. It was found that the owners had more concerns with regard to financial issues; contractors regarded contractual relationship the most important, while consultants considered project management issues to be the most important causes of delays.

3. Sweis G., Sweis R., Abu Hamad., and Shboul (2008) studied the causes of delay in residential projects in Jordan and concluded that financial difficulties faced by the contractor and too many changes in orders by the owner were the leading cause of construction delay.

4. A paper on Calculation of Contingency in Construction Projects by Ali Touran (2003) presents a probabilistic model that considers the random nature of change orders and their impact on the cost and schedule of a construction project. The model incorporates uncertainties in project cost and schedule and calculates the contingency based on the level of confidence specified by the owner. It assumes a Poisson arrival pattern for change orders in a construction project. The effect of schedule delays in further increasing the project cost is considered explicitly and the effect of correlation between change orders is discussed and analytically considered. The proposed model may be used for budgeting purposes at the early stages of project development.

5. Fugar and Agyakwah-Baah (2010) investigated the causes of delay of building construction projects in Ghana to determine the most important according to the key project participants. All major stake-holders agreed that the top ten most important factors causing delay in Ghana are: delay in honouring payment certificates, underestimation of the cost of projects, underestimation of complexity of project, difficulty in accessing bank credit, poor supervision, underestimation of time for completion of projects by contractors, shortage of materials, poor professional management, fluctuations in or rising costs of materials, and poor site management.

6. Assaf, Al-Khalil and A-Hazmi (1995) summarized the main causes of delay in large building construction projects in Saudi Arabia. They identified approval of shop drawings, delays in payment to contractors and the resulting cash problems during
construction, design changes, conflicts in work schedules of sub-contractors, slow decision-making and executive bureaucracy in owner’s organizations, design errors, labour shortages and inadequate labour skills as the most important causes of delays.

Methodology

The preliminary data for this research was collected through a literature review and the questionnaire survey targeted on a group of contractors, clients and consultants in some projects in Manipal. A Relative Importance Index (RII) for each of the identified factors causing delay was calculated.

Identification of delay factors

In this step, some of the causes for delay that may be encountered in a construction project were identified. The causes of delay are then classified into six broad categories depending on their nature and mode of occurrence:

- Consultant related factors,
- Contractor related factors,
- Owner related factors,
- Design related factors,
- External related factors and
- Project related factors

The factors causing delays are summarized in Table 1.

Table 1: Overall group and factors causing delay.

<table>
<thead>
<tr>
<th>Group</th>
<th>Factors causing delay</th>
</tr>
</thead>
</table>
| Consultant related | Lack of experience of consultant in construction projects.  
|                   | Delay in approving major changes.  
|                   | Delay in performing inspection and testing.  
|                   | Inadequate project management assistance.  
|                   | Late in reviewing and approving design documents.  
|                   | Poor communication and coordination with other parties.  |
| Contractor related | Delays by subcontractors.  
|                   | Inadequate contractor experience.  
|                   | Contractor planning and scheduling problems.  
|                   | Inadequate site supervision.  
|                   | Shortage of labour.  
|                   | Slow site clearance.  
|                   | Poor management and execution.  
|                   | Equipment breakdown  
|                   | Unavailability of equipment  
|                   | Inadequate skill of operators.  |
| Owner related     | Delay in payments.  
|                   | Slow decision making.  
|                   | Delay in approving documents.  
|                   | Delay in producing documents.  
|                   | Variations during construction.  
|                   | Suspension of work.  |
Questionnaire design

The questionnaire was designed based on forty two factors under six categories which were identified as contributing to the cause of delays. A questionnaire survey was conducted to assess the perception of contractors, clients and consultants. The questionnaire is mainly based on Linkert’s scale of five ordinal measures from 1 to 5 according to the level of contribution.

| Design related                  | • Design changes during construction.  
|                                | • Late issuance of instruction.  
|                                | • Misunderstanding of owner’s requirement by design engineers.  
|                                | • Poor use of design software.  
|                                | • Inadequate details.  
| External related               | • Accidents.  
|                                | • Changes in rules and regulations.  
|                                | • Trade unions.  
|                                | • Price fluctuations.  
|                                | • Unfavourable weather conditions.  
|                                | • Delay in obtaining permission.  
|                                | • Non-availability of utilities in site.  
|                                | • Problems with neighbours.  
|                                | • Unforeseen ground conditions.  
|                                | • Shortage of materials.  
| Project related                | • Project complexity  
|                                | • Disputes.  
|                                | • Original contract duration too short.  
|                                | • Lack of communication between parties.  
|                                | • Speed of decision making involving all parties.  

Data collection and Analysis

Questionnaires were distributed to 54 number of constructions parties of the projects in Manipal area. Data obtained through these questionnaires are analysed by computing Relative Importance Indices (RII)

Relative Importance Index

The five point Likert scale ranging from 1 (very low importance) to 5 (very high importance) was adopted to quantify results of survey. The level of importance of each factor is established by comparing the Relative Importance Index for each of the factor as follows:

$$RII = \sum \frac{W}{(A*N)}$$

Where,
\( W \) – Weighting given to each factor by the respondents (ranging from 1 to 5).
\( A \) – The highest weight (i.e. 5 in this case).
\( N \) – The total number of respondents.

The RII ranges from 0 to 1, higher the value of RII more important was the cause of delays.

These ranking makes it possible to compare the relative importance of the factors.
**Result analysis**

All the survey questionnaires were completed by project managers of the projects or the project engineer at the site. In some cases consultants gave the answers on behalf of their clients, both from the owner and the contractor side. Even telephone and email reply was accepted since it was difficult to get direct one to one meetings with the project managers in all instances. The analysed data is summarized in Table 2.

<table>
<thead>
<tr>
<th>Group of factors</th>
<th>Sl. No</th>
<th>Factors causing delays</th>
<th>Importance</th>
<th></th>
<th></th>
<th></th>
<th>Mean value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1= very low</td>
<td>2= low</td>
<td>3= medium</td>
<td>4= high</td>
<td>5= very high</td>
<td></td>
</tr>
<tr>
<td>Consultant related factors</td>
<td>1</td>
<td>Lack of experience of consultant.</td>
<td>1</td>
<td>7</td>
<td>13</td>
<td>9</td>
<td>3</td>
<td>0.636</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Delay in approving major changes.</td>
<td>2</td>
<td>7</td>
<td>19</td>
<td>5</td>
<td>0.563</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Delay in performing inspection and testing.</td>
<td>1</td>
<td>5</td>
<td>15</td>
<td>10</td>
<td>2</td>
<td>0.642</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Inadequate project management.</td>
<td>2</td>
<td>9</td>
<td>14</td>
<td>7</td>
<td>1</td>
<td>0.576</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Delay in approving design documents.</td>
<td>1</td>
<td>2</td>
<td>14</td>
<td>12</td>
<td>4</td>
<td>0.697</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Poor communication and coordination with other parties.</td>
<td>7</td>
<td>12</td>
<td>10</td>
<td>4</td>
<td>0.0667</td>
<td>13</td>
</tr>
<tr>
<td>Contractor related factors</td>
<td>1</td>
<td>Delays by subcontractor.</td>
<td>11</td>
<td>7</td>
<td>5</td>
<td>10</td>
<td>0.685</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Inadequate contractor experience.</td>
<td>1</td>
<td>2</td>
<td>15</td>
<td>7</td>
<td>8</td>
<td>0.667</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Contractors planning and scheduling problems.</td>
<td>1</td>
<td>2</td>
<td>15</td>
<td>13</td>
<td>2</td>
<td>0.679</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Inadequate site supervision.</td>
<td>14</td>
<td>6</td>
<td>1</td>
<td>12</td>
<td>0.667</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Shortage of labour.</td>
<td>4</td>
<td>12</td>
<td>12</td>
<td>5</td>
<td>0.678</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Slow site clearance.</td>
<td>1</td>
<td>3</td>
<td>14</td>
<td>14</td>
<td>1</td>
<td>0.667</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Poor management and execution.</td>
<td>1</td>
<td>6</td>
<td>6</td>
<td>9</td>
<td>11</td>
<td>0.739</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Equipment breakdown.</td>
<td>3</td>
<td>10</td>
<td>12</td>
<td>6</td>
<td>2</td>
<td>0.563</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Unavailability of equipment.</td>
<td>4</td>
<td>7</td>
<td>14</td>
<td>7</td>
<td>1</td>
<td>0.563</td>
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<tr>
<td></td>
<td>10</td>
<td>Inadequate skill of operators.</td>
<td>4</td>
<td>5</td>
<td>13</td>
<td>5</td>
<td>6</td>
<td>0.624</td>
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<tr>
<td>Owner related factors</td>
<td>1</td>
<td>Delay in payments.</td>
<td>1</td>
<td>12</td>
<td>4</td>
<td>16</td>
<td>0.812</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Slow decision making.</td>
<td>1</td>
<td>2</td>
<td>13</td>
<td>13</td>
<td>4</td>
<td>0.703</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Delay in approving documents.</td>
<td>1</td>
<td>5</td>
<td>15</td>
<td>9</td>
<td>3</td>
<td>0.648</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Delay in producing documents.</td>
<td>3</td>
<td>5</td>
<td>12</td>
<td>13</td>
<td>0.612</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Variations during construction.</td>
<td>1</td>
<td>3</td>
<td>7</td>
<td>17</td>
<td>5</td>
<td>0.733</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Suspension of work.</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td>12</td>
<td>7</td>
<td>0.703</td>
</tr>
</tbody>
</table>
Design related factors | 1 | Design changes during construction. | 2 | 5 | 9 | 7 | 10 | 0.709 | 7 |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>Late issuance of instructions.</td>
<td>5</td>
<td>10</td>
<td>7</td>
<td>11</td>
<td>0.745</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Misunderstanding of owner’s requirement by design engineers.</td>
<td>2</td>
<td>11</td>
<td>14</td>
<td>4</td>
<td>2</td>
<td>0.581</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Poor use of design software.</td>
<td>7</td>
<td>13</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>0.503</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Inadequate details.</td>
<td>4</td>
<td>11</td>
<td>8</td>
<td>8</td>
<td>2</td>
<td>0.557</td>
<td>27</td>
</tr>
<tr>
<td>External related factors</td>
<td>1</td>
<td>Accidents.</td>
<td>9</td>
<td>2</td>
<td>11</td>
<td>11</td>
<td>0.545</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Changes in rules and regulations.</td>
<td>2</td>
<td>7</td>
<td>20</td>
<td>4</td>
<td>0.557</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Trade unions.</td>
<td>3</td>
<td>14</td>
<td>11</td>
<td>5</td>
<td>0.509</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Price fluctuations.</td>
<td>7</td>
<td>2</td>
<td>3</td>
<td>13</td>
<td>8</td>
<td>0.678</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Unfavourable weather conditions.</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>11</td>
<td>10</td>
<td>0.642</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Delay in obtaining permission.</td>
<td>3</td>
<td>7</td>
<td>13</td>
<td>8</td>
<td>2</td>
<td>0.594</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Non-availability of utility in site.</td>
<td>7</td>
<td>9</td>
<td>11</td>
<td>5</td>
<td>1</td>
<td>0.503</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Problems with neighbours.</td>
<td>4</td>
<td>17</td>
<td>7</td>
<td>5</td>
<td>0.478</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Unforeseen ground conditions.</td>
<td>10</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>2</td>
<td>0.503</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Shortage of materials.</td>
<td>2</td>
<td>3</td>
<td>14</td>
<td>8</td>
<td>6</td>
<td>0.679</td>
<td>11</td>
</tr>
<tr>
<td>Project related factors</td>
<td>1</td>
<td>Project complexity.</td>
<td>3</td>
<td>3</td>
<td>18</td>
<td>7</td>
<td>2</td>
<td>0.612</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Disputes.</td>
<td>8</td>
<td>14</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>0.49</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Original contract duration too short.</td>
<td>1</td>
<td>8</td>
<td>18</td>
<td>3</td>
<td>3</td>
<td>0.593</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Lack of communication between parties.</td>
<td>10</td>
<td>17</td>
<td>6</td>
<td>0.775</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Speed of decision making involving all parties.</td>
<td>6</td>
<td>10</td>
<td>8</td>
<td>9</td>
<td>0.721</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Conclusion

1. The major cause for delay by owners is delay in making payments having RII 0.812 and ranking 1st among 42 factors whereas variation during construction is ranked 5th.
2. The major causes for delay by project related factors is lack of communication between parties having RII 0.775 and ranking 2nd among 42 causes whereas speed of decision involving all parties is ranked 6th.
3. The major causes for delay by design related factors are late issue of instruction having RII 0.745, ranked 3rd among 42 factors.
4. The major causes for delay by contractors are poor management and execution having RII 0.739 and ranking 4th among 42 factors.
5. The major cause for delay by consultant related factors is delay in approving design documents having RII 0.697 and ranking 9th among 42 causes.
6. The major causes for delay by external factors are delay due to shortage of materials and price fluctuations ranking 11th and 12th respectively.
References


Cloud Computing: Emerging Issues regarding Data Location and Security

Rezwanul Alam, East West University, Bangladesh
Arnob Zahid, American International University-Bangladesh, Bangladesh
Md Saddam Khan, American International University, Bangladesh

Abstract
Cloud Computing is a generic term for delivering hosted services over the Internet. It follows a pay-as-you-go approach. Cloud Computing offers numerous benefits for the enterprises, however, there are also many issues, as with any new paradigm or technology. One of the main issues relates to the security and confidentiality of customer data in terms of its location, relocation, availability, and security. This paper outlines the Cloud benefits, briefly explains the delivery and deployment models, and discusses in detail the issues relating to data in the Cloud. The aim is to provide some useful background information for organizations preparing to migrate to the Cloud to take advantage of this latest computing paradigm.

Keywords: Cloud computing, enterprise computing, data privacy, data security, cloud computing issues

Introduction
Cloud Computing is a generic term for anything that involves delivering hosted services and computing resources over the Internet. Cearley [1] defines it as a style of computing where massively scalable IT-enabled capabilities are delivered as services to external customers using Internet technologies. According to NIST (National Institute of Standards and Technology, US), Cloud Computing provides convenient, on-demand network access to a shared pool of computing resources [2, 3]. Here, resources refer to computing applications, software services, platforms, network resources, virtual servers and computing infrastructures. Forrester [4] suggests that Cloud Computing refers to a pool of abstracted, highly scalable and managed infrastructure capable of hosting end-customer applications and billed by consumption. It is the latest paradigm in distributed computing that utilizes other existing technologies such as grid computing and virtualization and promises to revolutionize IT and business by making computing available to the masses as a utility accessible via the Internet.

The general public has been using Cloud Computing in the form of Internet services like Hotmail (since about 1996), YouTube (since about 2005), Facebook (since about 2006) and Gmail (since about 2007). Hotmail is probably the first Cloud Computing application that allowed the general public to keep their data in the form of text and image files at remote servers, provided and managed by others. In the last decade, many other similar and extended services have emerged that allows enterprise to extend their IT provision by using Cloud provisions. In the commercial sector, Amazon.com was one of the first vendors to provide storage space, computing resources and business functionality following the Cloud Computing model. In 2006, they launched Elastic Compute Cloud (EC2) that allowed companies and individuals to rent computers to run their own enterprise applications and services. Salesforce.com, founded in 1999, pioneered the concept of delivering enterprise applications as Cloud-based services to enterprises. The number of Cloud providers is increasing at such a rate that Gartner listed Cloud Computing as number one in its top ten strategic technology areas for 2010 [10, 11]. The benefits that Cloud Computing promises include:

- Reduced costs because of reduced upfront corporate investment.
- Reduced management as some of the responsibilities now lie with Cloud providers.
- Increased business efficiency and agility as additional services are available in the Cloud.
- Easy access to software and hardware resources available in the Cloud.
• No longer term contracts with vendors as service and resources are used on a pay-as-you-go-basis.

Cloud computing
A. The Benefits
Cloud Computing is an initiative proposed and taken up by big organizations such as IBM, Dell, Oracle, Google, Amazon, and Sun. They are already taking strong positions with respect to Cloud provisions [5]. The essential features of this latest paradigm include [2, 6]:

• On-demand self-services: to enable consumers to use Cloud provisions as and when required by business demands.
• Resource pooling: allowing dynamically assigned computing resources to serve multiple consumers though the use of virtualization technologies.
• Rapid elasticity and scaling: to allow Cloud services, resources and infrastructures to be automatically provisioned as business requirements change.
• Measured provision: to provide a metering capability to determine the on-demand usage for billing purposes.
• Effective management: to provide and facilitate easy monitoring, controlling and reporting.

Cloud Computing is an attractive paradigm for businesses as it provides scalability, efficiency, and flexibility, which in turn, results in reduced capital investment, less management and lower operational expenditure. There is no doubt that Cloud Computing is making supercomputing available to the masses individuals and enterprises alike.

B. Deployment Approaches
Cloud Computing is generally deployed in four ways as public, community, private, and hybrid Clouds.

• Public Clouds are networks where Cloud services are provided by third parties and hosted and managed by the service providers. The Cloud providers take on the responsibilities of installation, management, provisioning, and maintenance. The resources and services are openly available and accessible to all, with the same common standards and policies. The resources may be offered free (e.g. Facebook and YouTube provisions) or offered at a cost Consumers are charged only for the resources they use following a pay-as-you-go model.
• Community Clouds are similar to public Clouds except that their access is limited to a specific community of Cloud consumers. These are semi-private Clouds in that they are used by a defined group of certain tenants (consumers) with shared backgrounds and requirements. However, these are public Clouds in that they exist outside the domain of the geographical community.
• Private Clouds are proprietary networks normally residing within the enterprises generally for the exclusive use of the organization. In case of Private Clouds, the enterprise is in charge of maintaining the Cloud and also responsible for security, legal and other regulatory compliance issues. In these Clouds, data is much more secure than if it is held in a Public Cloud.
• Hybrid Clouds are a combination of Private and Public Clouds. Here, the management responsibilities are often split between the enterprise and the Public Cloud providers, which can often become an issue of concern. For mission critical processes, this type of Cloud infrastructure is much more effective because of enhanced control and management by the enterprise itself. For example, businesses can keep sensitive data and execute sensitive services in the Private Cloud; if these are not concerns, they can migrate to the Public Cloud.
• The Cloud model consists of, typically, three types of services: Software Services, Platform Services, and Infrastructure Services. These are related to three delivery models, defined as follows:
  • Software as a Service (SaaS): this normally refers to prebuilt pieces of software or complete applications (e.g. an email system, human resource management, payroll processing, database processing) provided as services. Here, customers are looking to ‘hire’ easy-to-consume functionality.
  • Platform as a Service (PaaS): this model refers to application development toolkits and
deployment tools, e.g. application servers, portal servers and middleware. Consumers use these to build and deploy their own applications. Here, customers are looking to buy time and cost savings.

- Infrastructure as a service (IaaS): this refers to infrastructure-centric IT resources such as visualized servers, storage, network devices, operating systems, etc. as well as hardware services to enable Cloud platforms and software to operate. This model provides a self-contained (IT) environment. Here, customers are looking to hire computing.

C. Inherent Issues
Cloud Computing promises many benefits, however, there are also numerous issues and challenges for organizations embracing the Cloud technology. Zhen [8] lists a number of such challenges including the following:

- Governance, management and updating of data
- Management of software services
- Monitoring of products and processes
- Reliability and availability of systems and infrastructure
- Security of information and data

The Expert Group Report [9] mentions a number of issues including:

- Concerns over security with respect to valuable knowledge, information and data placed on an external service
- Concerns over availability and business continuity
- Concerns over data transmission across anticipated broadband speeds.

Other shortcomings, as mentioned by various researchers, include: 1) no native security attributes; 2) inadequate or no security provisioning by providers; 3) lack of understanding of Cloud legal issues; and 4) the failure to recognize potential liability from either legal issues or a lack of security. Issues with respect to "control" are also real concerns.

A closer examination reveals that the major concerns may be broadly classified as those relating to the following:

- Security, including reliability and availability
- Governance and Management.

In this paper, we discuss issues with respect to data location, relocation, and security. Other issues are discussed in a companion paper which is under preparation.

Data Security Issues
Cloud Computing provides services with respect to enterprise applications (software components and systems), computing platforms (development tools) and infrastructures (hardware including servers). In this context, one of major issues is with reference to the security of data, in particular: data privacy, data protection, data availability, data location, and data transmission. Forrester [22] combines these into three groups: 1) Security and Privacy; 2) Compliance; and 3) Legal and Contractual. Some of these are now discussed in the following sections.

A. Data Location and Relocation
Cloud Computing offers a high degree of data mobility. Consumers do not always know the location of their data. In most cases, this does not matter. For example, emails and photographs uploaded to Facebook can reside anywhere in the world and Facebook members are generally not concerned. However, when an enterprise has some sensitive data that is kept on a storage device in the Cloud, they may want to know its location. They may also wish to specify a preferred location (e.g. data to be kept in the UK). This, then, requires a contractual agreement, between the Cloud provider and the consumer that data should stay in a particular location or reside on a given known server. The issue is that
consumers are sometimes not aware of the implication of this and thus no such contract is agreed beforehand. Although, cloud providers should take responsibility to ensure the security of systems (including data) and provide robust authentication to safeguard customers’ information, under the circumstance, what is required is that the providers not just inform the consumers, as a matter of course, but also provide the necessary information that the consumer may not be aware of. An example is the UK laws with respect to data privacy. It is required by law that the personal data of UK citizens must reside within the country. The Cloud provider must know this and advise consumers accordingly. If the consumers know this then obviously they can suggest, even demand, that the data be kept on a device that physically resides within the UK. Many other countries have legal requirements with respect to the location and movement of personal data.

Another issue is the movement of data from one location to another. Data is initially stored at an appropriate location decide by the Cloud provider. However, it is often moved from one place to another. Cloud providers have contracts with each other and they use each other’s resources. Consumers do not always know this and often it does not matter. Reasons for using other providers’ resources are usually the following:

- Lack of own resources due to high demand from consumers
- Requirement to scale up and scale out
- Another provider has a better pricing policy or there is an opportunity of cost saving
- Efficiency of retrieval and availability of data
- Efficient linking of different data resident on different locations
- Flexibility of provision and resource optimization

The general public does the same thing all time. For example, at the time of car insurance renewal, the customer will shop around and change the insurance company if the transfer means saving on insurance premiums.

An important factor influencing the choice of location for data centers is the cost of running a center (by reducing the electricity bills, for example) [19]. The attraction of relocation and distribution of data is particularly justifiable due to the bandwidth efficiencies that such movement could provide. In Public Clouds, data is often regularly routed to other locations at certain times of the day or year, or when there is a huge climatic temperature fluctuation [20]. The main factor is the cost of provision. Research [21] suggests the possibility of reducing electricity costs by up to 40%. Qureshi’s [21] proposes a method of dynamically routing data that may become an attractive solution for Cloud storage providers. Dynamic routing of data is also considered to improve resource optimization. This, in turn, may also help to reduce costs.

Another influencing factor is the cost relating to high capacity internet access. Cross border data transition (from one country to another) also happens for the same reasons. This can lead to additional potential legal risks due to different countries having varying policies, regulations, and legislation. This has implications in that data protected by legislation in one country may not have the same, or even similar, protection in another country [24]. For example, the European Union and the United States of America have different definitions of data privacy as a result of disparate privacy policies [19].

**Data Availability**

Customer data is normally stored in chunks on different servers often residing in different locations or in different Clouds. In this case, data availability becomes a major compelling issue as the availability of uninterruptible and seamless provision becomes relatively difficult. Furthermore, data availability is such a crucial issue that it is common for Cloud providers to credit customer accounts if the system downtime duration drops below that specified in the SLA (service level agreement). The related issue is that, often, such measures are not specified in the SLAs.

The issue of data availability is exemplified by the outages suffered by Google’s Gmail service in February 2009 which resulted in embarrassing headlines for the company [17]. In the subsequent service
agreement for its Premier Apps range of products which also covers Gmail. Google subsequently promised that customer data availability will be at least 99.9% of the time in any calendar month [18].

C. Data Security
Security risks and related issues are already big concerns. When data mobility is at a high level then the risks and issues increase many fold especially when data is transferred to another country with a different regulatory framework. High levels of data relocation have negative implications for data security and data protection as well as data availability. As mentioned before, Qureshi's method [21] of dynamically routing data, that is an attractive solution for Cloud storage providers, may also exacerbate the data security and availability issues. A valid question with reference to security of data residing in the Cloud is: how to ensure security of data that is at rest. Although, consumers know the location of data and there is no data mobility, there are still questions relating to its security and confidentiality of. The obvious answer suggests that data should be encrypted.

Unfortunately, this is not always possible. For example, if data in the Cloud is being processed by an SaaS or PaaS application (such as Salesforce.com or Google Apps), then encryption may not be suitable as this may prevent indexing or searching of data. If this happens then availability and access of data will become problematic. Although, a number of solutions have been suggested [e.g. 16, 29, 30] and new methodologies are being developed, a lot more work needs to be done. Other research efforts are focusing on methods to fragment the data and limit the amount of data that needs to be decrypted for processing in the Cloud [22].

Cloud Providers' Response
With time, Cloud providers are becoming more understanding as Cloud consumers are becoming more knowledgeable. As a result, data mobility, location and relocation of data concern are being partially addressed by Cloud providers. Two of the largest vendors have started offering solutions to customers, as mentioned below:

- Amazon’s AWS (Amazon Web Services) provides an option within its S3 (Simple Storage Service) package to allow customers to specify the geographic regions for the storage and location of data. It also provides assurance that data will not leave the customer selected regions [23]. Although, the available locations are currently restricted to just three regions: US (Standard), EU (Ireland) and US-West (Northern California), the company has plans to expand into the Asia-Pacific in 2010. Amazon is marketing this as a way of improving performance and providing a better customer-centric service. There is no doubt that others will follow this approach.

- In 2009, Microsoft announced that its Windows Azure system would provide users with an option to specify geographic regions where the customer data is to be stored. As well as performance gains, Microsoft also stated legal and regulatory benefits for this feature. This is useful as different countries have different laws pertaining to data privacy and confidentiality. There is no doubt that some clients will exploit such differences to their advantage, there may, however, be legal implications of another nature. However, as with AWS, Microsoft has a restricted choice of locations, currently only two: and both are locations within the US. Microsoft has plans to expand this to sites outside the US.

Conclusion
Cloud Computing is on-demand access to a shared pool of computing resources. Cloud technologies, if used appropriately, can help to reduce costs, reduce management responsibilities and increase agility and efficiency of organizations. It is, therefore, becoming a popular paradigm and increasingly more companies are migrating toward IT Cloud solutions. Advantages are many but there are also challenges and inherent issues. Generally, these relate to data governance, service management, process monitoring, infrastructure reliability, information security, data integrity, and business continuity. This paper focused upon and discussed the data issues, relating to its storage location, cost, availability, and security.
In spite of the limitation and the need for better methodologies and processes, Cloud Computing is becoming a massively attractive paradigm, especially for large enterprises. In 2008, Forrester [5] predicted that Cloud Computing initiatives could affect the enterprises within two to three years as it has the potential to significantly change IT. In 2009, Gartner listed Cloud Computing as number 1 in its top ten strategic technology areas for 2010 [10, 11]. Gartner [4] also suggested that by 2012, 80% of Fortune companies will pay for some Cloud Computing service and 30% of them will pay for Cloud Computing infrastructure. Evidence [4, 5, 10-12] suggests that Enterprise Cloud Computing is firmly poised to be the next big thing for businesses, large and small.

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Good Governance: A Prerequisite for Food Security

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Abstract

The global governance of organizations working towards food security remains a challenge as there exists no single international institution that can lead the field and hence the ubiquitous collective action problem generates inefficiencies in terms of cost and time overruns for projects. First, the multiplicity of independent organizations causes an overlap of rules and norms, which enhances the lack of governance inefficiency. Second, since multiple institutions are normally responsible for various aspects of food security, an effective governance mechanism has to deal with a collective action mechanism where organizations that deliver similar projects have to be coordinated for horizontal aggregation of their services whereas organizations delivering different services have to be coordinated for vertical aggregation. Third, country actions have to be coordinated not only within countries but also between countries and international organizations.

This research note suggests a leadership and coordination architecture where the three problems are addressed by a more effective governance regime where national and international hierarchies are explicitly recognized as building blocks towards an effective mechanism. Thus, the mechanism has to take into account the fact that national organizations are constrained in their actions by governmental and other domestic concerns while acting internationally. Moreover, it has to incorporate criteria by which projects have at times to trade-off immediate help for long-term self-help measures through developing indigenous capabilities. Finally, it must explicitly integrate socio-political constraints arising from corruption, cultural divides, international spheres of influence and existence of violence.

Key words: Governance, human rights, politics

1. Introduction

Achieving world food security has long been a major objective of many international organizations, from governmental to industrial and agricultural, and civil society organizations. Empowerment of the international institutional capacity beyond intergovernmental organizations to address food insecurity has been a major hurdle.

This has involved the introduction of new mechanisms to address food insecurity, spurred by improved knowledge about the complex drivers of food insecurity however governments often fail to respond to crises because of poor decision making, limited coordination, weak institutions and scarce resources. It is thus of utmost importance to include governance concerns when developing food security programs.

Although often overlooked, well-developed governance arrangements that are able to respond effectively to both crisis situations and structural concerns constitute a key to eradicating hunger. This article aims to identify pitfalls in current global governance and suggest directions towards improvements.

The growing literature\(^1\) provides insights into food security governance. Some articles use an explicit governance lens (Marzeda- Mlynarska 2011; Duncan and Barling 2012; Edwards 2012; Pereira and Ruysenaar 2012) on existing governance arrangements. Applying such a perspective to similar issues would prevent re-inventing the wheel, because a lot can be learned from comparable issues and

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\(^1\)References are below in footnotes.
associated communities, such as climate change adaptation (e.g., Biesbroek et al. 2013; Termeer et al. 2013b).

In particular, the governance literature could contribute to furthering the thinking about how to design governance arrangements that can effectively address an issue as complex and unpredictable like food insecurity. For example, both highly complex and contested, food security has all the characteristics of a “wicked problem” (Rittel and Webber 1973), a category of policy problems that are “ill-defined, ambiguous, and contested, and feature multilayered interdependencies and complex social dynamics” and which “are highly resistant to solutions because today’s problems emerge as a result of trying to understand and solve yesterday’s problems,” (Termeer et al. 2013a) These types of policy problems cause serious challenges and frustrations to policy-makers and stakeholders because there does not appear to exist an ultimate solution to the problem. One might argue that this does not apply to food insecurity, because there is a simple solution, i.e. making sure that everyone has enough to eat. However, as the review suggests, food security is a multidimensional issue that does not only involve the quantity of food that people have access to, but also involves aspects as broad as sustainability, human health, nutritional quality, and human rights. Taken together with conflicts about the avenues to follow, this multidimensionality implies that an ultimate solution is very hard, if not impossible, to reach due to multiple objectives and multiple stakeholders. This does, however, not mean that the problem is unsolvable. Rather, as Termeer et al. (2013a) argue, ‘small wins’ can be achieved through designing and using governance arrangements that are responsive, reflexive, resilient, and able to revitalize deadlocks.

Governance of food security is complex. This complexity derives from multidimensionality of issues and multiplicity of organizations involved. Unaligned incentives, divergent scales, seemingly unrelated sectors and contested policy spaces complicate the process of policy-making. Food security is not so much a domain in itself but, instead, an issue that is being affected by a wide array of domains, such as agriculture, trade, animal farming, fisheries, environment, development cooperation, and energy, as a result of which many actors and organizations are inevitably implicated in global food

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security governance. This complexity creates constituencies and interest groups at national and international levels, adding to hurdles to be overcome in policy development as well as implementation. Another complication arises from conjunctural versus structural drivers of food insecurity. The former appears swiftly as hunger related to sudden food price spikes or shortages due crop failures where local conditions matter. The latter, however, is due to structural factors that generate latent vulnerabilities with potential to surface upon perturbations such as sudden climactic variations and biological infestations.

The spatial dimension of food security can be considered on a global, regional, or national level, but has also increasingly come to be studied and addressed at the local, community, household, or individual level over the last decades. Recent food crises have shown that ongoing globalization and associated entanglement of world food systems have led to a situation in which food insecurity drivers have increasingly spilled outside the scope of or even despite national governance. The multi-levelness of food security therefore requires an integrated, multi-level governance approach, including both national and global governance.

Current governance architecture is fragmented and ineffective due to diverging interests and perspectives, lack of pooled resources, unconnected power levels, and non-overlapping paradigms that generate dispersed policies, which make an integrated response even more complex. The reviewed literature is highly critical about the current architecture and practices of food security governance, and offers recommendations for a more effective and democratic future regime.

Most criticism is focused on global governance or lack thereof. This can be attributed to the lack of national and sub-national governance arrangements, especially in developing countries. No truly authoritative and encompassing body or institution with a mandate to address food security concerns across sectors and levels. That is, no mandated “task force” with teeth exists.

Instead, responsibilities and jurisdictions are spread across a broad range of international organizations and forums, which all have their own core business, but none of which deals with food insecurity in a holistic and inclusive manner have termed this the shift from an international food security regime towards a regime complex for food security, in which food security is affected by a wide array of governance regimes that all have their own actors, forums, discourses and interests. Within the same country, coordination between departments lacked, sub-programs were weakly integrated, and supportive legislation was lagging behind. Thus, fragmented responses can occur at various governance levels.

As a result, considerable overlap of mandates and actions exists, in the best scenario resulting in duplicate actions, but in the worst in a conflict between interests, visions, and actions. The worst case scenario also results in large numbers of projects that lack the scale to make a real difference.

2. Towards improvements

Taking stock of existing conditions suggests that there are two complementary avenues towards improving global governance: Building institutional capacity and facilitating cooperation and coordination amongst existing organizations at subnational, national and international levels. Whereas the latter leads towards policies and programs that mutually reinforce each other, thereby contributing to shared goals and outcomes, the former either strengthens the existing field of players or generates players where none existed before. The individual actions of organizations of all levels, countries, donors, corporations, and other private actors can address various aspects of food insecurity but would, if coordinated,

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achieve coherence, whereby trade-offs may be avoided, duplicated efforts minimized and mutually impairing actions eliminated.141516

**Optimal Governance**

Food insecurity is a public bad. Revealed charitable actions of members of society other than those afflicted by the insecurity demonstrate it. In fact, collective action in a government-less international arena is a further demonstration. Since any collective action necessitates organization, cooperation and coordination of actors involved, governance becomes a necessary but costly input. Thus, alongside other costs of providing food security, the cost of generating good governance enters the calculus of optimal provision of food security. Given limited financial and time resources society, the optimal provision of food security may be less than a complete elimination of the problem. Intuitively speaking, if every last person afflicted by food insecurity were to be relieved of the suffering, the alternative benefits accruing to resources expended to achieve it would far exceed the social benefit of running food insecurity down to zero.

The analysis of the optimal governance goes to the heart of the problem by looking at the supply of food security because governance can be interpreted as a derived demand whereas its supply depends on the triplet of problems related to organization, cooperation and coordination of actors involved and is the subject of our analysis in this paper. That is, governance is not the objective but rather the input into a serious policy problem with inherent multidimensionality.

Perhaps an analogy can highlight the fundamental issues arising with global governance. Unlike in a democratic country where the final arbiter is the electorate and the elected government is the temporary but legitimate decision-maker, the international arena has no final arbiter and, consequently, there is no legitimate decision-maker. This leads to legitimacy and hence decision-making deficiencies and, consequently, to time overruns both in terms of decisions that have to be based on compromises as well as implementation delays.

**Subsidiarity and devolution of governance**

A critical question that arises is “global governance of what?” When some problems as well as their solutions are local, an involvement by international organizations will generate costs without benefits. Since empire-building is in the nature of any organization, this delineation of subsidiarity, i.e. the requirement that locally solvable problems should indeed fall under the governance of local governments, must be imposed as a constraint on global governance architecture. For example, where a particular food item is produced in a country and reasonable conditions exist for locally generated solutions including financing and technical solutions, the subsidiarity principle implies that the national government assume responsibility to address the problem.

Organizational diseconomies might foster entanglements if not paralysis and higher organizational costs if large enough numbers of devolvable projects end up on the agendas of Committee on World Food Security17 (CFS) and other international organizations. For example, if state and institutional capacities

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17 The Committee on World Food Security (CFS) is the intergovernmental platform inclusive of all stakeholders (Non-governmental Organizations, Civil Society Organizations, food and nutrition charities, international financial institutions like World Bank, World Trade Organization, farmers, agricultural research institutions) to work together to ensure food security and nutrition for all. The Committee reports to the UN General Assembly
exist to solve a local food insecurity problem but it lingers due to wrong political choices or to deeply entrenched corruption then the problem belongs to that country’s or region’s government or, in other words, it must be devolved by the global governance institutions towards national and subnational governments.

Beyond this spatial and, of course, organizational dimension along the political scale, the subsidiarity principle also applies to other domains and organizations of the food insecurity paradigm.

Realizing that every devolution would require some coordination in order to avoid duplications and enhance scale economies in production, coordination would be essential, both horizontally (i.e. across bodies at the same governance level) and vertically (between governance levels). Moreover, despite political and spatial devolution, other policy domains and actors have to be coordinated. This would imply that on each of the governance levels, related production sectors and policy domains, and associated actors and institutions would have to be brought into line for active coordination alongside devolved initiatives.

The necessity for coordination at sector and governance levels is invigorated by boundary organizations that can also play an important role in sustaining and promoting cooperation. As the term indicates, these organizations operate on the boundaries between sectors or governance levels, and as such have the potential to stimulate coordination. Regional organizations, such as the European Union or ASEAN, or their divisions, provide promising opportunities in this regard at both sector and governance levels but also spatially.18

CFS as intellectual platform

Food security governance is not immune to a wide variety of conflicting ideas, as in any other policy-oriented platform. This multitude of ideas about how food insecurity could most effectively be addressed is a result of the variety of sectors, countries, governance levels, and associated actors and interests that have participated in food security governance.

Besides an increased pluralism of ideas, which find an inclusive platform at the very top of international organizations with the reformed CFS19, food security governance has witnessed an increase in the number of actors that are involved in designing food security approaches or that have a direct or indirect impact on food security worldwide. This increase included international organizations particularly in the aftermath of the 2007-2008 world food crisis. After the crisis, the CFS was thoroughly reformed, the UN installed a High-Level Task Force, the World Bank renewed its focus on agriculture and food security, and the G8/G20 got more and more involved.

The presence of a large number of diverse organizations with different backgrounds and, at times, conflicting agendas, though sharing the ultimate objective of reducing food insecurity, would normally be expected to produce a diversity of ideas. Consequently, the best would prevail and be taken up for implementation through mobilization of organizations participating.

Looking forward, CFS may be perceived as evolving towards an authoritative centre for policy development and implementation at the global level through cumulative successes. It has started as an intergovernmental platform open to all stakeholders.

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However, this increase in the number of organizations participating has not been without criticism. For, the downside to wider than optimal diversity consists of disagreeing and alienated organizations running their own programs and projects potentially conflicting with the CFS programs and projects or, surely, duplicating parts of them.

Cultural obstacles

Global governance of food security cannot be considered without its major pillar, the national governments. However, governance failure within a country takes a strong toll on achieving the objectives of increasing food security. The question hereby raised is whether improvements in global governance are even possible without within-country victories over failure in governance and, in particular, corruption. The evidence suggests that no matter how global governance may be organized, the within-country basic pillars will ultimately erect obstacles unless better governance takes hold. Of course, this latter usage of better governance does not necessarily refer to democracy and human rights but precisely to an abatement of corruption. The recent histories of countries with autocratic regimes, such as in Ethiopia and Rwanda, are cases in point.

Cultural divides beyond corruption are also common reality. They can arise on the production or consumption sides of the food equation. On the production side, history weighs. Nations and ethnic groups have been producing certain crops over time and it might be politically and socially insensitive to suggest that the switch to more resistant and more productive ones but globalization provides an opportunity to continue with similar diets or same consumption bundles yet obtain some through trade without having to produce them. Although this transition can be disruptive, it is inevitable if trade allows not only an increase in resources but also an enrichment of diets. The political economy of this transition will exhibit frictions and conflicts generated by various interest groups opposing change and by other more ideologically motivated groups. The CFS platform will have to broker disagreements and harmonize towards feasible policies.

(October, 1982) - I was once asked my opinion of a Canadian development agency’s aid program for rural Mali. They proposed to supply steam-pumps for irrigated rice production, even though dry upland rice is the norm there. I asked why they didn’t imitate Western agricultural policies and give the money to the government to subsidize farm-gate prices for rice without raising food prices in the city. Malian farmers would gain an incentive to produce more commercial rice and the risks of urban riots would be averted. The officials thought a bit and eventually agreed that this was the most direct way of stimulating rural development in Mali. Then one of them said, “Wait a minute! If the farmers in Saskatchewan hear that we are using taxpayers’ money to help Third World producers compete with them in the world market, they will raise hell and get us closed down. (Coordination becomes critical: Canada doesn't stimulate crops competing against Canadian identical crops but can other ones.)

The cultural divides discussed here act against the economic efficiency argument pointing out to the net benefits of trade based on specialization. Counteracting cultural factors will hence be working from the demand side, i.e. social and cultural urges of being opposed to changes in traditional diets despite the fact that nutrient intake might at worst be the same, and from the supply side through traditional farming and crops grown. The success of CFS will depend on whether the platform can reconcile these divergent preferences.


Externalities internalized

Food security can perhaps be, somewhat simplistically, expressed as current spells of hunger from unexpected natural and human-made factors and from future all human-made factors. The future hunger can indeed arguably be qualified as human-made simply because if vulnerable populations are unable to access existing food and nutrients and, also, resilience and redundancy are not adequately built into agricultural production and distribution systems, food insecurity will persist. Thus tradeoffs between short and long term measures are current realities threatening future food insecurity. In this sense, lack of global governance can be said to be inflicting negative externalities on future generations by not providing the governance input into future food security. This is, in fact, a current collective action problem or, in other words, a failure in collective decision-making.

This problem is distinct from the human-made factors behind current hunger. The cumulative past failures in collective provision of efficient governance make current hunger episodes due perhaps to natural factors worse by not having built resilience into food production and distribution systems. The urgent current problems, when tackled as emergencies and without financial gaps, inflict higher costs than if such systems had existed. This failure is thus characterized by cost inefficiencies.

The second set of negative externalities arises from the demographic implications of food insecurity in developing countries. Population movements from food insecure to food secure regions, for no other reason but food insecurity, may well be partially attributed to global governance of food security, partially because specific country governance problems naturally share the blame. Where this migration exists, food insecurity in the developing world generates negative externalities on developed world by creating erratic refugee flows. A suggested solution is also rooted in improving food security in regions where migration originates and such improvements require not only improved local governance but also global governance. We note that, at the receiving end of erratic refugee immigration, developed countries have a strong incentive to allocate more resources into improving global food security governance.

Another externality relates to trade flows, in food-related goods and services from developed to developing countries facing food insecurity. In globalized market place for foodstuffs, international knowhow aid towards developing local agricultural systems in regions facing food insecurity may, subsequently, generate competition against the same foodstuffs produced in the exporting country. This does generate a self-inflicted negative externality and, hence, exporting such knowhow is not in the best interest of exporting countries. This phenomenon thus reduces capacity building in developing countries. The CFS platform must broker divergences and coordinate country comparative advantages with developing country needs.

Country governments as obstacles to solutions

Arguably, the most damaging factor to the improvement of global food security governance, more so than the inherent collective action problem, is the presence of autocratic regimes in most of the countries where food insecurity is entrenched. Most countries with such regimes are also the ones that are most corrupt. First, such regimes have a say at the CFS platform or any other international platform whereas they are the major obstacle to progress in their countries. For, autocracies reduce voices and discussion in general and, in particular, repress representatives of the most food insecure. Second, the same regimes not only constrain actions by national and subnational organizations that work to alleviate food insecurity problems but also constrain the counterparty international organizations and charities. This observation does not necessarily imply that food insecurity can only be reduced upon improvements in the general governance in the country. On the contrary, sustained national and international pressure for improvements in food security governance within the country in question will, as a by-product, improve the general governance by opening the country up to world public opinion. In this regard, exposing the particular country in question to international scrutiny at a platform like CFS is bound to generate positive externalities by influencing the public opinion in that country.
The international dimension of countries with food insecurity problem coexisting with lack of good governance is often their dependence on sponsoring countries where governance leaves a lot to be desired and hence the change in the former is not forthcoming. In practice, both types of countries would be autocratic or, at best, imperfect democracies. Since the sponsoring country, typically strongly influential, would have a vested interest in the continuation of the less than open governance in the developing country, such influence would easily help reproducing the existing conditions in the developing country and delay improvements in food security as a consequence. This factor is not one that can be dealt with at the CFS platform as it is beyond intergovernmental forums in specific areas like food insecurity. However, as emphasized above, any improvement in governance, however narrow an area where it might be achieved, would influence other areas of governance through its eye-opening effects on public opinions in such countries.

3. Discussion

Attention to food security governance is rising among academic scholars and international organizations. A common view held is that food security presents a complex issue to govern. This complexity is largely a result of the globalization processes, which have resulted in flows of food and resources across the world and in an increasing interconnectedness and integration of food systems, governance regimes, and spatial scales. Consequently, identifying the structural and conjectural drivers of food insecurity has increased in complexity. Moreover, approaches to improving food security have become highly contested. Food security governance involves a wide array of stakeholders, who have different and sometimes incompatible interests and ideas. The global governance of food security thus requires reconciliation of many approaches and formulation of fine-tuned policies in order to bring on board various stakeholders and improve food security effectively. In other words, such a governance regime should succeed in holistically aligning the plurality of sectors, policy domains, governance levels, ideas, and actors representing protagonists in society.

Several remaining gaps or points of discussion can be identified. Here are four of them.

First, the absence of an agreed-on definition of food security governance is noticeable. For example, the definition of the High Level Task Force\(^{23}\) (HLTS) emphasizes the role of national governments whereas global governance involves many layers of organizations and many kinds of organizations. The following is perhaps somewhat complicated but a comprehensive definition: “The complex of alternative ways of steering and managing both fundamental and suppositional (conjectural) food security, in which all stakeholders are involved, which spans across spatial scales, and which includes both formal and informal rules and processes.” Of course, since the process with HLTS as well as with CFS only recently started it will, over time, formulate a more practical and accurate a definition.

Second, in spite of rising attention on food security governance, the review of the literature suggests that most writings are more of a conceptual or normative nature than applied and practical. It seems that not many empirical studies have been conducted. This refers to empirical studies on governance arrangements on a more meta-level and not on particular food security solutions, projects, or programs. Our knowledge of food security governance hence does to a large extent depend on narratives. Although these narratives have contributed to the rise of attention to governance in food security approaches, the lack of empirical evidence begs for more and, beyond its effect on a sound academic understanding of the governance issues at hand, it weakens the strength of recommendations that are made to policymakers and stakeholders involved in designing food security governance arrangements. Food security governance is therefore in need of further empirical investigation for which this review could serve as a starting point.

Third, and related to the previous point, a large proportion of the current literature focuses on what food security governance should optimally look like, instead of how the governance system is functioning at

present. Such an argument based on presumed achievability of an optimum ignores two critical constraints: Path dependence and the effect of factors and the mechanisms identified in the general public choice discussions. Food security governance is often used as a synonym for *good* food security governance, meeting particular efficiency and democracy criteria without explicitly stating the governance specifics these two criteria would imply.

Notwithstanding the importance of good governance, more information must be accumulated about current governance best practices. In particular, more research should be done on sub-national governance levels and initiatives, as these have been largely neglected in the literature so far. It is not clear whether this is due to a lack of sub-national governance initiatives or to a blind spot in the literature on global food security governance.

Although reflections on governance modes proved largely absent from the food security governance literature, some articles made suggestions that come close to the recommendations of Termeer et al., most notably the articles of Misselhorn et al. (2012), Pereira and Ruysenaar (2012), and Edwards (2012). The first two both underlined the importance of adaptive governance. Adaptive governance refers to the development of “new governance concepts that can handle the inherent complexity and unpredictability of dynamic social-ecological systems.” (Termeer et al. 2010) In addition, Misselhorn et al. mentioned the role that boundary organizations could play in these innovative governance arrangements. Edwards emphasized the potential of collaborative governance, which is defined as “a governing arrangement where one or more public agencies directly engage non-state stakeholders in a collective decision-making process that is formal, consensus oriented and deliberative and that aims to make or implement public policy or manage public programs or assets.” (Ansell and Gash 2008)

Although it goes beyond the scope of this article to examine how these governance approaches could contribute to understanding food security governance, I believe much can be gained by further applying and combining them in future food security research.

### 4. Conclusions

Even though the importance of governance for effectively tackling food insecurity has increasingly been recognized, not much is known yet about what food security governance entails and what its key characteristics and challenges are. This paper aims to fill this gap by presenting some observations.

We identify six main observations.

1. The nature of governance can affect food security in different ways. Bad governance may be the principal or a contributive driver of hunger whereas good governance is a necessary condition for effective solutions to food security improvements.

2. There seems to be no agreed-on definition of food security governance. Existing definitions differ regarding the elements they consider crucial in food security governance. Ideas about what food security governance is and how food security could most effectively be addressed vary and often conflict with each other. These ideational conflicts increase the complexity of designing holistic governance solutions. As discussed above the new mechanism to harmonize divergent views may well be CFS.

3. Food security is a complex issue to ‘govern’. Academically speaking is multidisciplinary. Moreover, it involves multiple objectives and multiple stakeholders differentiated at different political levels as well as geographic positions.

4. The current governance architecture seems to have largely failed. At the global scale, too much overlap and too many conflicts exist, whereas at national and sub-national levels good governance arrangements are often absent in the sense that the multidisciplinary approaches require “task forces”. Effective food security governance requires a holistic approach with a focus on coherency, integration and coordination at all levels.
5. Food security governance involves a broad range of actors, at multiple levels and from both public and private sectors. The inclusion of ‘new’ stakeholders offers the potential to enhance the effectiveness of governance systems, but also leads to new challenges.

6. ‘Good’ food security governance includes notions of good governance and democratic values, as well as the provision of adequate resources.

The current global reality is that no single international institution can lead the field as hegemonically as a well-functioning national government does in a country. Thus arises an ubiquitous collective action problem that generates inefficiencies in terms of cost and time overruns for projects to be undertaken.

The multiplicity of independent organizations causes an overlap of rules and norms. This enhances the inefficiencies due to weak governance. Since multiple institutions are normally responsible for various aspects of food security, an effective governance mechanism has to deal with a collective action mechanism where organizations that deliver similar projects have to be coordinated for horizontal aggregation of their services whereas organizations delivering different services have to be coordinated for vertical aggregation. Country actions also must be coordinated not only within countries but also between countries and international organizations. On a related note, national organizations are constrained in their actions by governmental and other domestic concerns while acting internationally.

Governance arrangements must incorporate criteria by which projects have at times to trade-off immediate help for long-term self-help measures through developing indigenous capabilities. Moreover, while indigenous agriculture or agro-industries must be developed, a prerequisite is necessarily a lawful investment environment that takes into account the socio-political constraints arising from corruption, cultural divides, international spheres of influence and existence of violence.

This synthesis aims to provide a starting point for further research on the governance of food security. More empirical studies should be conducted, because the current state of knowledge, and consequential governance recommendations, largely lack a sound empirical basis.

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The Financing Preferences of SMEs’ Owner-Managers in Libya

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Abstract

This study was aimed at investigating Libyan SMEs owner-managers' level of preferences towards different sources of finance available for funding their firms' current and future operations. The study also examined the effect of some owner-managers' personal characteristics in relation to their level of financing preferences towards these sources when seeking a particular option for ongoing finance. The required data was obtained from a questionnaire submitted to a sample of 202 SMEs operating in the Libyan city of Benghazi. The findings indicate that internal sources, bank finance and trade credit from suppliers respectively represent the most preferable sources to meet the ongoing financing requirements for Libyan SMEs. The analysis reveals that owner-managers' education and experience have statistically significant associations with their level of financing preferences for ongoing finance. In addition to contributing to the understanding of financial practices and preferences of SMEs, particularly in developing countries, the findings may also assist policy makers, advisers, development agencies and financial institutions in the country to determine the appropriate strategy to improve the SME sector access to finance.
Problems and Prospects of the Shadow Cross-Border Capital Flows Estimations in Russian Statistics

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Specific groups of flows representing the present special object of study in international researches are associated with resources obtained illegally or resources which are the subject of illegal transactions. Accounting principles are applied in the identification of shadow capital flows. These principles are determined by registration status of the relevant transactions and adequacy of their recording in the national statistics. In international statistics such flows are defined as «illicit flows».

Their key characteristics are:

- Illegality of carried out cross-border transactions;
- Illegality of the activities related to acquisitions of resources which are the subject of the cross-border transactions;
- Noncompliance with legislative requirements in respect to operations on cross-border resources movement.

The methods used in analytical practice for measurement of illicit cross-border capital flows can be oriented on the construction of integrated indicators and indicators related to their separate components.

In general, integrated estimates define the whole set of cross-border flows components. The degree of integration and the structure of accounting components in the estimates are determined by the characteristics of the applied information base mainly presented by national balance of payments data. In this case, in accordance with the commonly employed methodological principles the scales of estimated cross-border flows are determined by differences between logically related elements of national balances of payments (balance of payments and international investment position manual – [Sixth Edition (BPM6)], IMF, 2009).

This group of methods is presented by the basic models widely used in the international statistics in estimating the global and regional cross-border capital flows’ scale. In particular, it includes the World Bank residual model which is associated with the extended version of cross-border capital movements.

Theoretically in the basic models the illicit flows for the resident economy are defined as the difference between the cross-border inflowing and outflowing resources. Concerning resources concept the inflows are defined as any increase in external debt and increase in foreign direct investments and their use is associated with the financing of the current account deficit and an increase in foreign exchange reserves.

Another type of specified group of models used in international practice is the Hot Money Narrow model (HMN). According to the model illicit cross-border capital flows are associated with errors contained in all components of the balance of payments accounts. Theoretically the balance of payments recording on the basis of double-entry method all monetary transactions between the resident economy and the rest of the world should provide zero balance on its relevant components. However,
in practice the balance sheet contains the residual elements interpreted as “net errors and omissions” and is considered as a measure of the scale of cross-border flows unrecorded by statistics.

The complexity of the studied object is the main reason for the current availability of international statistics of various estimates of global and regional illicit flows. These estimates are generated by international and national organizations on the basis of different methodological approaches.

At the international level such estimates relating to the various components of the illicit cross-border flows at the global and country levels are currently being developed on a regular basis by the international non-profit organization Global Financial Integrity (GFI).

As estimated by GFI experts, the highest scale of illicit cross-border outflows in global economies was observed in the group of developing countries. In accordance with the results of research presented in GFI Annual report in 2012 the total illicit flow scale from developing countries amounted up to US $991.2 billion while its appropriate cumulative value for the period of 2003-2012 was estimated at the level of about US $6.6 trillion. In the Report the most problematical was specified as the African region which countries’ economies are currently the most subjected to the negative effects of uncontrolled capital outflows. For the period from 2003 to 2012 the most significant total (inflow and outflow) scales of illicit cross-border capital turnover were typical for group of countries with emerging markets such as China with the illicit flows scales on an annualized basis is at the level of US $125.2 billion (US $1.3 trillion totally for the 10-year period); Russia - US $97.4 billion and US $974 billion respectively, Mexico – US $51.4 billion (US $514 billion) and India – US $44.0 billion (Illicit Financial Flows from Developing Countries: 2003-2012, GFI, 2014).

For the Russian statistics the adequate estimation of unrecorded cross-border capital transactions is considered not only as a problem of a methodological or technical nature, but also as a key factor of improving the quality of macroeconomic analysis, forecasting, and regulation of related processes. Currently in Russian practice for this purpose the methodology developed by the Central Bank of the Russian Federation (CBRF) is used and applied to formation of special indicator “net capital outflow of private sector” based on the balance of payments (BOP) data.

The specific features of the CBRF approach in the construction of the relevant estimates are:

- Accounting capital flows only for the private sector which consists of banks and “other sectors” (the latter includes units of non-financial and non-bank financial corporations);
- Using in calculations the total balancing items on asset-related and liability-related transactions of balance of payments financial account for banks and other sectors;
- Using in calculations the special item “fictitious transactions” as a part of net acquisition of foreign financial assets by other sectors of resident economy.

The values of net capital outflow for each group of units in accordance with applied methodology are determined as the difference between the net acquisition of financial assets and net incurrence of liabilities.

The results of CBRF’s estimates of net capital outflow for the economy of the Russian Federation for the period of 2005-2014 are presented in the table 1.

In accordance with CBRF’s estimates for the period of 2005-2014 total net capital outflow via private sector of the Russian economy has increased from US $0.3 billion to US $153.0 billion and since 2008 Russia has changed the status of net recipient of capital from the rest of the world to the status of its net donor (Figure 1).
For the analyzed period the dynamics of cross-border capital flows via banking institutions were characterized by high degree of variation of relevant indicator values. In accordance with the CBRF’s data inflows of capital via banking institutions were observed during the period of 2005-2007, in 2010 and 2012. The rest of the periods was characterized by the capital outflows with the highest levels in 2008 (US $55.2 billion) and in 2014 (US $46.9 billion) (Figure 2).
Figure 2 - Net cross-border capital outflows (+) / inflows (-) via banking institutions of the Russian economy in 2005-2014 (US $ billion)

The CBRF’s estimates of net cross-border capital flows via “other sectors” of the private sector of the Russian economy were characterized by unstable but upward outflow trend. According to the estimated data since 2008 up to the end of analyzed period had been observed the capital outflows via related institutions with highest values in 2008 - the year of the global financial crisis beginning - and 2014 (US $78.3 billion and US $106.1 billion - correspondingly) (Figure 3).
Table 1 - Net cross-border outflows (+) / inflows (-) of capital via private sector of Russian economy in 2005-2014 (according to the Balance of payments data - BPM6) (US $billion)

<table>
<thead>
<tr>
<th>Years</th>
<th>Net outflows (+) / inflows (-) of capital via private sector (2 + 5)</th>
<th>Banks</th>
<th>Other sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Net outflows (+) / inflows (-) of capital (3-4)</td>
<td></td>
<td>Net incurrence of liabilities</td>
</tr>
<tr>
<td>2005</td>
<td>0.3</td>
<td>-5.9</td>
<td>13.4</td>
</tr>
<tr>
<td>2006</td>
<td>-43.7</td>
<td>-27.5</td>
<td>23.5</td>
</tr>
<tr>
<td>2007</td>
<td>-87.8</td>
<td>-45.8</td>
<td>25.1</td>
</tr>
<tr>
<td>2008</td>
<td>133.6</td>
<td>55.2</td>
<td>63.3</td>
</tr>
<tr>
<td>2009</td>
<td>57.5</td>
<td>32.2</td>
<td>-10.0</td>
</tr>
<tr>
<td>2010</td>
<td>30.8</td>
<td>-15.9</td>
<td>1.7</td>
</tr>
<tr>
<td>2011</td>
<td>81.4</td>
<td>23.9</td>
<td>31.8</td>
</tr>
<tr>
<td>2012</td>
<td>53.9</td>
<td>-18.5</td>
<td>14.8</td>
</tr>
<tr>
<td>2013</td>
<td>61.6</td>
<td>7.5</td>
<td>27.9</td>
</tr>
<tr>
<td>2014</td>
<td>153.0</td>
<td>46.9</td>
<td>9.6</td>
</tr>
</tbody>
</table>

Source: www.cbr.ru
Figure 3 - Net cross-border capital outflows (+) / inflows (-) via other sectors of the Russian economy in 2005-2014 (US $billion)

A peculiarity of the approach used by the CBRF to measurement of the net cross-border capital flows for other sectors is using an additional component “fictitious transactions” which includes the following elements:

- Revenue not received by exporters in violation of trade contract terms;
- Goods and services not supplied to importers on pre-paid contracts;
- Transactions on fictitious transactions with securities, granted loans, and non-residents accounts;
- Elements related to the fictitious reclassification of financial assets.

However, in practice CBRF experts do not provide any description of methodology used or comments on the corresponding figures. Besides, according to the methodology used, errors and omissions reflected in the payment balance are also treated as the element of fictitious transactions.

In general, formed by the CBRF aggregate indicator of net capital outflow via private sector in its composition integrates recorded and unrecorded cross-border capital flows. For this reason, developed estimates are not informative both in terms of the characteristics of total capital outflows (inflows) from the resident economy and the characteristics of its individual registered and non-registered components.

In the first case it is explained by the use of balance indicators of the cross-border capital flows via the private sector on the assumption that the illicit components are associated only with other sectors of the private sector. In this case the procedure used to obtain the corresponding estimates has technical content as not taking into account the features of the balanced indicators which combine gross and net components.
In the second case due to the fact that in the estimates are taken into account the illicit flows limited to flows via other sectors but not taken hypothetic illicit flows associated with other sectors (general government, non-profit institutions, etc.) generated indicators more likely are underestimated.

Formally, the illicit components of cross-border capital flows for the Russian economy using CBRF data can be estimated only by combining the indicators “Net errors and omissions” and “Fictitious transactions”, the dynamics of which are presented in Figure 4.

![Figure 4 - Dynamics of illicit cross-border capital flows for Russian economy in 2005-2014 (unrecorded components of CBRF data) (US $billion)](image)

In view of the fact that each element taken into account is characterized by certain disadvantages, such estimates require additional adjustments. In particular, in practice it is difficult to check the adequacy of “fictitious transactions” indicator constructed by CBRF without relevant comments. This is largely due to the objective complexity of its construction methodology and technique. But considering the large scale of the relevant phenomena in the Russian economy (according to experts estimates, the actual loss to the federal budget system as a result of fictitious transactions in 2013 had reached the level of 30%) the further development of approaches used to formation relevant indicator is required.

In general, in its construction the information on all transactions should be used, reported contents of which do not correspond to their real objectives. Actually “fictitious transactions” may be related to the legal, illegal, shadow, and informal cross-border transactions, laundering of income received from illegal activities, corruption-related income, shadow operations carried out by individuals, etc. In addition, in such transactions may be used channels which are quite difficult to reveal in accounting.
Other indicators developed by the CBRF statistics and potentially included in the illicit cross-border flows is the balancing item “Net errors and omissions”, which in accordance with the applied methodology to the full extent relates to operations of other sectors. This item, in accordance with the opinion of most experts, is composed primarily of unregistered capital flows.

According to the Russian Federation Balance of Payments data, for the period of 2005-2014 except for a few years (2006 and 2014) its values were negative and that is interpreted as outflows of capital from the resident economy. Relatively stable absolute values of the indicator during the long part of observed period (2007-2013) cannot be explained only by statistical errors in the process of Balance of Payments development. Significant negative values of this indicator in this period also reflect a remarkable overbalance of the scale of illicit capital outflow from Russia compared with the relevant illicit capital inflows (Balance of Payments of the Russian Federation, Bank of Russia, 2014).

Actually indicator “Net errors and omissions” is a technical balancing item in the balance of payments providing the balance of observed discrepancies between total credit and debit accounting transactions. In practice the main imbalance factors of relevant balance of payments sections are:

- Using different sources (customs, banking, foreign trade statistics, etc.) for collecting information about various transactions between the resident economy and the rest of the world;
- Using economic units of various schemes aimed at tax evasion in the resident economy including falsification of customs documents, use of inadequate transfer pricing, etc.;
- Using illegal channels of cross-border transfers of goods (services);
- Exchange rate variability, etc.

In general, it may be concluded that: developed by the CBRF aggregate indicator of net capital outflow via private sector does not sufficiently reflect the scale of the illicit capital flows between the Russian economy and the rest of the world. A possible alternative of such estimates using compiled by the Central Bank of Russian Federation statistics is an integral indicator represented by combination of fictitious transactions and net errors and omissions which values are significantly lower than the corresponding values of net capital outflow via private sector (Figure 5).
CBRF estimates may also include the components which economic content does not comply with real cross-border capital transaction. In particular, in some expert commentaries it is proposed to adjust and decrease such estimates involving in direct investments structured through offshore companies, financial support for parent structures by foreign banks subsidiaries, transactions on mergers and acquisitions, etc.

In practice, in construction of corresponding estimates which for objective reasons cannot be taken into account, all components of the illicit cross-border flows make a direct or indirect impact on key macroeconomic indicators. The rational approach in this case is to focus on components which have the most significant impact on key macroeconomic indicators.

According to the data of the Balance of Payments of the Russian Federation for 2014, the largest scale of cross-border outflows from the residential economy, which could potentially contain illicit components affecting the key indicators recorded in the System of National Accounts (SNA), are characterized by the following balancing items (System of National Accounts 2008, United Nations, 2009):

- Net export of services;
- Balance of compensation of employees;
- Balance of investment income;

Figure 5 - Comparative dynamics of net capital outflows via private sector (CBRF version) and illicit capital flows (combinative version) for the Russian economy in 2005-2014 (US $billion)
- Balance of secondary income;
- Net acquisition of financial assets (table 2).

Table 2 – Relation between indicators of the SNA and the Balance of Payments of the Russian Federation for 2014

<table>
<thead>
<tr>
<th>Balance of payments indicators</th>
<th>Value indicators (US$ billion)</th>
<th>SNA indicators</th>
<th>SNA Account</th>
<th>Macroeconomic indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade in services</td>
<td>-55.3</td>
<td>Net export</td>
<td>Goods and services account</td>
<td>GDP</td>
</tr>
<tr>
<td>Compensation of employees</td>
<td>-10.1</td>
<td>Compensation</td>
<td>Distribution of primary income account</td>
<td>Gross National Income (GNI) / Gross primary income (GPI)</td>
</tr>
<tr>
<td>Investment income</td>
<td>-57.2</td>
<td>Property income</td>
<td>Distribution of primary income account</td>
<td>Gross National Income (GNI) / Gross primary income (GPI)</td>
</tr>
<tr>
<td>Secondary income</td>
<td>-7.9</td>
<td>Current transfers</td>
<td>Secondary distribution of income account</td>
<td>Gross disposable income</td>
</tr>
<tr>
<td>Capital account</td>
<td>-42.0</td>
<td>Capital transfers</td>
<td>Capital transactions account</td>
<td>Net lending / Net borrowing</td>
</tr>
<tr>
<td>Net acquisition of foreign financial assets by the private sector:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct investment</td>
<td>56.4</td>
<td>Net acquisition of financial assets</td>
<td>Financial account</td>
<td>-</td>
</tr>
<tr>
<td>Portfolio investment</td>
<td>5.6</td>
<td>Net acquisition of financial assets</td>
<td>Financial account</td>
<td>-</td>
</tr>
<tr>
<td>Trade credits and advances</td>
<td>7.1</td>
<td>Net acquisition of financial assets</td>
<td>Financial account</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Balance of Payments of the Russian Federation for 2014

As main types of cross-border transactions having the most significant impact on macroeconomic indicators and currently estimated on the basis of relatively appropriate methodological approaches may be proposed the following items have a high priority for analysis:

- Trading of goods and services;
- Investment processes;
- Capital and current transfers.

According to the estimations of international experts the largest-scale cross-border illicit flows related to the falsification of customs value of goods in foreign trade are typical for countries with emerging markets. At the same time such flows by means of different mechanisms have an impact on the basic macroeconomic indicators both in the form of inappropriate estimates of net export and losses related to decrease in tax revenues from cross-border operations and uncompensated transfers in the form of paid advances and granted trade credits.

Customs value of goods and services is a basis for estimating export and import volumes as well as defining of customs payments. In international statistics the customs value is also used in
comparative analysis carried out in order to identify discrepancies between the data received from various information sources.

Table 3 contains comparative data on Russian merchandise exports and imports statistics in 2014 for the main partner countries which according to the international practice are used in measuring respective components of illicit cross-border flows.

Table 3 - Comparative data on Russian merchandise export to the main partner countries in 2014 (US $ billion)

<table>
<thead>
<tr>
<th>Main partner countries</th>
<th>Exports from Russia</th>
<th>Discrepancy in data (quotation FOB)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>According to Russian statistics (quotation FOB)</td>
<td>According to partner countries statistics (quotation CIF/FOB)</td>
</tr>
<tr>
<td>Netherlands</td>
<td>68.0</td>
<td>33.5/30.5</td>
</tr>
<tr>
<td>Germany</td>
<td>37.1</td>
<td>48.2/43.8</td>
</tr>
<tr>
<td>Italy</td>
<td>36.0</td>
<td>21.6/19.6</td>
</tr>
<tr>
<td>China</td>
<td>37.5</td>
<td>41.6/37.8</td>
</tr>
<tr>
<td>Turkey</td>
<td>25.0</td>
<td>25.3/23.0</td>
</tr>
<tr>
<td>Switzerland</td>
<td>3.8</td>
<td>0.9/0.8</td>
</tr>
<tr>
<td>Poland</td>
<td>15.9</td>
<td>22.8/20.7</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>11.5</td>
<td>10.0/9.1</td>
</tr>
<tr>
<td>US</td>
<td>10.7</td>
<td>23.7/21.5</td>
</tr>
<tr>
<td>Lithuania</td>
<td>4.8</td>
<td>7.6/6.9</td>
</tr>
</tbody>
</table>

Presented sample population of the partner countries covered in 2014 shows more than 50% of total Russian merchandise exports (US $497.8 billion.). In accordance with the sample data the Russian FOB value of exports to this group of countries came up to US $250.3 billion versus US $235.2 billion CIF value of import from Russia according to partner countries' statistics. Providing for recommended approximate conversion factor at the level of 1.1 this figure is equivalent to US $213.8 billion FOB import price. The difference between the values of comparable indicators of symmetrical (mirror) statistics of the Russian merchandise export (US $36.5 billion) indicates that its customs value is overstated.

This discrepancy in accordance with the existing basic hypotheses may indirectly indicate the presence of falsification of the exports customs value of goods for VAT refund (18% or 10% according to the Russian tax regulations) for zero tax rate exports operations. This hypothesis is confirmed by the Russian Government according to which at the present time in the Russian Federation the growth of official VAT compensations outruns the growth in exports more than twice resulting in a significant loss of budget.

The similar calculations made for import transactions of Russia with main partner countries show the prevalence of understated indicators of declared custom values of imported goods. In this case the losses of the Russian budget are connected with decreased receipts of customs payments in the form of duties, import VAT and excise taxes.

The following table shows the comparative statistical data of Russian import of goods in 2014 on the main partner countries (Table 4).
Table 4 - Comparative data on Russian merchandise import on the main partner countries in 2014 (US $ billion)

<table>
<thead>
<tr>
<th>Main partner countries</th>
<th>Import to Russia</th>
<th>Discrepancy in data (quotation FOB)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>According to Russian statistics (quotation CIF/FOB)</td>
<td>According to partner countries statistics (quotation FOB)</td>
</tr>
<tr>
<td>China</td>
<td>51.0/46.4</td>
<td>53.7</td>
</tr>
<tr>
<td>France</td>
<td>10.8/9.8</td>
<td>8.0</td>
</tr>
<tr>
<td>Germany</td>
<td>33.0/30.0</td>
<td>35.7</td>
</tr>
<tr>
<td>Italy</td>
<td>12.7/11.5</td>
<td>12.5</td>
</tr>
<tr>
<td>Japan</td>
<td>10.9/9.9</td>
<td>9.3</td>
</tr>
<tr>
<td>South Korea</td>
<td>9.0/8.2</td>
<td>10.1</td>
</tr>
<tr>
<td>Poland</td>
<td>7.1/6.5</td>
<td>8.7</td>
</tr>
<tr>
<td>Turkey</td>
<td>6.7/6.1</td>
<td>5.9</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>7.8/7.1</td>
<td>3.9</td>
</tr>
<tr>
<td>USA</td>
<td>18.7/17.0</td>
<td>10.8</td>
</tr>
</tbody>
</table>

Other results of illicit cross-border capital flows for Russia concern the investment resource losses for economic development. Estimates of such resources, which directly impact on net lending (borrowing) indicators of the System of National Accounts (SNA), can be obtained on the basis of the balance of payments data.

Potential losses of resources for the Russian economy related to illicit capital cross-border flows via the private sector can be estimated according to the World Bank approach extended to channels connected with net foreign direct and portfolio investments. Corresponding elements of the private sector capital flows contained in the balance of payments data are:

- Equity;
- Reinvested earnings;
- Other long-term capital;
- Short-term capital.

Relevant Russian balance of payments indicators for 2014 are presented in the following table (Table 5).

Table 5 - Balance of foreign investment for private sector of Russian economy in 2014 (US $ billion)

<table>
<thead>
<tr>
<th>Private sector</th>
<th>Foreign direct investment</th>
<th>Foreign portfolio investment</th>
<th>Balance (capital inflow - &quot;+&quot;, capital outflow - &quot;+&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks</td>
<td>4.4</td>
<td>1.9</td>
<td>-</td>
</tr>
<tr>
<td>Other sectors</td>
<td>18.5</td>
<td>54.5</td>
<td>-12.3</td>
</tr>
<tr>
<td>Total</td>
<td>22.9</td>
<td>56.4</td>
<td>-12.3</td>
</tr>
</tbody>
</table>

According to the Russian Federation balance of payments statistics in 2014 the investment activity of the private sector was characterized by the following financial relations with the rest of the world:

- Decrease of net foreign direct investments (FDI) of the Russian banking system by US $2.5 billion as a result of overrun of its liabilities as compared with its foreign assets;

- Essential increase of net FDI of other sectors (by US $36.0 billion) as a result of more dynamic growth of their foreign assets (by US $54.5 billion) as compared with rates of external liabilities growth (by US $18.5 billion);

- Decrease of net foreign portfolio investments of other sectors by US $6.7 billion due to dramatic reduction of their liabilities to rest of the world (by US $12.3 billion).

As a result, for the private sector of Russian economy in 2014 the total net capital outflow in the form of foreign investments was recorded at the level of US $51.4 billion.

Due to the fact that the capital cross-border flows via the private sector are not limited to flows recorded in the balance of payments financial account in calculations it is also advisable to take into account the components related to investment income recorded in the current account. In such a case in accordance with the economic content of foreign assets it is expected that the cumulative net outflow of capital in the form of foreign investments must generate a net inflow in the form of return on investments to the Russian Federation. Besides in accordance with the economic content of assets it is assumed that the main directions of cross-border capital transactions are determined by investment return in various jurisdictions.

According to the International Monetary Fund database (DOTS) in 2013 total foreign direct investment to the Russian economy amounted to US $472.3 billion. The leading countries of direct investments were presented mainly by offshore jurisdictions including Cyprus with investments of US $183.3 billion, Bahamas US $31.9 billion and Bermuda US $ 30.4 billion. The lower return on the Russian Federation foreign assets as compared with return on foreign assets in Russia (approximately by 2.7 percentage points), significant reduction of Russian assets value abroad as a result of their revaluation (for example, decrease of foreign direct investments of Russia in 2013 amounted to US $35.7 billion, in the first quarter of 2014 - US $17.1 billion) may indirectly indicate the presence of illicit components in cross-border capital flows.

Potential factors for illicit flows formation are also associated with using special schemes of cross-border capital transactions for concealment of real resource owners and beneficiaries of the relevant income from transactions. For Russia by analogy with a number of other countries with emerging markets it is typical the phenomenon defined in international practice as a round-tripping investments, as a rule carried out via offshore jurisdictions. In particular, illicit cross-border flows can be the part of transaction schemes between the Russian and Cyprus, direct investment in witch economy in 2013 amounted to US $151.1 billion and symmetrical investments in the Russian economy amounted to US $183.3 billion (DOTS).

As a result due to the data of the balance of payments current account on the item “investment income” (including, income of private sector) stable and large-scale outflows of capital are fixed (Table 6).

**Table 6 - Dynamics of cross-border investment income of the private sector of the Russian economy for 2011-2014 (US $billion)**
<table>
<thead>
<tr>
<th>Indicators</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total balance of investment income:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- income receivable</td>
<td>-51.0</td>
<td>-56.8</td>
<td>66.5</td>
<td>-57.9</td>
</tr>
<tr>
<td>- income payable</td>
<td>38.6</td>
<td>42.8</td>
<td>37.7</td>
<td>42.2</td>
</tr>
<tr>
<td>Including:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banking sector:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balance of investment income:</td>
<td>-2.2</td>
<td>-3.3</td>
<td>-7.3</td>
<td>-3.9</td>
</tr>
<tr>
<td>- income receivable</td>
<td>9.5</td>
<td>11.3</td>
<td>11.2</td>
<td>13.1</td>
</tr>
<tr>
<td>- income payable</td>
<td>11.7</td>
<td>14.6</td>
<td>18.5</td>
<td>17.0</td>
</tr>
<tr>
<td>Other sectors:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balance of investment income:</td>
<td>-51.9</td>
<td>-54.8</td>
<td>-58.3</td>
<td>-53.4</td>
</tr>
<tr>
<td>- income receivable</td>
<td>23.8</td>
<td>27.7</td>
<td>23.7</td>
<td>26.7</td>
</tr>
<tr>
<td>- income payable</td>
<td>75.7</td>
<td>82.4</td>
<td>82.0</td>
<td>80.1</td>
</tr>
</tbody>
</table>

Similarly, the balance of payments shows a stable cross-board capital outflow from Russia on item “Compensation of Employees” in the period of 2011-2014 at the level of approximately US $10.0 bln.

Following the investment approach, seems the more economically feasible extended interpretation of the cross-border flows recorded in balance of payments, in particular accounting besides the elements of financial accounts related to the private sector, similar cross-border flows of public sector, and flows related to other transactions recorded in the capital account. In addition, taking into account the economic content of cross-border capital transactions theoretically it is also advisable to estimate capital flows related to produced tangible assets withdrawn from the economic turnover.

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Analysis of the Greek Economic Crisis and its Effect on European Nations

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Abstract

Greece is currently facing an economic meltdown unparalleled in the history of the world. This research provides an in-depth analysis of the collapse. It focuses on the major causes of the meltdown that can be attributed to various factors like uncollected taxes, pension age, vast unemployment and the comparatively higher value of Euro currency. The paper discusses some of the events and their effects on the Greek economy which ultimately led to the economic catastrophe. It presents a detailed investigation focused on the effect of meltdown on other European nations. In addition to that, analysis the paper also emphasizes and addresses the role of institutions such as European Union and United Nations to aid Greece in this moment of crisis and to help Greece move its economy in the right direction.

Keywords: Unparalleled economic meltdown, events and their effects on Greek economy, role of institutions of European Union and United Nations, effect of meltdown on other European nations

INTRODUCTION

Greece is a country in south-eastern Europe, with a population of around 10.8 million people. It is strategically located at the crossroads of Europe, Asia and Africa. Greece is a democratic and developed country with a high quality of life and a very high standard of living.

It is a maritime nation by tradition; shipping is the oldest form of occupation of the Greeks and is a key element of Greek economic activity. The Greek Merchant Navy controls 16.2% of the world's total merchant fleet, making it the largest in the world. Greece also has an extremely rich cultural history and has given the world some of the greatest philosophers and poets of all time. It is the birthplace of western culture and democracy - a government by the people, trial by jury and equality under the law. It is also host to some of the most historical monuments and archaeological wonders of the world like the Acropolis of Athens and the Temple of Apollo and to the pantheon of gods that exists today in European cultural memory. Today Greece has 17 monuments throughout the country listed on UNESCO's World Heritage Sites.

Greece is among the 28 countries that are part of the European Union (EU). The EU is a partnership of European countries to promote economic and eventually political cooperation post World War II. The EU has aided in removing border controls among the member European states, leading to easier travel and living conditions, along with the introduction of a common currency, the Euro.

From the time of its entrance into the EU in 1981, Greece grew complacent in terms of its development and growth. The adoption of the euro meant a deeper integration of the EU economies. This Economic and Monetary Union led to unified policies being adopted across the member states. While Greece was able to meet the minimal membership requirements of the EU, it started to show signs of greater deficits when it adopted the euro.

The Oxford Dictionary defines meltdown as "a disastrous collapse or breakdown". Greece paved a path of boundless spending that would eventually lead to its breakdown. As governments changed hands, every successor hid the deficits that the previous government left behind. However, instead of bringing in stringent tax laws and checking public sector spending, Greece resorted to taking loans to meet its expenses and cover the deficit. Through 2001-2008, Greek interest rates declined and Greece borrowed from its northern friends.
In 2009, when the world hit recession, Greece was one of the worst hit because its main industries, namely shipping and tourism, were more sensitive to business environments. Along with mismanagement of resources and deception on the part of the Greek government, the reasons for this unprecedented crisis can be reduced to five factors: lax taxation and government over-spending, unemployment, undeveloped secondary sectors and the high value of the euro.

**Taxes**
According to the National Integrity System Assessment 2012 report by Transparency International-Greece, the problem of corruption in Greece is the confluence of many factors, including weak enforcement of the law, a lack of audits, the absence of codes of conduct, the non-transparency of government activities, an inefficient bureaucracy, government impunity and broad discretionary powers, and a lack of public awareness. A Washington Post graphic had earlier suggested 89% of Greece's tax receipts had been uncollected in 2010, in comparison to Germany's 2.3%. This anomaly was a result of inaccurate tax-writing. The graphic was based on reports that compared historical debts and Greek tax authorities had never written off their bad debts. However, other research estimated that 35-40% of the self-employed income in Greece goes unreported and thus, untaxed.

According to the Organisation for Economic Cooperation and Development (OECD), Greek tax authorities collected taxes on only 34% of the GDP in 2010. The blame is partly on the large shadow economy in the country. A shadow economy, as defined by the Business Dictionary, is that part of the economy where goods and services are paid for in cash, and therefore not declared by vendors in their tax accounting. A report quoted by the IMF stated that the shadow economy in Greece made up almost 30% of the country's GDP, as compared to 20% in other countries. The primary tax evading industries are medicine, law, engineering, education and media. An OECD survey in 2011 declared Greece as one of the worst rich countries in the world at collecting VAT receipts and social security payments. When it tried to survey Greece in 2005 and 2009, data was simply ‘missing’.

**Government over-spending**
Greece had been the largest recipient of the EU’s investment aid. However, after a long time, the funds started to evaporate as countries like Belgium shifted their focus to newer member nations of the EU and the Baltic countries prepared themselves for a shift to the euro.

When Greece adopted the euro in 2001, the borrowing costs were extremely low. It was easy to secure funds from commercial banks at almost nil interest rates and the dependence on cheap loans kept rising. According to the Greek national budget of 2011, 26% of the spending was allocated to social security and pensions, and 19.8% for interest payments. The expense on interest in 2010 was 13 billion Euros while the income in the same year was 23 billion Euros through new borrowing, i.e., debt.

A fall in the growth momentum of government outlays and money supply is bad for a country's growth and wealth generation process. Greece's wealth generation process has been vastly damaged due to its loose fiscal and monetary policy. It is important to note that neither more government spending nor more monetary pumping can generate real wealth in the country. Only mobilising the private sector can do this job. Non-productive sources of wealth, such as loans, can only work for so long. Wealth cannot be created out of nothing.

**Unemployment**
Another reason for a crisis of such vast proportions is the chronic unemployment in Greece. Studies have shown that specific structural features, like prolonged and incomplete transition from education to work, large gender disparities, high levels of informal unemployment and sectoral labour market segregations, caused poor levels of unemployment long before the Greek economy fell.

The youth employment rate fell to 11.8% in 2013, which was the lowest in the EU28 countries. Generally, it is understood that young people are at a disadvantage in the labour market because they have limited or no work experience, a gap between the abilities they possess and the requirements of the markets, and lack job search skills and professional networks. This situation deteriorated further during the recession.

During recessions, economies adjust themselves to reach equilibrium again. There are wage cuts, privatisation, cuts in public spending, and reduction in employment security, all taken as austerity measures. In Greece, unemployment soared immediately after the crisis started in August 2008 and showed signs of decline only in 2013 as the economy was still adjusting.
Unemployment in Greece has been particularly persistent. One out of every three young unemployed people has been unemployed for over a year. Long-term unemployment has severe consequences, as obtaining work becomes increasingly difficult as the unemployment period increases. It has effects on the health, social status, and mental well-being of the unemployed. The prospect of having a high income after a long period of unemployment is also very poor.

**SOLUTIONS**

Greece has received three bailouts in five years and has been forced to adopt a series of austerity measures. Greece's international creditors sought several changes in the fiscal and monetary policy, such as raising the retirement age, cutting pensions, liberalising the energy market, in addition to severe budget cuts, which were eventually approved by Greek lawmakers.

In the EU, the real decision-making power lies with the 28 national governments, the people and their votes. However, the issue is that a common currency, i.e. the euro binds these nations together, who are free to formulate their own fiscal and monetary policies. Most international investors and banks sold off their Greek bonds and other holdings as soon as the debt crisis began in 2010. At the height of the debt crisis, many scholars worried that the financial problem would affect other nations of the world, especially in a case where Greece could exit the Eurozone. The troika- the International Monetary Fund, The European Commission and the European Central Bank issued one of the two international bailouts for Greece amounting to over 240 billion euros. The bailouts came with strict austerity measures, requiring large budget cuts, steep taxes and sincerer pursuit of tax evasion.

Another hurdle for the Greek government is that bailout funds have not promoted the economy as they should have. Instead they have mainly been diverted towards paying off past debts. One of the best solutions for this crisis would have been for the EU to let “Grexit” take place. Depending upon EU neighbours financially drained Greece and brought it to the verge of bankruptcy. Greece's exit might not have affected the rest of the world so much, and financial independence was the need of the hour for the Greek government. Pumping money into the economy would have subsided and such a measure would have forced the people to invest in wealth generation activities instead of non-productive financial activities.

The over-dependency of the people on the government was also one of the reasons that pushed the economy towards meltdown. Unemployment has chronically ailed the Greek economy while the government used foreign funds to provide pensions to a large part of its population. Another factor in this situation was that the retirement age in Greece was less than the international average. This situation strained the economy because there was a larger flow of money flow in concert with a comparatively smaller flow of goods and services in the economy. The government also needs to work on educating citizens from a young age about the importance of reporting their income, be it self-employed or otherwise and regularly paying taxes. There needs to be a country-wide realisation that taxes are used for fuelling the economy and for the improvement of services that are for the people. Similarly, to avail government funded financial aid later in life, citizens need to use their incomes to circulate money through the economy first.

It should be noted that direct taxes are not the sole strategy of generating revenue for the government. Stricter taxation policies should be implemented, with harsh punishments for those failing to adhere to the rules. In addition to that, the government should also implement indirect taxes or cesses. Just formulating policies and laws, however, is not how the Greek economy will regain balance. The government should move towards a liberalisation, privatisation and globalisation model, which will help in mobilising the economy. Sector-wise modules should be visualised so that every section of the economy is contributing towards the Gross Domestic Product. Youth should be engaged in the maritime, tourism and agricultural industries while the older population can be directed towards education and service sectors. Such a plan to utilise human capital while aiming for foreign investments will boost the economy towards growth generating activities.

**CONCLUSION**

Although this economic crisis has put substantial pressure on Greece, the European Union and creditors, it should serve as a check for the government and the people to realise that it was their inaction and dependence on easy ways to run the country that eventually caused the collapse. If Greece implements all austerity measures and works its way to stimulating its economy, then the country would gradually
be able to exhibit growth and financial stability. This is also a lesson for other nations to avoid using foreign funds to run the economy and stunt growth activities.

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Sociology of Pakistan: Art, Culture and Customs

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ABSTRACT

Pakistan is among the developing countries of the world where cultural norms, traditions, rituals, and folklore are considered the most important part of life. The country is divided into four provinces. They are: Punjab, Sindh, Khyber Pakhtunkhwa, and Baluchistan. Every province has its own art, culture, language, tradition, and folklore. Every one promotes its culture at the national level and enriches the colour and beauty of the national culture. The cultural patterns are different in every province. Cultural traits are also different. People rejoice at different occasions depending on the nature of the event. Dances and marriage ceremony patterns are also different. The culture, art, and customs of every province is different, therefore, the present paper focuses on Punjab province only where half the population of the country resides.

Key words: Pakistan, Sociology, Art, Culture, Customs

INTRODUCTION

Pakistan is a developing country and is enriched by art, culture and customs. Administratively the country is divided in four provinces. They are: Punjab, Sindh, Khyber Pakhtunkhwa and Baluchistan province. Different languages are spoken in different provinces of Pakistan. A brief description about each province is as follows.

PUNJAB

Punjab is the second largest province of Pakistan. It is spread over 205,344 sq. kms. Kashmir is to the north-east, India to the east, Sindh to its south, Baluchistan is to its southwest and Khyber Pakhtunkhwa is on its west. The population of the province is estimated to be 93,963,240 which is almost half of Pakistan’s population. This strength is scattered in 36 Punjab districts which can geographically, be divided into three regions, i.e. Northern Punjab, Central Punjab and Southern Punjab. These regions have peculiar climate, soil, culture and folk ways. Punjabi is the main language whereas Urdu is the official language of the province. The province exhibits a variety of Punjabi dialects to communicate in different districts such as Pothohari in Rawalpindi and Jhulum region, Shapuri in the Sorgadha area, Hindko in Hazare Division, Saraiki in the Multan and Lodhran areas, Riasti in Bhawalpur, Rahim yar Khan in the area and Derawali in Rajan Pur and Deraghazi Khan Districts.

SINDH

Sindh is the second biggest province of Pakistan. It is rich in natural resources and quite rich in culture and civilization. The History of Sindh is quite ancient and of a unique nature (Allana, 1998). The province covers an area of around 56,000 to 57,000 square miles (Khuhiro, 1999). According to Poston (1973) the province is divided in different parts both geographically and politically. Different historians have reported Sindh as Lower or Northern and Southern Sindh (Burton, 1999). Like other provinces Sindh province is enriched with cultural rituals. Its culture dates back to the ‘Indus Civilization’ some 3-5000 years ago (Kakepoto, 2015).

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KHYBER PAKHTUNKHWA

Khyber Pakhtunkhwa is one of the four provinces of Pakistan located in the northwest of the country. It borders the Federally Administrated Tribal Areas (FATA) from west and south, Gilgit-Baltistan on its northeast, Azad Kashmir to the west and Punjab and Islamabad on southeast while Afghanistan is on its north west. It occupies an area of about 74,521 sq km. The province has 25 districts including five Federally Administrated Tribal Areas (FATA). The population of the province is about 21 million. The main ethnic groups of the province in terms of size are the Pashtun and the Hindko. The most populous languages are also Pashto and Hindko respectively.

BALUCHISTAN

Baluchistan, the largest province of Pakistan covers an area of 347,190 sq km, i.e 44% of the total land mass of the country. It is situated on the southwest of Pakistan with Afghanistan on its north and northwest, Iran on its west, Sindh on its east, and Punjab and Khyber Pakhtoon Khwa on its north and northeast.

PAKISTAN: CULTURE

Religion is a main source of culture; accordingly, cultural patterns are based and derived from Islam. The culture of Pakistan derives its basis from the institution of the Sufi Saint. The Sufi Saint spread Islam and lived the Muslim way of life. People have festivities to commemorate the traditions derived from that period. These fairs and festivals of Punjab and Sindh reflect the entire gamut of its folk life and cultural traditions.

The big fairs/mela of Jandiala Sher Khan are organized in district Sheikhpura at the mausoleum of Syed Wari Shah, the most loved sufi poet of Punjab due to his classic work known as Heer Ranjha. The shrine of Heer Ranjha is in Jhang. Apart from this fertile land, Punjab had the honour to host the famous Punjabi poets Sultan Bahu, Bullah Shah, and Mian Muhammad Baksh. also including Wari Shah, Mela of Shah Abdul Latif Bhittai and Qalandar Shahbaz are celebrated in Sindh.

In the customs and tradition of Pakistan kinship plays a significant role. Its pattern varies considerably from group to group but the general mode of behaviour and attitude is more or less the same. Each relation has certain duties and responsibilities towards others in his group. Different sets of terms are used for addressing the paternal and maternal kinsfolk. The father’s elder brother is addressed as taya, the father’s younger brother as chacha, while the mother’s brother is mama, and the mother’s sister is called massi.

Generally, most of the kinsmen of a person reside in the same village or in adjoining villages. Because of the joint family system, the real brothers, even married ones, often live in the same house. There are some other agnates who generally reside in the same locality, participate in all social functions and exchange gifts. Some of the cognates reside in the adjoining villages and very often they participate in social or festive occasions, like the initiation of marriage ceremonies, as also on other occasions like funerals. The family setup starts from groups and groups are the roots of bradari. It can be generalized that the family starts from biradari which means brotherhood and is a sign of coherence. It is an important unit of Pakistani society. The biradris collectively form larger units known as tribes. Historically these tribes were endogamous but with passage of time this system could not sustain and a considerable exogamous system between members of other tribes started and differences started getting blurred.

Punjab is the biggest province of Pakistan. Therefore, customs and traditions of Punjabi people are focused in the following sections.

CONFINEMENT / BIRTH OF CHILD

On confirmation during pregnancy efforts are made to keep it secret for eight months. Special items like almond, raisins, nutmeg, ghee, sugar, dry ginger, puffed sugar are purchased and arranged for the better health of pregnant woman. During these days the midwife comes twice a day and presses her legs and massages her.

From a few days prior to the expected delivery no male is allowed to visit the house; only the mother, sister, mother-in-law and married sister-in-laws remain present in the house. After delivery, the
father’s sister (Phuppi) of the newly born baby washes the breast of baby’s mother then the father of the baby gives her some amount as a good gesture or reward and then lady is allowed to feed her baby. Thereafter unnecessary women depart and the effected lady is looked after and given extra diet items including a special item named panjeeree for forty days from the day of delivery. It is named chilla.

During chilla the lady takes a bath five times, i.e on 6th day, 11th day, 21st day, 30th day and 40th day. This bath taking is also called chilla. During these days she is given panjeeree. It is a dry sweet dish made of desi ghee and dry fruits. It is full of nutrition and old people think that during chilla the mother should eat it. On 6th day of the birth the head of the newly born baby is shaved.

AQIQA

When his / her head is shaved. The aqiqa ceremony is performed. All relatives and bradri members including neighbours and their chaudry are invited and one goat in the case of a baby girl and two in the case of a baby boy are slaughtered and all guests are served with the food. Chudries are given some cloths as well.

LARKAY PARHANA (START OF RECITATION OR BISMILLAH)

When a boy attains the age of four years, four months and four days he is made to sit and start recitation of the Quran. This start of Quran recitation is called bismillah karana as with marriages, a large amount is expended on this occasion. Sweets, clothes and some amount are given to the molvi(saint) of the mosque. The molvi recites the fataha prayer and then starts teaching the Arabic alphabet. After teaching four to five letters he again recites the fataha and the ceremonies of the day end. As time goes on he teaches all the letters of the alphabet and after a complete understanding of alphabet he starts teaching qaided and when it is finished some amount and sweets is again given to the molvi. In the same way he teaches thirty siparas and after finishing each he is given some amount and sweets. On the eighth day after completing the Quran people of the area are invited and served food by the parents of the boy. This celebration is called aamen. It is pertinent to mention here that in some tribes this occasion of aamen is celebrated at the time of his marriage.

PROCEDURE OF AAMEN

The parents of the child call their complete bradri and friends for feasting on particular foods (normally pulao, qorma sweet rice and Roti and the day includes the Molvi. After consuming food, the child is made to wear the zaafirani (yellow and orange coloured) cloth and is made to stand with the mouli along with his other colleagues who also completed the Quran with him. Thereafter the mouli reads the aameen. And says, “Farzand hay tumhara shagird hay hamara kuch garee kuch chahara ay dil bgo tu aamen.”

The mouli keeps saying this time and again and when he says the aameen then all his students and people standing their repeat and loudly saying, “Aameen”. This process continues for an hour or so. Thereafter the mouli prays, especially for his student, then the parents of the boy honour the Mouli with flowers, sweets, cloths and money. People present there congratulate the parents of the boy and gathering is called to a close. In some tribes/bradries the practice of tanbool is also carried out. This is giving of cash and clothes and other things to the child at the time of the aameen by his / her relatives or bradri.

CIRCUMCISION

Circumcision by these Muslims are called sunnat. It is performed in two ways. One procedure is adopted by poor people and the other by rich.

POOR PEOPLE

They decide the day of circumcision, near relatives are invited, the boy being circumcised is made to drink hashish or wine so that he does not feel the pain of circumcision. Then he is made to sit on a small stool called a choki. Since he is drunk he therefore does not know what is happening around him. Rakh is tied with his leg and the legs of choki along with a gana given by his near relatives and boy is made to wear it.
Rakh is a silky thread with a small yellowish cloth having a glassed bangle, an iron finger ring and some rice in it. All these items are secured in a yellowish cloth as mentioned above and are tied with the hand of the boy with silky thread. Thereafter a barber performs the circumcision and if the boy weeps then barber points towards the sky and tells the boy, “Look up, look up, a golden sparrow,” and simultaneously carries out the circumcision. After circumcision the boy is looked after very well and given good food and extra dietary items to eat. After taking bath and recovering from his ordeal he is made to wear yellow cloth, given some choori to eat and is taken to a saint’s shrine for prayers.

RICH PEOPLE

The date of circumcision is announced, ladies gather at the boy’s house a day before the circumcision sing the song until dawn the next day, and paste mehndi on his feet and hands. Then male members of the family are also called inside and by one or two o’clock the boy is made to sit on a choki stool. The procedures of rakh and gana are carried out as discussed earlier and circumcision is affected by a barber. Thereafter his parents are congratulated and, according to status, people give some money to the boy and even to the barber. Then the boy is taken inside the room and sweets are distributed. In some families, food is also served. Until the time wound is cured he is not allowed hair cuts or bathing.

ACTIVITY OF TANBO

To perform this ceremony, the yellow clothes of the boy and for his brothers are given by his maternal side. The boy and his brothers if there are any, wear it. After taking a bath he is brought outside among his friends and guests and made to sit. Some rice and mole are kept in a try in front of him. The barber also sits there. People present give some amount /money to the boy as per their status and to the barber. Thereafter the orchestra plays, people sing songs and some dance. Later a horse is brought and the boy along with his brothers (if there are any) sit on it and are taken to any nearby shrine. There boy wishes and prays at the darbar (shrine). Again sweets are distributed and in some families, food is also served. Thereafter guests disburse.

MARRIAGE

In Pakistan, the matrimonial process generally starts when the boy attains the age of nine to ten years. When they come to know that a girl younger than their son is available in the desired family then mother, grandmother (maternal only) etc. go to her parents for the proposal of their son. Initially they are refused but after two to three visits if girl’s parents agree they confirm the date for engagement.

ENGAGEMENT

Then on the appointed day the near relatives of the boy (bridegroom), especially women, go to the girl’s (brides) house where they are served sweet milk which is a sort of announcement that daughter has been engaged. Thereafter they are served roti(food) and sweets and then they decide the date / day for next ceremony, i.e. the hath dharawa, and depart.

HATH DHARAWA

Four days after the engagement some women from the boy’s side go to girl’s house along with some cloth (suit), dry fruit and cash. They remain a full day at her house, change her dress with the one they brought along, put some amounts into her hands and put dry fruits in her skirts pouch along with some jewellery. In the evening when they come back they are given round trays (thali) of chobha and dry fruit etc. as per their status along with light yellow coloured cloth called saalo.

CHOBHA

Boiled rice in a tray with some sugar, dried coconut fruit and silver leaves on it is called chabho. If the girl’s side is financially weak then they entertain only with sweet milk. Financially better off families distribute dried molasses. Then after an appropriate time when the boy or girl’s parents desire they ask for marriage the settlement of the marriage date which is called girah dalna. GIRAH DALNA

To perform this ceremony some near relative of both sides are invited on the girl’s house two to three days before the ceremony and sing songs. On the day of ceremony some gentlemen are also
called and they are served with food as per their status. At this time some flower’s, sugar and a suit is given for the boy.  
During this ceremony a thread having knots coinciding the date of marriage (as 7th of any month then 7 knots) is kept in a tray and brought forward in front of the men by a barber. This is a sort of announcement of the date of marriage. Thereafter due is offered, sweats and flowers are distributed and before dispersal they are served with food.  
Then the boy’s parent send three or four trays of chabho, sugar, suits for bride, some money, dry fruits and other items to the girl’s house which is distributed among their relatives.

**WITRAWA**  
Women of the bride’s side gather at the bride’s house and cut and stitch their clothes, paste mehndi, comb the bride’s hair, and sweets are distributed. As per their status they call khauries to sing the song. Khauri is a type or specific category of women (of a lower class). They only sing the song (do not dance) at different houses and thereafter get money. This is known as witrawa.

**GIVING OF SADDA**  
On the day of sadda (which may be any day) a few women from the boy and girl’s sides go to their relatives’ house to give them marriage and tailday invitations and insist that they attend. They are given good entertainment, food etc. apart from saloo which may be given by their near relatives. On any day after this activity the sehara bandhna ceremony starts from the bridegroom’s door.

**SEHARA BANDHNA**  
Bayhishti (water delivery) is asked for to prepare and hang sehra (garlands) on the doors of the bridegroom’s relatives. He collects leaves of shrenth (a type of plant) stitches it in thread, prepares one and a quarter yard long sahra (garlands) hangs one on the door of bridegroom then on the doors of his relatives. They all pay him some amount as a tip and some give sugar, dried molasses, food grains, and other things they may have.

**MARRIAGE**  
The start of the marriage takes place from bride’s side and the ceremony called tail starts at her home. Some women cook food and a few selected women apply bilious message and change the bride’s dress which she does not change till the day of her marriage (on changing of the bridal dress this dress is taken / given to barber’s wife). Thereafter the bride is made to sit on a chowki. Four women hold SALO from four corners and cover her. At this time some amount is given into the hands of the bride and some is kept under her foot. Women start singing and the barber’s wife and few other ladies paste / apply mehendi. The father and brothers also enjoy this occasion as a tip is also given to the nine (barbers wife). At this time rakhi or kalariree is also tied to the hand of bride.

After that, the bride’s parents are congratulated and a strong and healthy woman picks up the bride and takes her on to a char poy (palang) and this ceremony is called bride or girl’s tail.

**BOY’S TAIL**  
On the second day the boy’s tail ceremony takes place. All steps of this ceremony take place in the same fashion as of bride. Except one which is when the boy stands up from stool he kicks the cups made of clay and damages/ breaks them and this is considered a good omen for them. At the closing of this proceeding the bridegroom is made to hold an arrow in his hand and if it remains safe then things are ok / all set but if the arrow breaks then it is assumed that somebody from his tribe will die.

**TRADITION OF MEHNDI (BRIDES)**  
For bride/girl it is same as ceremony of tail. The only difference is this that seven married women carry out bilious massaging and for preparation of bilious the grinder is brought to the home and ubtan with joo, dates and sugar is prepared at home. It is known as chakki choha.

**TRADITION OF MEHNDI (BRIDEGROOM)**  
With the same procedures as in the tail ceremony all available women paste / apply mehndi on their hands which is known as shadhee ki mehndi.
SADHAY KI MHENDI

This ceremony starts from the time of dawn, i.e. early morning. Chaudhry/Zamidar/Wadera of the village also attend this ceremony. They are called sayadey ka sadda. Different types of food, e.g. poolao, zarda, qorma) are prepared and served to the guests. The food is sent to the homes of people who could not attend the ceremony.

The food serving system continues till evening people keep coming and going after taking food. This system is more in the Tarkhans family of Lahore.

At the time of the departure of the Chaudhry/Zamidar/Wadera, the host gives them pagari, shaul or khais. After giving food, the barat ceremony takes place.

BARAT

It starts with dra sooay ceremony. In this the father of the boy (bridegroom) takes all clothes, shoes, jewellery along with the orchestra and his relatives to the bride’s home. When they reach there they are served with misry (sugar candy) and milk. The bride’s family is then given some behwar from their relatives. Women of both sides and male members of boy’s side wear new clothes. Males from the bride’s side do not wear new cloths.

From then on when barat goes back everybody gathers at the boy’s house. Flowers are brought, candles are lit, a band is plays and the bridegroom is brought inside among the ladies where he is given a bath by barbers. This bath is called khara. After the khara he is wrapped in saloo and then wears yellow coloured dressings. This dress is given to the bridegroom from his maternal side. The bridegroom’s brother is also dressed in the same type of dress/cloth and is called SABAHLA. If the brothers of the bridegroom are more than one then they are given yellow turbans.

Afterwards a barber holds the bridegroom’s turban and offers dua in which all people participate then the father or some other elder from his family puts the turban on the bridegroom’s head and is garlanded. It is very pertinent to say that the sabahla also wears the garland. The bridegroom is given an arrow and sword in his hand and then a veil is hanged from his head to cover his face.

WAG PAKRAIE

In WAG PAKRAIE the sisters of bridegrooms sock some daal (grain) in water and stand at the door. The bridegroom takes his horse up to the door where the horse in made to eat the daal. Then bridegroom gives some money to his sisters called Inaik. Thereafter he goes to the nearest tomb where he offers dua and then moves to the bride’s home.

TRADITION OF MILNI

The relatives of bride stand in a row and relatives of bridegroom make another row. Then a barber from bride’s side brings milk and gives some to the relatives of the bridegroom. Later fathers of both the girl and boy embrace with each other and then barat is taken to the bride’s home. There the bridegroom’s friend and other boys of his family launch fireworks and women of bride’s family sing songs. Then the barat is made to sit at a pre-designated place and the nikha is solemnized.

TRADITION OF NIKHA

Nikha starts with the wish (salam) to moulvi by the witness and vakeel of the bride. The moulvi asks them as to why they have come, they reply that they are from bride’s side and have come to get the nikha affected, and then after seeking permission /coordination from them, the moulvi starts nikha with the recitation of six kalmas to the bridegroom. Then after recitation of Qurani sourats, the moulvi asks the bridegroom thrice his willingness to accept the bride at pre-decided mehar. After getting willingness to accept each other the molvi recites the fataha and then carries out dua for the success and prosperity of newly wedded couple. The charges of nikha to the molvi are given by the bridegroom’s father.

After completion of nikah food is served to the guests by bride’s family/father. Traditionally they give one or half tray of chobha to each guest which is taken along by them but poolao / food is consumed at the same place. After having food, the guests move back but bridegroom stays there for the ceremony of takhat.
TAKHAT CEREMONY

In this ceremony bridegroom is called inside the house and made to sit among the women. There bride is given some dry fruits which she keeps in her fist. The fist is made oily and bride’s friends hold the fist tight and the bridegroom is asked to open and eat the dry fruit. He tries but faces difficulty in opening the fist due to oily skin. He tries two or three times and women enjoy and laugh when he ultimately opens it to eat and places some money in the bride’s hand along with one finger ring which is called a kawar ka challa. Then songs are sung. Then a holy book and mirror are brought out. The holy book is placed with them and they see each other in the mirror.

When this ceremony is over then bridegroom is made to sit on a charpoy. Relatives of both sides give salami to the bridegroom as per their financial status. Then a sehra (garland) is tied and the bridegroom salams (wishes) his father-in-law well. Afterwards dua is offered and horses are brought for their rukhasati. At the time of the rukhasati the father of the bride hands over his daughter to the father of bridegroom and weeps. Then they start moving with the naqarchi (band or orchestra) followed by barati, then bridegroom and bride in the dolly at the last of the procession. After / during move the father of bridegroom carries out waar (disburses money as charity).

WAAR
Waar means “charity”. After the newly wedded couple has sat on horseback and the bride in the dolly the father of bridegroom waves his hand with money on the head of both (bride and bridegroom) and gives that amount to poor people present there.

When BARAT reaches back to bridegroom’s home his grandmother, aunties, sister, cousins and other relatives come on the door and sing the song.

PAANI WAARNA
Water is taken in some cup, glass or bowel it is given a round on the heads of wedded couple. This is called paani waarna. After this they drink this water and bridegroom pays some money as a gift. After that the couple is allowed to enter the house. Here the arrow and sword are taken back from the bridegroom and the couple is allowed to go and sleep in an independent room.

Thereafter when the bridegroom goes to his in-law and stays a night there his sister’s in-law hide his shoes.

JOOTA CHUPAYE
In the morning the bridegroom searches for his shoes, when he does not find them his sisters-in-law enjoy this joke/activity, passing different types of remarks and after some time giving the shoes back.

MAKLAWA
Then the maklawa ceremony takes place but this ceremony is arranged after an unspecified time upon mutual agreement of the couple’s parents. This may be after two days, four days, or even two or three mouths.

In this ceremony some women from the bridegroom side come to the bride’s house along with the bride. After two or three days’ stay they bride’s parents give some cloth to the couple and some for the bridegroom’s parents, and then they are allowed to go with the bride to her husband’s house. It is worth mentioning that anything given by the bridegroom’s parents to the bride is known as waree and items given by the bride parents are called waaj. This includes all items of domestic use apart from other things such as land, animals etc.

CONCLUSION
Pakistan is one of the countries of globe where varieties of cultural traits with viable patters are followed and practiced true to the letter and spirit of the past. People inhibiting different parts of the country are rich in their cultural outlook and social structure. Smaller cultural things add to the beauty of the national culture at a national level. Some of the general common cultural traits practiced in every part of the country are certain religious rituals, inclinations towards remembering saints and poets of the land, similarities in marriage patterns, and love and respect for everyone. Pakistani culture is the mix of secular and religious outlooks. Some parts of the country are more secular in practicing the cultural rituals than the others. People are very friendly to each other and the world generally.
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Manufactured Exports and Economic Growth in Swaziland: Autoregressive Distributed Lag (ARDL) Bound Testing Approach

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Abstract

The study used the bound testing ARDL approach cointegration to determine the short run and long run relationship between manufactured exports and economic growth in Swaziland for the period 1990 to 2008. The results reveal that a long run relationship exists among the variables. The error correction term was also found to be statistically significant and has the correct sign. The implication is that there is a fairly high speed of adjustment after a shock. The results are favourably comparable to those in the literature. The policy implication of a positive relationship between manufactured exports and economic growth in Swaziland is that an expansion of manufactured exports will lead to an increase in economic growth. This also implies that policy makers in Swaziland should continue to promote and implement policies aimed at expanding manufactured exports in order to accelerate economic growth and development.

Keywords: manufactured exports, economic growth, ARDL, Swaziland

1. Introduction

The exports of manufactured goods are globally recognised as one of the main determinants of economic growth. The debate on whether exports lead to economic growth is still ongoing. A large number of studies have been done for different countries with focus on either total exports or manufactured exports and economic growth and they include among others Torayeh (2011), Kahyarara (2013), Sinoha-Lopete (2006), Jordaan and Eita (2009), Yaghmaian (1994) and Abu-Bader (2001). Different results have been obtained and some results showed evidence of long run relationship between exports and economic growth while on the other hand evidence of no long run relationship was obtained. The differences in the obtained results are associated with the econometric technique applied, country sets and duration of the study as well as the selection of variables used.

Most developing countries that have succeeded in maintaining high level of growth have almost depended on open trade, the growth of the industry and expansion of manufactured exports (Rankin, 2002). A number of developing countries depend on minerals as their main source of export income. However, evidence from several studies which include amongst others, Hausmann et al, (2007): Jarreau and Poncet (2012) and Berg et al, (2012) suggests that higher returns could be earned by exporting manufactured goods.

Soderbom and Teal (2005) are of a view that poor growth of exports in general and of manufacturing exports in particular has been associated with the poor economic performance experienced by many African countries. According to Oostendorp, Naude and Serumaga (2002) many African countries’ lack of sufficient manufactured exports is associated with the continent’s lack of industrialisation which results in dismal growth.

As a landlocked and a small country in Africa, Swaziland’s economic development depended largely in agriculture forestry and manufacturing sector since it got its independence in 1968. Agriculture and forestry have been the main contributors towards economic growth with about 33% of total output (Ministry of Trade and Industry, 2004). Swaziland diversified its economy to manufacturing exports and this resulted in agricultural share to GDP declining to about 9% in 2001. The share of manufacturing in GDP declined from 35.8% to 28.0% between 2008 and 2014, as the sector contracted at an average annual rate of 1.7% between those years. Manufacturing activities
remain focused on a few agro-processing industries (sugar products, canned fruit, and timber products) and textiles and clothing, and most of their production is for export (World Trade Organisation, 2015). Like many other African countries, Swaziland has an open economy and trade not only with its neighbouring countries but also globally. Swaziland exports and imports goods from its neighbouring countries, particularly South Africa as well as the European Union and United States. A number of studies have been conducted on the relationship between exports and economic growth. However, few studies have been done on export-led growth hypothesis in terms of total manufactured exports. Looking at the available literature, there seem to be no studies conducted on the relationship between manufactured exports and economic growth in Swaziland. This study therefore seeks to close this gap.

The main objective of this study is to determine the relationship between manufactured exports and Swaziland’s economic growth. The study seeks to examine the impact of manufactured exports on the economic growth of Swaziland for the period 1990 to 2008 using the Autoregressive Distributed Lag (ARDL) Bound Testing Approach. The study also analyses the causality between manufactured exports and economic growth of Swaziland.

The study is organised as follows, Section 2 presents literature review followed by methodology in Section 3. The empirical analysis and results are in section 4. Section 5 concludes the study.

2. Literature review
A number of economic theories have been formulated with regard to trade and they include among others Smith (1776), the Theory of Absolute Advantage, David Ricardo (1817), the Theory of Comparative Advantage, Heckscher (1919) and Ohlin (1924), Heckscher-Ohlin Model (HOM). The theory of comparative advantage was developed by David Ricardo in the year 1817. Ricardo’s main aim was to explain why countries engage in international trade even when one country’s workers are more efficient at producing every single good than the workers in another country. When formulating this theory, Ricardo wanted to show that free trade was advantageous to the participating countries as it leads to an increase of the quantity and variety of the items on which revenue may be used and thus increasing the sum of enjoyment. The theory stated that the global output will reach its optimum level if every country specialises in the production of the products in which it has a comparative advantage over others. Ricardo (1817) later introduced the Ricardian model on which only one factor in the theory was used, namely labour. Under this model, the existence of international trade was based on the fact that countries differ in the productivity of labour. Labour was assumed to be of homogeneous quality. Grieco and Ikenberry (2003) were of a view that text books focused on the indication of possible gains from trade in compliance to the theory of comparative advantage.

The Heckscher-Ohlin Model used different factors of production. The authors were more interested on the roles of labour, capital and land in agriculture and industry trying to show how their inclusion builds a country pattern of specialisation and trade.

Few studies on the impact of manufactured exports and economic growth have been done worldwide and they include among others studies that were conducted by Sheridan (2015), Kahyarara (2013) and Torayeh (2011), while several studies on exports and economic growth have been discussed globally. Sheridan (2015) conducted a study entitled Manufacturing exports and growth: When is a developing country ready to transition from primary exports to manufacturing exports? Data from a wide cross-section of countries was used and the study covered the period from 1970 to 2009. The study used an endogenous sample-splitting technique known as regression tree analysis to identify possible economic development thresholds in the relationship between the level of manufacturing exports and GDP per capita. The results obtained revealed that although increasing manufacturing exports is important for sustained economic growth, the relationship only holds once a threshold level of development is reached. The results imply that a country needs to achieve a minimum level of human capital before it is beneficial to transition from a reliance on primary exports to manufacturing exports.

In another study, Kahyarara (2013) conducted a study entitled Tanzania Manufacturing Exports and Growth: A Cointegration Approach. Time series data covering the period 1961 to 2010 was employed. The error correction model was used to test the short run dynamics. Evidence of a long run relationship was observed between exports and growth and the error correction term was also found to be statistically significant.
Torayeh (2011) carried out a study on manufactured exports and economic growth in Egypt. Cointegration analysis and error correction model ECM were used to determine the short run and long run relationship between manufactured exports and economic growth. The study covered the period 1980 to 2008. The results obtained showed a bi-directional long run relationship between exports of manufactured good as a whole and economic growth. The study concluded that there is a long run circular causality between manufactured exports and economic growth in Egypt.

Mpatane and Choga (2015) conducted a study determining the impact of exports on economic growth in Botswana. Annual time series was used and the study covered the period from 1980 to 2013. Cointegration test was done using the Johansen methodology and the Vector error correction model was run to measure the correction from disequilibrium of previous periods. A positive long run relationship was found between exports and economic growth and between real exchange rate and economic growth. The results also showed that about 68 percent of the variation in GDP from its equilibrium level is corrected within one year.

In another study, Saaed and Hussain (2014) investigated the impact of exports and imports on the economic growth of Tunisia for the period 1977 to 2012. The study used Granger Causality and Johansen Cointegration approach for long run relationship. Economic growth was found to granger cause imports and exports were also found to granger cause imports. The results provided evidence that growth in Tunisia was driven by a growth led import strategy as well as export led imports. Imports are seen as the source of economic growth in Tunisia.

Ajmi, Aye, Balcilar and Gupta (2013) conducted a research in which they investigated the dynamic causal link between exports and economic growth using both linear and nonlinear Granger causality tests. Annual time series data was used and the study covered the period 1911 to 2011. The linear Granger causality showed no evidence of significant causality between exports and GDP. Under nonlinear Granger Causality test, the study used both Hiemstra and Jones (1994) and Dicks and Panchenko (2005). A unidirectional causality from GDP to exports was found when using Hiemstra and Jones (1994). Evidence of significant bidirectional causality was observed when using Dicks and Panchenko (2005).

Jordaan and Eita (2009) investigated the causal relationship between exports and economic growth in Botswana. The study used quarterly data covering the period 1996 to 2007. A bi-directional long run relationship was found between export and economic growth. In another study, Jordaan and Eita (2007) conducted a study analysing the causality between exports and GDP of Namibia and also evaluated the relationship of these variables using Granger causality and cointegration. The study covered the period 1970 to 2005. A positive long term relationship was found between exports and GDP as well as GDP per capita.

Another study on exports and economic growth is a study that was conducted by Abual-Foul (2004) using annual data for the period 1976 to 1997 to investigate the export led growth hypothesis in Jordan. Abual-Foul (2004) used Granger-Causality test on VAR in levels, first differences and on error correction model. To test for the long run relationship, the Hsiao version of Granger Causality test was used. A positive causal effect of exports on economic growth was observed. The results imply that the ELG hypothesis is supported in Jordan.

There seem to be no studies that investigated the impact of manufactured export on economic growth in Swaziland and as a result this study therefore seeks to fill that gap.

3. Model Specification, Data and Methodology

3.1 Model Specification

In order to determine the impact of manufactured exports on economic growth in Swaziland, the study modifies the model used by Saaed and Hussain (2015) for Tunisia. Saaed and Hussain (2015) modelled GDP as a function of imports and exports. This study modifies the model by substituting exports with manufactured exports and includes foreign direct investment as a third explanatory variable. The inclusion of foreign direct investment was done as a way to avoid omitting relevant variables which according to Gujarati and Porter (2009) may result in biased results. The model used in this study is specified as follows:

\[ GDP_t = f(FDI_t, IMP_t, ME_t) \] (1)
Where GDP is real gross domestic product, FDI is foreign direct investment, IMP is imports and ME is manufactured exports. In a linear form equation one can be written as:

$$ GDP_t = \alpha_0 + \alpha_1 FDI_t + \alpha_2 IMP_t + \alpha_3 ME_t + \varepsilon $$  \hspace{1cm} (2)

All the variables are converted to logarithms and take the following form:

$$ \ln GDP_t = \alpha_0 + \alpha_1 \ln FDI_t + \alpha_2 \ln IMP_t + \alpha_3 \ln ME_t + \varepsilon $$  \hspace{1cm} (3)

Where $\ln GDP$ is a logarithm of real gross domestic product, $\ln FDI$ is a logarithm of foreign direct investment, $\ln IMP$ is a logarithm of imports and lastly $\ln ME$ is a logarithm of manufactured exports.

3.2 Data

The study uses annual data and the estimation covers the period 1990 to 2008. The data for the variables (GDP, FDI and Imports) were sourced from Central Statistics Office of Swaziland while data for manufactured exports were obtained from World Bank’s African Development Indicators.

3.3 Methodology

To empirically determine the long run relationships and dynamic reactions among the variables of interest, the model is estimated by using the Autoregressive Distributed Lag (ARDL) or bound testing approach developed by Pesaran et al. (2001). The ARDL is specifically used for the following reasons. It is appropriate for small samples especially in developing countries. It allows for cointegration to be estimated by OLS once the lag order is established and is applicable whether the variables are purely I(1) or combination of I(0) and I(1) variables. Lastly it is more efficient for small samples. In order to get an ARDL specification, Equation (3) is transformed as follows:

$$ \Delta \ln GDP_t = \alpha_0 + \sum_{i=1}^{n} \alpha_i \Delta \ln GDP_{t-i} + \sum_{i=1}^{n} \alpha_i \Delta \ln FDI_{t-i} + \sum_{i=1}^{n} \alpha_i \Delta \ln IMP_{t-i} + \sum_{i=1}^{n} \alpha_i \Delta \ln ME_{t-i} + \varepsilon $$  \hspace{1cm} (4)

Where $\Delta$ represents first difference, $\alpha \ 1 - \alpha 4$ represent the short-run relationship, $\beta 1 - \beta 4$ represent the long run relationship and $\varepsilon$ is the error term. $H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$ is the null hypothesis which indicates none existence of the long run relationship while $H_1: \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq 0$ is the alternative hypothesis which indicates existence of the long run relationship. The F-test is used to test if there is cointegration between the variables. The computed F-test statistic is compared to the critical values from Pesaran et al (2001). If the computed F-statistics is above the upper bound, the null hypothesis of no cointegration is rejected and if it is below the lower limit the null hypothesis is not rejected. In the case where the F-statistics is between the upper and the lower limit, no decision is made on whether there is cointegration or not as that is a region of indecision.

If cointegration exists, the long run and short run model is estimated. These include estimating the simple OLS in order to derive the residuals and estimating the speed of adjustment. Equation (4) is re-parameterised as:
\[
\Delta \ln GDP_t = \alpha_0 + \sum_{i=1}^{n} \alpha_{1i} \Delta \ln GDP_{t-i} + \sum_{i=1}^{n} \alpha_{2i} \Delta \ln FDI_{t-i} + \sum_{i=1}^{n} \alpha_{3i} \Delta \ln IMP_{t-i} \\
+ \gamma \text{ECM}_{t-1} + \varepsilon_t
\]

where \( \gamma \) is the coefficient of the error correction term. Equation (5) is the ARDL short run specification which is derived through the formulation of the error correction term (ECM). The ECM represents the speed at which the dependent variable adjusts to equilibrium as a result of shocks. It must be negative and statistically significant to show that there is adjustment to equilibrium. The ECM is lagged by one period to show the percentage of its speed of adjustment from a shock in the previous period to equilibrium in the present period.

For valid inference and reliable conclusion with regard to coefficients in a model, the model must pass the diagnostic tests. The diagnostic tests are applied to test the appropriateness of the model. These include among others normality test, serial correlation and heteroscedasticity. The model is also tested for stability by using the CUSUM test.

4. Empirical Results

4.1 Unit Root Test Results

Since ARDL is sensitive to variables that are I(2), this study found it necessary to start by testing the variables for their order of integration. ARDL is applicable when the variables are purely I (1) or a combination of I(0) and I(1). The study used Augmented Dicky-Fuller (ADF) test and Philips-Peron (PP) to test for stationarity of variables and the results are presented in Table 1. Both ADF and PP tests show that the variables are I (1) except for \( \ln FDI \) which is stationary at levels I(0). The results have a combination of I (0) and I (1) which permits for ARDL to be applied.

\[
\begin{array}{|c|c|c|c|c|}
\hline
\text{Variables} & \text{Model} & \text{ADF Tests} & \text{PP Tests} \\
\hline
\text{lnGDP} & \text{Intercept} & -1.546 & -4.103*** & -1.546 & 4.103*** \\
& \text{Trend & intercept} & -2.087 & -4.029*** & -2.141 & -4.029*** \\
\hline
\text{lnFDI} & \text{Intercept} & -4.239*** & -9.848*** & -4.244*** & -17.106*** \\
& \text{Trend & intercept} & -5.360*** & -9.637*** & -5.347*** & -17.307*** \\
\hline
\text{lnIMP} & \text{Intercept} & -1.537 & -4.151*** & -1.636 & -4.126*** \\
& \text{Trend & intercept} & -1.686 & -4.297*** & -1.827 & -4.358*** \\
\hline
\text{lnME} & \text{Intercept} & -2.499 & -5.026*** & -2.492 & -5.222*** \\
& \text{Trend & intercept} & -2.509 & -4.866*** & -2.578 & -5.036*** \\
\hline
\end{array}
\]

*** denotes stationarity of variables at 5% level.

4.2 Optimal Lag Selection

The determination of the optimal lag is required when using the ARDL bound testing approach. The study used Akaike information criterion and Schwarz information criterion. The lag length selected by both Akaike information criterion and Schwarz information criterion is 1.
4.3 Cointegration Test Results

The first step in the ARDL bound testing approach is to estimate Equation (4) by ordinary least squares in order to test for the existence of a long run relationship among the variables. This is done by performing an F-Test for the joint significance of the coefficients of the lagged levels of the variables. The lag length of 1 was selected based on Akaike Information (AIC) and Swartz Information (SIC) criteria. The results are presented in Table 2. Table 2 show that there is a long run relationship between the variables as the value of the computed F-statistics is above the upper bound at 3.82.

Table 2. Cointegration test results

<table>
<thead>
<tr>
<th>Test Statistics</th>
<th>Value</th>
<th>df</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistics</td>
<td>3.819775</td>
<td>(4, 11)</td>
<td>0.0349</td>
</tr>
<tr>
<td>Chi-square</td>
<td>15.279</td>
<td>4</td>
<td>0.0042</td>
</tr>
</tbody>
</table>

Notes: asymptotic critical value bounds are obtained from Table CII (t) in appendix: Case I with no intercept and no trend for k =3 (Pesaran et al, 2001, p). Lower bound I(0)=1.95 and Upper bound I(1)= 3.33 at 5% significance level.

Table 3. Long run results

Dependent variable: lnGDP

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>T-statistic</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>lnFDI</td>
<td>-0.029</td>
<td>0.018</td>
<td>-1.677</td>
<td>0.1107</td>
</tr>
<tr>
<td>lnIMP</td>
<td>0.513</td>
<td>0.133</td>
<td>3.846</td>
<td>0.0012</td>
</tr>
<tr>
<td>lnME</td>
<td>0.132</td>
<td>0.073</td>
<td>1.186</td>
<td>0.0861</td>
</tr>
<tr>
<td>C</td>
<td>8.20</td>
<td>2.649</td>
<td>3.096</td>
<td>0.0062</td>
</tr>
</tbody>
</table>

Table 3 presents the long run relationship of economic growth (lnGDP) and its explanatory variables. The results show that imports and manufactured exports are associated with an increase in growth. If manufactured exports increase by one percent GDP will increase 0.132 percent. A one percent increase imports causes GDP to increase by 0.513 percent. The effect of FDI on growth is negative, but statistically insignificant. This suggests that FDI does not really have an impact on Swaziland’s economic growth.

4.4 Error Correction Model

Once the long run relationship has been established, the ARDL short run specification is derived through the formulation of the error correction model (ECM). The ECM co-efficient is expected to be negative and significant in order to show that there is adjustment to equilibrium. The results of the ECM are presented in Table 4.

Table 4. Error Correction Representation of the ARDL model

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std Error</th>
<th>t-statistic</th>
<th>probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(lnFDI)</td>
<td>-0.0159</td>
<td>0.0073</td>
<td>-2.158</td>
<td>0.0455</td>
</tr>
<tr>
<td>D(lnIMP)</td>
<td>-0.020</td>
<td>0.229</td>
<td>-0.0879</td>
<td>0.9310</td>
</tr>
<tr>
<td>D(lnME)</td>
<td>0.0098</td>
<td>0.052</td>
<td>0.1888</td>
<td>0.8525</td>
</tr>
</tbody>
</table>
The co-efficient of the ECM is negative and statistically significant. This means that there is adjustment to equilibrium. The coefficient of the ECM shows that about 31 percent of disequilibrium is corrected every year.

4.5 Diagnostic tests

Table 5. Diagnostic tests

<table>
<thead>
<tr>
<th>Test</th>
<th>Null Hypothesis</th>
<th>t-statistics</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jarque-Bera (JB)</td>
<td>There is a normal</td>
<td>3.949</td>
<td>0.9039</td>
</tr>
<tr>
<td>Breusch-Godfrey (LM)</td>
<td>No serial correlation</td>
<td>20.075</td>
<td>0.4097</td>
</tr>
<tr>
<td>Arch (CH-sq)</td>
<td>No heteroscedasticity</td>
<td>194.878</td>
<td>0.7413</td>
</tr>
</tbody>
</table>

Table 5 shows that the equation passed all diagnostic statistics. The Table shows that the residuals are normally distributed, there is no serial correlation and not heteroscedasticity. The test results for stability are presented in Figure 1.

Figure 1. Stability Test

The cumulative sum of squared residuals (CUSUM) test in Figure 1 shows the model is stable. The CUSUM statistics lies within the confidence interval which means that the model is stable.

5. Conclusion

The purpose of this study was to investigate the relationship between manufactured exports and economic growth in Swaziland. The study used the bound testing (ARDL) approach cointegration to determine the short run and long run relationship between manufactured exports and economic growth in Swaziland for the period 1990 to 2008. The results revealed that a long run relationship exists among the variables. The results show that there is a positive relationship between manufactured exports and growth in Swaziland. The error correction term was also found to be statistically significant and has the expected sign. The implication is that there is a fairly high speed of adjustment after a shock. Approximately 31 percent of disequilibrium from the previous year’s shock converges back to the long run equilibrium in the current year. The diagnostic tests and CUSUM stability test were performed to assist in checking the appropriateness of the estimated model and the residuals passed all the tests. The results are favourably comparable to those in the literature. The policy implication of a positive relationship between manufactured exports and economic growth in Swaziland is that an expansion of manufactured exports will lead to an increase in economic growth. This also implies that policy makers in Swaziland should continue to promote and implement policies aimed at expanding manufactured exports in order to accelerate economic growth and development.
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Financial Efficiency in The Turkish Cement Sector: An Empirical Analysis

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Abstract

The purpose of this study is to measure the efficiency of Turkish cement industry, using the Data Envelopment Analysis and investigate whether there is a development in their efficiency on a yearly basis by the help of the Malmquist Total Factor Productivity Index. In this context, we have used uninterrupted data belonging to 18 cement factories in the Turkish cement sector between 2013 and 2015. According to results, while technical efficiency rate increased in 2014, in 2015 there has been a little decrease in the rate. According to Malmquist Total Product Efficiency Index in 2014 there is a positive movement approximately around 47.7%, and there is a decrease in 2015 approximately around 18.4.

Keywords: TurkishCementSector, Data Envelopment Analysis, Malmquist Total Factor Productivity Index, Efficiency

JelClassification: C14, G21

1. Introduction

The Turkish cement industry started production in 1911 with 20,000 tons of capacity per year. In 1923 production increased 40,000 tons per ear; in 1950 total capacity reached 370,000 tons/ear. Import of the good continued until 1970 due to lack of satisfying the domestic demand.

In the 1970s as a result of rapid investments in energy and infrastructure projects and increasing urbanization demand for cement continued to increase. In order to satisfy that demand, new investments were made in the industry. At the present time with over 60 million tons of annual production the Turkey cement industry is number one in Europe, and the fifth biggest producer in the World.

The cement industry has an important place in Turkey’s gross national product as a result of its growing production rate and export volume. The industry also holds a distinct place in the overall economy as a result of providing high levels of employment. On the other hand, the cement industry is among the first industries which world economic crises affect negatively. Since it provides the main inputs of the construction industry, it is directly affected by any fluctuations within construction industry.

In recent years the cement industry has grown primarily due to the construction industry. Especially lately this has been a result of government’s huge infrastructure projects such as urbanization, a third İstanbul airport, a third İstanbul bridge and several other investments contributed to the demand for cement and encouraged bigger firms to invest in the industry.

Corresponding developments, recently in cement industry efficiency has gained importance and there has been intense research in order to increase efficiency. It is important to avoid resource waste and work efficiently within the intense global competitive environment. Efficiency has been an important factor in order to gain competitive advantage. Firms which achieve higher efficiency levels have been gaining competitive advantages over their rivals.
The purpose of the current study is to measure Turkish cement industry’s financial efficiency over the last three years using data envelopment analysis and determine developments through those years using Malmquist Total Factor Efficiency Indexes. In this context, efficiency of eighteen cement firms which have operations in Turkey and traded in BIST analyzed using DEA and whether there was an improvement in the efficiencies of these firms over the years were examined and compared.

2. Literature Review

There are numerous studies regarding efficiency and productivity in a wide range of fields including banking, finance, cement, energy, insurance and production. Especially in the production, service and finance sectors these have been done in order to evaluate resource usage efficiency and firms performance efficiency and productivity analysis are mainly used.

In the cement industry there have been several studies using DEA analysis. Most of these studies focus on firms’ technical efficiencies. Efficiency measure shows whether or not firms could use minimum inputs in order to produce a certain amount of output, or whether or not firms could produce maximum output with a certain amount of input. The studies in this context may include various samples and variables. The purpose of these studies is to analyze cement industry’s inefficiency and positive and negative developments through years.

Primary studies are as follow.


Ray (2011), studied Indian firms’ total factor productivity and technical efficiency using data from the years 1979-1980 and 2008-2009. According to those results, after reforms rapidly increasing efficiency values are to be observed.

Geetha and Ramasamy (2014), studied increasing efficiency regarding the cement industry in India using industry data from 2001-2002 compared to 2012-2013. Results observed where positive and it was suggested that the industry should concentrate on export.

Ogayon (2014), studied Philippines cement industry efficiency by using variable return to scale and multi stage DEA and using Malmquist Total Factor Productivity Index developments in the years 2008-2012.

Mehmood and Waseem (2014), studied developments in ten firms which are affiliated to the Pakistan Cement Producers Union. They used firms’ data from the years of 2007-2011 with models of DEA and Malmquist Total Factor Productivity Indexes.

Hosseinzadeh et al. (2016), studied fluctuations in efficiency through the years of 2008-2014 using 33 Australian mining firms’ data. Results show that there can be observed an increase in efficiency scores through the years.

Researches about the Turkish cement industry are as follow.

Gerek, Erdiş and Yakut (2012), studied Turkish cement industry firms’ efficiency through the years of 1998-2009 using financial ratios and with the firms’ financial situations evaluated with the DEA. According to results efficient and inefficient firms were identified and suggestions about increasing efficiency were provided in the study.

Karsak and İşcan (2010), studied Turkish cement industry firms’ comparative operation performances. They evaluated results using a specific DEA model which utilises cross efficiency scores. The model
makes true comparative efficiency scores between firms and uses certain inputs and outputs with weight constraints.

Kayalıdere and Kargın (2004), researched efficiencies of textile and cement industry firms’ which are traded in BIST using the DEA model. For inefficient firms to be more efficient their aim was to identify the right level of inputs and outputs upon comparing efficient firms in those industries.

Kula and Özdemir (2007), aimed to compare efficiencies of cement firms which are quoted on BIST using DEA. Inputs and outputs used in the research were based on fundamental analysis ratios. Efficiencies of cement firms are evaluated by the Win4deap package program. According to results, 7 of 17 firms included in the study were identified as relatively efficient. For inefficient firms to become more efficient, potential improved ratios of inputs and outputs are specified.

Elitaş and Eleren (2007) studied ten cement firms which are traded in BIST. Results showed that firms with lower asset size tended to have better efficiency scores.

3. Methodology

Since model and differences of datas that will be used in the efficiency measurement process affect analysis results, selecting procedures of the model and variables is very crucial. There are three efficiency measurement methods; ratio analysis, parametric and nonparametric methods. These three methods present various advantages and disadvantages.

As for parametric efficiency measurement methods there are two basic approaches. The first is Data Envelopment Analysis-DEA, and the second is FreeDisposalHull-FDH (Berger and Humphrey, 1997:200). Between these two methods DEA which was developed by Charnes in 1978 is mainly used in researches regarding the cement industry.

DEA which is based on linear mathematical programing techniques, is a linear programing technique that aims to measure productivity and efficiency of decision making units in such cases where inputs and outputs measured with multiple and different measurement scales are used to make comparisons (Uzgören and Şahin, 2011: 196).

The method is used for performance evaluations of production relations where classic regression techniques can not be implemented and multiple inputs and outputs are included. DEA uses homogeneous inputs and produces the same sort of outputs. Moreover, the method identifies the best observations that use least inputs and produces the highest outputs by comparing decision making units and accepts them as the efficiency limit. According to that efficiency limit it tries to measure other decision making units’ relative efficiencies (Cihangir, 2004: 170). The important thing with DEA is units’ measured efficiency values are evaluated relative to sample units.

The DEA method can be used in two-way depending on input and output. Input dependant DEA models research how best a suitable input compound should be utilized in order to efficiently produce a certain amount of output. Output dependant and DEA models, on the other hand, research producing the highest possible output with a certain amount of input (Atan ve Çatalbaş, 2005: 52).

In the present research, the DEA model is used in order to measure the efficiency values of 18 firms which operate in the Turkish cement industry and traded at BIST. In the research, 2013-2015 annual datas of 18 firms are used.

4. Data Set

The number of inputs and outputs used in researches related to the cement industry varies from study to study. In the current study 3 inputs and 3 outputs were used. Necessary analysis was conducted using the Deap 2.1 package program under the assumption of constant returns to scale. The model developed in the current study is based on input oriented, constant returns to scale and the multi stage DEA method.
and with the additional help of the Malmquist Total Factor Productivity Index firms’ positive and negative developments through the years are identified.

Datas used in the current study about firms was obtained from the Public Disclosure Platform (www.kap.org.tr). Under the assumption of inputs’ strong influence on firms, the input oriented approach was adopted. The important things about this selection are that input and output oriented methods estimate the same limits and decision making units on active limits are identical. Only inefficient decision making units’ efficiency scales might show some variation (Bumin and Cengiz, 2009: 81).

In the current study with the DEA method, firms’ efficiency scales were measured between the years of 2013-2015 and effective and ineffective firms were identified. Using Malmquist Indexes firms’ positive and negative performances over the years are evaluated and demonstrated in tables.

Inputs and outputs are variables that form firms’balance sheets and income tables. Values are in the forms of ratios and units. With extracting values as ratios, firms can be compared by ruling out scale size differences and by doing so it has been aimed to improve accuracy of analysis.

4.1. Determining Decision Units

It is important to accurately identify input and output variables of data sets as far as possible in order to make efficiency analysis with DEA. In accordance with DEA’s structure whether analysis results are true or not is directly related to true identification of inputs and outputs such that at the end of model analysis efficient and inefficient decision units will be classified based on input and output variables (Acar and et al, 2014; 14).

In order to measure decision making units’ efficiencies, input and output variables of these units should be determined. Also, in order to consider the DEA model’s success in decision making problem input and output numbers should be complete and accurate as far as possible. For a DEA model, if there is an input number (m) and an output number (p) there should be at least (m+p+1) number of decision unit occurring as a constraint regarding reliability of research. And the number of decision making units should be at least double the number of variables (Çolak and Altan, 2002: 44-45).

In the model developed in the current study 3 inputs and 3 outputs are used. Thus number of decision units is expected to be;

\[
\text{Input Number} + \text{Output Number} + 1 = 7 \quad \text{and} \quad (\text{Input Number} + \text{Output Number}) \times 2 = 12
\]

Table 1 shows decision units.

<table>
<thead>
<tr>
<th>Code</th>
<th>Firms in Cement Industry</th>
<th>Code</th>
<th>Firms in Cement Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ADANA</td>
<td>10</td>
<td>CMBTN</td>
</tr>
<tr>
<td>2</td>
<td>AFYON</td>
<td>11</td>
<td>CMEN</td>
</tr>
<tr>
<td>3</td>
<td>AKCNS</td>
<td>12</td>
<td>CIMSA</td>
</tr>
<tr>
<td>4</td>
<td>ASLAN</td>
<td>13</td>
<td>GOLTAS</td>
</tr>
<tr>
<td>5</td>
<td>BASCM</td>
<td>14</td>
<td>KONYA</td>
</tr>
<tr>
<td>6</td>
<td>BOLUC</td>
<td>15</td>
<td>MRDIN</td>
</tr>
<tr>
<td>7</td>
<td>BTCIM</td>
<td>16</td>
<td>NUHCIM</td>
</tr>
</tbody>
</table>
4.2. Determining Input and Output Variables

Alongside decision units, determining input and output variables is one of the most important topics in nonparametric efficiency analysis. The current study used related literature to determine the inputs and outputs of the study. At the same time assessments regarding the cement industry are provided. Ideal identification of inputs and outputs is very crucial for reliability and validity of such studies. Table 2 shows inputs and outputs used in the study.

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Current Ratio</td>
<td>1 Net Profit / Sales</td>
</tr>
<tr>
<td>2 Total Debt/ Total Assets</td>
<td>2 Net Profit / Total Assets</td>
</tr>
<tr>
<td>3 Equity / Total Assets</td>
<td>3 Net Profit / Equity</td>
</tr>
</tbody>
</table>

In the context of this study, inputs variables are determined as follows the “Current Ratio” is variable number one, “Total Debt/ Total Assets” is variable number two, and “Equity / Total Assets” is variable number three. Output variables are determined as follows: the “Net Profit / Sales” is variable number one, “Net Profit / Total Assets” is variable number two and “Net Profit / Equity” is variable number three. Counted inputs and outputs are used to analyze whether cement firms traded in BIST work efficiently or not. At first with obtaining efficiency scores of firms, the aim is to classify efficient firms and inefficient firms. After determining efficiency values Malmquist Total Factor Efficiency analysis will be made and changes based on terms will be listed in tables.

5. Experimental Results

First is the study CCR model used in order to measure the Total Efficiency Values for each year. Then using the Malmquist Total Factor Productivity Analysis Malmquist Index, Technical Efficiency, Change in Technology, Pure Technical Efficiency and Scale Efficiency values are calculated and listed based on years in table. In this way, resources of changes of sample firms’ efficiency values were calculated. Since variables are obtained as proportions, there is no need to list firms based on their scale sizes. Thereby, it is the analysis more exact and simple.

Table 3 shows the total efficiency scores of sample firms between the years of 2013-2015.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ADANA</td>
<td>0.960</td>
<td>1.000</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>2 AFYON</td>
<td>0.190</td>
<td>0.900</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>3 AKCNS</td>
<td>0.781</td>
<td>1.000</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>4 ASLAN</td>
<td>0.609</td>
<td>1.000</td>
<td>1.000</td>
<td></td>
</tr>
</tbody>
</table>
Results of analysis show that no firm is efficient through all these years. In 2013 there are only two firms which are efficient. These firms are CIMSA and UNYEC. In 2014 six firms calculated as efficient. These firms are, ADANA, AKCNS, ASLAN, BOLUC, MRDIN and UNYEC. In 2015 seven firms are calculated as efficient. These are ADANA, AFYON, AKCNS, ASLAN, BOLUC, MRDIN and YBTAS. When the firms that have the lowest levels of efficiency by year are examined, it is observed that AFYON is the one with the lowest efficiency in 2013. CMBTN shows the lowest level of efficiency in 2014 and 2015.

Table 4. Average Statistics Based on Years

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Efficiency Level</td>
<td>0.577</td>
<td>0.777</td>
<td>0.731</td>
</tr>
<tr>
<td>Number of Firms in Observation Sample</td>
<td>18</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Number of Active Units</td>
<td>2</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Lowest Efficiency Level</td>
<td>0.190</td>
<td>0.193</td>
<td>0.161</td>
</tr>
</tbody>
</table>

The first line of Table 4, which includes average statistics concerning efficiency values of the firms calculated separately for each year, shows the average of the efficiency levels of the firms in the observation set for the relevant years, whereas the second line shows the number of firms that constitute the observation set by year. When average efficiencies are considered, it is seen that they were 57.7%, 77.7% and 73.1% respectively in 2013, 2014 and 2015.

According to values in Table 4, 2014 is the year which firms’ efficiency values are at their highest, and 2013 is the year in which only two firms showed efficient values. 2015, on the other hand, observed as the least efficient year had a rate of 0.161.

During the time of analysis, firms’ efficiency scores increased only 0.20 point. When examining whether efficient firms maintained their position or not and whether inefficient firms developed better scores or not three firms (CMBTN, CIMSA, GOLTAS) did not preserve their efficiency values of 2013 and by the end of 2015 their efficiency values had decreased. On the other hand 15 firms increased their efficiency firms. According to results in Table 4, in 2013 16 firms, in 2014 12 firms, and 2015 11 firms could not show technical efficiency. In other words, these firms remain under optimum output level considering their current inputs and sizes in the industry.

In the final stage of study, due to the time dimension in order to distinguish the effect of technical efficiency and technological change the Malmquist Production Index was used. The Malmquist Index was calculated for both terms 2014 and 2015.
Table 5. Results of Observed Cement Firms According to Malmquist Index

<table>
<thead>
<tr>
<th>Firms</th>
<th>2014 Malmquist Index</th>
<th>2015 Malmquist Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADANA</td>
<td>1.420</td>
<td>1.094</td>
</tr>
<tr>
<td>AFYON</td>
<td>4.673</td>
<td>1.080</td>
</tr>
<tr>
<td>AKCNS</td>
<td>1.166</td>
<td>0.964</td>
</tr>
<tr>
<td>ASLAN</td>
<td>1.513</td>
<td>0.940</td>
</tr>
<tr>
<td>BASCM</td>
<td>1.416</td>
<td>0.949</td>
</tr>
<tr>
<td>BOLUC</td>
<td>1.539</td>
<td>0.947</td>
</tr>
<tr>
<td>BTCIM</td>
<td>1.915</td>
<td>0.766</td>
</tr>
<tr>
<td>BSOKE</td>
<td>2.552</td>
<td>0.705</td>
</tr>
<tr>
<td>BUCIM</td>
<td>1.545</td>
<td>0.658</td>
</tr>
<tr>
<td>CMBTN</td>
<td>0.494</td>
<td>0.806</td>
</tr>
<tr>
<td>CMENT</td>
<td>2.522</td>
<td>0.541</td>
</tr>
<tr>
<td>CIMSA</td>
<td>0.634</td>
<td>0.920</td>
</tr>
<tr>
<td>GOLTAS</td>
<td>1.873</td>
<td>0.354</td>
</tr>
<tr>
<td>KONYA</td>
<td>1.683</td>
<td>0.760</td>
</tr>
<tr>
<td>MRDIN</td>
<td>1.185</td>
<td>0.876</td>
</tr>
<tr>
<td>NUHCIM</td>
<td>1.577</td>
<td>1.038</td>
</tr>
<tr>
<td>UNYEC</td>
<td>1.050</td>
<td>0.846</td>
</tr>
<tr>
<td>YBTAS</td>
<td>1.189</td>
<td>0.906</td>
</tr>
<tr>
<td>Average</td>
<td>1.477</td>
<td>0.816</td>
</tr>
</tbody>
</table>

In Table 6, based on Malmquist Index, average results of sample firms’ for the years of 2014-2015 can be observed.

Table 6. Periodical Comparison of Malmquist Indexes of Sample Firms Based on Production Approach

<table>
<thead>
<tr>
<th>Years</th>
<th>Technical Efficiency Change (TE)</th>
<th>Technological Change (TC)</th>
<th>Pure Efficiency Change (PTE)</th>
<th>Scale Efficiency Change (SE)</th>
<th>Malmquist Production Index (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-2014</td>
<td>Observed Sample</td>
<td>1.424</td>
<td>1.037</td>
<td>1.000</td>
<td>1.424</td>
</tr>
<tr>
<td>2014-2015</td>
<td>Observed Sample</td>
<td>0.890</td>
<td>0.917</td>
<td>1.000</td>
<td>0.890</td>
</tr>
</tbody>
</table>

The values shown in Table 6 were evaluated by the Malmquist Production Index values geometric averages. Numbers in the last row of the table demonstrates changes in total factor productivity scores meaning Malmquist Production Index values. If that value is greater than one that means total factor productivity has increased. If it less than one that means it has decreased. If the Malmquist Production Index is equal to one that means there is not any change between compared periods.

Considering the values at the last row table 6, in 2014 sample firms’ total productivity increased at the rate of 47.7% comparing 2013. Positive developments in technical efficiency play an important role in achieving such result. The 2014-2015 Malmquist Index is calculated as 0.816. In other words, in 2015 sample firms’ total efficiency decreased at rate of 18.4% compared to 2014. That may be the result of negative influences of both technical efficiency and technological changes.

It is possible to explain reasons of change in total factor productivity by using four different indexes. In order to do that, first it is necessary to examine two fundamental components of the Malmquist Production Index which are change in technical efficiency and technological efficiency. In these indexes if index value is greater than 1.00 show a positive contribution if it is lower than 1.00 it shows a negative contribution.
When examining the 2013-2014 term’s third and fourth rows, in the current study the technical efficiency of firms made a positive contribution to total factor productivity of firms’ at the rate of 42.4% compared to previous year, and technical change made a positive contribution at the rate of 3.7% in same year. Positive change in technical efficiency and technology resulted in an increase at the rate of 47.7% in total factor efficiency for 2014 compared to previous year.

While there is a decrease in technical efficiency of sample firms’ in 2015 of about 11 %, there is an decrease in technological change of about 8.3 %. Under the influence of these results total factor productivity decreased at the rate of 18.4%.

5. Conclusions

Being a subbranch of the construction sector, the cement industry is in a mutual and constant interaction with the economy. Past economic crises and political and economic instabilities had negative impacts on the cement industry. It is important for the cement industry to have a strong and appropriate financial structure in order to reduce problems in the industry. For cement firms being competitive in global environment it is necessary to work efficiently and avoid resource waste.

The DEA model has been used in a large number of studies in Turkey and other countries about banks’ activities in the cement industry. The main reason why DEA was used frequently is the industry has lots of inputs and outputs. The main advantages of DEA over other methods exist because it provides accurate analysis in situations where there are lots of inputs and outputs, and by identifying inefficient units it identifies objectives for reaching higher efficiency level.

In this study efficiency values of 18 firms which operate in the Turkish cement industry and traded at BIST were evaluated by using firms’ datas from 2013-2015. In the analysis under the assumption of the constant returns to scale the DEA approach and the Malmquist Total Factor Productivity Index were used. The model developed for the current study has been based on input oriented, constant returns to scale and a multi stage DEA model. By measuring firms’ efficiency values efficient and inefficient firms were identified. Besides Malmquist indexes, it was shown whether firms show any progress through these years or did not.

Results of the current study show that, considering the time of analysis there is a 0.20 point increase in efficiency scores of firms in 2014 and 0.046 point decrease in 2015. At the end of 2015 three firms seemed to fail to protect their efficiency scores of 2013, and fifteen firms seemed to have increased their efficiency scores. Sixteen firms in 2013, twelve firms in 2014, and eleven firms in 2015 could not show technical efficiency.

According to the Malmquist Production Index considering the comparison of terms, it is observed that there is an increase about 47.7 % in 2014 compared to 2013. 2015 compared to 2014, it is observed that there was a decrease in total efficiency of firms of about 18.4%.

References


Use of Emojis to Promote Writing Skill in EFL Classrooms

Erkin Özdemir, Anadolu University, Turkey

Abstract

A crucial component of communicative syllabi writing has always been a difficult skill to develop for language learners. ELT practitioners and theorists have suggested numerous ways to promote writing, yet it has always been a boring process for students to write even a short piece of text. Therefore, the golden rule for English teachers who teach writing is to make the process easier and more enjoyable for the students. Whatsapp Messenger, with more than 900 million users worldwide, provides a free, instant messaging service, and is very popular among teenagers who constitute the majority of language learners. Closely related, Oxford Dictionaries “word of the year 2015” is emoji (‘a small digital image or icon used to express an idea or emotion in electronic communication’), and these characters appear in almost all of the whatsapp messages. The purpose of this study is to find out effectiveness of using emojis via WhatsApp Messenger to promote writing skills. For this purpose, a set of writing tasks which include use of emojis were given to elementary level students via Whatsapp Messenger. After completion of tasks, students were given a questionnaire to find out their perceptions concerning the effectiveness of the tasks. The findings of the study explore and suggest benefits and different ways of using emojis to promote writing skills.

Key Words: EFL, Classroom Practices, Technology Integration in the Classroom
Perceptions of Food Insecurity Complexities in South African Tertiary Institutions: The University of KwaZulu-Natal

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Muthulisi Siwela, University of Kwazulu-Natal, South Africa
Denver Naidoo, University of Kwazulu-Natal, South Africa
Unathi Kolanisi, University of Zululand, South Africa

Abstract

Food insecurity, largely due to poverty, significantly contributes to high dropout rates and poor academic performance of students in South African Institutions of Higher Learning (IHLs). The University of KwaZulu-Natal (UKZN) is no exception, given that 53.1% of its students come from economically disadvantaged backgrounds. While the University implemented a food security programme in 2012 to address food insecurity among students, clear knowledge of food insecurity, its prevalence and how it is perceived by key stakeholders in IHL remains elusive and complex. This study assessed the prevalence of and perceptions about food insecurity among students at UKZN through a survey of 500 full time students. Results show that 53.1% of the students were vulnerable to food insecurity of which 44% experienced moderate levels of vulnerability and 9.2% were highly vulnerable. About 64.3% indicated that hunger reduced their concentration and vigour; as a result, 27.7% had missed classes. About 67% had the perception that food insecurity diminishes self-esteem. Whilst 68% viewed food insecurity as deprivation of human rights, there was stigma attached to aid as 29.2% preferred anonymity as they lack means to acquire food. Although UKZN had a food security programme that provided food parcels, 90.2% were not aware of it and 37.2% maintained that they would not use or recommend the programme to anyone due to the stigma associated with it. The paper concludes that research is needed to develop an effective approach for addressing the stigmatisation of food insecurity among students in the IHLs of South Africa. The approach could be institutionalised in the IHLs with the aim of transforming the mind-set of key stakeholders such that they understand and embrace the essence of ensuring food security among students.

Key words: academic performance, food aid, food insecurity complexities, institutions of higher learning, South Africa
How to Start a Lesson; An Alternative Way to Warm up

Cevdet Bala, Anadolu University, Turkey

Abstract

Using warm up activities is an essential topic mentioned in methodologies. The objective is to get students' attention at the beginning of the class by means of enjoyable and short activities and to engage them in the steps that follow. It is believed that they energize the class, set the mood, and give a good dynamic start to the lesson straight away, as well as encouraging whole-group participation. There is an abundance of easily available materials and suggestions on the net, and it is easy to find different ways to direct the students’ attention to the lesson. Teaching for over 19 years, I have benefitted from such materials and suggestions. I have also created my own way to start a lesson. As I know that students like to talk about themselves or their likes, dislikes and experiences, I have put this reality to use to start the lesson. Shortly, the basic explanation involves asking the students, “Do you have anything to share?” at the beginning, and encouraging them to share something they have read, witnessed, watched, or that happened to them. The activity is volunteer-based and they can inform, entertain, or make us laugh. As they talk about free topics, they are eager and they talk voluntarily. This study defines how I use this warm up activity and presents data collected from a questionnaire which evaluates the students’ perception on the effectiveness of this activity.
The Effect of Interactive-Image Elaboration on the Acquisition of Foreign Language Vocabulary

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Abstract

This study investigates the effect of interactive-image elaboration on the acquisition of English vocabulary by Arabic speakers. Three ESL classes at a technical college were divided into three groups for which different treatments were administered. The first treatment provided ready-made interactive pictures while the procedure in the second group was to ask participants to generate their own imagery or to use the repetition strategy while the third treatment required students to use the strategy of repetition to learn the meaning of the new words, both in immediate and delayed tests (two weeks later). Tests of immediate and delayed results suggest that the use of the ready-made interactive pictures’ strategy increased retention above the other strategies. The tests results also suggest that using elaborative devices either spontaneously or by design is more effective than the repetition strategy and it is possible for such a strategy to be adopted in natural classroom settings.
Tertiary Level Student and Teacher Reviews about Submitting and Assessing Foreign Language Speaking Performances through Mobile Phone Video Recordings

Erol Kilinc, Anadolu University, Turkey

Abstract

New mobile applications enable both synchronous and asynchronous assessment opportunities of students’ oral performances in language learning. Unlike the traditional assessment setting, foreign language speaking performances and their assessment today can be carried out beyond the time and space constraints of the typical classroom environment. Such applications are open to research of new perceptions, beliefs and other affective variables, therefore the impact of such a medium leads to numerous findings and new dimensions for future language teaching and learning methodologies within the field are emerging as a consequence.

This study aims to provide a picture of both student and teacher reviews of an alternative way to conduct speaking performance assessments via mobile phone video recordings at the Anadolu University-Turkey, School of Foreign Languages which hosts an EFL (English as a foreign language) setting. As all EFL settings around the world face limited opportunities for language learners due to time constraints, students’ language improvement can be frustrated, especially when it comes to sufficient time for speaking opportunities. As stated by H. Douglas Brown (Teaching by Principles p.269, 1994) in most EFL situations, students are totally dependent on the teacher for useful linguistic feedback. That is to say that few or almost no opportunities are present outside the classroom. For EFL learners, when it comes to getting qualitative assessment and feedback for productive skills like speaking performances, opportunities are limited even when a small class size is involved. In this study, student participants were told to record and submit their out of school speaking presentations tasks. Teacher participants who are English language instructors of EFL (English as a foreign language) working at Anadolu University School of Foreign Languages were then presented students’ video performances and asked to evaluate them. Later teachers were administered a survey regarding their perceptions of assessing students performances and giving such feedback. Students were also given a survey regarding the new task.
Enhancing the Safety Climate and Reducing Violence against Staff in Closed Hospital Wards

Valerie Isaak, MLA College, Israel

Abstract

This study examines the effectiveness of an intervention program aimed at enhancing a unit level safety climate as a way to minimize the risk of employees being injured by patient violence. The intervention program conducted in maximum security units in one of the psychiatric hospitals in Israel included a three day workshop. Safety climate was examined before and after the implementation of the intervention. Data regarding incidents involving patient violence was also collected. Six months after the intervention a significant improvement in employees’ perceptions regarding management’s commitment to safety were found as well as a marginally significant improvement in communication concerning safety issues. Our research shows that an intervention program aimed at enhancing a safety climate is associated with a decrease in the number of aggressive incidents. We conclude that such an intervention program is likely to significantly foster the sense of safety and reduce the scope of violence.

Keywords: Violence, intervention, safety climate, health care, public sector

Introduction

Violence in the health system

Mental Health personnel are at high risk of injury resulting from violence in the workplace [1], with the concomitant effects of physical pain, emotional suffering, and damaged therapeutic relationships, as well as high financial costs for the organization [2,3].

The magnitude of the problem has been steadily rising in recent years [4]. Hillbrand et al, (1996) [5] reported that more than two percent of the budget of maximum security forensic hospitals in the USA was spent on salaries of employees hired to replace personnel who were absent from work owing to patient inflicted injuries. Other findings suggest that, while employees throughout the health care system are at high risk of exposure to violence, [6,1], there is an especially high rate of violence in psychiatric, geriatric, and emergency departments [7]. A recent study in Poland found higher rates of exposure to violence among psychiatric nurses than among nurses in all other medical services [4]. Although patient aggression is directed at various health personnel, about a quarter of the victims of physical and half of the victims of verbal aggression are nurses [8].

Violence towards medical personnel in Israel was investigated in depth by Landau (2004)[6] and included emergency departments in 25 medical centers not including mental health centers. Findings show that 75 percent of emergency department personnel in Israeli hospitals experienced violence in the year before the study. In a study conducted by the Israeli Ministry of Health in 2010 there were reports of 2528 violent incidents towards medical personnel in both hospitals and in community healthcare centers [8]. However, neither of these studies included psychiatric hospitals [9].

Violence in the psychiatric system

Violence by patients with mental disorders has been described as “the dark side of mental disorders” [10,11] with high rates in psychiatric institutions. In most instances, the victims of violence are among the nursing staff [1,12,13,14]. Studies performed in the United States, Canada, Belgium, and Australia show that 26-56 percent of the staff that treat psychiatric patients in hospitals and in the community have been victims of assault [15,16]. In a study conducted in New Zealand among medical students, depending on the type of violence examined, 36-56 percent of the students who had rotation in psychiatry wards were assaulted by patients during their rotations [17]. In the United States, reports suggest that one in four psychiatric nurses are assaulted by patients and require sick leave each year.
The problem is not new, for the last two decades, the United States Occupational Safety and Health Administration have stressed the responsibility of psychiatric institutions to maintain standards of safety to minimize injuries [2,3]. But the problem has been rising in magnitude over recent years [4].

As mentioned above, nurses comprise most victims of violence in psychiatric wards [1,12,13]. Beyond Owen et al.’s (1998)[14] study mentioned above, an Australian study in closed psychiatric wards found that 78 percent of the subjects of patient assaults on staff were nurses, 4 percent were doctors, 2 percent psychologists, and 2 percent were social workers [16]. The difference was explained by reference to the nursing staff being with the patients 24 hours a day. In addition, the primary treatment of the violent patient is by the nursing staff, especially during outbursts [12,14,19]. As a result, nurses employed in forensic units describe their work as an ongoing conflict between their desires to help the patient as expected from a nurse versus the basic need to avoid harm inflicted by patients [20].

A number of studies have examined various intervention schemes aimed at reducing violence toward employees, either specifically in psychiatric facilities or in the workplace more generally [20,21]. These interventions include structured feedback processes after violent events and violence management teams [21,22]. Yet none have been aimed at the broader goal of enhancing a climate of safety. This article is focused on safety climate in the work environment and its contribution to the reduction of patient violence towards staff in the hospital.

**Intervention Programs Aimed at Employee Safety**

Hospital-wide administrative programs aimed at dealing with patient’s assaults have been examined in many studies. These studies include such interventions as forming a team designated at dealing directly with the patient once he/she has become violent and a support group dealing with staff who have been assaulted [22,23,24,25,26]. Staff training that manage the patient aggression has been the focus of several other studies [27,28]. Finally, other studies examined interventions aimed at designing environments with fewer risk factors (e.g. making sure patients and staff can be viewed in all relevant locations) [29,30].

Most of the studies that we identified in our literature review focused on how the staff training programs reduce violence. Yet these studies examined the short term effect. There is evidence that beyond the specific skills or design ideas brought forward in training sessions, aspects of organizational culture – and in particular, the safety climate of the organization – can play a crucial role in influencing the rates and effects of violence in the workplace generally, and in health care organizations (including psychiatric wards) in particular [9]. In this study we examined an intervention aimed at enhancing the safety climate within the wards and demonstrate how it led to lower numbers of injuries among staff over time.

**Safety climate in the work environment**

The term ‘safety climate’ is a specific form of organizational climate which refers to the degree to which employees perceive the organization as caring about the value of safety in the work environment [31]. Neal et al. (2000, p.100)[31] conceptualized safety climate as including the following components: “management values (e.g. management concern for employee well-being), management and organizational practices (e.g. adequacy of training, provision of safety equipment, quality of safety management systems), communication, and employee involvement in workplace health and safety” (pp.100). A lot of studies have demonstrated that these factors predict safety-related outcomes, such as the number and severity of accidents and incidents [32,33,34,35].

Safety climate is reflected in the behavior of the employees [33,36]. It is known that in fields such as healthcare where there are high levels of uncertainty and high risk in decision making processes, it is especially important to foster a climate of safety [37]. A strong safety climate is likely to be reflected in work procedures that are designed to prevent hazardous situations and norms where even small breaches of safety-related procedures and processes are not tolerated [38].

Therefore, organizations trying to minimize the number and severity of such incidents should create a climate in which employees feel both responsible and empowered to take safety seriously. Interventions targeted at enhancing the safety climate and not just aimed at control systems, after-incident processes or designating safety roles to some employees may be more effective in the long run.
Intervention programs need to showcase the importance of safety. Such interventions must entail all the components of a strong safety climate including enhancing management commitment to safety, organizational procedures and training tiered towards safety, and open communication between staff and management regarding safety issues.

In this study, we examined the effects of an intervention designed to improve the safety climate in a maximum security psychiatric unit in Israel. Our hypothesis is as follows:

**Study Hypothesis**

An intervention designed to enhance the safety climate in a closed psychiatric unit will be associated with a decrease in violent incidents by patients towards the unit’s employees.

**Methods**

**Setting and Intervention**

The Sha’ar Menashe Mental Health Center (MHC) is the largest mental health care facility in Israel. Sha’ar Menashe MHC serves a catchment area of 700,000 people from diverse populations and religions, urban and rural communities, and from all socio-economic classes. The hospital has 520 beds and 570 employees. The Maximum Security Unit at Sha’ar Menashe MHC treats extremely violent psychiatric patients and serves the entire country. The Maximum Security Unit includes four forensic units with a total of 132 beds (33 beds in each unit).

A training program pertaining coping with all aspects of violence in the workplace was developed to provide the multidisciplinary caregivers with a sense of a strong safety climate based on a Zero Tolerance agenda [39]. The intervention program was developed as a result of the following three processes. First, a focus group that included employees from varied sectors within the organization identified needs relating to safety. Second, clinical supervisors interviewed employees that were injured due to patient violence in the past in the Maximum Security Unit. Third, past reports of violent behaviors towards staff members were analyzed. The results led to a three day program that was designed to train staff in three components of a strong safety climate in the face of patient violence: namely, personal safety and self-defense; inter-staff communication; and organizational learning processes. More specifically the program included:

**Personal Safety (Day One):** A professional trainer from the Wingate Institute (Israeli’s National Center for Physical Education and Sport) instructed participants on how to avoid dangerous situations, self-defense skills, and methods for safely restraining patients.

**Communication (Day Two):** An organizational consultant that specializes in interpersonal communication among teams in healthcare trained staff on the use of tools for better inter-staff communication (i.e., communication among staff members and among staff and managers).

**Organizational Learning (Day Three):** A retired senior officer from the Israeli Defense Forces (IDF), who is a specialist in conducting incident investigations, taught the staff how to conduct debriefings after adverse events, based on the model used in the IDF. This session emphasized the importance of teamwork and organizational learning processes (i.e. as they relate to safety procedures). Organizational learning processes were deemed important to the program as a way of ensuring that knowledge drawn from mistakes and successes could be effectively transmitted throughout the unit [40].

At the end of 2007, the Maximum Security Unit at Sha’ar Menashe MHC implemented the above three day workshop called the “Return Home Safely” workshop (the name of the intervention program was suggested by a member of the focus group) in the forensic psychiatry departments (the entire multidisciplinary staff from physicians to maintenance workers).

Beginning in 2009, refresher sessions came to be conducted on a regular basis, and each year the staff decides which module (personal safety, communication, or organizational learning investigation of incidents) they would like the refresher session to focus upon.

**Sample and Procedure**

We distributed a safety climate questionnaire to all employees in the four Maximum Security departments immediately before the workshop and again six months later. The unit of analysis was a department with its entire multidisciplinary staff (doctors, nurses, practical nurses, psychologists, social
workers, occupational therapists, maintenance workers, and secretaries). Because the entire Maximum Security Unit implemented the intervention program, we did not have a control group.

The initial questionnaire was distributed to all employees on the morning of the first day of the workshop and collected before the workshop began. The six-month follow-up was similarly distributed and collected while employees were at work. The questionnaires were labeled only as to the particular department to which the respondent belonged; they included no personal information that could be used to identify specific employees. All 112 employees returned completed questionnaires prior to the workshop (see Table 1), and 85 employees returned completed follow-up questionnaires.

**Table 1 – Demographics of the sample**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Sector</th>
<th>Education</th>
<th>Seniority in Unit (years)</th>
<th>Seniority in organization (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>47.4%</td>
<td>Doctor</td>
<td>7.14%</td>
<td>High School</td>
</tr>
<tr>
<td>Female</td>
<td>52.6%</td>
<td>Nurse</td>
<td>71.43%</td>
<td>BA</td>
</tr>
<tr>
<td>*Other</td>
<td>21.43%</td>
<td>MA</td>
<td>15.6%</td>
<td>11-20</td>
</tr>
<tr>
<td>*Other</td>
<td>13.1%</td>
<td>*Other</td>
<td>13.1%</td>
<td>21-30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>31-40</td>
</tr>
</tbody>
</table>

*Other = psychologists, social workers, occupational therapists, maintenance workers, and secretaries.
* Other = Psychiatric graduate nursing course.

Table 1 shows the demographic data of the sample before the intervention was conducted. As we can see more than 70% of the employees in the Maximum Security Unit are nurses, 77.5% of them had been working in Sha’ar-Menashe between 1-20 years, 85% are working in their unit between 1-20 years, and 44% of them have an academic degree.

To examine outcomes, we compared several metrics for the four years prior to the workshop (2004, 2005, 2006, and 2007) with their equivalent figures for several years following the intervention. These include the number of incidents involving patient violence or aggression towards staff and the number of employees injured due to these incidents. This data was collected from organizational reports.

**Study Variables**

Safety climate was evaluated via a 21-item questionnaire comprising of questions regarding the three domains of the Safety [35](see appendix 1). Six items (questions 1-6) measured perceived communication about safety (question 1-6) (sample item: “management operates an open-door policy on safety issues”); seven items (questions 7-13) measured perceived management commitment to safety (questions 7-13) (sample item: “Management does not act on safety concerns”); and eight items (questions 14-21) assessed perception about written rules and procedures and willingness to report incidents (sample item: “The written rules and instructions are easy for people to follow”) (questions 14-21). Respondents answered all items on a 7-point Likert scale, 1=completely disagree and 7=completely agree. Respondents’ score for each domain were averaged to produce a total domain score for each employee. Reliability of cronbach’s alpha for each domain was: communication (0.70), commitment (0.6) and written rules and procedures (0.88).

**Number of incidents.** Aggressive or violent incidents were defined as cases where a patient physically attacked a staff member. These data were drawn from internal reports to the hospital’s head of risk management.

**Number of employees injured due to patient violence.** Injuries were counted in this metric if they required medical attention and/or affected the staff member’s ability to function (e.g., causing
absence from the workplace). As with the number of incidents, this data was drawn from internal reports to the head of risk management. The number of employees injured as a result of patient violence was examined using internal reports to the head of risk management in the hospital.

In this study, the unit of analysis was a department with its entire multidisciplinary staff (doctors, nurses, practical nurses, psychologist, social worker, occupational therapists, and secretaries). Measurement was performed before and after implementation of the program of action. The questionnaires were distributed to all employees before and after the workshop.

**Results**

**Table 2 – Manipulation check – Means and T- test results regarding safety climate at work before and after implementation of the intervention program**

<table>
<thead>
<tr>
<th></th>
<th>Communication concerning safety issues</th>
<th>Commitment of management to safety</th>
<th>Procedures and safety reports</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>SD</td>
<td>X</td>
</tr>
<tr>
<td><strong>Before</strong> (n=112)</td>
<td>4.31</td>
<td>1.11</td>
<td>3.94</td>
</tr>
<tr>
<td><strong>After</strong> (n=85)</td>
<td>4.51</td>
<td>1.04</td>
<td>4.14</td>
</tr>
<tr>
<td><strong>T-test</strong></td>
<td>-1.418</td>
<td>Sig. (1-tail)</td>
<td>-1.647</td>
</tr>
</tbody>
</table>

Table 2 shows the results of T Tests comparing the three safety climate measures before and after the intervention program. As can be seen in the table, the analysis revealed a marginally significant improvement in communication concerning safety issues following the intervention (t= -1.418, p=.07), and a significant improvement in perceived management commitment to safety (t= -1.647, p=.05). No significant difference was found in relation to perceptions regarding procedures and safety reports (t= -0.98, p=.16).

**Table 3 - The number of aggressive incidents towards staff before and after the intervention program in all 4 forensic units**

<table>
<thead>
<tr>
<th></th>
<th>Before the intervention program</th>
<th>After the intervention program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Incidents*</td>
<td>13, 19, 55, 36</td>
<td>26, 18, 8, 14, 12, 13</td>
</tr>
</tbody>
</table>

*Incident include accident with and without physical injury.

As shown in Table 3, the number of violent incidents throughout the Maximum Security Unit declined by about two thirds after implementation of the intervention program, from 55 in 2006 (i.e. on average about one incident a week in this year) to 26 in 2008 (i.e. on average one incident every two weeks), and only 13 in 2013 (i.e. on average one incident a month). This decline is all the more striking given that the number of violent incidents had risen over the years before the intervention.
Table 4 – Number of employees injured before and after the intervention program (percentage of employees injured in relation to number of employees in the unit)

<table>
<thead>
<tr>
<th></th>
<th>Before the intervention program</th>
<th>After the intervention program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forensic 1</td>
<td>0 (0%)</td>
<td>1 (3.6%)</td>
</tr>
<tr>
<td>Forensic 2</td>
<td>3 (11%)</td>
<td>7 (25%)</td>
</tr>
<tr>
<td>Forensic 3</td>
<td>2 (7%)</td>
<td>2 (7%)</td>
</tr>
<tr>
<td>Total 1-3</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>*Forensic 4</td>
<td>5 (18%)</td>
<td>4 (14%)</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>14</td>
</tr>
</tbody>
</table>

Table 4 presents the number of employees injured due to patient violence before and after the intervention program and the percentage of employees injured in relation to the number of employees in each unit. Again, the figures show a general rise from 2004 to 2007, and then much lower numbers following the intervention. For example, in forensic 3 in 2007 46% from the employees were injured comparing to 3.6% in 2013. In general, in 2013 only 7 employees were injured, compared to 36 in 2007 and 37 in 2006. The reason we present the data in this section with the details regarding every forensic ward is to provide an explanation for the unexpected increase in 2011. This rise may be explained in part by separately examining Forensic 4. Due to issues with management style in this ward during 2010 and 2011 the atmosphere in the ward was problematic resulting in a general lack of obedience to rules and regulations. Those management protocols were replaced in 2012, reducing to a minimum the number of injuries in 2013.

Discussion

This study examined the effects of a three-day workshop designed to strengthen the safety climate among staff in the Maximum Security Unit of a large mental health hospital in Israel. As described above, the findings of a staff survey conducted just prior to and six months following the intervention show that the workshop did indeed strengthen the safety climate within the facility, particularly with respect to perceived commitment to safety on the part of managers, and to a lesser extent with respect to safety-related communication. It is important to note that in an attempt to differentiate this intervention from other interventions, in the sense that it is aimed at enhancing a climate and not just a tool, the managers participated in the program to show their commitment to safety and to the importance of maintaining a safety culture. In keeping with our expectations, the improved safety climate was associated with an improvement in several outcomes, including the number of violent assaults by patients and the number of staff injuries.

As we expected a year after the intervention was performed the number of aggressive incidents decreased (to 18) in 2009 (see Table 3), and the number of employees injured decreased to 12 in 2009 and to 7 in 2013 (see Table 4). These results accord with previous findings that[22,23,26] staff support intervention programs lead to reduced violence within psychiatric wards [22,23,26,28], as well as Catlette's (2005)[38] findings of an association between a strong safety climate within organizations and reduced violence. We can assume that the intervention program raise the level of safety climate in the Maximum Security Units as Burke et al. [40] show.

This research shows that an intervention program aimed at enhancing a safety climate, is associated with a decrease in the number of aggressive incident. These result support Catlette's
(2005)] claim that when there is a high safety climate in organizations it reflects less aggressive incidents. The intervention program “Return Home Safely” succeeded in returning the sense of safety to the employees in the forensic psychiatry department at Sha'ar Menashe Health Center, and significantly reduced the scope of violence in the wards. A higher safety climate among the workers resulted in less violence towards them by the patients.

The contribution of this research to both the literature and practice on violence towards staff in healthcare is the understanding that intervention programs can create a specific climate in an organization and affect the performance outcomes of this organization. Moreover, it points to the importance of enhancing a climate that instils a “feeling of security” for the staff and not only safety techniques when trying to deal with safety issues involving patients' violence toward them. Another contribution relates to the time that an intervention program affects the outcomes. Interventions may be less effective as a onetime training and even if aimed at enhancing a culture and not just giving specific tools are likely to need refreshing sessions. These refreshing sessions in themselves indicate to the staff that safety is part of the culture.

This research has several limitations. First, only four units participated in the research, and all of them underwent the intervention. Given the small sample and absence of a control group, our findings should be considered not as standing alone, but as adding to a body of research supporting the notion that intervention programs can create a specific climate in an organization, and can thereby affect performance outcomes. Second, the post intervention safety climate questionnaire was applied six months after the intervention limiting the ability to make long term conclusion. Yet, the ongoing decline in negative outcomes indicates that this climate continued to characterize these wards. Future research may wish to examine safety climate also one and two years after the intervention. Third, we cannot prove that the specific content of the intervention program were the direct reason for the outcome that we reported, and maybe another program would be effective in the same way. What we can see from our results is that two domains of the safety climate were affected by the intervention.

Future research should continue to study the effects of intervention programs such as that reported here in a variety of psychiatric and other health care organizations. It is also important to examine other effects of such interventions, for instance on an organization’s ethical climate or consumer orientation, and whether these in turn have effects on rates of violence. We also recommend future research to compare our intervention program to other programs that focuses on safety climate and how those affect the outcomes.

References


The Importance of Food Culture in Tourism: Turkish Cuisine as a Tourism Value

Ayşen Civelek, Selcuk University, Turkey

Abstract

The food culture of a country is an important part of the holiday experiences of the tourists. Countries are trying to bring their cuisines to the forefront in order to diversify and expand their tourism season to 12 months with the aim of increasing their tourism revenues.

The journeys to experience world cuisine and research on cuisine cultures have been progressively increasing in numbers. The food culture is an important factor in the choice of travel destinations. Every tourist who contemplates attending a tourism event also wonders about the cuisine of the country to be visited. For this reason, the culinary experiences of the visited country are playing a major role in tour programs.

Turkish food culture which is considered to be one of the world’s leading cuisines also adds important value for Turkish tourism. Turkey has many regions with the potential of becoming international destination points thanks to their rich food culture. Anatolian and Ottoman imperial cuisine are receiving the attention and acclaim of tourists with due to their diversity and flavour. This study considers the nature and importance of food culture, the history and characteristics of Ottoman Palace cuisine and Anatolian cuisine and the contributions of Turkish cuisine to Turkish tourism.

Key words: tourism, Food Culture, Turkish cuisine, Anatolian cuisine, Ottoman Palace cuisine
An Analysis of Academic and Socio Cultural Opinion of the Foreign Students Who Came to Turkey Via Erasmus Exchange Programme: The Example of Selcuk University

Seda Çankaya, Selcuk University, Turkey

Abstract

Erasmus Programme is a student exchange programme which is financed by EU. This programme enables students to study one or two semester or intern some period in different countries. The aim of this programme is to provide new abilities, different experiences and meet new cultures, etc. Selcuk University has been participating in this programme since 2005 and accepted many foreign students from EU countries at each semester since then.

The aim of this study is to identify the academic and socio-cultural opinion of students who came from various countries of the Europe to Turkey via Erasmus exchange programme. The study group consists of 55 foreign students who came to Selcuk University between 2014-2016 years. To understand opinions of the students, a survey has been applied. SPSS software programme was used to analysed the data. The results of the study show that students had positive opinion during their study and they returned back with different experience even they had to encounter some academic problems such as courses, language etc.

Key Words: Erasmus, Exchange Programme, Foreign Students, EU
Conditioning the Achievement of Secondary Education Students: Evidence to Colombia and 11 Countries from Pisa 2012

Bilver Adrian Astorquiza Bustos, EAFIT University, Colombia

Abstract

This article studies hierarchical linear model school factors: family, pedagogical, and school engagement coalesced to academic achievement in the PISA 2012 by 62,769 students from twelve countries. From an unconditioned model the preponderance of family environment in explaining the unknown variance in 6 of the 12 countries was analyzed, including Colombia. Some of the results suggest that the existence of gender effects, private schools, provision of school supplies at home, the implementation of school activities and the presence of “strict” teachers at school are associated with better outcomes in academic achievement.

Keywords: multilevel analysis, school environment, family environment, academic achievement, economics of education.


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1 This research is a product of the project: "Determinants of Academic Achievement in High School Students: An Analysis of the Impact of School Environment through the PISA 2012 with Hierarchical Linear Models" funded by the Colombian Institute for the Promotion of Higher Education (ICFES). Ideas, opinions, theses and arguments expressed are the sole responsibility of the author and does not represent the point of view of the Institute.
The Effect of Employee Relationship Management (ERM) on Employee Performance

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Ibrahim Erem Sahin, Selcuk University, Turkey  
Ali Al-Bayati, Selcuk University, Turkey

Abstract

The development of strong relationships between the employers and employees within a firm is good for business. Employees are accepted as the most important among an organization's resources and considered their most valuable assets in forward-looking organizations. In that context a number of internal relationships exist within the firm, including relationships amongst employees, between employees and supervisors, and between employees and departments. However, the relationship between employees and the firm itself is viewed as most important. Employee-firm relations are a broad arena that incorporates many issues like forming trust-based relationships, performance and disciplinary issues, employee grievances, work-life balance, equal opportunities, and managing diversity.

For some time now, the set of suggestions on how to manage employee-firm relations has included an additional concept called employee relationship management or ERM. ERM is a term that refers to relationship development and management between employers and their employees. It can be defined as the strategy, programs, and technology to effectively manage how firms relate to prospective, current, and former employees. ERM attempts to maintain a work environment that satisfies the needs of individual employees and the firm management.

ERM is viewed as an advantageous approach that offers mutual values for employees and employers. Major values promised to employees are the greatest possible satisfaction of their individual needs, while the major values promised to employers are increased motivation, attraction, retention, and performance of employees. It is held that a well-designed ERM leads to higher employee performance because effective ERM develops employee morale and builds a motivating company culture. It assures creation of a motivated and productive workforce and retains its members in organizations. In the light of these considerations, this study emphasizes understanding employee relationship management and employee performance by including their definitions, and their underlying factors and theories. The main goal of this study is to determine the effect of employee relationship management on employee performance in organizations.
1. INTRODUCTION

Globally, it is reported that 55% of Internet users use social media sites (Weise, 2015). The trend of using social media sites, such as Twitter, Facebook, Google+, and Instagram, has also been growing substantially. For example, the number of registered users for Facebook increased from 1.06 Billion in 2012 to 1.15 Billion in 2013 (Morrison, 2014). The evolution of social media has significantly impacted the distribution and accessibility of online products and services (Xiang & Gretzel, 2010). The most powerful media form in the online environment is WOM communication (Kimmel & Kitchen, 2014). Due to intense competition in the travel industry, effective use of eWOM communication may provide competitive advantages to travel-related SNWs. Specifically, the main objectives of this article are to:

1. Examine the customer value components (utilitarian) that are positively related to willingness to share knowledge and switching costs;
2. Examine the relationships among willingness to share knowledge, switching costs, and the behavioral outcome “eWOM communication.”

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Customer value and willingness to share knowledge

Knowledge sharing is defined as the process of communication between two or more participants involving the provision and acquisition of knowledge (Usoro, Sharratt, Tsui, & Shekhar, 2007). According to Chou and Lii (2013), utilitarian customer value is positively related to willingness to share knowledge. Thus, the following hypothesis is developed:

\[ H1: \text{In travel-related SNWs, there is a positive relationship between customer value (utilitarian) and willingness to share knowledge} \]

Customer value and switching costs

From a utilitarian perspective, well-designed websites that are easy to navigate and simple in design (Watchravesringkan et al., 2010) and provide important incentives for repeat use of the Internet platform (Scarpi, 2012). Thus, the following hypothesis is posited:

\[ H2: \text{In travel-related SNWs, there is a positive relationship between customer value (utilitarian) and switching costs} \]

eWord-of-mouth communication (eWOM)

Word of mouth (WOM) has been defined as “volitional post-purchase communications by consumers” (Dick & Basu, 1994) or as “informal communications directed at other consumers about the ownership, usage, or characteristics of particular goods and services and/or their sellers” (p. 261, Westbrook, 1987).

Relationships Among Willingness to Share Knowledge, Switching Costs, & eWord-of-mouth communication (eWOM)

When customers switch travel-related SNWs they incur various costs from time spent collecting information about other alternatives to forgone benefits that require continued patronage of an existing SNW. Due to those matters, high switching costs are associated with positive eWOM communication (Jones, Mothersbaugh, and Beatty (2002).

Thus, the following hypotheses are proposed:
H3. In travel-related SNWs, there is a positive relationship between willingness to share knowledge and eWOM communication

H4. In travel-related SNWs, there is a positive relationship between switching costs and eWOM communication

METHODS

Measurement and Data Collection

Surveys were emailed to randomly selected respondents from a nationally representative pool owned by a marketing company. This marketing company owns a database of respondents who have used SNWs for travel related purposes and all participants agreed to participate in an online survey. 298 questionnaires were used for data analysis.

In this study, 62.5% of the respondents were female; 37% were between the ages of 35 and 44; and 52.8% had a household income of $50,000 or above. As for the questions related to SNWs, 63.9% of the respondents reported that Facebook is their favorite SNW, 69.4% indicated that they access their SNW account by computer while only 0.8% access their account via a mobile device.

Confirmatory factor analysis (CFA)

Before the CFA, Kaiser-Meyer-Olkin (KMO) test and Bartlett’s test of sphericity were used to measure sampling adequacy. The results showed that the Bartlett’s test of sphericity was 0.000, an indication that the sample met the criteria for factor analysis (Hair, Anderson, Tatham, & Black, 1998). All the items loaded strongly on expected factors.

In the first step, the measurement model was assessed using the statistical software Lisrel. The criteria proposed by Hair et al. (1998) were followed in order to confirm the scales. According to these standards, the chi-square statistic was significant, the ratio of the chi-square value to degree of freedom was less than the cut point of 3. Other goodness-of-fit statistics indicated a good theoretical model fit. For the scales’ reliability analysis, the α coefficients of all dimensions in this study were above 0.90, which demonstrated reliability (Nunnally, 1970). The average variance extracted (AVE) was used to assess convergent validity. AVE values exceed the acceptable benchmarks (Garbarino & Johnson, 1999).

The structural equation model

Goodness-of-fit measures were used to evaluate the overall structural model fit. The overall fit provides a good goodness-of-fit for the model.

RESULTS

Research results regarding H1, which states that customer value (utilitarian) is positively associated with willingness to share knowledge, were significant. H2, suggesting that customer value (utilitarian) is related to switching costs was supported. Research results related to H3 which indicated that willingness to share knowledge is positively related to word of mouth was supported. Finally, H4 which suggested a positive relationship between switching costs and eWOM was supported.

LIMITATIONS AND FUTURE RESEARCH

Although research in marketing is showing an increased interest in applying travel-related data collection techniques, data collected in this study may not be representative of certain populations. The findings cannot be generalized to all groups of online customers, such as Generation X, Generation Y, baby boomers, and senior citizens. In addition, the operationalization of the constructs in this study was based on adapting items that were examined in previous studies. However, since those studies were conducted in different contexts, it would be interesting to further verify their appropriateness for the travel-related SNW contexts in future research studies.
REFERENCES


Corruption in CEE - Links Between Illicit Behaviour and Types of Enterprises

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Jay Vyas, Gemological Institute of America, India

Abstract

In this paper, we present actual financial data for financial ratio analysis. We construct a financial and Industry analysis for Nestle India Ltd as well as for Britannia Ltd, both the companies being involved with processed foods and the giants of the industry. The aim of the study is to show the current status of the food processing industry and within the food processing industry, a comparative ratio analysis on Nestle India Ltd and Britannia Ltd. This research provides insights into a widely used financial tool, ratio analysis. An attempt has been made to undertake ratio analysis for actual companies. This study was done with the help of secondary data as research in finance subjects is done on performance and not potential. This paper also gives insights into the food processing sector of India. The study demonstrates the difficulties in applying the principles of ratio analysis to the actual business situation. The intentions behind carrying out a comparative ratio analysis between the two companies were to unveil why one company is more efficient in its activity as compared to the other. We selected Nestle India Ltd and Britannia Ltd as both are multinational companies in the growing food processing industry. This case study illustrates the complexity of financial analysis. The food processing sector is one of the major sectors which is growing gradually and has a wide scope of activities in India.

Keywords: food processing industry, comparative ratio analysis, financial ratio analysis, financial data, insight analysis, multinational company
The Development of EU Migration Policy

Seda Çankaya, Selcuk University, Turkey

Abstract

EU countries have become a centers of attraction in increasing migrant movements due to the economic and security benefits of the EU as a destination. According to recent research the EU has approximately 2 million immigrants. The number of immigrants is expected to increase further as a consequence of globalization, economic and demographic factors, wars, climate change and politi unrest. Due to those factors the migration policy of the EU has become an increasingly important feature of the Union’s relations with third countries.

At this point migrants, who are out of the EU’s control, can be seen as a problem that needs to be managed but on the other hand it is also seen as a solution to the shortage of new laborers in an ageing EU population. One of the most significant negative impacts is that immigrants have been observed to cause problems for EU countries in terms of integration and alienation. The illegal and unskilled immigrant problems, especially, lead the EU to take precautions against unwanted immigration instead of creating new policies. In spite of decades of discussions, substantive migration policy hasn’t been developed by EU leaders.

In this study, the future of EU migration policy is assessed and the EU’s common migration policy development efforts are examined by considering the causes of migration to EU countries.

Key words: European Union, policy, migration, immigrant

What is immigration policy?

People have shown a tendency to migrate throughout history and it is one of the most important issues in international politics. Migration arises from different causes around the world and Europe is often considered the best destination by migrants. Migrants can be defined as internally displaced, asylum seekers, refugees or economic migrants. All these categories have different processes in the receiving countries which face different challenges related to their immigrants. Migration policies play vital roles in directing the flows, conditions and outcomes of international migration (United Nations, 2013: 5). Therefore, migration policy has become quite important to the future of the Union’s relations with third countries.

Foreign policy interests and internal dynamics of the member states shape their migration policies differently (Geddes, 2009: 12). This means that EU migration politics differ from other state policy, since it has both multi-level and multidimensional characteristics. Without taking this into account the complexity of this issue cannot be understood. Firstly, it is multi-level because of the sub-national, national and international levels and the roles which private actors share the decision-making considerations. Secondly, it is multi-dimensional because migration has different forms. People have many reasons to migrate such as seeking employment, joining other family members, seeking refuge or for study (Geddes, 2009: 12). Migration issues are not only related with the immigrant country but also with the emigrant country, and transit countries which facility or frustrate the migrant flows. Policy makers have to take all these dimensions into account when they try to make policy determinations. Thirdly, migration policies are directly connected with education, security, human rights, labor force and citizenship policies in the society (Geddes, 2009:11). Finally, when it comes to migration studies, statistical data is of critical importance. But illegal immigration results in lack of relevant information (Kesgin and Öztas, 2015: 62).
Migration History of Europe, Since 1950

Migration can be divided into four main periods in Europe since the 1950s.

1. Reconstruction of Europe and Migrant Flows

This period defined the initial phase of modern EU migration history. After World War II, Europe entered into a process of reconstruction. This period saw the initial invitations to migrants to enter many countries legally as a “guest workers”. They came mainly from Ireland and Southern Europe. What would become the northern EU needed these migrants to meet their labor needs. Because migrants were seen as guests, the host countries thought they could send them back whenever they wanted. Migrants weren’t seen as a problem during this period. No one expected that they would stay longer (Gencler, 2005, 184; Schierup and others, 2006: 37). Especially Germany, Belgium, France, the Netherlands, and Luxembourg signed several bilateral agreements to receive laborers from Greece, Spain, Morocco, Turkey, Italy, and Tunisia. During this period more than 30 million migrants arrived (OECD, 2003:7).

2. Economic Crises and New Dimensions of Migration

The second period started with economic crises in 1973. During this period, migrants started to been seen as a problem to be brought under control by receiving countries. Migration became politicized in this period. Most EU countries started to decrease their numbers of immigrants. One the one hand the number of people who were allowed to come as a guest worker was reduced, and on the other hand other categories of migration entries increased significantly due to factors dominated by family reunification flows (OECD, 2003: 4). As a practical matter, the economic crises forced migrants to bring their families before the gates closed (Menz, 2002: 82).

Because of the crises, essential labor work force immigration came to an end. The economic crises saw increased unemployment and social tensions. EU countries aimed to encouraging migrants to return to their home countries. Migrants who came for short registered periods of employment didn’t return to their home countries because of better livelihood conditions and generally gaining the same social rights as native residents (OECD, 2003:4). The EU came to realize that immigration would not stop simply because the EU wanted it to (Samur, 2008:4).

3. Diversification of Home and Host Countries

The third period started at the end of the 1980s. Especially after 1989, the collapse of communism in the east saw devastating consequences for those economies. The character of migration changed. People started to migrate east to west countries (Lindstrom, 2005: 589). In the past especially people were coming from Italy, Ireland, Greece and Portugal and former colonies as a migrant. But during this period all EU countries started to receive migrants. And people not only were coming from former colonies but also from the UK and France. Therefore, Europe had to face migration in and of itself (Divell ve Vollmer, 2011: 1). Governments tried to find solutions to fight the illegal migrant flow. Europe didn’t need to accept workers anymore and increased difficulties faced migrants; those, at least, who used illegal methods (Gencler, 2005:176).

4. Preference for Skilled Workers and Temporary Migration

In this period, on the one hand, development of information and communication technology, globalization, and certain other factors enhanced demand for skilled and highly-skilled labor EU in states. On the other hand, unskilled employment increased as well, especially in the area of building and public works, and domestic services in Italy, Spain, Greece and Portugal (Garson and Loizillon, 2003:5). Therefore, the EU countries sought to attract highly skilled workers. In order to attract skilled labor, the EU provided work permits called Blue Cards. Since 2007, Blue Cards have allowed skilled non-EU workers and their families to work and reside within the European Union. Blue Card holders also get some rights equal to those of EU nationals (European Commission, 2014).
Why Do People Migrate to Europe?

People have migrated from one place to another in the world for a variety of reasons and through different channels. For example: studies, research, work, and to join their family. Europe is one of the centers of attraction increasing migration. In general people see Europe as a center of democracy, freedom, better life conditions, and powerful economies (Zapatero, 2005; European Commission, 2014:3). In addition, a variety of opportunities such as globalization, increasing easy travel conditions, and improving information technology are also giving rise to migration (Duvell, 2014:36). In these matters, Europe is the favored destination for contemporary migrant flows.

In determining effective immigration policies, governments typically analyze the reasons for immigration. These take into account the problem that face migrants. The reasons for migration to Europe can be divided into push and pull factors. Firstly, push factors force people to out of the home country because of poverty, insecurity, poor working conditions, high unemployment rates, low wages and low expectations in home countries (Hjelm, 1998; Carta and others, 2005).

Secondly, pull factors attract people towards the receiving country. Two main pull factors are ageing populations and the existence of high labor markets coupled with low fertility rates that drive immigrants into Europe. Because of labor force needs in Europe people want to go there and search for better life conditions. Inequalities, geographic closeness and historical ties, people move towards EU countries from third countries (Katseli and others, 2006:22).

People migrate to Europe both legally and illegally. The EU has seen such migration flows, on the one hand, as a chance in order to overcome the ageing population, and on the other hand, as a threat that has to come under control because of integration and alienation problems (European Commission, 2009:1). Migration brings about some economic, political and socio-cultural problems. Receiving countries have to face these problems and started to be more selective in their immigration policies. The EU seeks to attract highly skilled immigrants to their land who can best respond to their labor market, and to cooperate with the third countries in arranging the return of irregular immigrants voluntarily (Kül, 2004). Almost 800,000 people have migrated to EU countries via irregular methods since 2014. This number of immigrants is expected to increase in the future because of globalization, poverty, economic and demographic factors, searching for a better life, wars, climate change, and politic trouble, etc. Most of are known to want to migrate because of conflict and violence in their home country; especially people from Afghanistan, Somalia, Sudan, the Central African Republic, Mali and Nigeria who move to Europe or another different country in order to find safety and security. Consequently, migration is becoming the most challenging issue that EU has to overcome since Second World War (Metcalfe-Hough, 2015:1-2).

Research estimates that more than 1,011,700 migrants arrived by sea and around 34,900 by land in 2015 compared with just 280,000 by land and sea in 2014. It is expected to increase to 1.5 million in 2016 (EU Business, 2015). The voyages are long and quite dangerous for them. As seen in the graphic below, most of them try to reach to Europe by boat from Mediterranean Sea.

Graphic 1: Migrants deaths in the Mediterranean by month
According to the research, around 3,770 migrants were reported to have died trying to arrive from Mediterranean in 2015. As seen in the graph of migrant deaths in the Mediterranean by month, the warmer months tend to see the most fatalities.

Increasing immigration controls pushes migrants for illegal entry and social and political problems. Because of the EU’s restrictive migration policies, migrants find ever more difficult and dangerous ways to reach Europe. Smugglers and traffickers are happy to help them (Geddes, 2009:47).

Table 1: Number of Immigrants in EU Countries in 2013

<table>
<thead>
<tr>
<th></th>
<th>Total immigrants (thousands)</th>
<th>Nationals (thousands) (%)</th>
<th>Non-nationals Total (thousands) (%)</th>
<th>Citizens of other Member States (thousands) (%)</th>
<th>Citizens of non-member countries (thousands) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>118,3</td>
<td>17,5 14.8</td>
<td>100,5 85.0</td>
<td>62,0 52.4</td>
<td>38,4 32.5</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>18,6</td>
<td>4.7 25.2</td>
<td>13,8 74.3</td>
<td>1,6 8.8</td>
<td>12,0 64.5</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>30,1</td>
<td>5,3 17.7</td>
<td>24,8 82.3</td>
<td>14,0 46.5</td>
<td>10,8 35.8</td>
</tr>
<tr>
<td>Denmark</td>
<td>60,3</td>
<td>19,0 31.5</td>
<td>41,3 68.5</td>
<td>21,3 35.3</td>
<td>19,6 32.5</td>
</tr>
<tr>
<td>Germany</td>
<td>692,7</td>
<td>83,2 12.0</td>
<td>606,8 87.6</td>
<td>354,0 51.1</td>
<td>252,1 36.4</td>
</tr>
<tr>
<td>Estonia</td>
<td>4,1</td>
<td>2,5 60.2</td>
<td>1,6 39.8</td>
<td>0.1 0.1</td>
<td>1,5 36.3</td>
</tr>
<tr>
<td>Ireland</td>
<td>59,3</td>
<td>12,7 21.4</td>
<td>46,6 78.6</td>
<td>23,3 39.4</td>
<td>23,2 39,1</td>
</tr>
<tr>
<td>Greece</td>
<td>47,1</td>
<td>21,6 46.0</td>
<td>25,4 54.0</td>
<td>12,2 25,9</td>
<td>13,2 28.2</td>
</tr>
<tr>
<td>Spain</td>
<td>280,8</td>
<td>32,4 11.5</td>
<td>248,4 88.5</td>
<td>90,4 32,2</td>
<td>157,8 56.2</td>
</tr>
<tr>
<td>France</td>
<td>332,6</td>
<td>115,4 34.7</td>
<td>217,2 65,3</td>
<td>90,6 27,2</td>
<td>126,6 38,1</td>
</tr>
<tr>
<td>Croatia</td>
<td>10,4</td>
<td>5,1 49.0</td>
<td>5,3 50.9</td>
<td>1,8 17,8</td>
<td>3,4 33,1</td>
</tr>
<tr>
<td>Italy</td>
<td>307,5</td>
<td>28,4 9.2</td>
<td>279,0 90,8</td>
<td>77,5 25,2</td>
<td>201,5 65,5</td>
</tr>
<tr>
<td>Cyprus</td>
<td>13,1</td>
<td>1,5 11.7</td>
<td>11,5 87,5</td>
<td>6,7 50,7</td>
<td>4,8 36,8</td>
</tr>
<tr>
<td>Latvia</td>
<td>8,3</td>
<td>4,8 57.5</td>
<td>3,5 42.5</td>
<td>0,9 11,0</td>
<td>2,6 31,4</td>
</tr>
<tr>
<td>Lithuania</td>
<td>22,0</td>
<td>19,0 86.2</td>
<td>3,0 13,8</td>
<td>0,7 3,0</td>
<td>2,4 10,7</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>21,1</td>
<td>1,3 6.2</td>
<td>19,7 93,5</td>
<td>15,5 73,5</td>
<td>4,2 20,1</td>
</tr>
<tr>
<td>Hungary</td>
<td>39,0</td>
<td>17,7 45.5</td>
<td>21,3 54,5</td>
<td>10,4 26,8</td>
<td>10,8 27,7</td>
</tr>
<tr>
<td>Malta</td>
<td>8,4</td>
<td>1,8 21.6</td>
<td>6,6 78,4</td>
<td>3,1 37,3</td>
<td>3,5 41,0</td>
</tr>
<tr>
<td>Netherlands</td>
<td>129,4</td>
<td>36,3 28.1</td>
<td>93,1 71,9</td>
<td>52,2 40,3</td>
<td>40,8 31,6</td>
</tr>
<tr>
<td>Country</td>
<td>Austria</td>
<td>Poland</td>
<td>Portugal</td>
<td>Romania</td>
<td>Slovenia</td>
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<td>101,9</td>
<td>220,3</td>
<td>17,6</td>
<td>153,6</td>
<td>13,9</td>
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<td></td>
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<td></td>
<td>31,7</td>
<td>26,8</td>
<td>21,3</td>
<td>8,9</td>
<td>60,1</td>
</tr>
</tbody>
</table>

Source: (Eurostat, 2015:5).

The table shows immigrants numbers of the EU member states in 2013. A total of 3.4 million people reached Europe in that year. Among these immigrants were around 2 million citizens of non-member states, 1.2 million people with citizenship of a different EU Member State, around 830 thousand people who already had the citizenship like returning nationals or nationals born abroad, and lastly there were around 6.1 thousand stateless people.

Germany, Spain, France and UK have the largest migrants stocks, when compared to the rest of the EU (Eurostat (2015:1)).
What if people don’t migrate to Europe over the next 20 years?

- The EU’s total population will decrease.
- The EU will lose workforce. Up to 2030, if people don’t migrate to Europe, the EU will lose 33 million working age people. This is around 11% of the EU population.
- The EU’s old-age dependency ratios will increase from 28 to 40 (number of people over 65 years old)
- The portion of young workers will decrease by 25, 60-70 population aged will increase by 29 (Migration Policy Centre, 2014:3; EU Commission, 2014:3).

Towards a Common Migration Policy

Immigration issues have an effect on a wide range of areas such as social, cultural, economic and legal. Due to this character of migration, it is hard to stimulate cooperate between countries. Even though EU countries are willing to co-operate and try to reach an agreement, significant process still has not emerged (Apap, 2001:23).

Member states opened their internal borders and let people move freely in Europe. Because of that, 28 member states cannot decide their migration policies on their own. In order to establish better migration policy, cooperation between countries is essential (Europea Commision,2014:3).

EU’s priorities are to manage migration flows and integrate migrants into European societies. While the EU tries to manage irregular migration flows and attract highly skilled workers, they also seek effective integration strategies for immigrants. Illegal migrants especially increase problems such as general illegality, especially human trafficking, smuggling, and money laundering. All these problems present threats to social cohesion and security in the receiving country (Katseli, 2006: 11). Hence, the EU has recognized the need to create common migration policies with member countries, transit countries, and home countries. The Common Migration Policy of the EU started in the middle of the 1980s. Until the mid-1980s there wasn’t much cooperation on migration policy. After this period, common migration policy started to improve.

Key Developments in EU Migration and Asylum Policy

The basis of official cooperation of EU member states on immigration based cooperation on the free movement of EU citizens with the Schengen Agreement. The agreement was signed by Belgium, France, Germany, Holland, Luxemburg. This agreement means that all countries eliminated their internal borders and built an external border for all countries participating. Because of that countries had to have tight control over any external borders (EU Commission, 2009). The Schengen area has 26 countries. 22 of them are EU countries and four of them non-EU countries: Iceland and Norway, Switzerland and Liechtenstein. Six of the EU member states are not in the Schengen area - Bulgaria, Croatia, Cyprus, Ireland, Romania and the UK (BBC, 2016). It began with The Single European Act was signed between member states which aimed to free movement of people, services, goods and capital in 1987 (European Comission, 2010).

The Maastricht Treaty which is the milestone of EU migration policies was signed in 1997. With this agreement the migration issue became an issue of common interest for the EU countries (Ayaz, 2010). Three pillars of the European Communities were established: common foreign and security policy and police and judicial cooperation in criminal matters was created by the Maastricht Treaty. Cooperation on migration between these countries developed over time (European Commission, 2010). The 1997 Amsterdam Treaty saw asylum and migration issues moved to the First Pillar. Common community law soon followed (Apap, 2001:1-3).

The European Union has developed five years programs that focus on developing migration and asylum policies since 1999. Each five year program includes political priorities, proposals and deadlines (Collet, 2010). One of these programs is the Tampera Programme. The 1999 Tampere Agreement determined the main elements regarding common migration and asylum policies. These are in partnership with countries of origin, a common European asylum system, fair treatment of third country nationals, and management of migration flows (Geddes, 2009: 20).

The Hague Programme is a second 5 year program. The Hague Programme scheduled a five year plan for migration and asylum policy the period of 2005-2010 (Geddes, 2009:21). It aimed to
finalize the common European Asylum System (Collet, 2010). Within the Hague Program, FRONTEX was created. The European Agency for the Management of Operational Cooperation at the External Borders (FRONTEX) which is the EU border control agency was established in 2005 in order to help the countries of Europe manage, promote, coordinate, and develop European border management (FRONTEX, 2015:5). It aims to work to bring together to the same standards with all authorities and find where common ground needs to be established. Therefore it gives the opportunity to border authorities from different EU countries to work together (Frontex, 2016). In an EU Council document in 2005, the Commission stressed better relations between EU, home and transit countries (Katseli, 2006:12). A Common Migrantion policy is underlined in its communication of 2008 “A Common Immigration Policy for Europe, Principles, Actions and Tools” on the realities and implications of supranational competence by EU commission:

Immigration is a reality which needs to be managed effectively. In an open Europe without internal borders, no Member State can manage immigration on its own. We have to deal with an area without internal borders that, since 20 December 2007, includes 24 countries and almost 405 million persons, as well as with a common visa policy. The EU economies are profoundly integrated, although many differences in the economic performance and in the labour markets still subsist. Moreover, the EU has become an increasingly important player on the global scene, and its common external action is constantly enlarging to new domains; immigration is one of this. All of this means that policies and measures taken by Member States in this domain do no longer affect only their national situation, but can have repercussions on other Member States and on the EU as a whole (CEC, 2008).

28 EU member countries implement their own national immigration policy. All countries are free to decide some procedures of entry, type, legal procedures and how many migrants will be accepted. Within the 2009 Lisbon Treaty, the regulation of migration and asylum is moved to Pillar V which concerns the areas of “Freedom, Security and Justice” (Özer, 2011:121). The treaty creates opportunities to take decision member states into new areas of cooperation (EU Commission, 2010).

The Third Programme is a Stockholm Programme which came into use 2010-2014. The program stressed coordination of border management, border, asylum, and migration policies (Collett, 2014:3). The program planned EU’s priorities for the area of justice, freedom and security for the period 2010-14. The Stockholm Programme was different than other 5 year programs in that it has many details and priorities on migration. For example external management and visa policy are discussed separately. Cooperation with third countries on migration was one of the priorities in this Programme (Collett, 2010).

After 2011 migration policy has been seen as a security issue because of the 11 September attack. After this date and its security concerns, migrants have been seen as an issue that needs greater precautions.

The Dublin Regulation was established in 2013. According to the Dublin Regulation, asylum seekers must stay in the first European country that they enter. All the responsibility about such asylum seekers is incumbent on the entering country. If migrants try to travel to another European state, authorities can repatriate migrants to the first country originally entered (Park, 2015). This situation gives rise to important problems for the first entering country. Migrants commonly use the same route. Most refugees first arrive to southern countries (Open Society Foundations, 2015).

EU migration policy aims at four strategies. The European Agenda is built upon four pillars on migration. The EU’s priorities on migration appear in it (European Commission, 2015).

- The First Strategy is a way of loosening migration controls and attracting highly skilled workers (OECD, 2003). Therefore the EU needs to develop new worker policies on legal migration in order to attract workers which the EU economy needs (European Commission, 2014:3). EU counties have to take workers from third countries in order to ensure economic growth. An aging EU population is a threat to the workforce decline. So especially highly skilled immigrants will play a vital role in satisfying the demand and expanding the employment level (European Commission, 2009:6). In addition EU education programs such
as Horizon 2020 and Erasmus + give opportunities to talented individuals for new mobility and employment. The aims of this program are to attract highly skilled people and let them find a new environment for their work (European Commission, 2013:2).

- The Second Strategy is to reduce the incentives for illegal immigration into the EU. Most people come to Europe via legal ways but stay longer than the date of their visa. Therefore effective and safe management of the external border is necessary. The EU aims to use high levels of information technology such as the Visa Information system and biometric features for identification (European Commission, 2015). Tighter frontiers control is seen as critically important in both preventing illegal migration and preventing entrance of unskilled immigrants (EU Commission, 2009:6). In order to reduce illegal immigration, fighting smugglers and traffickers is a quite important way to prevent exploitation of migrants by criminal networks (European Commission, 2003:6).

- The Third Strategy is researching the source of the migration by way of cooperating with countries of origin. Cooperation with countries of origin and transit comes from one of the main priorities of the EU’s good relations with all stakeholders which can it allow to manage the processes of migration flows (Garson and Loizillon, 2003). Effective management of migration flows needs the cooperation of both home and transit countries (Geddes, 2009, 12). Immigration is generally seen as a security issue by EU countries. Immigration is generally related to trade, aid, development, and security. If EU policy debate centers on narrow security-related issues, it causes all other dimension to be overlooked. While collaborating with third countries it is important to take into account all these dimensions at once (Geddes, 2009:47).

- The Forth Strategy is empowerment of the common asylum policy. The EU has had to face increasing asylum flows in the last 10 years because of newer and older international conflicts. This problem is related with all member states. Because of that EU member states should determine common rules to deal with such problems (European Commission, 2014:2-13).

**EU Funds for Management of Migration Flows**

If immigration policy aims to succeed, it has to include effective integration strategies. Without integration strategy policies it cannot negotiate the future. This means that policy makers should provide harmony and tolerance among immigrants and local people. It’s clear that migration is both an opportunity and a challenge for the EU.

EU provides fund to member states for better management of immigrants, integration of non-EU nationals, and obtains the return of irregular migrants (European Commision, 2014:7). In order to implement common asylum and immigration policies and management of the EU’s external borders, the EU has distributed around 4 billion euros over the period of 2013. Over the period 2014-2020, EU will distribute 3.137 billion euros (European Commision, 2014:7-8).
Denmark doesn’t participate in this AMIF.

This fund aims to attract highly skilled people and make migrants match labor market needs. It seeks to understand the reasons for irregular migration and improve effective return policies. The fund seeks to provide resources to the EU countries which are the most effected by migration flows (European Commission, 2014:8).

Conclusion

This paper has shown that how and to what extent migration policies of the EU developed since the 1950s. EU countries have their own immigration policies. But having seen the problems which arrive with migrants, the EU states realized that they must to co-operate with each other. The study has shown that EU countries cannot decide migration policy alone. They have to cooperate with each other, and with third and transit countries.

Because of increasing numbers of immigrants, the EU has had to face some problem within Europe such as economic growth in the context of an aging population. Without immigration the EU population would begin to decline in the coming decades. Therefore, it can be said that immigration is both an opportunity and a challenge for the EU. It is an opportunity because it is a solution for aging population and demands for workforce stability. It is a challenge because immigration brings integration problems even highly skilled immigrants are involved.

Although the EU tries to manage immigration flow such as in such aspects as politics, rules and procedures, it is difficult to say that the Union is successful. Because of unsuccessful policies, people are still dying on the road to Europe during attempted illegal entries. Without any action plan, simply making illegal migration more difficult will not deter such entries.

Migration can be the answer to Europe’s ageing population if effective and humanistic policies are implemented. The EU is trying to prevent illegal immigrants rather than solve the problem of immigrants. This causes elevated numbers of migrants who die on way of Europe. Continuing to make it difficult for migrants to enter Europe illegally or to deport them back to their country of origin will not diminish the will and methods of people seeking the enter the EU illegally.

The most important thing is to settle on migration, successful integration of immigrants into European society, and to increase deterrence of illegal immigration. Long term integration policies should be implemented. During this processes the EU should continue its process of taking into account and cooperating shareholders such as transit countries, countries of origin, and non-government organizations.
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Implementation of Battery Charge Equalization Algorithm for Lithium Ion Battery in Electric Vehicle Application

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Abstract:

Reduction of vehicle carbon emissions is one of the main concerns in vehicle development due to the environmental issues such as global warming and the greenhouse effect. Electric Vehicles (EV) have attracted the interest of most of the researchers as they fully use just electrical energy from the battery pack to drive the vehicle motor and operate the accessories. The common battery used in the market is a lithium ion battery due to its better performance compared with other batteries. However, lithium ion batteries have some drawbacks in that overcharged cells have a risk of explosion, and undercharged cells eventually reduce the life cycle of the battery, and unbalanced charge in series batteries gradually reduces overall charge capacity. A battery management system (BMS) as the battery charge equalization controller is essential to enhance the battery’s performance, life cycle and safety. In this paper, a charge equalization algorithm is proposed and implemented using a monitoring IC for monitoring and equalization of 8 cell battery packs that use two flyback DC-DC converters as the channel for the charge and discharge purposes of the battery pack. The monitoring IC communicates with the microcontroller (NI myRIO) and carries out the modularization algorithm through LabVIEW works. This method proved an effective and automated system to modularize the battery charge in order to improve the safety and life cycle.
Stagnation of Air India and the Proliferation of Private Airlines in India: A Case Study

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Abstract

Air India was founded in 1932 and is currently the third largest airline enterprise in India. It is owned by Air India Limited, a Government of India enterprise. Initially it was started for the purpose of postal services but later it also started providing passenger services. Soon after going into the business, Air India started experiencing losses, which gradually increased with time and since then it has never seen a year of profit. The reason claimed is the high operational cost of the enterprise led by mismanagement. After the emergence of private airline companies in India like Indigo (started in 2006, is currently the largest airline in India), followed by Jet Airways (started in 1993, is at the 2nd position in India) and others, there has been a decisive increase in competition for Air India. It is generally known that with the growth of competition from rival private airlines, Air India is facing continuing losses and is unable to compete. But looking at the trajectory of Air India’s evolution it can be observed that from the very beginning Air India has never been a profit making enterprise irrespective of the peer competition. This proposed research will explore the reasons for Air India’s abysmal performance and why newer companies like Indigo, GoAir, Jet Airways and others have prospered so quickly and efficiently.

Keywords: stagnation, proliferation of competition, private airline, airline industry, India
Possible Impacts of Global Climate Change and Some Measures That Could Be Taken

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Abstract

Global warming occurs with the increase of greenhouse gases in the atmosphere. This situation is the main reason for global climate change. In this article, information will be given about the conditions that led to increase of greenhouse gases in the atmosphere and the possible effects of global climate change which comes out due to these conditions upon Earth will be investigated. Considering these effects, some precautions that can be taken will be mentioned.

Key Words: global climate change, global warming, greenhouse gasses, earth

1. Introduction

Global warming is seen as a result of an increase in the amount of carbon dioxide and other greenhouse gases (CH₄, N₂O, HFCs, PFCs, SF₆) in the atmosphere. As well as natural factors, industrialization, deforestation, urbanization and similar human activities also cause the increase. Climate change is seen as a result of increasing temperature, and glaciers are melting and ocean levels are rising. As a result of this situation, agricultural lands and useable water sources are dwindling, and drought occurs.

This study gives information about possible impacts of global climate change, and it mentions about some actions to be taken to prevent these affects.

2. Climate Change

Climate change is described as “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods” in United Nations Framework in Climate Change (UNFCCC) [11].

The atmosphere does not block 9/10 of visible sun rays. These sun rays, which reach the earth, heat the world. Calescent earth starts to act like a giant radiator. However, it cannot spread these sun rays as the sun radiated at all wave lengths; it can be spread as infrared light. The gases known as greenhouse gases soak up these rays and then reflect them to the earth’s surface. Therefore, a diminishing part of these rays are sent back into space. In this way, the surface of the world and troposphere has become warmer than it would like. This process resembles greenhouses which are heated by the sun rays but do not let this heat outside, and so it is called the “Natural Greenhouse Effect” [11].

A balanced greenhouse effect has a great importance for life on earth. because, the proper effect provides an optimum temperature and makes the world a habitable place. Without this effect, the average temperature on earth would be -18 °C. On the other hand, a severe greenhouse effect would make the earth a very hot planet. If the greenhouse effect makes the world warmer, this may lead to a life threatening situations not only for humans but also for all the other living creatures [11].

The earth can tolerate up to a maximum global average temperature increase of 2 °C. However, after 2 °C, non-recoverable vital problems are expecting to and do actually occur now that such a change is underway. Among the works of the International Panel on Climate Change (IPCC), different future scenarios about global average temperature increase have been predicted. When the best and worst scenarios are taken in consideration, it is foreseen that when compared to the preindustrial revolution period, the global average temperature will increase from between 2.7 °C and 5.8 °C by the end of the twenty first century [6].
3. The Causes of Climate Changes

3.1. Human Driven Causes

Many human-driven activities cause climate change. These can be summarized as increasing energy as a result of industrialization, use of fossil fuels used for transportation needs, deforestation and urbanization [12].

Production activities affect climate systems directly. The atmosphere, which is the biggest part of the climate system, is naturally affected by this change greatly. Especially since the Industrial Revolution, emission of pollutants by fossil fuels which came to be used for rapidly increasing industrialization activities have caused serious problems for the atmosphere on a global scale. While the venting of these emissions, which were not the result of production before the Industrial Revolution when they were tolerable, have today reached dangerous levels [12].

Deforestation is a long-term effect of human population growth since the discovery and diffusion of agriculture activities since prehistoric times. Since the Industrial Revolution, acid rains have also added to such factors. The forests especially in Central Europe, Scandinavia and Canada are damaged further by these acid rains. Another factor is the products exploited from forests. Many forests are damaged especially because of the paper and wood industries. The balance of gases in the atmosphere has become unbalanced as a result of deforestation, and this also leads to erosion and similar environmental problems. These problems are triggering climate change [12].

Another human-driven factor is urbanization. The studies that have been conducted for almost 100 years suggest that urban climates are warmer than rural climate areas. The cause of this climate difference is that the incoming sun rays are absorbed by the urban structures. The cities constitute effects which must be evaluated as local, but the urbanization has been so expanded in the 20th. century that the local effects may cause serious problems at a global scale [12].

3.2. Natural Causes

3.2.1. Volcanic Impacts

A large quantity of silicate and sulfuric acid aerosols release into the atmosphere as a result of volcanic activities. These higher rates may cause a change in the climate. Sulfuric acid aerosols collected in the stratosphere, especially, lead to long term climate change. The aerosols in the stratosphere reflect the sun’s rays back. As these aerosols in the stratosphere prevent the entry of sun rays into atmosphere, the troposphere becomes colder. This leads to a fall in temperature. The studies which have been conducted in areas where largest volcanic movements are observed showed that the temperature has fallen down a few degrees [12].
3.2.2. Impact of Sun

Paal Brekke states that climate scientists have been observing 11 year-cycles of movement of sun spots and brightness changes of sun processes for a century. It has been observed that solar wind which occurs in the form of the magnetic field of the sun have electrons and protons which are a shield against cosmic rays. This shield which can be weakened by the sun's variable activities let the cosmic rays inside it. An increase in cosmic rays are accompanied by clouding and changes incoming radiation from the sun and forms an increase in global temperature [2].

3.2.3. The World's Precision Movement

In 1930, Serbian researcher MilutinMilankovic showed that orbit of the earth around the sun has flattened every 95,000 years. In addition, he also revealed that there is a linear slip in the axis of the world every 41,000 years and a circular slip every 23,000 years. Most of today's scientists state that because of these movements the world gets cold from time to time and during these cold times in a 100,000 year cycle there are 10,000 year long warmer periods. This is also one of the natural causes of global warming [2].

3.2.4. El Niño Impact

El Niño movement which is also defined as "Southern Oscillation" caused a 2-5º higher level in the temperature of the sea surface in the tropical East Pacific Ocean between 1990-1998. Especially in 1997 and 1998, the surface temperature was at record levels. For that reason, it is accepted that the El Niño movements between 1997-1998 had a significant impact on climate change [2].

3.2.5. Stream Systems

One of the most significant factors of climate change is ocean stream system called the ‘ocean conveyer belt’. This stream system which carries 20 times more water than all the rivers in the world gets cold and subsides near Iceland [2].

Conveyor belt provides water and heat exchange between oceans. In this system, while the water of Pacific is being carried to Atlantic, the heat increases on the surface flow and warms up the climate of the lands it passes close to. For example, Northwest Europe is 10º warmer thanks to this belt. The cold water of melting ice in the southern hemisphere during summer in the Antarctica subsides and then joins to the ocean conveyer belt and moves north. Therefore, Antarctica is a highly important place for global climate system balance as its cold water is sent into the ocean conveyer belt [2].

4. Possible Impacts of Climate Change on Earth

4.1. The Impact of Global Climate Change on Water Sources

The impact of climate change on water sources is caused by changes in precipitation. Precipitation is the main source of water balance change in place and time scales. The change in precipitation because of climate may lead to significant results for hydrology and water resources. The hydrologic variability that occurs over time in a water basin is affected by daily, seasonal, annual, and ten-year cycles of precipitation. For example, the frequency of floods arises from the differences in precipitation each year. However, there are clues that point to an increase in frequency of downpour with global warming. The frequency of drought is a result of the change in seasonal precipitation. Increasing temperature leads to a decrease in snowfall. It is obvious that a decrease in snowfall or complete cessation will result in significant consequences for the hydrological cycle [9].

Climate change changes precipitation distribution as well. Precipitation varies by region and seasons of the world. It increases in fall and winter in middle and high latitudes of the northern hemisphere, and both hemispheres have tropical and sub-tropical regions. The greatest precipitation changes on earth will be seen near the poles, in some equatorial areas and southeast Asia [9].

4.2. The Impact of Global Climate Change on Drought

One of the most negative impact of global warming and climate change on precipitation is drought. It is estimated that the areas which get sufficient precipitation will face more and the areas with drought will have the same problem at an increasing level. In other words, global warming will cause floods, overflows, hurricanes, and severe droughts. This situation will confront people with hunger and thirst (Yonten 2007, Karaman and Gokalp 2010). The atmospheric warming tendency will
cause more evaporation, drought and erratic rainfall. More, people will face periodic droughts as the result of irregular rains [9].

4.3. The Impact of Global Climate Change on Snow Cover and Glaciers

World is losing its glaciers rapidly from continental glacier areas to the peak of mountains. The glaciers which have an important impact on climate system balance are so sensitive to the changes in climate systems. As a result of global warming, glaciers are melting and ice blocks are decaying. Sea ice in North Pole has got thinner in last 50 years and their cover area has decreased 10% in last 30 years. It is foreseen that the sea ices in North pole will decrease in the amount of 22%-33% till 2100 [9].

4.4. The Impact of Global Climate Change on Sea Level

A rise in sea level causes significant changes at shorelines, as well as land loss it also leads a merge of clean water sources which are close to coast. This situation differs depending on many factors such as temperature rise, rain amount, shape and glacial melting. In 20th century, there was a 0.1-0.2 m rise in sea level, this is higher than the rate in 19th century. It is foreseen that there will be a 50 cm rise in sea level by 2100 [9].

4.5. The Impact of Global Climate Change on Natural Diversity and Death of Living Creatures

Global warming will not only affect the life of living creatures directly but will also leads to destruction of habitat. Thus, global warming will bring ecosystem changes [10].

If the results of global warming seem complicated, the primary result is rather simple and pervasive the population of living creatures in many ecosystems will face a change. Both animal and plant populations will have a change because of temperature. A 3°C increase in temperature may cause a 500 m altitude change in habitat for some creatures. In parallel with this, the areas where animals and plants live will contract. The change in ecosystems because of global warming will cause habitats to shift northward and even to the disappearance of some creatures. As the peaks of mountains are narrow, this geographical situation will cause more decreases in animal and plant population, and this will make these creatures more sensitive to both genetic and environmental pressures [8].

5. Some Precautions That Can Be Taken Against Climate Change

5.1. Alternative and Renewable Energy Sources

80% of carbon dioxide that cause our world to overheat is from fossil fuel. This shows how important it is to reduce our dependence on fossil fuel and rise the renewable energy share [13].

Alternative energy concerns those types of energy which do not contain coal, natural gas or oil. Renewable energy which is also called alternative energy or clean energy does not require manpower and can renew itself. The sun and the wind never drain away no matter how much of them we use. Therefore, it is mandatory to increase renewable energy potential truly in order to have sustainable energy. Renewable energy provides benefits not only in decreasing environmental damage but also contributes rural development. In addition, it helps to meet lighting, communications, heating, and cooling needs [13].

Especially when problems related to pollution increase, the importance of renewable energy sources and related projects begin to gain support. Green energy sources used in energy production in the world is proposed and used. These energy sources are mainly hydropower, wind energy, solar energy, geothermal energy, ocean energy (tidal and wave energy), and they may be classified differently than biomass energy and hydrogen energy [5] [4].

According to the report the European Union; if the renewable energy consumption could be doubled in 10 years, 402 million tons of carbon dioxide emissions in Europe will be reduced each year. In the United Nations Conference on Climate Change, it has been concluded that "clean and renewable energy sources must be at least 25% share of consumption in all energy". This goal should be reached in 30 years, otherwise, there will be areas where no one can live and changing climate conditions will be permanent [5] [4].
5.2. Energy Efficiency and Public Awareness

Energy consumption requires energy production. At this point, efficient use of energy comes to the forefront. Preventing excessive energy through energy efficiency may decrease greenhouse gases and material gain can be achieved with less consumption [3].

EU member states and the community have reduced energy intensity in order to decrease oil addiction through studies since the beginning of 1970s, in other words, the parallel increase relation has been broken. For example, Germany had a decrease of 40% while and Denmark and France 30% in their energy intensity [3].

EU sees more use of zero emission renewable resources which reduce greenhouse gases by 60-80% on the supply side and increase of energy efficiency on the demand side as the most important precautions. Thus, energy efficiency will increase 20% and the emission reduction target will be guaranteed at least 50%, so that 780 million tons of CO2 emissions will be saved in this way by 2020 [3].

It is obvious that the action to reduce greenhouse gas emissions without requiring any technology or investment and practice economy will provide benefit for economy and environment. Despite the great industrial and technological developments in the last century, natural energy sources are running out fast. Therefore, efficient use of energy, waste prevention and reducing energy costs are needed. Energy consumption can be reduced without causing a decrease in life quality. In order to ensure the continuity of this increase, energy efficiency measures should be carried out at regular intervals, these measures should be evaluated and new investments should be made if needed. In short, energy efficiency represents the evaluation of all stages, from production to consumption, of energy sources in highest activity [3].

In this context, heat insulation in housing, improvement of transport in sea and rail transport, the prevention of waste forming public awareness, starting energy efficiency audits at institutions which have high energy consumption level, and similar activities will improve energy efficiency.

5.3. Adaptation to Global Climate Change

Overall efforts to reduce the negative impacts of global climate change are called "adaptation" efforts [7].

While reducing the greenhouse gases, we need to make efforts to adapt global climate change in services. There are many ways and means to ensure compliance. These vary from technological precautions such as building protection walls against flood or flood proof houses to changing the everyday lives and behavior of people decreasing water usage in times of drought. Other strategies may be counted as establishing early warning systems for severe weather events, better water management, developing risk management, developing insurance options and protecting biological diverse [7].

Along with global warming, a large scale change is being experienced for that reason the adaptation capacity to global climate change effects of defendless and vulnerable countries such as developing countries should be confirmed and necessary plans should be implemented. This adaptation should be a part of global and national sustainable development. For example, when the adaptation plans of California and Alaska taken into account, it is seen that while Alaska is thinking about transferring residential areas to a safer place, California is trying to develop more effective methods for preventing and managing forest fires. Also, the establishment of warning systems against heat waves forms a solution for transporting elderly people and children to cooler places [7].

5.4. Other Solutions

Pumping the mentioned oscillation into big underground caves, aquifers, former natural gas reservoirs or oil wells can be considered among the methods of decreasing, limiting and controlling carbon dioxide emissions which spread to atmosphere through thermal power plants which use coal, natural gas and oil. In addition, a type of rock which holds, captures or absorbs carbon dioxide emissions, in other words, a rock which heavily absorbs and stores these emissions with a little effort has been found. The rock which is considered as miraculous type for carbon dioxide emissions, has the largest percentage of greenhouse gas absorption is called peridotite and is one of the basic rocks that surrounds the crust of earth just under the surface of the world [1].

It has been found that when peridotites come into contact with air, they react with carbon dioxide
emissions quickly to form carbonates such as limestone and marble. Using drilling and crushing methods on rocks, it is determined that the carbon dioxide emission absorbing rate of peridotites is 100,000 times. In this regard, it is calculated that a 4 billion tons of carbon dioxide emission absorption can be realized in Oman where the peridotites are only 5 km in depth. Thus, if it is thought that fossil fueled thermal power plants produce about 30 billion tons of carbon dioxide emissions annually, a significant solution to deal with the emissions is found [1].

Another remedy for the prevention of climate change is forests. It is known and accepted by everyone that forests prevent climate change. Carbon dioxide which is one of the greenhouse gases is absorbed by forests. For that reason, protecting existing forests and creating new ones will be one of the most important steps to prevent climate change.

5.5. Some Precautions Taken by Countries after the 12 December 2015 Paris Convention

5.5.1 Copenhagen

Sudden weather changes caused by climate change have brought unexpected problems in cities. After the heavy rainfall and damage by flood in 2011, Copenhagen, which needs prevention, the city started bringing out solution-oriented projects. When it was seen that the city infrastructure was inadequate for extreme rainfall, the area where Enghave Park was located was redesigned with a proposed project. The basic idea of the project was turning the hard floors which are used as a meeting place during arid periods into a forebay with a capacity of 24,000 cubic meters. In addition to amphitheater design, it is aimed to collect water via a cutoff system which surrounds the park. The active recreation areas present an approach which turns the problems the city faces into a solution by the help of design made according to sustainability conceptions [14].

5.5.2 Italy

Many practices have been carried into effect in Milano because of air pollution in recent years. Closing downtown to vehicle traffic, letting single digit and double digit license plates drive on certain days of week separately, and banning entrance of diesel motor vehicles to specific regions of the city are some of these leading precautions. Despite all these practices, pollution could not be eliminated, and the public was motivated to use bicycles [15].

According to new practice, Milano Municipality declared that it would subsidize people who cycle to work in downtown. It was said recorded that 25 cents would be given per kilometer. The application is expected to take effect at the end of the month, and it is thought that people will be interested in this because of daily traffic controls and increased penalties [15].

5.5.3. Albania

Albania’s Minister of Environment, Lefter Coca, declared that the resolution that prohibit logging had been approved and explained the reason of this as “Albania is facing a great ecological disaster, we have to take precautions that will prevent deforestation for exportation and industry”. The ones who violate this law will face up to 10 years’ imprisonment. For 25 years, after the collapse of communist administration the forests in Albania has diminished by half such that while 51% of the Balkans was covered with forests in 1990 this amount is 25% now [16].

5.5.4. Spain

Spain decided to cover Madrid with trees in order to fight with unusual heat wave, drought or floods that will be brought by climate change. Empty lands in the city, city squares, streets, all possible places will be filled with trees and flowers. Parks that will be expanded, even the roofs and tall building walls will be greened. Twenty-two abandoned lands in the city will be turned into parks in the course of the project. Greening the destroyed highway next to the river streaming in the middle of the city is also among the plans. The streets and avenues in downtown are closed to traffic, this will be expanded and large streets will be turned into long parks [17].

Madrid, which is dealing with hot weather because of its geographical position, is witnessing more and more hot summer days. A recent study revealed that the average temperature will be 20% higher and total amount of precipitation will decrease 20% in Madrid by 2050. A global effort is needed in fighting climate change. Local efforts as seen in Madrid will continue to help constituting oasis for...
increasing life quality of city dwellers, and this always will be at issue until the governments take decisive and costly steps [17].

6. Conclusion
When we observe the climate change of the last 100 years, we can see how significant its impact on earth really is. The precautions that can be taken might be territorial or regional in scale, however, the most important ones are the precautions that human should take in their private lives. Individuals should fulfill their duties about energy saving. After forming an awareness in the society about climate change, it will be meaningful to take previously mentioned precautions and apply them.

If the countries adopt an environment sided attitude in their political policies and people fulfill their duties, the climate change problem can be got over without serious harm. However, if the severity of this situation is ignored, humanity will have to suffer the consequences.

7. References

The Vote of Election for Political Leader in Thailand

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Abstract

Thailand is located in Southeast Asia at the center of the 10 ASEAN countries. Thailand is the only of those countries to avoid being colonized by a European country. It did, though, once have US military bases during the South Vietnam war against North Vietnam. Cambodia and Laos to fight communism loop until 1975. Thailand is a democratic revolutionary change of government in 1932. So far, more than 80 years ago. Thailand's democracy was still struggling. That is a military coup by the loop 13 times. Every time a new constitution to allow more democratic. The last was on May 22, 2014 the military coup begin again. The reason that to maintain order. And also claimed that the elected government is corrupt and political leaders and politicians to buy votes. During this time the Constitution was drafted at 20 to build a new democracy.

To filter a democratic regime that respects the rights of individual freedom as possible compared to other forms of government, But the regime is required to select the person or group of persons to act as representatives of the people by the political movement called. “Elections” The election seems to be no problem and very sophisticated, but in fact, the elections are often problems occur in one of them is: Vote-buying, especially in the general election after the other, and is likely to intensify with increasingly spread to the local elections, into the political culture of Thailand. How do these affect the decision of the rural vote? However, it is unclear whether the methods or factors that affect the votes of elected, what factors have a significant impact on voters, is the origin of this research that, there are factors that influence the votes of the elected political leaders and those factors influence voters how much.

This research aims to identify important factors that influence the votes of central Thailand's political leaders in rural society, and to create mathematical equations. In order to know how to get the votes of the factors affecting and each of these factors are important and how much. Therefore, sampling the voters' village in Ayutthaya province which is a part of the central Thailand, have the 295 samples. The collected data were analyzed by stepwise multiple regression analysis. The results showed that factors that influence the votes of election, there are 3 factors that are important differences, cascaded down to the factor that influence to the votes of election. The most influential factor is the individual candidate(personal). The second is the cheats, gambling and bribery to officials (fraud) and the third is a group or party which candidate to attend (group) respectively, with statistical significance .05 is possible. Based on the set, this equation can be written as follows:

\[
\text{Obtaining the vote } 1 = 88.2 -.3 \text{ personal} + .7 \text{ fraud} - .9 \text{ group}.
\]

Recommendation from this research is that the agency that manages elections such as the Ministry of Interior, The Election Commission (EC), All levels of organization of elections in their agency should find a way to prevent the cheats, gambling and bribery to officials (fraud) to the voters in order to get more votes. The politicians and political groups or political parties should consider various factors in the equation that factors that will affect themselves and represent their party's victory in the election. The researchers should lead the way to extend the research to more widely as elected MPs, expand to cover the entire country, research in the borough provincial council, expand to mayoral elections across the country, expand your village elections across the whole country, and extend the other elections until more information. Have pronounced more so that the findings can be made into a new era of political theory further. There also may be used to Qualitative Research (Qualitative method) to the mix in order to research a deeper view.
Introduction

Thailand is located in Southeast Asia. The center of the 10 ASEAN countries. Thailand is the only country to avoid a colony of Europe has been achieved several years ago. Once the US military bases in the war against Vietnam. Cambodia and Laos to fight communism loop until 1975. Thailand is a democratic revolutionary change of government in 1932. So far, more than 80 years ago. Thailand's democracy was still struggling. That is a military coup by the loop 13 times. Every time a new constitution to allow more democratic. The last was on May 22, 2014 the military coup begin again. The reason that to maintain order. And also claimed that the elected government is corrupt and political leaders and politicians to buy votes. During this time the Constitution was drafted at 20 to build a new democracy.
away, it has a combination of social, cultural, rural as already mentioned. For this reason, it makes political leaders, especially the candidates to take advantage of these things to create their own favor. That they have been elected by the voters. Strategies and methods which some might call the patronage of charity donations to the community, the old personal wealth, the vote buying and fraud in various forms to make them up.

How do these affect the decision of the rural vote? However, it is unclear whether the methods or factors that affect the votes of elected, what factors have a significant impact on voters, is the origin of this research that, there are factors that influence the votes of the elected political leaders and those factors influence voters how much.

**Research objectives**

1. In order to understand the factors that influence the votes of election candidates or political leaders in rural Thailand.
2. To understand the factors that influence the voters.
3. To create a formula or equation vote by various factors.

**Scope of research**

This research has defined the scope of research in rural central Thailand. The rural society is among the lowest administrative units. Voting village head is the unit used for this research.

**Conceptual framework of the research**

Review of the literature, research and various theories can be defined as the conceptual framework of this research is as follows., And to define a hypothesis of the research is based on this concept.

<table>
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<tr>
<th>Independent variables</th>
<th>Dependent variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>background of the individual voter</td>
<td>Votes received</td>
</tr>
<tr>
<td>individual candidate(personal)</td>
<td></td>
</tr>
<tr>
<td>group or party attended(group)</td>
<td></td>
</tr>
<tr>
<td>distribution of property and money (money)</td>
<td></td>
</tr>
<tr>
<td>patronage and kinship(patronage)</td>
<td></td>
</tr>
<tr>
<td>strategy to campaigning(campaign)</td>
<td></td>
</tr>
<tr>
<td>contributing to the community(donation)</td>
<td></td>
</tr>
<tr>
<td>cheats, gambling, bribery(fraud)</td>
<td></td>
</tr>
</tbody>
</table>
How to conduct and the experimental

1. Research area
In this study, we determined the rural constituency in the central of Thailand. The electorates political leaders at the village level. (Elected village head)

The village is in an election. Village elections it appears that the effect of sampling Village in Ayutthaya province as an example, to collect research data. The village headman, who are elected through a period of not more than 1 year.

2. Population and sampling
2.1 Population and sample size of the population in the borough
1) voter headman of the village of 367 people.
2) Use the formula Yamane (1973: 726). Calculate the sample size to determine the level of 95% confidence or to have a sampling error of more than 5%.
3) has a sample size of 191.39 samples, but in this study, the data collection of voters as much as possible in order to have high confidence that there is a more than 95% or moves as possible.

2.2 Stratified Sampling
Data was collected from voters. All groups and spread throughout the village. For sample, a total of 295 samples, representing 80.38% of the voters.

3. Tools
A study of concepts, theories and research related to the creation of a questionnaire which is a measurement tool for research. The test instrumentation and theoretical by experimental data of 75 samples from voters another area and for calculation of reliability = 0.808 and to collect data on the village as a sample of research at random. have Research tools or questionnaire appears below.

<table>
<thead>
<tr>
<th>Questionnaire about the elections, political leaders in rural Thailand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explanation: This survey is a study of academic respondents did not affect in any way. Help you to answer truthfully. By filling in the gaps. (..........%) Assigned to or marked ✓ in the (......).</td>
</tr>
<tr>
<td>The first question in the last election. What do you think the following? Affect the decision to vote for the candidate. You make a few percent weight to fill a number from 0 - 100% (ie, 10, 20, 50, 70, 90, 95, ...) In the opinion of the gap (........% of each of the following.</td>
</tr>
<tr>
<td>1. Personal Past performance and preference in candidates.</td>
</tr>
<tr>
<td>2. Public Policy and popularity among the group or political parties participated.</td>
</tr>
<tr>
<td>3. To get the property, money from the representative candidates satisfying.</td>
</tr>
<tr>
<td>4. Respect for elders, comrades, friends persuaded, request or ask advice.</td>
</tr>
<tr>
<td>5. Strategy and impression in favor of the candidate and his campaign team.</td>
</tr>
<tr>
<td>6. Candidates have donated to community philanthropy, charity and temple festivals and the public.</td>
</tr>
</tbody>
</table>
7. Cheats, gambling, bribery to officials. Affect the deciding vote emphasize) .........................%.

8. In conclusion, you (voters) have voted for ....... (The candidates receiving the highest Votes number 1/voted 1/the rating 1/receiving 1) Name .................. emphasize) ...................%.

9. In conclusion, you (voters) have voted for ........... (The candidates receiving the highest votes number 2/voted 2/second) Name .................. emphasize) ...................%

Section 2. Information about the respondents.
10. Region 1. (.....) north 2. (......) mid 3. (......) 4. northeast (....) south

11. Electorate 1. (.....) MPs 2. (......) municipal 3. (......) SAO. 4. (.....) headman

12. Sex 1. (......) man. 2. (......) women

13. Age ............ Years (full year)

14. Educational attainment
   1. (.....) primary, secondary
   2. (.....) diploma, Vocational.
   3. (.....) bachelor’s degree or higher.

15. Profession
   1. (.....) servants, employees of state enterprises
   2. (.....) employee, other independent trade employed
   3. (.....) farmers, livestock.

16. The average monthly income ........................................... Baht (approximately)

4. The data is analyzed by computer program (Statistical Package for the Social Science for Windows : SPSS), to use statistics to forecast or predict with mathematical equation by means of Stepwise multiple regression analysis.

Research results
Village elections on May 12, 2557 the candidate who wins the election, the village headman.

Rated the 1 has 173 points, while those who scored 135 points, 2nd 38 points apart, representing 12.35% of the total voting rights. In this research, we need to analyze, to know that. What are the factors the winner of the election, get your vote 2nd over? Data analysis to identify factors that influence the votes of the electorate elected headman. The data from the central, a process for analyzing and presenting the following.

Analysis to determine the factors that influence the voters get to make the various factors into the equation as a first step factors in order of importance and influence of those factors. This will start from step 1, 2 and 3, but in this research will focus on the results of the research by the results of the analysis of step 3 is shown for those who have been elected as the first (The winner of the election of a head) because the steps listed out all the results of the research and to test the hypothesis. The results are shown in the following table.
Table 1 shows the results of the data analysis steps 1 - 3 of Stepwise Multiple Regression Analysis of obtained the rating 1

<table>
<thead>
<tr>
<th>Coefficients&lt;sup&gt;a&lt;/sup&gt;</th>
<th>factor into the equation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model (step)</td>
<td>Unstandardized Coefficients</td>
</tr>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>85.223</td>
</tr>
<tr>
<td>personal</td>
<td>-.271</td>
</tr>
<tr>
<td>2 (Constant)</td>
<td>84.200</td>
</tr>
<tr>
<td>personal</td>
<td>-.301</td>
</tr>
<tr>
<td>fraud</td>
<td>.341</td>
</tr>
<tr>
<td>3 (Constant)</td>
<td>88.230</td>
</tr>
<tr>
<td>personal</td>
<td>-.338</td>
</tr>
<tr>
<td>fraud</td>
<td>.737</td>
</tr>
<tr>
<td>group</td>
<td>-.903</td>
</tr>
</tbody>
</table>

a. Dependent Variable: get top score )Those who have voted 1)

<table>
<thead>
<tr>
<th>Excluded Variables&lt;sup&gt;b&lt;/sup&gt;</th>
<th>factor that not in the equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model (step)</td>
<td>Beta in</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>group</td>
<td>-.125&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>money</td>
<td>.110&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>patronage</td>
<td>.041&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>campaign</td>
<td>-.066&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>donation</td>
<td>.058&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>fraud</td>
<td>.133&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>age</td>
<td>.034&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>edu</td>
<td>-.019&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>income</td>
<td>.061&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>group</td>
<td>-.277&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>money</td>
<td>.086&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>patronage</td>
<td>.012&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>campaign</td>
<td>-.069&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>donation</td>
<td>-.026&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>age</td>
<td>.042&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>edu</td>
<td>-.016&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>income</td>
<td>.085&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
Table 2 shows the results of the data analysis step 3 of Stepwise Multiple Regression Analysis of obtained the rating 1

Table 2

<table>
<thead>
<tr>
<th>Model (step)</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 (Constant)</td>
<td>88.230</td>
<td>4.906</td>
<td>17.986</td>
<td>.000</td>
</tr>
<tr>
<td>personal</td>
<td>-.338</td>
<td>.061</td>
<td>-.311</td>
<td>-5.521</td>
</tr>
<tr>
<td>fraud</td>
<td>.737</td>
<td>.171</td>
<td>.287</td>
<td>4.316</td>
</tr>
<tr>
<td>group</td>
<td>-.903</td>
<td>.212</td>
<td>-.277</td>
<td>-4.265</td>
</tr>
</tbody>
</table>

Coeficients*
a. Dependent Variable: get top score (The receiving 1)

The analysis of data can be written as the following equation.

**Obtaining the vote 1 = 88.2 - .3 personal + .7 fraud - .9 group**

When Obtaining the vote 1 = The vote was HIGHEST 1

- personal = individual candidate
- fraud = cheats, gambling, bribery to officials
- group = join a group or party
The results of research can be drawn into the chart below which shows the results of hypothesis testing.

```
            personal
               |
               v
          fraud
               |
               v
Votes received
               |
               v
           group
```

From the above equation (Obtaining the vote 1) and chart display data analysis. Factors that influence the votes of election, there are 3 factors that are important difference, cascaded down to the factors that influence the votes of election. The most influential factor is an individual candidate (personal). The second is a cheats, gambling and bribery to officials (fraud) and the third is a group or party candidate (group) respectively. Which can be written as an equation: Obtaining the vote 1 = 88.2 -.3 personal + .7 fraud - .9 group., at the level of statistical significance. 05.

**Summary and discussion**

Based on the findings above, it is seen that the winner of the election in rural Thailand there are 3 factors influencing in the election. The most influential factor is the individual candidate (personal) followed by the cheats, gambling and bribery to officials (fraud) and the third is the group or party which candidate to attend (group) respectively, with statistical significance .05 is possible. Based on the set this equation can be written as follows.

**Obtaining the vote 1 = 88.2 -.3 personal + .7 fraud - .9 group**

Research of this nature are rare. Due mainly to explore the factors that influence the decision to vote and to determine the frequency, percentage (percent) of respondents only. And there may be a difference by personal factors of the respondents. However, the research seeks to bring these findings are comparable to each other, such as the research of Suvit Rungvisai (1998) was funded by the Secretariat of the House of Representatives to conduct research on the decision of the voters to vote, MPs vote. The data were collected from 4 regions across five provinces of Thailand, Bangkok, Chiang Mai, Khon Kaen and Songkhla province, a total of 1,000 samples (200 samples for each province) for which the results of the research showed that 75.31 percent of the people know that the vote-buying concerning in rural Thailand 's election which is different from the approach of this research is to study how the distribution of property and money. Influence the votes of real and effective way to get a real election. Traditional research, despite knowing that the distribution of property and money(money) to buy votes. But once inside the polling to cast it. The voters could not vote as they get money for it. In this research has answered these 2 aspects: the decision to vote in the elections and the election of candidates to be elected. The results of this study showed that the distribution of property and money(money) did not enter the equation at a statistically significant level. 05 However, factors related to the distribution of property and money(money), almost into the equation (see table 1: excluded variables).

Factors on the distribution of property and money (money) as factors that affect the election was not in the equation at significant statistically. 05 This is a subject that has been talked a lot. We only know that they are spending money to buy votes. Distribution of supplies to vote but there is no evidence that it turns out to vote or not. The results of this study indicate that an election has not been
influenced by the distribution of property and money statistically significant. 05, which unlike the results of past research. Such research Suthum Ratanachote (1998), Paithoon Bhothisawang et al. (2003), Pichai Rattanadilok NA Phuket (1994), Avika Aekatat (2006), Peng Buohom (2005), Suwit Rungvisai (1998), Jitra Promchutima (1998) and Suwat Tangjitjareon (2005), which part of the research is qualitative research or quantitative research that asks only independent variables to calculate the frequency and percentage. which is difference from this research that asked respondents to both the independent variables and dependent variables the data were analyzed by stepwise multiple regression analysis. (see conceptual framework and questionnaire items 1-7,13,14,16 : IV. ; items 8-9 :DV.)

There are 3 factors that affect the election has been found in the central. (Significant statistically. 05) is the individual candidates (personal). The results were comparable to other research's answers as well. The study finds Voters decide the individual candidate as mainly (personality and past activities) such research Sompob Subsomboon (2008), Wichan Rodpaiboon (2006), Phairuch Vihakarat (2003), Sunan Akarataweetong (2002), Ladda Ngamsopa (2011), suchaivut Chaosuanhkhuai (2003) and Vasana bunthamchuay (2003) which is consistent and in line with this research because the study found that the individual candidate (personal) factors that influence critical. get vote.

The second factor is the cheats, gambling and bribery to officials (fraud). Factor of using cheats, gambling, betting and bribing officials (fraud) as contributing factors to get votes statistically significant. 05, which is found in the central region. These factors are discussed more. Although little research on this, it can be comparable. This research is a very important discovery, one that has been voted the winner of the election.

The third factor is to join a political group or party (group) and is found in the central as well. However, research has comparable such research Sakda Nopasit (1999)( that said, the most important factor is affiliated with a political party. Research suwat Tangjitjareon (2005) said the decision because of political preferences and policies of political parties, Research Pairat Vihakarat (2003)( That said, the decision to select the group of candidates rather than individuals

The findings of this study which can be written as a mathematical equation. This demonstrates that the approach to political theory. Candidate to be a political leader. What are some factors to take into consideration? Factor into the equation before, shows that the factors that influence or affect the election has been the most. In this research is individual candidate. Other factors that are important in some sectors in some areas, the second factor is the cheats, gambling and bribery to officials. The third factor is the level of group or political affiliation. There are also other factors as well but not in the equation, such as the distribution of property and money to voters, the contribution to the community and campaign strategies. This research is under of statistical assumptions, therefore, vary according to factors that influence enough to advanced statistical significance. 05 or a 95% or more, which is based on assumptions that are set.

The researcher is of the opinion that This research is also a pioneer in the academic. To create a theory or equations that are acceptable for use across the country. Need to expand storage space and sample more than you can bring a new era of political theory.

**Suggestion**

1. The agency that manages elections, such as the Ministry of Interior. The Election Commission (EC). All levels and organization of elections in their agency should find a way to prevent the fraud and the distribution of wealth through agents, to prevent canvasser or distributed directly to the public and voters in various forms.

2. Political leaders in rural and politicians at all levels of political parties and political groups. All levels should consider various factors in the equation that factors such as policy, any political party or political group. Personal property Campaign strategies and methods that will result in their party or their agents and increase the votes and won the election.

3. The agency responsible for the politics, the Election Commission (EC). KPI. The National Congress and the Department of the Interior Department of Local Government Community Development Department and agencies under the Ministry of Interior. Ministry of Education and other agencies involved should lead to the application of research findings to develop democracy and the election of Thailand better.
4. For this study, researchers should lead the way to extend the research to more widely as elected MPs expand to cover the entire country, research in the borough provincial council, expand to mayoral elections across the country, expand your village elections across the whole country and extend the other elections until more information. Have pronounced more so that the findings can be made into a new era of political theory further. There also may be used to Qualitative Research (Qualitative method) to the mix in order to research a deeper view.

**Reference**


Issara Suwanabon. 2536. *Cheats elections. Monograph No. 1 University political project. Cymbeline Kasetsart University Open University.


Geomatics and Interior Design

"Compliant construction is Non-traditional way of thinking for interior design"

Fayza Mohamed Ahmed Eldlaal, Alexandria University, Egypt

Abstract

Geomatics, known as geospatial technology, is the discipline of gathering, storing, processing, and delivering geographic information, or spatially referenced information. In other words, it "consists of products, services and tools involved in the collection, integration and management of geographic data", using the Scan to BIM in this technology for existing buildings uses digital surveying techniques to create a 3D point cloud model which is then used as the basis for a BIM model. Laser scanners are used to create a point cloud model together with complete visualizations. Information is gathered over a greatly reduced time period without a reduction in quality or accuracy of information. The point cloud, comprising of millions of spatially correct points, can be used as the basis of a 3D model available in the client’s choice of formats. And Measured Building Surveys measured building survey is an essential tool in the refurbishment [1], alteration or redevelopment of any property. It allows for the accurate calculation of net let table floor areas to maximize rental returns. Should the building be of any particular historic interest then a quality survey will act as a record to preserve the building for future generations. Survey data collected allows the creation of an accurate 2D or 3D model of the existing spatial and constructional arrangements. The details may also include sections and elevation information, together with dimensional analysis of fixtures, fittings, services and plant etc. And an understanding of the surroundings (Topographical Surveys) is vital to the smooth construction of any new structure. Topographical survey provides just that, a complete picture of your surroundings. It will encompass all survey detail that is relevant to your needs and can include 3D digital terrain models of the entire site incorporating any specified level of detail. This can range from individual utility locations to main site & building orientations and boundaries to major highways and ecological systems.

The compatibility between technology and the natural environment and the content of natural materials and the reigns of the climate, and compatibility with the culture [1] of the community in the different of settlements, artistic traditions, spiritual, social and economic conditions [2].

These new technological systems produced many non-traditional ways of thinking in interior design process such as sustainable architecture and interior architecture buried and made the thought of the interior designer is moving towards creating new materials to treat internal space which resulted from Geomatics Engineering.
Figure 1: "Adrere Omilal ", hotel Sandstone and it has decorations inspired by the lives of the desert oasis of Siwa. It does not use the electricity, and uses candles for lighting, while the hotel's walls are salt rocks, doors dirt where the doors are working to absorb the sun's heat during the day and then reflected for the night, to give the warmth of the place [3],[4].
Figure 2: "Adrere Omilal: the hotel is surrounded by seven lakes salt and olive trees along the 25 kilometers, the newspaper «daily Mail» British wrote about the hotel [5], [6].

Key words: Geomatics, Scan to BIM, Measured Building Surveys, Topographical Surveys, Utility Mapping Surveys, Submerged Architecture, Simulation software and Green Building.

1- Method of thinking for Geomatics

Geomatics engineering is a rapidly developing discipline that focuses on spatial information the term is thought to be developed by B. Dubuisson in 1969 from the combination of GEODESY and GEOINFORMATICS terms, Geomatics is a new term incorporating the older field of surveying along with many other aspects of spatial data management. Following the advanced developments in digital data processing [7], the nature of the tasks required of the professional land surveyor has evolved and the term surveying alone does not any more describe the whole range of tasks that the profession deals with.

As our societies become more complex, information with a spatial position associated with it becomes more critical to decision-making, both from a personal and a business perspective, and also from a community and a large-scale governmental viewpoint [8].

1-1 Scan to BIM

For existing buildings AHR uses digital surveying techniques to create a 3D point cloud model which is then used as the basis for a BIM model. Laser scanners are used to create a point cloud model together
with complete visualizations. Information is gathered over a greatly reduced time period without a reduction in quality or accuracy of information. The point cloud, comprising of millions of spatially correct points, can be used as the basis of a 3D model available in the client’s choice of formats. We offer our clients a number of options in this area from simple data collection through to fully developed BIM models.

1-1-1 Measured Building Surveys
An AHR measured building survey is an essential tool in the refurbishment, alteration or redevelopment of any property. It allows for the accurate calculation of net lettable floor areas to maximize rental returns. Should the building be of any particular historic interest then a quality survey will act as a record to preserve the building for future generations. Survey data collected allows the creation of an accurate 2D or 3D model of the existing spatial and constructional arrangements. The details may also include sections and elevation information, together with dimensional analysis of fixtures, fittings, services and plant etc.

1-1-2 Topographical Surveys
An understanding of the surroundings is vital to the smooth construction of any new structure. An AHR topographical survey provides just that, a complete picture of your surroundings. It will encompass all survey detail that is relevant to your needs and can include 3D digital terrain models of the entire site incorporating any specified level of detail. This can range from individual utility locations to main site & building orientations and boundaries to major highways and ecological systems.

1-1-3 Utility Mapping Surveys
AHR Geomatics can also offer underground utility mapping surveys. Continual investment in the latest Ground Penetrating Radar technologies and the highest levels of training ensures that the best possible results are always achieved. The advantage of using a GPR unit over traditional methods is its ability to locate and trace nonmetallic materials such as the plastics used in gas and water utility pipes.[9]

2- Scanning and design
Designer upon Jean Nouvel: such as film director is the owner of the recent decisions alone, As such must be the designer who deals with the design of the environmental perspective and be aware of three aspects are important to deal with the space and determine the efficiency of its performance, these aspects are: structural vacuum, the potential of the individual to realize the emptiness and the environment around him, Knowledge of the behavioral responses of the act resulting from the interaction between the individual and the realm of socially - cultural and architectural. [10].

Figure3: Geomatics has helped designer to understand the surrounding environment more accurately.
Figure 4: structural vacuum, the potential of the individual to realize the emptiness and the environment around him (Siwa - Egypt).

2-1 Interior design of Submerged Architecture

Burying part of the buildings and the emergence of another above the ground in order to cancel his presence as a barrier to see the full or reduce its scale as performer role in the Urban Group blocks, This relationship between man and the product continues to this day in Egypt in many cities and villages. Echelon Nubian mud house is a few walls with roofs, it is near half domes which surround the celestial backyard [11].
**Figure 5:** Submerged beneath the granite bedrock of Stockholm, a former nuclear bunker built in 2008 has been transformed into a sleek data center by Albert France-Lanord Architects. The impenetrable complex boasts soaring waterfalls and verdant greenhouses, the latter of which are made possible by artificial daylight, while a German submarine engine is used for backup power.

**Figure 6:** Deep inside Slovenia’s Postojna Cave lies the first-ever subterranean post office, in a retail pavilion designed by Studio Stratum. It was miraculously assembled under a weighty constraint: The architects could use only materials small enough to be shipped down on Postojna’s cave train.

**Figure 7:** Only a stone’s throw from Peter Zumthor’s Therme Vals, this luxurious Bjarne Mastenbroek–designed three-story home rises triumphantly from the Swiss Alps. Entering through an Alpine barn on the outskirts of the property, visitors traverse a 72-foot-long concrete tunnel before arriving at the light-filled modernist cave. Inside, the stark white rooms are furnished by a coterie of Dutch designers, including Hella Jongerius and Claudy Jongstra.
Figure 8: Twenty-five feet below the sprawling front lawn of the Tennessee governor’s mansion sits a spectacularly luminous underground event venue. The Archimania-designed sunken courtyard is the crown jewel of the project.

Figure 9: Buried in a Tuscan hillside, the standout headquarters of an Italian feature 540,000-square-feet of space, designed by Archea, a Florentine firm. Culminating in a sinuous corkscrew staircase, the subterranean structure houses a museum, a shop, a restaurant, and, of course, a winery.

Figure 10: Adjacent to the medieval stone wall of a nearby citadel, this subterranean parking lot in Cascais, Portugal, designed by Miguel Arruda Arquitectos Associados, is topped by public square. The radiant LED strips that crisscross the site are a clever nod to ancient navigation maps, while the translucent staircases light up the surrounding stone wall at dusk.

Figure 11: Built into the craggy outcroppings of Buyuk Cekmece, a suburban neighborhood on the outskirts of Istanbul, this decidedly unorthodox place of worship, designed by Emre Arolat Architects, combines a raw monumentality with a vivid elegance.
Figure 12: Gruta do Escoural—a meandering limestone cave deep within Portugal’s Alentejo region—made more headlines recently for the decaying floorboards of its visitor walkways than for its famous Paleolithic rock art. Officials knew there was a problem. Tasked with ushering the country’s prehistoric caves into the 21st century, Lisbon architect Nuno Simões of DNSJ.arq designed an elegant steel-framed ipe timber staircase and concrete antechamber [12].

2-2 simulation software and Green Building

Green building is the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life-cycle from siting to design, construction, operation, maintenance, renovation and deconstruction. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort [13]. Green building is also known as a sustainable or high performance building.

Impacts of the built environment:

<table>
<thead>
<tr>
<th>Aspects of Environment:</th>
<th>Built Consumption:</th>
<th>Environmental Effects:</th>
<th>Ultimate Effects:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siting</td>
<td>Energy</td>
<td>Waste</td>
<td>Harm to Human</td>
</tr>
<tr>
<td>Design</td>
<td>Water</td>
<td>Air pollution</td>
<td>Health</td>
</tr>
<tr>
<td>Construction</td>
<td>Materials</td>
<td>Water pollution</td>
<td>Environment</td>
</tr>
<tr>
<td>Operation</td>
<td>Natural</td>
<td>Indoor pollution</td>
<td>Degradation</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Resources</td>
<td>Heat islands</td>
<td>Loss of Resources</td>
</tr>
<tr>
<td>Renovation</td>
<td></td>
<td>Storm water runoff</td>
<td></td>
</tr>
<tr>
<td>Deconstruction</td>
<td></td>
<td>Noise</td>
<td></td>
</tr>
</tbody>
</table>

Green buildings are designed to reduce the overall impact of the built environment on human health and the natural environment by:

- Efficiently using energy, water, and other resources
- Protecting occupant health and improving employee productivity
- Reducing waste, pollution and environmental degradation [14].
3-Scan-to-BIM and its role in the architectural restoration design and interior space

Restoration" places a high premium on the retention of all historic fabric through conservation, maintenance and repair." All materials added to a building over its life are retained and only work which is necessary to protect it from deterioration is carried out [15].

Rehabilitation is a standard for preservation but is more lenient because it presumes the building is so deteriorated that it needs some repairs to prevent further deterioration, Restoration includes preservation, leaving as much material untouched as possible, reconstruction to replace missing elements, and repair work to bring the building to a historically accurate condition in one particular time period. This may include removing some historic building elements (after documenting them) to make the building historically accurate for a specific date in history, Reconstruction allows the re-creation of a missing building or element in all new, appropriate materials [16].

Figure 13: Ancient Catalanian Church Keeps Ruins + Gains New Soul [17]

Architects who are asked to restore old or damaged buildings typically decide to bring those buildings back to their former glory. But David Closes decided to take a different path when he was charged with converting the classic Sant Francesc church building into a cultural center and auditorium, the church was built in the early 1700s and was once part of the Sant Francesc convent. After the convent was sacked in 1835, it was left to deteriorate on its own until 2000, when the rest of the buildings were torn down. Only the run-down church was left standing, and it was this fragile and partially collapsed building that Closes set about transforming.

Figure 14: Rather than bringing the building back to its former state or even simply restoring the shell and giving it a modern interior, Closes did something truly extraordinary. He plunked a new building down inside and outside of the church’s ruined shell. He used collapsed roof sections as skylights and kept some of the building’s original walls as beautiful components of a building that embraces both the past and the present.
**Figure 15:** One of the most compelling parts of the renovation/conversion is the exterior stairwell. The gorgeous floating glass stairwell was added outside of the boundaries of the original building to avoid having to alter the shape of the nave. Other components were added outside of the building in order to minimize the permanent impact to the shape of the structure while highlighting its new, modern purpose.

**Figure 16:** Historic Brick Lodge Saved Inside a Modern Glass Box Home [18]
Need to keep something safe, but want to leave it on display? Just like a museum artifact, but on a much larger scale, this boxy, two-story, glass-and-metal house contains an aged relic, preserving (while using) uncovered remnants from the elements.

**Figure 17:** fitting home for an antique collector of any kind, to be sure, but this new construction by Architectural Bureau G.Natkevicius & Partners is particularly well-suited to the vintage books accumulated by the owner. The client now has a new archive within the old masonry lodge, which was once part of a medieval cannon foundry that long ago stood on much of the now-flattened the site.
Figure 18: As such, the new house was wrapped around the old with bedrooms above and below the main level and an open-plan, glass-encased first floor.

Figure 19: Stunning Street-Level Loft in a Brick & Concrete Warehouse [19]

To twist a digital proverb: context is king. In some ways, it is hard to go wrong when the architectural backdrop for a project is so beautifully textured to begin with. This World War II era factory was one of the lucky few in Dusseldorf to escape heavy bombing, its thick brick walls and pillars and deep concrete beams remaining relatively intact to this day. In such cases, simply adding some modern accessories and strategic lighting can bring out the best in a space – though that task can be more subtly challenging that it might initially sound.
Figure 20: On the inside, a series of simple white partition walls, counters, cabinets and appliances seem almost like guests in the home – few of the dividers reach ceiling height and most do not meet existing supports on either side. Where intersections are essentially inevitable, tactical gaps were left to avoid dealing with the (perhaps impossible) task of joining new rectilinear forms with chipped and worn bricks or mortar.

On a small exterior patio framed by concrete sides and decking, a solitary tree stump was built around and found-food stools set nearby to keep it company. Part porch, part art, it makes a definite design statement.

Figure 21: Such remodels may not be to everyone’s tastes, but they sure provide a strong argument for rethinking abandoned and disused spaces – prior to the renovations and additions, this would have looked like anything but a stylish (let alone inhabitable) space.
3-1 Scan-to-BIM and restoration

As the industry moves to adopt 3D workflows, the ability to capture as-built conditions in 3D is finding many new application areas beyond surveying.

Figure 22: Autodesk’s Recap and Autodesk Memento (pictured) are enabling new possibilities from every day imaging devices

The phrase that so easily slips off the tongue, leads people to think that there is a quick, autonomous and instant way to bring the real world inside a BIM application and have an intelligent model ready to go. In many respects the hype that follows BIM around also leads owners to perceive that in some way less work is done in the process of design and by using a BIM they can magically expect savings of anything up to 30% on design development. Building Information Models are much richer than their predecessor’s 2D symbolic representations, the density of knowledge captured and layered with BIM provides even more benefits from the fact that building elements are modelled in 3D.

The ‘Scan to BIM’ process only caters for the physical 3D representation and will only ever generate dumb XYZ points or meshed surfaces. These ‘dumb’ points act as a guide for those who model BIM components to replicate the ghostly as-built point clouds in BIM components, such as walls doors and windows. This process is, in itself, a skill set requiring training, experience and additional software tools. Many surveys will not need to be done by laser scan. The old and proven ways will be quicker and more economic. Simply asking for a laser scan survey [20] will add to the cost to get the same result and the 30GB point cloud model delivered will be handed to a design team who will have no idea what to do with the data format.

Like BIM, owners and management are asking for work to be done in a certain way because they have heard it is the latest thing, often with no comprehension of the benefits or what they can do with it once they get what they have asked for. The latest advances in real world data capture were demonstrated recently at SPAR Europe, held in Amsterdam in December 2014. The event features a diverse exhibition area along with a conference programme, which included a Scan to BIM track. Speakers on the Scan to BIM track included; Fred Mills, Managing Director, The B1M, James Kavanagh, Director of Land, Professional Groups and Forums, The Royal Institution of Chartered Surveyors (RICS) and John McCreadie, Business Development Director at IIC Technologies.

The Scan to BIM session started with Mr. Mills of B1M, a video resource on BIM, explaining the movement of the building industry to BIM. He concentrated on the need to up-skill the industry — the ‘1M’ being the million people required to instigate widespread adoption of Building Information Modelling. Mr. Kavanagh explored the link between BIM and wide area geographic information systems, asset management projects, smart cities the expansion from 3D into 4 and 5D BIM and the advent of automated cost estimation software. As part of the process, RICS laser scanned and surveyed its own headquarters in London to get a better understanding of the scan to BIM process its members are being often asked to complete [20].
3-1-1. Types of Scanner and its impact in the formation of three-dimensional image: Laser scanning and point cloud technology

1- Autodesk

Autodesk released Recap, Recap Pro and Recap 360 last year for the collation and registration of laser scan data and conversion of photographs to a 3D meshed model. The service provides access to the cloud to publish and stream huge point cloud models. Autodesk Memento can take point clouds, video and photographs and create incredibly dense and accurate 3D meshes. It handles huge datasets and has a minimalistic interface. Advanced subdivision surfacing, intelligent hole filling and the ability to compare meshes and drive 3D printers gives Memento a unique feature.

2-ClearEdge

Clear Edge offers the most enhanced laser scan to Revit model process, using advanced shape recognition algorithms. The Edgewise BIM Suite for Building, MEP and Structures offers ‘structure’ extraction, ‘cylinder’ extraction and ‘planar’ extraction and integrates with Revit so structure, walls, windows, doors, pipes, conduits, and round ducting can be automatically extracted into Revit as vanilla Revit Family components. You can even teach the software to find repeated objects by highlighting the part of the point cloud and the software attempts to learn the pattern. [21].

3-Kubit

Kubit is a German-based developer of standalone and Autodesk-integrated surveying tools. Its products include TachyCAD for online surveying, Photo Plan for image rectification in AutoCAD, Point Sense for 3D scanning post processing, VirtuSurv for viewing laser scan data, MonuMap for structured mapping of building conditions, Distoplan for surveying as-built and hylasFM for facilities management. In the March / April edition of AEC Magazine:” we will have a guide from Kubit on the principles behind generating a BIM model from point clouds”[22].
4- LFM Software

LFM software, part of Aveva, is heavily involved in the factory and facility management side of laser scanning and is about to introduce the concept of a ‘living point cloud’. Recognizing that the modelling of complete facilities is often an expensive process, LFM is advocating a point cloud that provides a framework for doing partial edits when changes are made and then resubmitting those back to the cloud [23].

5- NCtech

NCtech is based in Scotland and produces a very clever 360 degree imaging device that sits on top of a tripod. Using four fish eye cameras the iStar rapid imaging unit can capture an environment in high-resolution 50MB panorama in a single shot. It also is capable of doing HDR (High Definition Range) imaging of three exposures. The iStar offers video capture and streaming of full 360 degree environments and works in low light. The company is also working on higher resolution devices [24].

Figure 22: Samples of point cloud data colorized with Color Cloud. Each and every iSTAR is precision engineered to 0.002mm accuracy. It was designed and constructed a bespoke, laser aligned calibration room containing over 800 surveyor targets in full 360 degrees around the room. Each iSTAR locates the center of each and every target. This is done at a sub pixel accuracy using patent pending calibration algorithm. This fine precision calibration process allows Color Cloud and iSTAR to make a perfect match to your scan data. This attention to detail defines iSTAR as the most accurately calibrated 360 degree camera in the world [25].

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6-Pointfuse
Arithmetica’s Point fuse converts point clouds to vector models. The software is fully automatic, fast and accurate and is directly aimed at scan-to-CAD workflows. Point fuse enables the simultaneous cropping of multiple point clouds into a single point cloud, which can be converted to a single vector model for 2D elevations, plan views and sections. Batch conversion is also possible with export to DXF or IFC, and has been tested with ArchiCAD, Autodesk Revit, Blender, Rhino and Sketch Up. Point fuse Free, Lite, Pro and Pro Trial are available [26].

As a result of the above: the world of Geomatics is an important field of interior designer, and an important teaching subject should be taught to students in interior design sections, which is produced by the researcher to the presence of creative and innovating thinking of Interior Design.
Conclusion

- Geomatics is a field of activities which, using a systemic approach, integrates all the means used to acquire and manage spatial data required as part of scientific [26], administrative, legal and technical operations involved in the process of the production and management of spatial information [27].
- The laser scanning techniques therefore represent a meaningful evolution of some aspects of photogrammetry, directly supplying a 3D surface model, traditionally obtained from the involvement of expert interpreters and approaching the total automation of the process [28].
- The definition of Geomatics is evolving. A working definition might be "the art, science and technologies related to the management of geographically-referenced information." Geomatics includes a wide range of activities, from the acquisition and analysis of site-specific spatial data in engineering and development surveys to the application of GIS and remote sensing technologies in environmental management. It includes cadastral surveying, hydrographic surveying, and ocean mapping, and it plays an important role in land administration and land use management.
- Geomatics is the modern scientific term referring to the integrated approach of measurement, analysis, management, storage and display of the descriptions and location of Earth-based data, often termed spatial data. These data come from many sources, including earth orbiting satellites, air and sea-borne sensors and ground based instruments. It is processed and manipulated with state-of-the-art information technology using computer software and hardware. It has applications in all disciplines which depend on spatial data, including environmental studies, planning, engineering, navigation, geology and geophysics, oceanography, land development and land ownership and tourism. It is thus fundamental to all the geoscience disciplines which use spatially related data.
- Geomatics comprises the science, engineering, and art involved in collecting and managing geographically-referenced information. Geographical information plays an important role in activities such as environmental monitoring, management of land and marine resources, and real estate transactions.
- The science of Geomatics is concerned with the measurement, representation, analysis, management, retrieval and display of spatial information describing both the Earth's physical features and the built environment. Geomatics includes disciplines such as: Surveying, Geodesy, Remote Sensing & Photogrammetry, Cartography, Geographic Information Systems, Global Positioning Systems.
- The scanning and reality capture market is undoubtedly growing fast. While there are many software firms that are innovating.
- Photogrammetry and video to mesh looks to be the cheapest entry point to the market and Autodesk’s Recap and Memento are enabling new possibilities from every day imaging devices. When you add drones and video into the mix, both the small and large scale are covered. The accuracy of photogrammetry is not the same as a laser scan but on the scale of a building site this could be unnecessary, while a manufactured object for fabrication would have issues.
- Scan to BIM is a work in progress and, over time, will become more automated and easier to do. But perhaps we should also consider that not everything has to be modelled to achieve a desired outcome. By accepting that ‘dumb’ spatial data has its place in the BIM workflow, we can stop worrying about converting everything we see to data rich models.
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Globalizing the MBA: The Case for International Cohorts

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Abstract

In 2013, Webster’s online graduate business and education programs received their first-ever national recognition, with the business programs being ranked 3rd in Missouri and 67th in the nation. Because the MBA is typically a significant revenue producer for many universities, keeping up enrollments is critical, but challenging. The growth in programs, online and live, accompanied by dropping enrollments due to the economy, limited job opportunities upon graduation, demographics, and more, means it is imperative to maintain an innovative and solid program. This is coupled with an increasingly global economic and business environment. Webster University's George Herbert Walker School of Business and Technology introduced a new version of their largest degree program, the Master of Business Administration (MBA) in the fall of 2014. As a global university with over 60 US based locations and seven international campuses, the program had to accommodate a demographically and geographically diverse student body. This paper identifies the objectives and practices that allowed for the successful launch of this innovative and collaborative program in the service of international education.