Published by

International Foundation for Research and Development (IFRD)

Editorial

Journal of Econmics and Behavioral Studies (JEBS) provides distinct avenue for quality research in the ever-changing fields of economics & behavioral studies and related disciplines. Research work submitted for publication consideration should not merely limited to conceptualisation of economics and behavioral devlopments but comprise interdisciplinary and multi-facet approaches to economics and behavioral theories and practices as well as general transformations in the fileds. Scope of the JEBS includes: subjects of managerial economics, financial economics, development economics, finance, economics, financial psychology, strategic management, organizational behavior, human behavior, marketing, human resource management and behavioral finance. Author(s) should declare that work submitted to the journal is original, not under consideration for publication by another journal, and that all listed authors approve its submission to JEBS. Author (s) can submit: Research Paper, Conceptual Paper, Case Studies and Book Review. Journal received research submission related to all aspects of major themes and tracks. All submitted papers were first assessed by the editorial team for relevance and originality of the work and blindly peer reviewed by the external reviewers depending on the subject matter of the paper. After the rigorous peer-review process, the submitted papers were selected based on originality, significance, and clarity of the purpose. The current issue of JEBS comprises of papers of scholars from Turkey, South Africa, Rawanda, Nigeria, Germany and Indonesia. Social responsibility, institutional and policy environment & the quest for industrialization, entrepreneurial culture & sustainable competitive advantage, environmental complexity and turbulence on the choice of marketing tactics, survivalist retail entrepreneurship sector, economic factors in the choice of medical providers, celebrity endorsement advertising, perceptions of school administrators, leadership & employee's performance and poverty of households & malnutrition of children were some of the major practices and concepts examined in these studies. Current issue will therefore be a unique offer, where scholars will be able to appreciate the latest results in their field of expertise, and to acquire additional knowledge in other relevant fields.

Prof. Sisira R N Colombage, Ph. D.
Editor In Chief

Editorial Board

Editor In Cheif

Sisira R N Colombage, Ph. D., Monash University, Australia

Members

Somnath Sen, Ph. D, Birmingham University, UK
Anton Miglo, Ph. D, School of business, University of Bridgeport, USA
Elena Garcia Ruiz, Ph. D, Universidad de Cantabria, Spain
Mamta B Chowdhury, Ph. D, University of Western Sydney, Australia
Gurmeet Singh Bhabra, Ph. D, University of Otago, New Zealand
Ghulam Mohammad Bhat, Ph. D, University of Kashmir, Srinagar, India
Eric Bentzen, Copenhagen Business School, Denmark
Fuhmei Wang, Ph. D, National Cheng Kung University, Taiwan
Khorshed Chowdhury, Ph. D, University of Wollongong, Australia
Ananda Wickramasinghe Ph. D, CQUniversity, Australia
Hai-Chin YU, Ph. D, Chung Yuan University,Chungli, Taiwan
R. Y. Mahore, Ph D, Nagpur University, India
Mohanbhai Patel, Ph. D, N S Arts College, India
Yapa M W Y Bandara, Ph. D, Charles Sturt University, Australia
Alexandru Trifu, Ph. D, University, Petre Andrei, Iasi Romania
Mohammad Reza Noruzi, Ph. D, Tarbiat Modarres University, Tehran, Iran
Ayhan Kapusuzoglu, Ph. D, Yildirim Beyazit University, Turkey
M. Saman Dassanayake, Ph. D, University of Colombo, Colombo, Sri Lanka

Table of Contents

Description	Pages
Title	1
Editorial	2
Editorial Board	3
Table of Contents	4
Papers	5
Analysis of Social Responsibility Implementation Plan to Profitability Companies in Bank Syariah Mandiri Rahmawati, Auliarahmi Ariesta, I Ketut Patra	6
The Institutional and Policy Environment and the Quest for Industrialization in Nigeria Martins Iyoboyi, Olarinde Muftau O., Abdulsalam S. Ademola	13
The Relationship between Entrepreneurial Culture and Sustainable Competitive Advantage in the Banking Sector Sulaiman Olusegun Atiku, Ziska Fields	26
The Influence of the Level of Environmental Complexity and Turbulence on the Choice of Marketing Tactics Roger B. Mason, Thomas Dobbelstein	40
The Necessity for Education and Training within the Survivalist Retail Entrepreneurship Sector Chux Gervase Iwu, Saphetha Gwija, Robertson Tengeh, Chris Cupido, Roger B Mason	56
The Role of Economic Factors in the Choice of Medical Providers in Rwanda Charles Mulindabigwi Ruhara, Josue Mbonigaba	65
Celebrity Endorsement Advertising: Brand Awareness, Brand Recall, Brand Loyalty as Antecedence of South African Young Consumers' Purchase Behaviour Thubelihle Ndlela, Tinashe Chuchu	79
Analysis of the Perceptions of School Administrators on the Recent Published Regulation Saduman Kapusuzoglu, Habibe Ozturk	91
Effect of Leadership on Employee's Performance Mediated by Cultural Organization, Work Commitment and Motivation Syahruddin Sappe, Yohanis Rante, Ruben Tuhumena, Bonifasia Elita Bharanti	101
Joint Modeling of Poverty of Households and Malnutrition of Children Under Five Years from Demographic and Health Survey Data: Case of Rwanda Faustin Habyarimana, Temesgen Zewotir, Shaun Ramroop	108

PAPERS

Journal of Economics and Behavioral Studies (JEBS)
Vol. 8, No. 2, April 2016 (ISSN 2220-6140)

Analysis of Social Responsibility Implementation Plan to Profitability Companies in Bank Syariah Mandiri

Rahmawati, Auliarahmi Ariesta, I Ketut Patra
Sekolah TinggiIlmu Ekonomi Muhammadiyah Palopo, Indonesia
rahmawati345@yahoo.co.id

Abstract: This paper aims to describe Corporate Social Responsibility (CSR) is one of concern for a company on the environment. Currently CSR aims to maximize profits but are also required to better accommodate the needs of the community and its stakeholders. This study was conducted to provide empirical evidence of the influence of CSR to the company's profitability. Research was conducted on PT Bank SyariahMandiri. The Data used are the financial statements issued by the company each year during the period 2002-2013. This study uses a simple regression analysis results showed that during the period 2002-2013 cooperated with LAZNAS BSM BSM/organization partners in the distribution of alms fund companies and the implementation of programs that are Humanity. The program routine that has been Carried out Independently of Islamic banks is synergy Together LAZNAS, who consistently implement the People Partner program, Micro Development, development and economic empowerment of the people through the capital assistance, training and mentoring of individual businesses, educational assistance (scholarships) to Reviews those in need, help is Also included learning facilities, Community Development Program, Religious, Public Facility etc. Moreover in this study indicate that the implementation of CSR.

Keywords: *Social responsibility, CSR implementation, profitability, Economic empowerment, Alms, Humanity*

1. Introduction

The world of business is no longer just pay attention to the company's financial records *(single bottom line),* but also includes social and environmental aspects of the so-called triple bottom line. Synergy of these three elements is the key concept of sustainable development *(Sustainable Development).* The concept of Triple Bottom Line or "3P" *(profit, people, and planet)* translated by John Elkington in Wibisono (2007: 56) explains if the company wants to sustain, in addition to the pursuit of profit, the company must also give a positive contribution to society and actively participate in protecting the environment. Some companies actually have been doing *CSA (Corporate Social Activity)* or social activities of the company. Although not named as CSR, in fact the action closer to the concept of CSR which represents a form of participation and corporate concern for the social and environmental aspects. Through the concept of corporate social investment, since 2003 the Ministry of Social recorded as government agencies are active in developing the concept of CSR and advocate for various national companies. In the public marketplace of ideas, the term "corporate governance" has recently been described as "the set of processes, customs, policies, laws and institutions affecting the way in which a corporation is directed, administered or controlled." 12 Yet the substance attributed to this definition has changed quite dramatically over the past years, shifting from a functional, economic focus on agency problems within a private law sphere to a public policy approach that seeks to protect investors and non-shareholder stakeholders. The evolution in the perception of corporate governance reflects broad changes in the socio-legal view of business corporations (Gill, 2008).

Referring to Law No.40 / 2007 states, social and environmental responsibility is the company's commitment to participate in the sustainable economic development to improve the quality of life and environment is beneficial, both for the company itself, the local community and society at large. Law No. 40/2007 also said the company is conducting its business activities in the field and or related to the natural resources required to implement social and environmental responsibility. Islamic banking CSR program should actually touch the basic needs of the community to create equitable economic prosperity for society. On the argument above, this research is intended to perform an analysis of: Analysis of implementation of social responsibility Fund Company to profitability at PT. Bank Syariah Mandiri.

2. Literature Review

Corporate social responsibility (CSR) disclosure has received an increasing amount of attention in both the academic and business fraternities. Such disclosure encompasses the provision of information on human resource aspects, products and services, involvement in community projects/activities and environmental reporting (Mohd-Ghazali, 2007).

Environment: The overall level of environment disclosure for Malaysian companies remained low despite government efforts and campaigns to improve the environment. Casual evidence suggests, however, that there are some companies that contributed to improve the environment but which did not disclose the fact in their annual reports. As a result, the users of the annual reports do not know and may conclude that the company did not do anything towards the protection of the environment (Jamil, Alwi& Mohamed, 2002), The company will acquire social legitimacy and maximize long-term financial strength through social programs and maximize its financial strength in the long term through the application of CSR. If something similar happened in the banking company, especially in this case Islamic banking. Agency theory and Signalling rooted in the idea of asymmetric information, which says that in some economic transactions, inequalities in access to information to the normal market for the exchange of goods and services. Measure both the space and the quality of CSR disclosures, including in the latter a measure based on informational quality attributes as discussed by the Inter- national Accounting Standards Board, the Financial Accounting Standards Board, and the Global Reporting Initiative. We find significant increases in the space allocated to CSR disclosure, as well as some evidence of increased quality; although the informational quality of the disclosures remains quite low and fewer firms are including J.-N. Chauvey, S. Giordano-Spring Montpellier Research in Management, ISEM, Universite negative performance information in their reports. Finally, we document that differences in disclosure space and quality in 2004 appeared to be associated with legitimacy based variables and that those relations remain largely unchanged in 2010. As such, it appears that the NRE's goals of increased transparency remain unmet (Chauvey, Giordano-Spring, Cho& Patten, 2015).

Profitability and Using a quasi-natural experiment that mandates a subset of listed firms to issue corporate social responsibility (CSR) reports, this paper examines the effect of mandatory CSR disclosure on market information asymmetry in China, where we estimate information asymmetry using high- frequency trade and quote data. We find that contrary to the criticism that mandatory CSR disclosure lacks credibility and relevance in emerging markets, mandatory CSR reporting firms experience a decrease in information asymmetry subsequent to the mandate. In addition, the decrease in information asymmetry is more pronounced among firms with greater political/social risks, poorer information environments, and better CSR reporting quality. Additional analyses suggest that relative to mandatory CSR disclosure, voluntary CSR disclosure is part of a firm's political/social strategy and has higher CSR reporting quality. However, the effect of voluntary CSR disclosure on information asymmetry is limited unless CSR reporting is widespread(Shi, Hung, & Wang, 2015). There has been little attempt to develop a model that can evaluate CR in diverse environments with differing regulatory and market settings. I attempt to fill this gap by developing a conceptual framework that focuses on legal systems and is tested empirically in the European context. My results confirm the validity of this conceptual framework in the European environ? The analysis of CER shows a direct correlation between intense regulation and high corporate ratings. With regard to CSR, the findings are more ambiguous; while civil and German civil laws significantly influence CSR, common and Scandinavian civil laws do not. Furthermore, mean test results indicate that corporate social rating averages differ only slightly across the countries of Europe, despite a variety of legal systems. This article suggests ways to interpret this finding. Second, this study adds to the sparse but growing literature that assesses the links between CR and corporate financial performance on the European market. Most relevant research focuses on the US market. One reason why earlier studies have not considered the effect of financial performance on CR in the European market is that CR data for European firms are produced by very few rating agencies and are not widely available (Ce, 2011). In this study, the company's profitability measured by return on assets ratios derived from financial data which is the object of research over the period 2002 to 2013. This ratio is a ratio that is important to determine the profitability of a company. Return on assets is a measure of the effectiveness of the company in generating profits by exploiting its assets. By calculating ROA as follows:

$$\text{Return on Assets (ROA)} = \frac{\text{Net of Income}}{\text{Total Assets}}$$

CSR is an agreement of the World Business Council for Sustainable Development (WBCSD) in Johannesburg South Africa in 2002 which aimed to encourage all companies of the world in order to create a sustainable development (sustainable development), working with the company's employees, their families, communities and the local community as a whole in improved quality of life. More specifically, we show (1) the breadth of CSR disclosure (using two different measures of disclosure extensiveness) has grown dramatically, (2) that there is no significant change in the relation between legitimacy variables and differences in CSR disclosure, and (3) that differences in CSR disclosure (using either of the breadth measures) were not significant in explaining differences in the market value of firms in the late 1970s and continue to be insignificant today. In general, our results suggest that CSR disclosure, while more extensive today than it had been three decades ago, fails to provide information that is relevant for assessing firm value (Bott, 2014). According to Nafarin (2007: 46) budget is a financial plan drawn up periodically by the programs that have been approved.

Budget (budget) is a written plan about the activities of an organization that planned quantitative and generally expressed in units of money for a certain period. Based on the proportion of corporate profits and the amount of the CSR budget, Sudharto (2008) divides companies into four categories. Although it tends to simplify reality, this typology illustrates the ability and commitment of the company in implementing CSR. Exist Edwin (2010) examined the tanggug Social Responsibility at BNI Syariah Banking Organization, while the form of social responsibility undertaken by BNI Syariah is oriented to the social sector, especially education sector. Sources of funding of social responsibility activities undertaken BNI Syariah is derived from partial profits. Besides donations from employees and funds from Alms Service Unit (UPZ) BNI Syariah also a source of funds for the implementation of CSR activities in BNI Syariah. Titofianti (2012) Implementation of Corporate Social Responsibility (CSR) Pt. Bank Rakyat Indonesia Tbk. CSR Implementation Unit Office Porong BRI Unit in 2011 focused on Community Development Program in the form of BRI Cares Program Pasar Rakyat (FAST) held in Porong Market. BRI conducted PESAT program, which complements the infrastructure and facilities required by the market and management of waste management is waste management well. Tsoutsoura research results (2004) indicate that the relationship CSR with financial performance (as seen from the ratio of profitability ROA, ROE, and ROS) is positive and statistically significant. It means that there is a positive association between CSR and profitability.

3. Methodology

This research was conducted at PT. Bank SyariahMandiri, located at the branch office in JalanAndiDjemma Palopo 4 Palopo, South Sulawesi province of Indonesia. To analyze and interpret the data properly, the necessary data is accurate and systematic so that the results obtained were able to describe the situation of the object being studied properly. In the data collection phase, data collection techniques used in this study are: Population and Samples, In this study population used is independent Islamic Bank's annual report for the past 12 years, because of the small number of the population owned causes the population as well as a sample in this study. The type of data used in this research is quantitative data, i.e. data obtained and presented in the form of figures. Data mentioned from of calculation the amount of budget and realization from year to year, addition in this study also uses data from interviews in the form of statements from informants in this case the bank officials who already have the capability field, the authors obtained information in the form of the action of the activities liability social responsibility by Bank SyariahMandiri based on annual reports that have been published. Analysis of the data used in this study is a simple linear regression analysis, using SPSS version 21. Before performing a linear regression analysis, first tested the classical assumption of regression in order to obtain good results, among the classical assumption used is normality test on the model regression, Test and Test Heteroskedastity autocorrelation. Descriptive statistics provide a picture or description of a data seen from the average value (mean), standard deviation, variance, maximum, minimum and range. Simple linear regression analysis was analysis to measure the influence of the independent variables with the dependent variable and the dependent variable predicted by using the independent variable. In simple linear regression are the classical assumptions that must be met, namely the residuals are normally distributed, the absence of heteroscedasticity and the absence of autocorrelation in the regression model.

$Y = a + bX + e$
Where:
Y: Profitability Company
X: Implementation of CSR
A: Constants
b: Regression Coefficients
e: Error term

4. Research Finding

Descriptive statistics in this study aims to provide an overview of the data that has been processed consisting of frequency, mean and standard deviation. The following descriptive data table:

Table 1: Descriptive Statistics

	Mean	Std. Deviation	N
Profitability	25.5833	1.31137	12
Implement CSR	21.6667	1.82574	12

SPSS Version 21.0 2015

Based descriptive research data in Table 1 can be seen that all the variables have 12 samples; at a variable profitability company has an average value of 25.58 with a standard deviation of 1.31. While the implementation of CSR have variable average value of 21.66 with a standard deviation of 1.82. Hence although significant, the influence of return-on-as? sets on CER remains relatively limited. The cash-to assets variable had no significant impact on CSR. These results offer some support to the slack resources "Firms with slack resources theory (Ce, 2011), As more and more multi-national companies their domiciled country but also their corporate response expand their operations globally, their responsibilities extend abilities now include cross-national issues as well. Various beyond not only the economic motive of profitability but also stakeholders are beginning to emphasize or expect more other social and environmental factors. The objective of these social responsibilities from companies.

a. Normality Test: Normality test results showed that the residual value is already normally distributed. This is shown by drawing P-Plot which shows that the point is not far from the diagonal line. The results of the normality test with P-plot diagram is as follows: From the graph it can be seen that points out spread around the line and follow the diagonal lines of the residual value has been normal.

b. Test heteroskedastisity: A good regression model is not the case heteroskedastisity. And as for the means used to determine whether free of heterokedastisity with Spearman's rho, which correlate with the independent variables unstandardized residual value, the test using a 0.05 significance level if correlations between independent variables with significant residual can be more than 0.05, it can be said heteroskedastisity problem does not occur in the regression model.

Table 2: Uji Durbin- Watson (DW test), Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.810[a]	.656	.622	.80651	2.273

a. Predictors: (Constant), implements csr
b. Dependent Variable: profitability

Based on the table above 2 indicates that the value of Durbin Watson 2.273 (being around the numbers -2 to +2), it can be said that the regression model free of classical assumption autocorrelation.

3. Hypothesis Testing

a**. Simple regression test,** Regression analysis was performed after classical assumption has been met, where the data entered is normal or free from multicollinearity and heteroscedasticity so it will not lead to biased data. Regression analysis was performed to determine the effect between the independent variables and the dependent variable. In this study the analysis is simple regression enter method by inserting the whole variable so it can be seen how much influence the independent variable on the dependent variable. Below is a table entering with SPSS version 21:

Table3: UjiRegresi Linear Sederhana, Coefficients[a]

		Unstandardized Coefficients	
		B	Std. Error
1	(Constant)	12,977	2,895
	implementscsr	,582	,133

a. Dependent Variable: profitability

Based on the table above, the simple linear regression equation is as follows: Y = 12.977 + 0,582X

From the results table above can be explained as follows: Value constants (a) is equal to 12.977, meaning that if the implementation of CSR's value is 0, then the level of profitability in value by 0.582. 2) Value Variable Regression Coefficients CSR Implementation is 0.582, this may mean that any increase in CSR implementation by 1%, then the rate of profitability also will increase by 0.582%. T test is used to determine whether the independent variables have a significant effect (real) or not on the dependent variable in this case to determine whether the variables significantly influence the implementation of CSR or not on the profitability of the company. The degree of significance used was 0.05. If the value is significantly smaller than the degree of confidence then we accept the alternative hypothesis, which states that independent variables affect the dependent variable. Here is a hypothesis that will be tested: H1: the implementation of social responsibility funds tanggunng significant effect on the profitability of the Company.

Table 4: Uji T (T *Test*), Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.977	2.895		4.482	.001
	implementscsr	.582	.133	.810	4.368	.001

a. Dependent Variable: profitability

Based on the table above can explain the results of the test T (test) as follows by comparing t arithmetic and t table where t table (N-2 = 12-2 = 10) is equal to -1.812. T arithmetic csr implementation of 4.368 with a significance level of 0.001. T count> t table (4.368> -1.812) and with significant value <0.05 (0.001 <0.05), H0 is rejected and H1 accepted, it indicates that the implementation of CSR variables significantly affect the profitability of the Company. The results are consistent with the results of research McGuire, Sundgren and Schneeweis (1988) that there was a significant positive correlation between CSR to company profitability.

Analysis Correlation Coefficient and the coefficient of determination (R2): The correlation coefficient R showing how much correlation or relationship between the dependent and independent variables. The correlation coefficient R value is said to be strong if it is above 0.5 and close to 1. Here is the output of a model summary:

Table5: Correlation dan Coefficient Determinasi, Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.810[a]	.656	.622	.80651

a. Predictors: (Constant), implement scsr
b. Dependent Variable: profitability

Output SPSS 21.0, 2015

a. R in simple linear regression analysis showed modest correlation (correlation person), which is the correlation between the independent variable on the dependent variable. Figures R in the can on the table is equal to 0.810 means that the correlation between the variable implant csr with variable profitability of the company amounted to 0.810. This means there is a very close relationship because the value closes to 1.
b. R Square (R2) or square of R, which shows the value of the coefficient of determination. This figure will be converted into the form of percent, which means the percentage contribution of the influence of the independent variable on the dependent variable. As much as 0,656 R2 value means the percentage contribution of implementing csr variable influence on the profitability of the company by 65%, while the rest influenced by other variables that are not entered in this model. Adjust R Square, is the adjusted R-square value of 0622, this also shows the contribution of the influence of the independent variable on the dependent variable. Adjust R Square is usually to measure the contribution of influence if the regression using more than two independent variables.
c. Standard error of the estimate, is a measure of prediction error, a value of 0.80651, meaning that errors in predicting the profitability of 0.80651%.

5. Conclusion

The purpose of this study was to examine the implementation of the Fund How Social responsibility PT Bank SyariahMandiri and its influence on the company's profitability in the period 2002-2013. Based on the discussion of the results of empirical research that has been described, the researchers took the following conclusion: In the implementation of CSR implementation, BSM cooperating with LAZNAS BSM/Organization Partners in the distribution of alms fund companies and the implementation of programs that are Humanity. BSM realize that CSR (Corporate Social Responsibility/CSR) are important in supporting the growth of the company. Bank consistently implement Corporate Social Responsibility (CSR) as a form of concern to the company as well as the appreciation of the people who have given the trust and support of the Islamic banking business, as for the regular program that has been carried out independently of Islamic banks is 1) synergy LAZNAS Together, the Partners program race, Micro Development, development and economic empowerment of the people through the capital assistance, training and mentoring of individual businesses. Educate People Providing educational assistance (scholarships) to those in need and to seek the persistence of teaching and learning activities. Help also includes learning facilities, 2) Community Development Program, 3) Religious, 4) Public Facilities etc. In this study indicate that the implementation of csr influential significance of 0.001. Tcount> t table (4.368> -1.812) and with significant value <0.05 (0.001 <0.05) then this indicates that the implementation of CSR variables significantly affect the profitability of the Company. This shows that the higher costs incurred by CSR PT Bank SyariahMandiri, making the company's relationships with surrounding communities and the environment as well as the consumer will get better, it allows an increase in sales (Januarti, 2005). With further ensure the well-being of employees will make the employees more loyal and passion in doing his job, so the company's objectives in the long term can be achieved.

Limitations Research: This study has many limitations that require repair for further research. The limitations experienced in this study are the lack of the number of samples and the object of research. It is also still not being generalized and cannotrepresents all existing companies. The study also only uses the dependent variable profitability calculated using return on Assets (ROA) only. These results provide additional empirical evidence about the phenomenon of CSR, especially in Indonesia, and Based on the limitations described above, further research is expected to increase the number of samples and extend the observation time so that further research could generalizable.Research can replace or supplement a proxy profitability, e.g. ROE, ROI or ROS, and the independent variables plus or using other variables that potentially

contribute to the profitability of companies such as CSR Performance (Measure by KLD index) as a measure of CSR.

References

Bott, R. (2014). No Title No Title. *Igarss 2014*, (1), 1–5. http://doi.org/10.1007/s13398-014-0173-7.2

Ce, G. (2011). Exploring the Impact of Legal Systems and Financial Structure on Corporate Responsibility. *Journal of Business Ethics*, 95, 195–222. http://doi.org/10.1007/s10551-011-0854-5

Chauvey, J. N., Giordano-Spring, S., Cho, C. H.& Patten, D. M. (2015). The Normativity and Legitimacy of CSR Disclosure: Evidence from France. *Journal of Business Ethics*, 130(4), 789–803. http://doi.org/10.1007/s10551-014-2114-y

Edwin. (2010).Meneliti mengenai Tanggug Jawab Sosial Pada Organisasi Perbankan BNI Syariah

Gill, A. (2008). Corporate Governance as Social Responsibility: A Research Agenda. *Berkeley J. Int'l L.*, 26(2), 452–478. http://doi.org/10.15779/Z38MS9P

Jamil, C. Z. M., Alwi, K.& Mohamed, R. (2002). Corporate social responsibility disclosure in the annual reports of Malaysian companies: A longitudinal study. *Social and Environmental Accountability Journal*, 22(2), 5–9.

Mohd Ghazali, N. A. (2007). Ownership structure and corporate social responsibility disclosure: some Malaysian evidence. *Corporate Governance: The International Journal of Business in Society*, 7(3), 251–266. http://doi.org/10.1108/14720700710756535

Shi, J., Hung, M.& Wang, Y. (2015). Mandatory CSR Disclosure and Information Assymetry: Evidence from a Quasi-natural Experiment in China.

McGuire, J. B., Sundgren, A. & Schneeweis, T. (1988). Corporate Social Responsibility and Firm Financial Performance. *Academy of Management Journal*, 31(4), 854-872.

Nafarin, M. (2007). *Penganggaran Perusahaan*Edisi 3. SalembaEmpat. Jakarta.

Sudharto, E.(2008). What is and Benefits for Corporate," DisampaikanpadaSeminarDuaHariCSR : Strategy, Management, and Leadership. Jakarta 13-14Februari 2008.

Titofianti. (2012). Implementasi Corporate Social Responsibility (Csr) Pt. Bank Rakyat Indonesia Tbk.

Tsoutsoura, M.(2004). Corporate Social Responsibility and Financial Performance, Haas School of Business University of California at Berkeley.

Wibisono, Y. (2007). MembedahKonsepdanAplikasi CSR. ASHKAF Media Grafika. Surabaya.

Undang-Undang, Republik Indonesia Nomor 40, Tahun 2007 tentang Perseroan Terbatas.

UU No. 25 Tahun 2007 tentangPenanaman Modal

http://www.csrindonesia.com/activity.php. Kegiatan CSR Indonesia. (20 December 2014).

http://www.bsm.co.id/csr.php. Corporate Social Responsibility. (19 January 2015).

http://www.antaranews.com

http://komunikasia.net

Journal of Economics and Behavioral Studies (JEBS)
Vol. 8, No. 2, April 2016 (ISSN 2220-6140)

The Institutional and Policy Environment and the Quest for Industrialization in Nigeria

*Martins Iyoboyi[1], Olarinde Muftau O.,[2] Abdulsalam S. Ademola[1]
[1]Federal University, Dutsin-ma, Katsina, Nigeria
[2]Usmanu Danfodiyo University, Sokoto, Nigeria
*miyoboyi@fudutsinma.edu.ng

Abstract: The paper empirically investigates the impact of the institutional and policy environment on Nigeria's industrialization, using annual data for the period 1981 to 2013. The institutional environment was proxied by quality of service delivery while government expenditure as a percentage of GDP and real exchange rate were used to reflect the policy environment. Foreign direct investment as percentage of GDP was employed to reflect technological transfer and diffusion. Using the technique of cointegration, a long run relationship was found between industrialization and associated variables. Government expenditure was found to be positively related to industrialization and statistically significant in the long and short run. In the short run, real exchange rate is positively related to industrialization and statistically significant, while a negative and statistically significant relationship was found in the long run. In the long and short run, technological transfer indicates a negative relationship with industrialization. Quality of service delivery was found to influence industrialization positively and significantly in the long and short run. A bilateral causality was found between industrialization and the associated variables. Based on the empirical findings, it is concluded that the institutional and policy environments are critical to industrialization in Nigeria and that pragmatic efforts should be made to initiate and implement policies that promote industrial growth, while enhancing the quality of institutions.

Keywords: *Cointegration, Industrialization, Institutions, Policy*

1. Introduction and Literature

Industrialization is the deliberate and sustained application and combination of suitable technology, management techniques and other resources which move an economy from a traditional mode to an efficient system of large-scale production. This enables a country to optimize its factor endowments and to depend less on foreign supply of finished goods or raw materials for its economic growth, development and sustenance. It also helps a country to reduce volatilities originating predominantly from external shocks. Consequently, a robust competitive industrial sector is germane which broadens the productive and export base of the economy, reduces unemployment, and stems rural-urban drift, in addition to promoting reduced poverty, all of which stimulate growth and sustainable economic development (Freeman, 1976). Achieving an inclusive and sustainable growth is hinged on the level of industrialization which, among others, can fast-track structural transformation and diversification of an economy. The quest to transform the Nigerian economy through industrial development has not been successful despite the country's abundant human and non-human endowments (IMF, 2010; World Bank, 2012). Particularly, it seems to have defied all industrialization strategies. The policy reforms introduced in Africa in general and Nigeria in particular in the 1980s tended to rely on the premise that once the external balance is stabilized (achievable mainly from macroeconomic stability), all that is required is the removal of government distortions to "get the prices right" in order to reallocate factors towards high productivity industries (Chukwuma and Aldo, 2013). This cannot be said to be the case with Nigeria.

Many countries have however enjoyed unprecedented improvements in external balances alongside continued decrease in industrial production. The dismal state of industrial sector creates a cycle of perpetual dependency, leaving the countries reliant on the export of raw materials and consequently exposed to exogenous shocks. Without a sustainable industrial development which can add value to raw materials and create jobs, it is likely that a country would remain vulnerable to the dictates and manipulations of prices of their primary products by foreign countries (Umo, 2012). Attempts at promoting industrialization and by extension economic diversification and structural transformation in the past by Nigeria necessitated the introduction of the Import Substitution Industrialization (ISI) strategy and Export Promotion Industrialization (EPI) between 1962 and 1968, aimed at encouraging technological development and foreign

exchange savings as well as reducing reliance on foreign goods. It also involved massive direct government investment in industrial projects and infrastructure. However, the policy could not be sustained due largely to weak technological base, low level of diversification, over dependence of industrial activities on imported inputs, coupled with high level of inflation and interest rates. Consequently, the collapse of the world oil market in the early 1980s resulted in drastic decline in foreign exchange needed to procure required industrial inputs and spare parts. The import dependency by the industrial sector became unsustainable. Subsequently, various economic reform programmed such as the Structural Adjustment Programme (SAP), the National Economic Empowerment Development Strategy (NEEDs), and the Vision 20:2020 were introduced to salvage the pathetic industrial sector between 1986 and 2008, with an increase in industrial and manufacturing share of output of 30-50% and 15-30% respectively from their existing share of 23.8% and 4% projected. The policy response had been expansionary monetary policy through monetary policy rate cuts, reduction in cash reserve ratio and liquidity ratios, aimed at encouraging private investment. The deregulation of the economy was also encouraged with a view to attracting foreign direct investment in the sector through a competitively-determined exchange rate.

In Nigeria, stylized facts indicate that improved macroeconomic stability seems to have declining impact on the rate of industrialization. During the period under review, the country experienced some level of macroeconomic stability with GDP per capita growth rate of 5.05% which was above the sub-Saharan average and a decline in external debt stocks from 13.91% in 2008 to 11.41% in 2011 (Word Bank, 2013). The manufacturing sub-sector however did not reflect this growing trajectory. Whereas its contribution to GDP was as much as 7.3% in 1993, it fell to 6.2% and 5.9% in 1998 and 2001 respectively. The sector experienced a marginal improvement of 6.5% in 2004 but fell to 4.4% in 2006 and a further dip to 2.6% in 2010 (Mordi et al., 2010; UNECA, 2012). Data on manufacturing value added among developing countries indicates a very low development of the manufacturing sector in Nigeria. In 2010, the country recorded 1.97 billion US Dollars as against valued added figure of 4.35, 62.10 and 280.65 billion US Dollars recorded by Cote D'lvoire, Malaysia, and Brazil respectively (World Bank, 2013). Apart from this, the country also enjoyed relatively favourable terms of trade along with falling rate of inflation which is expected to impact positively on level of capital investment, ceteris paribus. An x-ray of the export composition of the country reveals a disappointing situation of its level of structural transformation. Crude oil export still dominates the total export composition while manufacturing and agricultural export remain at a very low level. It should be noted that value added required for the agricultural output to attract foreign demand could not be made possible without improvement in technology through industrial development, hence the disappointing performance of agricultural export by a sector that employed a large proportion of the population.

The above scenario logically leads to the need to question the role of macroeconomic policies in supporting and sustaining a process of industrialization and diversification. Specifically, it is pertinent to ask whether the macroeconomic environment, in addition to various reforms undertaken in Nigeria is sufficient to serve as a springboard for the needed industrialization and diversification of the economy. Fischer (1993) listed five conditions, which together imply that a macroeconomic policy environment is conducive to sustainable economic diversification and growth. These are a low and predictable inflation rate, an appropriate real interest rate, a stable and sustainable fiscal policy, a competitive and predictable real exchange rate and a viable balance of payments. Thus, a sound macroeconomic policy among other factors is imperative to the achievement of industrialisation and crucial for diversification. We extend the Fischer (1993) conditions by adding the role of the institutional environment, since developing countries are particularly plagued by weak institutions.

Previous studies were mainly devoted to the relationship between policy volatility and economic diversification and industrialization. Non-volatile economic policy environment has been found to be germane to a sustainable structural diversification and industrial development (Soderbom and Francis, 2002; Ndiyo and Ebong, 2003; Michael and Babasanmi, 2004; Chukwuma and Aldo, 2013; García-Belenguer and Santos, 2013; Ebong et al., 2014). On Nigeria, Agba (2004) affirms that a sound monetary policy via viable interest rate regimes and incentives which attract greater savings are a pre-requisite for industrial development. Odior (2005) investigates the impact of macroeconomic factors on manufacturing productivity in Nigeria for the period 1975-2011. Credit to the manufacturing sector and foreign direct investment were found to be positively related to manufacturing productivity, while broad money supply (M2) has lower

impact. Price instability (proxied by consumer price index) was found to negatively impact manufacturing sector performance. On the impact of interest rate on industrialisation, Ubi et al. (2012), using vector error correction mechanism, found that the value of interest rate and its one year lagged value are contemporaneously negative and are all statistically insignificant at 5 per cent level. Michael and Babasanmi (2004) conclude that interest rate spread and government deficit financing have negative impact on the growth of manufacturing sub-sector in Nigeria. Adenikinju (2005) provides a strong argument on the importance of energy supply to the overall industrial development of Nigeria. The poor supply of electricity in the country imposes significant cost on the industrial sector of the economy. In line with this view, Ndebbio (2006) argues that electricity supply drives industrialization process, arguing that one important indicator whether a country is industrialized or not is the megawatt of electricity consumed, so that a country's electricity consumption per-capita in kilowatt hours is proportional to the state of industrialization of that country. This viewed is supported by Udah (2010), who investigates the causal and long-run relationship between electricity supply, industrialization and economic development in Nigeria from 1970-2008, and finds a feedback causal relationship between GDP per capita and electricity supply.

A number of studies have been conducted to examine the role of the institutional environment on industrialization. Weder (1998) investigates the relationship between investment climate (an institutional factor) and industrial productivity on 21 Sub-Saharan African countries. The institutional factors employed were qualitative information on annual ratings of the following indicators: quality of bureaucracy, the rule of law, policy surprises, extent of availability of information on new rules and degree to which business can participate in making new rules. Also included in the cross sectional analysis are predictability of judiciary enforcement, theft and crime, security of property rights, frequency of corruption as well as uncertainty of corruption and corruption perceived as an obstacle to business. The study concludes that such factors as predictability of judiciary enforcement, theft and crime, security of property rights and uncertainty of corruption are significant constraints to industrial productivity. Only a handful of studies have been devoted to how institutions impact industrialization in Nigeria. Bakare (2013) examined the linkage between the business environment (investment climate) and the performances of industrial sector in Nigeria. A negative relationship between investment climate and the performances of industrial sector in Nigeria was found, while corruption and political instability seriously constrain its performance. In addition, poor infrastructure and macroeconomic instability were found to play a significant role in undermining the industrial sector. Osabuohien et al. (2013), on the importance of institutions in the development and sustenance of some important segments (finance, education, technology, industry and trade) on Nigeria advocates the need for the incorporation of Nigeria's traditional norms and values and the commitment of the state to building formidable institutions for sustainable growth.

This paper contributes to existing empirical literature by investigating the influence of the institutional and policy environment on the quest for industrialization in Nigeria. One major lacuna in previous empirical studies on Nigeria is the scanty assessment of the impact of the institutional environment on her drive towards industrialization. The country is not in want of policies and reforms and all economic prescriptions to arrest identified structural weaknesses over the years have been largely unsuccessful. It is likely that the missing link in the country's quest for industrialization is the institutional environment, which may provide the mechanism through which policies and reforms transmit to industrial development. This provides the intuition for the present study. One noticeable gap in previous studies is that although the scholars used time series aggregate data, the possibility of structural breaks in the series was not considered while testing the relationships, the neglect of which might have serious consequences on the validity of inferences. An attempt was made to fill this gap in the study. Whereas previous empirical papers on Nigeria examined the impact of policy and institutions on industrial growth separately, they are combined in the present study in a single framework and their joint impact on the rate of industrial growth investigated. From the foregoing, the paper examines the institutional and policy environment and their impact on the quest for industrialization in Nigeria. Following the introduction, the rest of the paper has the following structure. Methodology is covered in Section 2. The empirical results are presented and discussed in Section 3. The paper is concluded in Section 4.

2. Methodology

Dataset and description of Variables: Annual data for the period 1981 to 2013 were used in the study. An extensive examination of the literature indicates the imperative of including as many variables as possible as usefully capture the determinants of industrialization. Consequently, industrialization, defined broadly as encompassing manufacturing share of output, is a function of policy, technological capability and institutions. Manufacturing has been found to typically lead the way and grow faster than other sectors of the economy when there is acceleration in overall growth (Syrquin, 1986). Consequently, industrialization was proxied by manufacturing value added as percentage of GDP. Our measure of fiscal policy is government expenditure as a percentage of GDP. Monetary policy was captured by real exchange rates, considered more appropriate in the context of the dependent variable than interest rate, due to its relative importance for international trade competitiveness.
Real exchange rate (REXCR) is defined as:

$$REXCR = \frac{E.P_f}{P_d} \tag{1}$$

Where E is the nominal exchange rate, P_f the foreign price level and P_d the domestic price level. The consumer price indices for the United States and Nigeria were used as the foreign and domestic price levels respectively.

Technological change is imperative to industrialization. Research and development (R&D) activities are drivers of technological change. R&D activities in developing countries are limited and fraught with paucity of data. However, one source of growth for industrialization is international technology diffusion, fostered by international trade and foreign direct investment, and are thus channels of technology transfer and diffusion. Our measure of technological capability is therefore net inflows of foreign direct investment as percentage of GDP. For the institutional environment we used a second generation governance indicator, i.e. the quality of service delivery, proxied by electricity consumption (in kilowatts) per capita. Using second generation governance indicators has three vital advantages: (1) they are politically acceptable; (2) they are appropriate for rigorous quantitative analyses; and, (3) they are operationally relevant. The data are from the World Development Indicators (World Bank, 2014) and the Statistical Bulletin of the Central Bank of Nigeria (CBN, 2014). The choice of the quality of service delivery used in the study is underscored on two major reasons. First, it measures the effectiveness and capacity of social institutions, and consequently the effectiveness of government programmes and how well people are satisfied with public policy. In the light of this, the institutional environment in terms of capacity to deliver basic public services is critical to the efforts made by a country to achieve its development goals. Second, adequate electricity supply and consumption is imperative to growth as found in previous empirical investigations on Nigeria (Ndebbio, 2006; Udah, 2010).

It needs to be emphasised that investments have long been recognized as critical to growth. However, because they are endogenous to the shares of manufacturing and essentially reflects the same intuition as the dependent variable in the study, it was omitted and instead variables that would drive them in the first place such as macroeconomic policies (as reflected by fiscal, monetary and trade, previously described), human capital and the quality of institutions were considered appropriate. Due to the non-availability of data on the average years of schooling for the population of above 15 years of age, the human capital variable was omitted. The descriptive statistics for the variables employed in the investigation are provided in Table 1A and the trend in Figure 1A of the Appendix. To remove heteroscedasticity, all the variables were transformed into natural logs before estimation.

Model Specification and Estimation Procedure: On the basis of theory, the following is a dynamic specification:

$$IND_t = \beta_0 + \beta_i X_i + \sum_{i=-p}^{p} \delta_i \Delta X_{t-i} + \varepsilon_t \tag{2}$$

Where β_0 and δ_i , δ_p are parameters to be estimated and ε_t is the disturbance term assumed to be normally and identically distributed. X is a vector of regressors as defined previously, Δ is the lag operator.

Consequently, the regressors and its associated explanatory variables are indicated in the following specification:

$$IND_t = \beta_0 + \beta_1 GE + \beta_2 REXCR + \beta_3 TECHTRANS + \beta_4 QSERVDEL + \varepsilon_t \quad (3)$$

Where IND represents industrialization; GE is government expenditure; REXCR stands for real exchange rate; TECHTRANS is technological transfer; and QSERVDEL is reflective of quality of service delivery.

All the variables were investigated for their stochastic properties. Three unit roots tests, namely the Augmented Dickey-Fuller (ADF), Phillips-Perron (PP) and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) tests were implemented. However, traditional tests for unit-roots such as the ADF and PP are known to have low power in the presence of structural breaks, and a tendency to "discover" unit roots that are not actually present. Therefore, we considered the Zivot and Andrews (1992) and Perron (1997) frameworks to explore the presence or otherwise of unit root when there are breaks in the series. Zivot and Andrews (1992) tests allow for exogenous single structural break in the intercept (Model A), and both the intercept and trend (Model C) of the series, given by the following specifications:

Model A: $$y_t = \hat{\mu}^A + \hat{\theta}^A DU_t(\hat{\lambda}) + \hat{\beta}^A t + \hat{\alpha}^A y_{t-1} + \sum_{j=1}^{k} \hat{c}_j^A \Delta y_{t-j} + \hat{e}_t \quad (4)$$

Model C: $$y_t = \hat{\mu}^C + \hat{\theta}^C DU_t(\hat{\lambda}) + \hat{\beta}^C t + \hat{\gamma}^C DT_t^*(\hat{\lambda}) + \hat{\alpha}^C y_{t-1} + \sum_{j=1}^{k} \hat{c}_j^C \Delta y_{t-j} + \hat{e}_t \quad (5)$$

where, $DU_t(\lambda)$ = 1 if t > $T\lambda$, 0 otherwise; $DT_t^*(\lambda) = t - T\lambda$ if $t > T\lambda$, 0 otherwise.

Perron (1997) developed the following frameworks to test for a unit root in the presence of a structural break:

Innovational Outlier Model allowing one time change in intercept only (IO1):

$$y_t = \mu + \theta DU_t + \beta_t + \delta D(T_b)_t + \alpha y_{t-1} + \sum_{i=1}^{k} c_i \Delta y_{t-i} + e_t \quad (6)$$

Innovational Outlier Model allowing one time change in both intercept and slope (IO2):

$$y_t = \mu + \theta DU_t + \beta_t + \gamma DT_t + \delta D(T_b)_t + \alpha y_{t-1} + \sum_{i=1}^{k} c_i \Delta y_{t-i} + e_t \quad (7)$$

Perron (1989) views most time series as capable of being sufficiently modelled either by Model A or Model C. Sen (2003) maintains that applying Model A leads to a substantial power loss if the break actually occurs in Model C, whereas if the break occurs in Model A but Model C is used, there is a minimal loss of power. Model C was applied in the present study. Because structural breaks in the series can substantially distort standard inference procedures for cointegration, we accounted for possible breaks in the data before inference on cointegration was made, by following the approach developed by Johansen, Mosconi and Nielsen (Johansen et al., 2000), a procedure that extends the standard vector error correction model (VECM) which incorporates a number of dummy variables to reflect the possible exogenous breaks in the levels and trends of the deterministic components of a vector-valued stochastic process. It derives the asymptotic distribution of the likelihood ratio (LR) or trace statistic for cointegration and generates critical or p-values with the possible breaks, using the response surface method. To implement the cointegration test, we first fit an unrestricted VAR model and tested for the lag length, autocorrelations, heteroscedasticity and stability, all of which were satisfactory. The result of the lag length selection criteria, residual serial correlation and heteroscedasticity and stability are not reported to conserve space but are available on request. Equation (3) was estimated by OLS by first including 6 lags, and deploying Hendry's (1986) General to Specific (GETS) methodology to generate the parsimonious results.

3. Results and Discussion

Empirical Results: The results of pre-estimation diagnostics involving tests of stationarity and cointegraton are presented in Tables 1B, 1C and 1D of the Appendix. In Table 1B, three traditional tests which do not consider structural breaks are presented. For the ADF, all the variables are stationary at first difference. The same can be said about the PP test, except for service delivery which tends to be stationary at level. For the KPSS test, evidence is in favour of stationarity at first difference for all the variables except government

expenditure. On the whole, it is plausible to conclude that the variables used in the study have a unit root. The results of stationary tests in the presence of structural breaks are presented in Table 1C. In Panel A, both the Zivot-Andrews and Perron tests are substantially similar. Whereas the null hypothesis of a structural break in intercept is accepted for IND, GE, REXCR and TECHTRANS in the Zivot-Andrews test, this is also true for the Perron test. The break dates are also relatively similar.

The results of the test with a structural break in the intercept and trend in Panel B indicate that there are structural breaks in GE, REXCR and TECHTRANS with 1993 as the exogenous break date. The null hypothesis is not rejected for all the variables in the Perron test results except for QSERVDEL. In the study, the Zivot-Andrews test results for breaks in both intercept and trend (Model C in Panel B) were used. Consequently, the test of cointegration was conducted with appropriate intervention dummies incorporated to account for the breaks reported in the Zivot-Andrews results. The cointegration test results presented in Table 1D of the Appendix suggest that the null hypothesis of no cointegration is rejected, as indicated by the Johansen et al. (2000) trace test statistics. Using the conventional 5% and 1% levels, there are three cointegrating vectors. The presence of cointegration necessitates a short-run framework reflected in an error correction model. The empirical results of the institutional and policy environment and their impact on the quest for industrialization in Nigeria are presented in Table 1.

Table 1: Estimated Regression Results

Panel A: Long-run estimates

Period: 1981-2013(Dependent Variable: IND)

Variable	Coefficient	Std. Error	t-Statistic
INTERCEP TERM	-0.672752	1.072381	-0.627344
IND_{t-1}	0.499298*	0.115465	4.324218
GE_{t-1}	0.251949***	0.136427	1.846768
REXCR	-0.168115***	0.092425	-1.818937
TECTRANS	-0.321195*	0.079741	-4.027954
$QSERVDEL_{t-6}$	0.418013***	0.230702	1.811919

Diagnostics

R^2: 0.89; Adjusted R^2: 0.85; SER: 0.155264; DW: 2.29; F-statistic: 19.16860 (0.000000); BG [χ^2, 1]: 1.310609 (0.2523); BG [χ^2, 2]: 3.485221 (0.1751); JB: 0.147277 (0.929008); ARCH [χ^2, 1]: 0.073716 (0.7860); ARCH: [χ^2, 2] 1.131865 (0.5678); RESET (T-stat.): 1.190762 (0.2501)

Panel B: Short-run estimates

Period: 1981-2013(Dependent Variable: ΔIND)

Variable	Coefficient	Std. Error	t-Statistic
INTERCEP TERM	-0.617445**	0.244131	-2.529152
ΔGE_{t-3}	0.226626***	0.129094	1.755507
$\Delta REXCR_{t-2}$	0.137257**	0.067007	2.048392
ΔTECTRANS	-0.199187**	0.084274	-2.363554
$\Delta QSERVDEL_{t-3}$	0.370346**	0.137469	2.097424
ECM_{t-1}	-0.470509**	0.195994	-2.400631

Diagnostics

R^2: 0.60; Adjusted R^2: 0.41; SER: 0.185819; DW: 1.92; F-statistic: 3.137347 (0.022628); BG [χ^2, 1]: 0.071429 (0.7893); BG [χ^2, 2]: 3.741424 (0.1540); JB: 2.376009 (0.304829); ARCH [χ^2, 1]: 0.640475 (0.4235); ARCH: [χ^2, 2] 0.809995(0.6670)

*, ** and *** indicate statistical significance at the 1%, 5% and 10% levels respectively. Probability value is in parenthesis. SER: Standard error of regression; DW: Durbin-Watson test for autocorrelation; JB: Jarque-Bera test for normality of residuals; BG: Breusch-Godfrey test for autocorrelation; ARCH: Engle's test for conditional heteroskedasticity. RESET: Residual Error Specification Test.

Source: Authors' computations.

Discussion: The coefficients of government expenditure are positively signed in the long and short run, and statistically significant at the 10% level, indicating that a rise in government spending is associated with an increase in the rate of growth in industrialization. From the results, it can be inferred that for the Nigerian economy under the period of investigation, government expenditure is an important and significant determinant of industrialization. In other words, government spending significantly determines the impetus of industrialization for the Nigerian economy. A rise in government expenditure by 1% is associated with 0.25% increase in the rate of industrialization in the long run and 0.25% increase in the short run. Overall, the empirical results are in favour of a statistically significant impact of government spending on Nigeria's drive towards industrialization. The results are hardly surprising, given that for a developing economy, the role of government in providing huge capital and the provision of infrastructure is critical to leverage a relatively weak private sector.

In the short run, real exchange rate is positively related to industrialization and statistically significant at the 5% level. A negative and statistically significant relationship at the 5% level is found in the long run. It needs to be noted that there is an appreciation of the real exchange rate when it increases and depreciation when it decreases. The results suggest that devaluation tends to support the growth of the industrial sector in Nigeria in the short run, while in the long run, the rate of the country's industrial growth is reduced. Consequently, devaluation which has tended to underpin policy measures in Nigeria during the period of investigation has not been helpful in promoting industrial growth. The reasons for this are not far-fetched. One of the driving forces for structural change is the change in domestic and international demand, which is largely influenced by domestic prices. Devaluation does stimulate export trade on the basis that goods are produced internally and are ready for sale. In an environment where production is hampered largely by constraints ranging from low power supply, relatively high interest rate, to dependence on imports for raw materials and inflationary trends, the impact of devaluation on growth in the industrial sector cannot be felt positively. In essence, it is bad policy to devalue in the name of industrial promotion in an environment which is largely hostile to mass production. If domestic production is not initially stimulated to the extent that mass production calls for the imperatives of new markets, devaluation can only worsen the state of a country's industrial development.

A cursory examination of Nigeria's trade pattern over the years indicates that the country has been largely import dependent and even so for industrial inputs. Devaluation can only worsen a situation when an economy depends on the import of chemicals, machines and other production inputs to improve its industrial development. In such a situation, the Nigerian industrial sector finds it increasingly difficult to face stiff external competition, and cannot be said to reflect under an open trade regime, any specialization. It is thus an open question and remains debatable whether Nigeria specializes in the production of any commodities for which the country has a comparative advantage and import commodities which are relatively expensive to produce domestically. What is not in doubt from the empirical results is that exchange rate management has been poor and has not been successful in promoting the rate of industrial growth in Nigeria. Although exchange rate devaluation is expected to create opportunities such as the facilitation of foreign direct investment, export of local raw materials and the importation of necessary inputs into the industrial process, this is made possible only in an environment which is supportive to industrial growth. As long as an economy is import-dependent, it is not likely that the pace of industrialization will be improved, due largely to the difficulty and constraints imposed by currency depreciation on local industrial outlets. In the long run however, devaluation can be one way of improving growth, as the imperatives of new outlets for domestic expansion and the competitive international environment would justify measures that make it relatively more difficult to import and easier to export commodities that have been produced in large quantity. It is thus plausible to have a positive relationship between real exchange rate and industrialization.

A policy of devaluation tends to harm the structure of the Nigerian economy which does not support a strong industrial base. Efforts to industrialize through implementation of macroeconomic policy aimed at incorporating imported technical means of production are not likely to work, since devaluation makes imports costlier. Besides, there is the problem of dualism, some disconnect between the rural economy (exemplified by agriculture) and the industrial sector (the modern economy), coupled with an increasingly inefficient and poorly diversified industrial structure, all of which produce a certain tendency in the system that makes macroeconomic policy vulnerable to external imbalances. This lack of diversified industrial production base has resulted in a comparative disadvantage, making the country's term of trade volatile over

the years. Moreover, the country is highly dependent on a single export commodity (i.e. crude oil), a situation that tends to increase macroeconomic policy volatility, in line with the argument by Papageorgou and Spatafora (2012). Under these conditions, devaluation is least likely to promote the growth of industrialization.

In the long and short run, the coefficients of technological transfer (proxied by foreign direct investment) indicate a negative relationship with industrialization, and are statistically significant at the 1% and 5% levels respectively. Consequently, foreign direct investment does not seem to promote the needed technological transfer which would induce faster rate of industrialization. The postulation of theory is that the degree of economic openness (which fosters higher FDI inflows) can have an important influence on its pattern of specialization and industrialization. If countries are open to trade, they should, according to Heckscher-Ohlin theory, specialize in the production of commodities in which they have a comparative advantage. In labour-abundant countries, trade liberalization would tend to shift production from capital-intensive import substitutes towards labour-intensive exportables. Due to this change, domestic inequality in those countries is expected to decline because of the increased demand for labour, whereas inequality would increase in countries with an abundant endowment of capital. Liberalization of foreign direct investment can also decrease inequality in capital-importing countries, but that depends in part on the degree of skill-bias of technologies employed by foreign invested firms. However, developing countries' terms of trade would decline if their structural change would make them specialize in primary commodities and resource intensive industries, sectors for which developing countries have comparative advantages (Prebisch, 1950; Singer, 1950). This has been the case of Nigeria. The results is in resonance with those found by Cimoli and Katz (2003), who review the industrial history of Latin America and conclude that liberalization and openness in the 1980s destroyed the progress achieved by inward-oriented policies from the 1930s to the 1980s especially in technology intensive sectors. What is clear from the estimated results is that technological transfer via foreign direct investment is far from being achieved for the Nigerian economy, resulting in a lower rate of industrialization. It needs to be stated that part of the theoretical rationale for improved foreign direct investment inflow is globalization, with its prong of liberalization. As found by Aluko et al. (2004), globalization has strong adverse effects on the Nigerian manufacturing sector with particular reference to textile firms, with serious constraints on capacity utilization, implying that manufacturing firms in the country do not appear to be fully prepared for the challenges of globalization, a finding that is amply supported by the results of the present investigation.

The coefficients of quality of service delivery indicate a statistically significant positive relationship with the rate of industrialization in both the long and short run. Importantly, a 1% rise in the quality of service delivery (embodied in higher electricity consumption) is associated with 0.42% and 0.37 increases in the rates of industrial growth in the long and short run respectively. Consequently, quality of service delivery is key to faster industrial growth. Empirical evidence is in favour of improved industrial development where there is a supportive environment of cost reductions in power, transport and communications, which are often provided through public investment (Blejer and Khan, 1984; Greene and Villanueva, 1991). Thus, the institutional environment is critical to industrialization, while the quality of electricity provided is especially crucial for Nigeria, resonating previous empirical findings (Adenikinju, 2005; Ndebbio, 2006; Udah, 2010). The error correction model (ECM) coefficient is negative and statistically significant at the 5 percent level. A deviation in industrial growth from equilibrium is corrected by about 47 percent the following year. The ECM value further lends empirical credence to the test results of cointegration. In both the long and short run estimated results, the diagnostic statistics are quite satisfactory. The adjusted R^2, indicating the overall fit of the estimated model shows that the independent variables used in the model jointly accounted for 85 percent variation in the long-run. In the short-run, about 41% variation in industrial growth is accounted for by changes in the explanatory variables used. In addition, the null hypothesis of autocorrelation in the residuals is rejected in the estimated model as indicated by the BG and DW statistics respectively. There is no evidence of heteroscedasticity as indicated by the ARCH tests. The residual error specification test (RESET) indicates that the long run estimated model does not suffer from misspecification.

Causality Test Results: The causality test results implemented in the error correction mechanism are presented in Table 1E of the Appendix. From the estimated results, the null hypothesis of Granger non-causality is rejected for all the variables in the estimated model. It can be concluded that each of the variables,

namely industrialization (IND), government expenditure (GE), technological transfer (TECTRANS), service delivery (SERVDEL) and real exchange rate (REXCR) Granger-causes other variables in the system. Consequently, there is bilateral causality among the variables. The implication of the results is that each of the variables can be predicted by its present value and the past values of other variables.

4. Conclusion

In this paper, the impact of the institutional and policy environments on Nigeria's industrialization is investigated, using annual data for the period 1981 to 2013. The study utilized the technique of cointegration to explore the short and long run dynamics among the variables. Quality of service delivery was used to proxy the institutional environment, while government expenditure and exchange rate were employed to reflect the policy environment. Foreign direct investment was used to capture the degree of technological transfer. A long run relationship was found between industrialization and associated variables. Government expenditure was found to be positively associated with industrialization. In both cases, government expenditure is a statistically significant variable determining the rate of industrial growth in Nigeria. While real exchange rate exerts a positive impact on the rate of industrialization in the long run, the reverse was found in the short run. Technological transfer, reflected in foreign direct investment, was found to be inversely related to industrialization and statistically significant in both the long and short run. Quality of service delivery, reflecting the institutional environment was found to be positively related to and a statistically significant determinant of industrialization in the long and short run.

Certain policy implications are evident from the study. The empirical results indicate that higher government spending is associated with higher rate of industrial growth. Government expenditure should be aligned to the real sector of the economy. However, spending should be used with discretion on infrastructure that promotes industrial growth. Devaluation is not likely to promote the country's industrial growth at a time when the country is highly import-dependent. The empirical results indicate that higher real exchange rate (devaluation) is associated with lower rate of industrial growth in the short run. Thus, devaluation tends to be bad policy when the economy is not yet poised to compete in the international market. The major lesson is that devaluation is a practical question of the state of affairs of a country. Foreign direct investment does not seem to promote the needed technological transfer which would induce faster rate of industrialization. Local technologies are required if the country is to facilitate its rate of industrialization. Better quality of service delivery is central to industrial growth. The poor nature of electricity supply in Nigeria should be addressed, as it imposes significant cost on the industrial sector of the economy. Adequate electricity supply is a key driver of industrialization. For Nigeria to drive its industrialization, electricity supply problem should be solved. Based on the empirical results, the following are recommended. Government expenditure should be streamlined in ways that attune it to the growth of the industrial sector. Targeting specific industrial concerns like textiles which employ a sizeable number of persons is germane and monetary policies such as appropriate exchange rate policies are called for.

Transfer of technology via foreign direct investment does not appear to have yielded the expected dividends. While the development of local technologies is germane, it may not be feasible to forgo foreign technology. Adapting foreign technology to local conditions is vital. Since innovation can be embodied in technologies, the expectation is that technological changes through innovation as captured by foreign direct investment in the form of capital goods imports can drive industrial growth and this can be encouraged. Above all, the quality of service delivery is critical to the drive for industrialization in Nigeria. Specifically, the level of electricity consumption (through improved production) should be addressed and where required reforms instituted to make its production, distribution and transmission more efficient. This is likely to contain the huge costs associated with running industrial plants and power generators, and improve the level of output. Based on the results obtained from the investigation, it is essential to examine in future studies the contributions of other dimensions of institutions as key drivers of industrialization. Specifically, studies which link Nigeria's industrialization quest to other institutional variables are likely to bring to light interesting results. Consequently, future investigations could centre on variables such as governance, property rights, democratic accountability, civil liberties, empowerment rights, freedom of association, democracy, political rights, and women's political, economic and social rights, which are capable of shedding light on the policy-industrialization- institutions nexus.

References

Adenikinju, A. (2005). Analysis of the Cost of Infrastructure Failure in a Developing Economy: The Case of Electricity sector in Nigeria. *AERC Research Paper*, 148, 1-44.

Agba, A. V. (2004). Long term funding options for manufacturing industries in Nigeria. A paper presented at 45th Annual conference of the Nigerian Economic Society, Abuja.

Aluko, M. A., Akinola, G. O. & Fatakun, S. (2004). Globalization and the Manufacturing Sector: a Study of Some Selected Textiles Firms in Nigeria. *Journal of Social Science*, 9(2), 122-127.

Bakare, A. S. (2013). Investment Climate and the Performances of Industrial Sector in Nigeria. *International Journal of Academic Research in Business and Social Sciences*, 3(10), 11-21.

Blejer, M. I. & Khan, M. S. (1984). Government policy and private investment in developing countries. *IMF Staff Papers*, 31(2).

Central Bank of Nigeria. (2014). Statistical Bulletin. Central Bank of Nigeria (CBN), Abuja, Nigeria.

Chukwuma, A. & Aldo, C. (2013). Economic Diversification and Macroeconomic Policies: Re-Examining the Missing Link in Africa's Industrialization Strategies. A conference paper presented at UNU-WIDER's conference, held in Helsinki on 24-25, June.

Cimoli, M. & Katz, J. (2003). Technological asymmetries and growth in Latin America. MPRA Paper 3832.

Ebong, F., Udoh, E. & Obafemi, F. (2014). Globalization and the Industrial Development of Nigeria: Evidence from Time Series Analysis. *International Review of Social Sciences and Humanities*, 6(2), 12-24.

Fischer, S. (1993). The Role of Macroeconomic Factors in Growth. *Journal of Monetary Economics*, 32(3), 485-512.

Freeman, C. (1976). The Economics of Industrial Innovation, London: Penguin Books.

García-Belenguer, F. & Santos, M. S. (2013). Investment rates and the Aggregate Production Function. *European Economic Review*, 63, 150-169.

Greene, J. & Villanueva, D. (1991). Private Investment in Developing Countries: An Empirical Analysis. IMF Staff Papers 38.

Hendry, D. F. (1986). Econometric Modeling with Cointegrated Variables: An Overview. Oxford Bulletin of Economics and Statistics (August), 201-212.

International Monetary Fund. (2010). Global Trade Liberalization and the Developing Countries. IMF Issue Brief, November.

Johansen, S., Mosconi, R. & Nielsen, B. (2000). Cointegration analysis in the presence of structural breaks in the deterministic trend. *Econometrics Journal*, 3, 216-249.

Michael, A. A. & Babasanmi, B. O. (2004). Institutional Framework, Interest Rate Policy and the Financing of the Nigerian Manufacturing Sub-Sector. Africa Development and Poverty Reduction: The Macro-Micro Linkage Forum Paper, 2004 Lord Charles Hotel, Somerset West, South Africa 13-15 October, 2-36.

Mordi, N. O. C., Abwaku, E. & Banji, S. A. (2010). The Changing Structure of the Nigerian Economy. The Research Department, Central Bank of Nigeria, 257-262.

Ndebbio, J. E. U. (2006). The Structural Economic Dimensions of Underdevelopment, Associated Vicissitudes and Imperatives: Agenda for Positive Change. Saesprint Publishers, Nigeria.

Ndiyo N. A. & Ebong, E. B. (2003). The challenges of openness in developing economies: Some empirical lessons from Nigeria. Paper presented at the 2003 Annual Conference of the Nigerian Economic Society.

Odior, E. S. (2005). Macroeconomic Variables and the Productivity of the Manufacturing Sector in Nigeria: A Static Analysis Approach. *Journal of Emerging Issues in Economics, Finance and Banking*, 1(5), 362-380.

Osabuohien, E. S., Beecroft, I., Uchenna, E. R. & Oluwatobi, S. (2013). Does Everything Rise and Fall on Institutions? Sectoral Analysis of Socioeconomic Transformation in Nigeria. Paper Presented at the 54th Annual Conference of Nigerian Economic Society on Institutions, Institutional Reforms and Economic Development, 17-19th September, Shareton Hotels and Towers, Abuja.

Papageorgiou, C. & Spatafora, N. (2012). Economic Diversification in LICs: Stylized Facts and Macroeconomic Implications. IMF Staff Discussion Note, December 14. SDN/12/13.

Perron, P. (1989). The great crash, the oil price shock, and the unit root hypothesis. *Econometrica*, 57, 1361-1401.

Perron, P. (1997). Further evidence on breaking trend functions in macroeconomic variables. *Journal of Econometrics*, 80, 355-385.

Prebisch, R. (1950). The Economic Development of Latin America and its Principal Problems. Reprinted in *Economic Bulletin for Latin America*, 7(1), 1962, 1-22.

Sen, A. (2003). On unit root tests when the alternative is a trend-break stationary process. *Journal of Business and Economic Statistics*, 21(1), 174-184.

Singer, H. W. (1950). U.S. Foreign Investment in Underdeveloped Areas: The Distribution of Gains between Investing and Borrowing Countries. *American Economic Review, Papers and Proceedings*, 40, 473-485.

Soderbom, M. & Francis, T. (2002). The Performance of Nigerian Manufacturing Firms: Report on the Nigerian Manufacturing Enterprise Survey 2001. United Nations Industrial Development Organization and Centre for the Study of African Economies, University of Oxford, August.

Syrquin, M. (1986). Growth and Structural Change in Latin America since 1960: A Comparative Analysis. Economic Development and Cultural Change. *University of Chicago Press*, 34(3), 433-454.

Ubi, P. S., Lionel, E. & Eyo, E. I. (2012). Monetary Policy and Industrialization in an Emerging Open Economy: Lessons from Nigeria. *International Journal of Academic Research in Business and Social Sciences*, 2(8), 270-288.

Udah, E. B. (2010). Industrial Development, Electricity Crisis and Economic Performance in Nigeria. *European Journal of Economics, Finance and Administrative Sciences*, 18, 105-121.

Umo, J. U. (2012). Escaping Poverty in Africa: A Perspective on Strategic Agenda for Nigeria. Millennium Text Publishers Ltd., Lagos, p. 34.

United Nations Economic Commission for Africa (UNECA). (2012). Economic Transformation for Africa's Development. UNECA Macroeconomic policy Division, C-10 Meeting April. Washington DC.

Weder, B. (1998). Africa's Trade Gap: What Should Africa do to Promote Exports. Paper presented at the Workshop on Asia and Africa in the Global Economy, August 1998, United Nations University, Tokyo, Japan.

World Bank. (2012). World Development Report, Washington, DC: World Bank

World Bank. (2013). World Development Report, Washington, DC: World Bank

World Bank. (2014). World Development Indicators. The World Bank, Washington DC.

Zivot, E. & Andrews, D. (1992). Further Evidence of the Great Crash, the Oil-Price and the Unit-Root Hypothesis. *Journal of Business and Economics Statistics*, 10, 251-270.

APPENDIX

Table 1A: Descriptive Statistics

	IND	GE	REXCR	TECTRANS	QSERVDEL
Mean	1.679471	2.198462	4.920526	0.928236	4.261795
Median	1.703875	2.121373	5.094904	0.992333	4.491085
Maximum	2.345383	2.887247	5.633657	2.382556	5.003466
Minimum	0.879681	1.575519	3.856702	-0.409899	0.000000
Std. Dev.	0.455746	0.370784	0.571223	0.675778	1.123612
Skewness	-0.308792	0.082732	-0.638715	-0.024395	-3.417692
Kurtosis	1.981285	1.873707	2.022830	2.645281	13.36450
Jarque-Bera	1.951387	1.781883	3.556699	0.176283	211.9499
Probability	0.376931	0.410269	0.168917	0.915631	0.000000
Sum	55.42255	72.54926	162.3774	30.63177	140.6392
Sum Sq. Dev.	6.646533	4.399388	10.44145	14.61364	40.40016
Observations	33	33	33	33	33
Correlation matrix					
IND	1.00000	0.32628	-0.55736	-0.57107	-0.35599
GE	0.32628	1.00000	-0.77411	-0.21143	0.01203
REXCR	-0.55736	-0.77411	1.00000	0.46689	0.11876
TECTRANS	-0.57107	-0.21143	0.46689	1.00000	0.33441
QSERVDEL	-0.35599	0.01203	0.11876	0.33441	1.00000

Source: Authors' computations

Table 1B: Unit Root Test Results (with constant and trend)

	ADF	PP	KPSS
IND	-0.329134	-0.487851	0.209208**
GE	-2.491227	-2.572480	0.077676
REXCR	-2.550142	-2.124716	0.148428**
TECTRANS	-1.357975	-2.435772	0.294468*
QSERVDEL	-1.870415	-3.353003***	0.175913**
Δ IND	-4.239956**	-5.974215*	0.110225
Δ GE	-4.319710*	-6.200062*	0.051377
Δ REXCR	-3.611104**	-4.467072*	0.045807
Δ TECTRANS	-4.742339*	-10.30152*	0.044867
Δ QSERVDEL	-6.083928*	-7.747987	0.094813

*, ** and *** indicate statistical significance at the 1%, 5% and 10% levels respectively. Maximum lag used is 1.
Source: Authors' computations.

Table 1C Unit root (with structural breaks) test results
Panel A: Test with a structural break in the intercept (Model A)

	Zivot-Andrews			Perron		
Variable	**t-statistics**	**Break date**	**Maximum lag**	**t-statistics**	**Break date**	**Maximum lag**
IND	-1.84	2008	1	-3.01	2008	1
GE	-3.21	1987	1	-3.16	1986	1
REXCR	-3.10	1989	7	-2.57	1986	1
TECTRANS	-2.63	1989	1	-2.65	1988	1
QSERVDEL	-5.01***	2004	1	-5.07***	2003	1

Note: * and *** denote significant at the 1 and 10 percent level. The asymptotic critical values of Perron Unit Root Test for model A at 1%, 5% and 10% are -5.92, -5.23 and -4.92 respectively. The asymptotic critical values of Zivot-Andrews test for model A at 1%, 5% and 10% are -5.34, -4.93 and -4.58 respectively.

Panel B: Test with a structural break in the intercept and trend (Model C)

	Zivot-Andrews			Perron		
Variable	**t-statistics**	**Break date**	**Maximum lag**	**t-statistics**	**Break date**	**Maximum lag**
IND	-5.17**	2008	1	-5.11	2007	1
GE	-3.73	1993	1	-3.96	1993	1
REXCR	-3.46	1993	5	-2.67	1993	1
TECTRANS	-3.36	1993	1	-3.30	1992	1
QSERVDEL	-5.48**	2002	1	-5.49***	1996	1

Note: * and *** denote significant at the 1 and 10 percent level. The asymptotic critical values of Perron unit root test for model C at 1%, 5% and 10% are -6.32, -5.59 and -5.29 respectively. The asymptotic critical values of Zivot-Andrews test for model C at 1%, 5% and 10% are -5.57, -5.08 and -4.82 respectively.
Source: Author's computations.

Table 1D: Johansen Cointegration Test

Null	Alternative	LR Statistic	95%	99%
r = 0	r ≥ 1	198.14*	112.91	122.46
r ≤ 1	r ≥2	108.73*	83.69	92.05
r ≤ 2	r ≥3	54.51	58.41	65.59
r ≤ 3	r ≥4	31.01	36.84	42.79
r ≤ 4	r ≥5	10.01	18.66	23.21

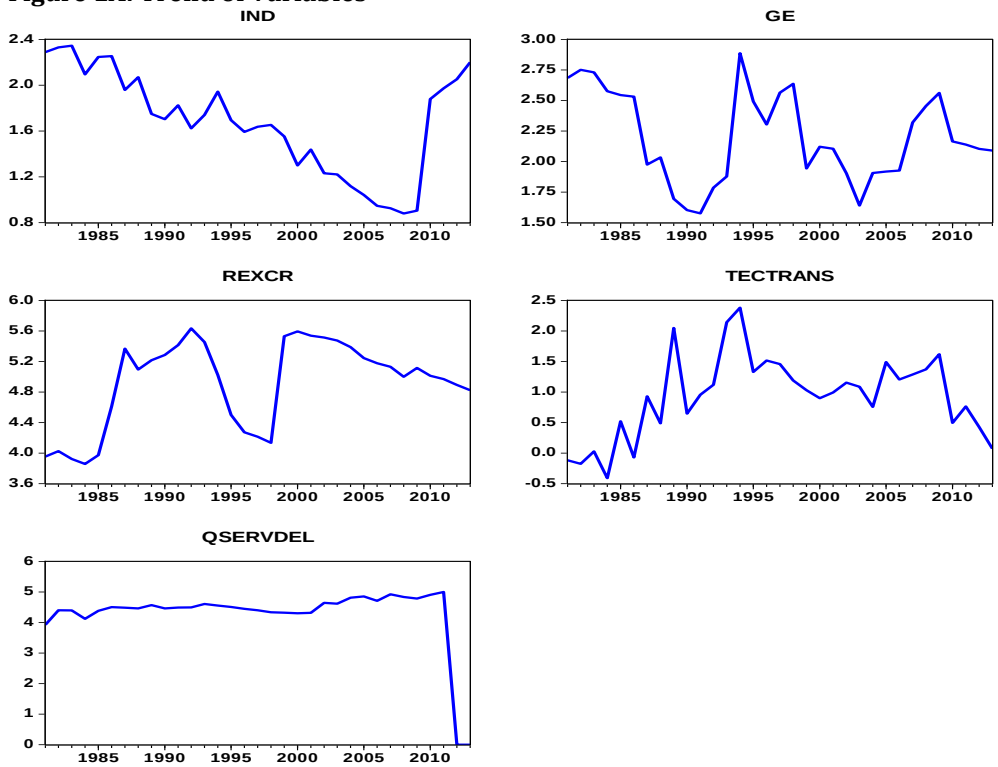
Note: * indicates significant at 1%. Optimal Endogenous Lags from Information Criteria: Akaike Info Criterion: 4; Final Prediction Error: 6; Hannan-Quinn Criterion: 4; Schwarz Criterion: 4.
Source: Authors' computations, using JMulti.

Table 1E: Causality Test Results

Null hypothesis	Test statistic	p-value	Conclusion
IND ↛ GE, TECTRANS, QSERVDEL, REXCR	33.4286*	0.0000	Reject
GE ↛ TECTRANS, QSERVDEL, REXCR, IND	11.1342*	0.0000	Reject
TECTRANS ↛ GE, QSERVDEL, REXCR, IND	3.7026*	0.0012	Reject
QSERVDEL ↛ GE, TECTRANS, REXCR, IND	15.8250*	0.0000	Reject
REXCR ↛GE, TECTRANS, QSERVDEL, IND	2.5880**	0.0141	Reject

Note: ↛ denotes "does not Granger-cause". * and ** represent 1% and 5% level of significance respectively.
Source: Authors' computations, using JMulti.

Figure 1A: Trend of Variables



Source: Authors' computations.

Journal of Economics and Behavioral Studies (JEBS)
Vol. 8, No. 2, April 2016 (ISSN 2220-6140)

The Relationship between Entrepreneurial Culture and Sustainable Competitive Advantage in the Banking Sector

Sulaiman Olusegun Atiku, * Ziska Fields
College of Law and Management studies, University of KwaZulu-Natal, Durban, South Africa
*fields@ukzn.ac.za

Abstract: Business sustainability of services-rendering organisations is one of the major concerns for those at managerial levels world-wide. This paper offers explanations on how best to achieve sustainable competitive advantage by communicating entrepreneurial values through human resource development programmes in the banking industry. The research reported in this paper adopted a non-experimental research design of ex post facto type, utilising a correlational approach with advanced explanatory design. Based on the principle of convenience sampling, 380 questionnaires were distributed to employees of two Nigerian banks. Three hypotheses were formulated and tested using inferential statistics via two statistical software packages: the IBM Statistical Package for Social Science (SPSS) version 23 and the IBM SPSS Analysis of Moment Structure (AMOS) version 23. The results show that human resource development partially mediates the relationship between entrepreneurial culture and sustainable competitive advantage in the Nigerian banking sector. The results suggest an enhancement of entrepreneurial values through continuous learning and development programmes toward sustainable competitive advantage. It is recommended that sustainability of banks operating in Nigeria could be enhanced by communicating and managing entrepreneurial orientations through effective learning and development programmes. Ambidextrous banks will require creativity, innovation and proactive capabilities in the process of exploiting and exploring both current and future business opportunities for sustained competitive advantage.

Keywords: *Business sustainability, Corporate Entrepreneurship, Creativity and Innovation, Human Resource Development, Knowledge-Based View (KBV)*

1. Introduction

Integration of the world economy as dictated by rapidly changing technological innovations has affected virtually all areas of life and business operations across the globe (Daneshvar & Ramesh, 2011). This trend has posed a series of challenges to organisations operating in the turbulent business environment (Atiku, Chitakunye, & Fields, 2014b). In specific terms, the sustainability of organisations in the service industry is at risk. This is due to changes in the external business environment. In terms of technological innovations, customer tastes and demands, customers' satisfaction and retention, series of banking reforms, as well as economic and political instability are causes for concern. These external environmental factors pose challenges to the achievement of a sustainable competitive advantage of commercial banks operating in the Nigerian banking industry as well. For instance, a series of banking reforms by the Central Bank of Nigeria (CBN), which were intended to improve the banking operations in Nigeria (Sanusi, 2012), became an issue for commercial banks operating in the country. Commercial banks at the receiving end are confronted with the need to simultaneously respond to technological innovations, customer tastes and demands, customer retention and series of banking reforms. A new way of thinking is needed for banks to ensure their sustainable competitiveness and this will require a new focus on organisational culture and human resources.

Sustainable competitive advantage in the current global economy requires entrepreneurial behaviour patterns and entrepreneurial orientations by managers and employees in responding to the variations in various business environments. This can be referred to as Corporate Entrepreneurship (CE), which provides a potentially viable means for promoting and sustaining corporate competitiveness (Covin& Miles, 1999). CE enables an individual or a group of individuals, in association with an existing organisation, to create new organisations, instigate renewal and/or innovate within that organisation. The development of CE however requires a holistic commitment to building the capacity and environment for corporate performance and competitiveness (Moreno & Casillas, 2008; Nkosi, 2011). An entrepreneurial organisation institutionalises practices that create a supportive organisational environment that builds commitment and ensures that technical and business skills are utilised to behave more entrepreneurially (Anderson, 1992; Russell, 1999).

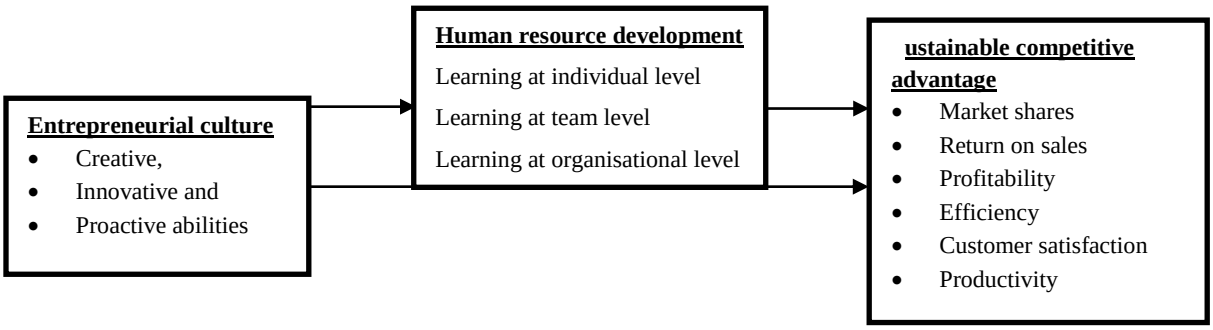
This has an impact on the overall culture of the organisation which influences individuals' willingness to accept entrepreneurial change and become more entrepreneurial (Floyd & Wooldridge, 1999). The organisation culture can then become a source of sustained competitive advantage.

To achieve sustainability, those entrepreneurial behaviour patterns and entrepreneurial orientations could be communicated through continuous learning and development programmes in line with business needs and/or strategies to enhance innovative, proactive and risk-taking abilities, thereby leading to competitive advantage (Beugelsdijk, 2007; Boso, Story, & Cadogan, 2013; Engelen, 2010; Huang & Wang, 2011; Keh, Nguyen, & Ng, 2007; Li, Huang, & Tsai, 2009; Lisboa, Skarmeas, & Lages, 2011; Martin, McNally, & Kay, 2013; Pérez-Luño, Wiklund, & Cabrera, 2011). Management especially plays a critical role in the communication and management process to create an entrepreneurial culture in organisations. Judging from the literature, most studies on the link between entrepreneurial culture and competitive advantage were conducted in developed countries.

Objectives: The primary objective of the research on which this paper is based was to investigate the relationship between entrepreneurial culture and sustainable competitive advantage in the banking sector using Nigerian banks. It also probed the extent to which human resource development mediates the relationship between entrepreneurial culture and sustainable competitive advantage in the banking sector. The explanation of the mediating influence of learning and development on the link between entrepreneurial culture and sustainable competitive advantage in the banking industry was statistically analysed using structural equation modelling.

The theoretical framework and hypotheses: The knowledge-based view (KBV) of the firm was adopted as theoretical framework for this study whilst exploring the interplay between entrepreneurial culture and sustainable competitive advantage in the banking sector with specific reference to Nigerian banks. Insights gained from the KBV of the firm suggest that knowledge creation could be used as a source for sustainable competitive advantage (Grant, 1996; Hung, Yang, Lien, McLean, & Kuo, 2010; Pollitte, Miller, &Yaprak, 2015). Knowledge is acquired and transferred at three major levels in an organisation, namely at individual, team and organisational levels (Hung et al., 2010; Pollitte et al., 2015; Wang, Yang, & MacLean, 2007; Watkins & Marsick, 1993, 2003). Drawing insights from the foregoing, this paper explores the mediating influence of human resource development programmes on the entrepreneurial orientations - sustainable competitive advantage link. The outcomes will be valuable in proposing ways to communicate and develop entrepreneurial orientations among employees, in order to achieve business sustainability in the banking sector. The theoretical framework is illustrated in Figure 1.

Figure 1: The conceptual framework for the relationship between entrepreneurial culture and sustainable competitive advantage



To enable proper statistical analysis of the propositions in this paper, the following hypotheses were formulated in line with the conceptual framework and objectives of the study:

H_0. There is no significant relationship between entrepreneurial culture and human resource development programmes.

H_1. There is a significant relationship between entrepreneurial culture and human resource development programmes.
H_0. There is no significant relationship between entrepreneurial culture and sustainable competitive advantage.
H_2. There is a significant relationship between entrepreneurial culture and sustainable competitive advantage.

H_0. Human resource development programmes do not mediate the relationship between entrepreneurial culture and sustainable competitive advantage in the Nigerian banking industry.
H_3. Human resource development programmes mediate the relationship between entrepreneurial culture and sustainable competitive advantage in the Nigerian banking industry.

2. Literature review

This section provides an overview of related literature on the link between human resource development and entrepreneurial orientations in relation to business sustainability in the present knowledge-based global economy. The influence of learning and development in creating and sharing dynamic capabilities as strategic measures or coping strategies for sustainable competitive advantage are also explored.

Human resource development: Armstrong (2009) refers to human resource development as the process of acquiring and developing knowledge, skills, capabilities, behaviours and attitudes through learning or developmental experiences. Mello (2011), on the other hand, maintains that learning and development are focused on micro-aspects of firm needs and responsiveness, and that organisational development takes a holistic approach or is focused on macro-aspects of firm needs and responsiveness to environmental variations to boost corporate performance. Hence, developing and enhancing creative, innovative and proactive abilities of human resources at an organisational level in line with the business strategies and environmental variations are essential for business sustainability (Mello, 2011). This suggests why Sanz-valee et al. (1999, cited in Katou & Budhwar, 2010) claim that organisations with innovative strategies make huge investments on development of core employees towards the realisation of desired business plans and objectives.

Similarly, Mondy (2010) refers to human resource development as update of knowledge, skills and abilities aimed at improving individuals' or groups' competence, as well as operational outcomes. This implies that continuous investment in knowledge, skills and dynamic capabilities leading to operational effectiveness and efficiency are necessary for sustainable competitive advantage in the service industry. Knowledge management is one of the fundamental strategies for sustainable competitive advantage in the knowledge-based global economy (Goel, Rana, & Rastogi, 2010; Mundra, Gulati, & Vashisth, 2011). An empirical evidence from a study in India shows that the development of electronic banking applications or platforms through learning and development is responsible for higher service quality and customer satisfaction leading to sustainable competitive advantage (Daneshvar & Ramesh, 2011). However, there is a dearth of literature or empirical evidence on the relationship between entrepreneurial culture and sustainable competitive advantage in the Nigerian banking sector. This was the basis or rationale for the study reported in this paper.

Corporate entrepreneurship: Corporate entrepreneurship (CE) can be defined as the sum of a company's efforts aimed at innovation, pro-activeness and risk taking (Zahra & Garvis, 2000). It can be used to enhance company performance (Lumpkin & Dess, 1996) by making full use of its resources to capture new opportunities (Yiu & Lau, 2008). CE is a very important aspect of an organisation's activities and requires continuous investment in knowledge and skill development from a human resources perspective, as well as in creating an entrepreneurial culture in an organisation. The key to success is determined by how well an organisation, for example a bank in Nigeria, can welcome the entrepreneurial individual into the 'banking family' and enable the individual to contribute to the value creation process of the bank (Mahadea & Youngleson, 2013). CE involves the birth of new businesses within existing organisations; and creates the internal transformation of organisations (Dess, Lumpkin, & McGee, 1999). Table 1 shows the four forms of CE as well as the typical basis for competitive advantage, the frequency of new entrepreneurial acts and the impact if entrepreneurial acts are unsuccessful.

Table 1 show that a bank, for example, can differentiate itself by creating new products and services. However, to continuously create new products and services to ensure sustained differentiation and competitive advantage requires continuous efforts by employees. In addition, the quick adaptation ('leapfrogging') by other banks will not have a detrimental negative impact on the bank or its employees in their entrepreneurial acts, although the leapfrog strategy can present a difficult challenge overall for the bank due to the substantial or transformational innovation needed (Aaker, 2012). For a bank to streamline internal processes in an effort to cut costs, modify its resource base and remain competitive requires a new strategic direction or major, internally focused innovation to improve operations and strategy implementation. The frequency of entrepreneurial acts is less than the focus on differentiation through new products and services. The impact of failed entrepreneurial attempts are also more severe when such attempts are focused on strategic renewal or organisational rejuvenation, because of their impact on underlying processes, rules, routines and resources, along with the capabilities to develop and execute such activities (Rothaermel & Hess, 2007).

Table 1: Forms of corporate entrepreneurship

Form of corporate entrepreneurship	Focus of corporate entrepreneurship	Typical basis for competitive advantage	Typical frequency of new entrepreneurial acts	Magnitude of negative impact if entrepreneurial act is unsuccessful
Sustained regeneration	New products or new markets	Differentiation	High frequency	Low
Organisational rejuvenation	The organisation	Cost leadership	Moderate frequency	Low-to-moderate
Strategic renewal	Business strategy	Varies with specific form manifestation	Less frequent	Moderate-to-high
Domain redefinition	Creation and exploitation of product/market arenas	Quick response	Infrequent	Varies with specific form manifestation and contextual consideration

Notes:
New entrepreneurial acts for:
- Sustained regeneration: a new product introduction or the entrance of a new (to the firm) but existing market;
- Organisational rejuvenation: a major, internally focused innovation aimed at improving firm functioning or strategy implementation;
- Strategic renewal: the pursuit of a new strategic direction; and
- Domain redefinition: the creation and exploitation of a new, previously unoccupied product/market arena.

Source: Covin& Miles (1999)

CE is a viable way to develop and sustain corporate competitiveness and profitability (Covin & Miles, 1999 cited in Nkosi, 2011) to enable large companies (like banks) to survive in a turbulent global economy (Lumpkin & Dess, 1996 cited in Nkosi, 2011). The organisational entrepreneurial thinking must be generated from within the organisation and should be reflected in how the organisation interacts with itself and its competitive environment (Mahadea & Youngleson, 2013), and especially how the organisation interacts with its human resources to encourage and reward innovation, creativity, pro-activeness and competitive aggressiveness. An entrepreneurial culture is therefore critical for CE to be successful.

Entrepreneurial culture: Corporate culture can either drive or hinder strategic and business agendas, according to the Principia Group (2011). The group explain this view by showing that in a recent study on culture among 300 European banks it was estimated that if banks want to succeed, the human orientation of the banks' cultures must be increased by 10% to have a positive impact on performance. However, the corporate culture of most banks favours conservatism and is restrictive, and approach that does not lend itself to CE (Mahadea & Youngleson, 2013). Yet, after the financial meltdown in 2008, the focus on preventing another bank crisis has shifted from just focusing on regulation to a more sustainable solution that can be found in the corporate culture of banks. The Principia Group (2001, p. 2) states that they "strongly believe that reshaping corporate culture, in conjunction with prudent regulatory changes can work together to help

build a stronger, more responsive and responsible banking industry". The focus on corporate culture also requires a critical review of entrepreneurial culture to build high-performance corporate cultures.

Entrepreneurial culture points to orientations leading to creativity, innovation and higher level of competence or skills (Deshpandé & Farley, 2004). The competitive and entrepreneurial values are related to market orientations offered by Cameron, Quinn, DeGraff, and Thakor (2006)as one of the strategies required for adjusting to variations in the global economy. The modern-day knowledge-based economy requires cultural dimensions that are flexible, relative to adjusting to the variations in the business environments (Cheung, Wong, & Lam, 2012). This explains why Fayolle, Basso, and Bouchard (2010) argue that it is difficult to ignore the influence of environment on the values system, activities and behaviours of most business organisations across the globe. In the course of establishing the environmental influence on core values and commercial banks outcomes, Atiku (2014) investigated the relationship between organisational culture and performance in the Nigerian banking sector. The results show that entrepreneurial orientation as a dimension of corporate culture made considerable contributions to the effectiveness of commercial banks in Nigeria. Sudarmo (2013), on the other hand, argues that internal and external activities of business organisations have significant influence on organisational outcomes. This shows that entrepreneurial values are essential for service organisations (like banks) that are willing to remain in business in the present economy. However, continuous enhancement of creative, innovative and proactive abilities among service organisations will determine how far any organisation can go in the present business environments characterised by vast technological innovations. Entrepreneurial orientations are instrumental in eliciting prompt reactions to changes in customer tastes leading to customer satisfaction and retention as antecedents of sustainable competitive advantage (Daneshvar & Ramesh, 2011). The reason is that the survival of any service organisation is largely dependent on its market orientations to ensure total customer satisfaction, loyalty and retention.

Specifically, for a bank to remain competitive in terms of market share and customer retention, its entrepreneurial orientations must be given higher priority (Sevrani, Gorica, & Kordha, 2013). This implies that for banks to remain in business in the knowledge-based global economy, concerted efforts have to be made towards the development of new products and services in line with the current and future needs of their customers. There have to be high levels of innovative and creative mind-sets for business process improvement (Harrington, 1991; Bhatt, 2000; Zivanovic & Zivanovic, 2015) or re-engineering (Shihab & Lestari, 2014; Mashhadi, Azar, & Shahin, 2015) in line with the market orientations in the global economy. The creative and innovative values are communicated through continuous learning and development programmes in line with the business needs and strategies (Daneshvar & Ramesh, 2011; Goel, Rana, & Rastogi, 2010; Mondy, 2010; Mundra, Gulati, & Vashisth, 2011). This points to the association between entrepreneurial culture and human resource development programmes. The extent to which human resource development programmes mediate the relationship between entrepreneurial culture and competitive advantage in the banking sector is also a gap that needed to be filled in the current study. Human resource development does not only mediate the relationship but also develops an entrepreneurial mindset which is critical in creating and maintaining a sustained competitive advantage.

Sustainable competitive advantage: According to Porter (1985, cited in Liu (2013) sustainable competitive advantage in the knowledge-based global economy refers to business plans or strategies embarked upon by an organisation to excel, in terms of efficiency, quality output, market shares and customer retention. Liu (2013) on the other hand, holds that sustainable competitive advantage has to do with the ability to develop a fast strategy and its implementation through the outcomes of continuous learning and development programmes in order to stand out or the first to be reckoned with in the chosen area of business. This shows that human capital can be seen as a unique source of sustainable competitive advantage since efforts toward sustainability largely depend on the effective utilisation of human resources, leading to returns on sales, market shares, customer retention, efficiency, and productivity (Daneshvar & Ramesh, 2011; Goel et al., 2010; Mundra et al., 2011). Business sustainability of services-rendering organisations is one of the major concerns for those at managerial levels world-wide. For example, recent study conducted by Evans (2016) and Della Corte and Aria (2016) in the service industry revealed that to remain in business, those at the managerial cadres need to be conscious of the characteristics of services in the industry and strategic alignment of

management principles. Competitive advantage of service-rendering organisations would be useful in achieving sustainable economic growth in Nigeria

Furthermore, Srivastava, Franklin, and Martinette (2013) claim that to ensure business sustainability, organisations must continuously focus on the design and implementation of product or service strategies, continuous shaping of dynamic capabilities, development or acquisition of technologies, and human assets. These factors are essential for business sustainability in the knowledge-based global economy. For Macfarlane (2014), business sustainability in the 21st century involves organisational access to internal and external knowledge acquisition, as well as other valuable resources. This suggests why Wang, Lin, and Chu (2011) state that business organisations that focus on the acquisition of unique resources in terms of human capital and other valuable resources, and rely on expert knowledge in its day-to-day business activities, outsmart their competitors. Therefore, the current paper's focus on examining entrepreneurial orientations through knowledge and skills acquisition and as a source of sustainable competitive advantage in the banking sector is important.

3. Methodology

Research approach: The research methodology was designed to investigate the relationship between entrepreneurial culture and sustainable competitive advantage, as well as the extent to which human resource development mediates the relationship between entrepreneurial culture and sustainable competitive advantage in the banking sector. The explanation of the mediating influence of learning and development on the link between entrepreneurial culture and sustainable competitive advantage was statistically analysed using structural equation modelling.

Respondents and sampling*:* This research investigated five competitive banks in Lagos, which is the commercial nerve centre of Nigeria. The estimated research population was 5 387 employees across various levels. Using the convenience sampling technique, 380 questionnaires were evenly distributed between two participating banks. A total of 190 questionnaires were distributed in each bank's head office and the selected branches in Lagos. Branches of the participating banks in Lagos were selected using the simple random sampling technique. At the end of 12 weeks of distribution and follow-up, a total of 306 questionnaires were returned. One of the questionnaires was not properly completed and was left out of the analysis. However, the remaining 305 questionnaires represent an 80.3% response rate.

Measuring instrument: The measurement instrument was developed based on the adaptation of the following:

- The Organisational Culture Scale (OCS) to explore the entrepreneurial culture construct;
- The Dimensions of Learning Organisation Questionnaire (DLOQ) to explore the HRD construct;
- The Dimensional scale developed by Baker and Sinkula (1999), as adapted by Hung et al. (2010), to explore the sustainable competitive advantage construct.
-

The choice of each developed instrument in this study was based on the reliability and validity of the instrument. The wide acceptance and applicability of the instruments in the context of the Nigerian banking sector also influenced the decisions. Measures of the three major constructs investigated in this paper are discussed below.

Entrepreneurial culture: The construct entrepreneurial culture was adapted from the OCS developed by Deshpande and Farley (1999). OCS is a four-dimensional scale consisting of 16 items on a 5-point Likert-type rating scale ranging from 1 *(strongly disagree)* to 5 *(strongly agree)*. The scale was also adapted in Nigeria by Ezirim, Nwibere, and Emecheta (2010), as well as Nwibere (2013). The reliability of the instrument in Asian and African countries ranges from 0.814 to 0.877 (Deshpande & Farley, 1999; Ezirim et al., 2012; Nwibere, 2013). A dimension of OCS was adapted in this study measuring entrepreneurial culture with four items on a 4-point Likert-type rating scale ranging from 1 *(strongly disagree)* to 4 *(strongly agree)*. Neutral as an option in the rating scale was left out because employees cannot be neutral on the core values shaping their attitudes and work behaviours. The Cronbach's alpha coefficient for the four items measuring entrepreneurial culture

was 0.807. This is reliable, based on the rule of thumb offered by George and Mallery (2003) and Pallant (2011).

Human resource development (HRD): The construct HRD was measured in this study by adapting the Dimensions of Learning Organisation Questionnaire (DLOQ) developed by Watkins and Marsick (2003). This is a three-dimensional scale measuring HRD at individual, team and organisational levels on a 6-point Likert-type rating scale; ranging from 1 *(strongly disagree)* to 6 *(strongly agree)*. The Cronbach's alpha coefficients for HRD at individual, team and organisational levelswere 0.81, 0.80 and 0.88 respectively (Watkins & Marsick, 2003). The alpha coefficient for the entire scale consisting of 16 items was 0.93. In the current study this measuring instrument was considered valuable in the quest to explore the influence of HRD programmes on the link between entrepreneurial orientations and sustainable competitive advantage in the banking sector. The three-dimensional scales of DLOQ with 16 items was adapted in this study on a 4-point Likert-type rating scale, ranging from 1 *(strongly disagree)* to 4 *(strongly agree)*. The Cronbach's alpha coefficient for the 16 items of DLOQ in the Nigerian banking sector was 0.914, while the dimensional alpha coefficients for individual, team and organisational learning were 0.806, 0.804 and 0.828 respectively (Atiku, Chitakunye, & Fields, 2014a). This suggests reliable internal consistency based on the rule of thumb proposed by George and Mallery (2003) and Pallant (2011).

Sustainable competitive advantage: The construct sustainable competitive advantage was measured in this study with a dimensional scale with six items of organisational performance in relation to the performance of major competitors in the last three years. The scale was developed by Baker and Sinkula (1999), as adapted by Hung, Yang, Lien, McLean, and Kuo (2010). The scale was developed on a 5-point Likert-type rating scale ranging from 1 *(strongly disagree)* to 5 *(strongly agree)*. The Cronbach's alpha for this scale was 0.88. The scale was adapted in this current study in order to measure competitive advantage: market share, profitability, efficiency, return on sales and customer satisfactionrelative to the participating organisation's major competitors in the Nigerian banking sector. The measuring instrument was adapted on a 4-point Likert-type rating scale. The internal consistency for the six items on the sustainable competitive advantage construct in this study was 0.821. This is also reliable based on the rule of thumb provided by George and Mallery (2003) and Pallant (2011).

Data analysis procedures: The formulated hypotheses were analysed using inferential statistics via two statistical software packages. The IBM Statistical Package for Social Science (SPSS) version 23 was valuable in running bivariate correlations between the variables, as well as statistical reliability and validity of the measuring instrument. The IBM SPSS statistics AMOS version 23 was also instrumental in running structural equation modelling (SEM). This enables a robust statistical analysis in order to provide adequate explanations on the mediating influence in the link between entrepreneurial culture and sustainable competitive advantage. Three latent variables were included in the measurement and structural models: entrepreneurial culture served as an exogenous variable, and human resource development policy and sustainable competitive advantage played the roles of endogenous variables. Specifically, human resource development policy serves as a moderator in the structural model. Latent variables were represented with circles whilst their corresponding manifest variables were represented with boxes in the structural model illustrated in Figure 2.

4. Results and Discussion

The discussion in this section is based on the results that emanated from the test of formulated hypotheses. This discussion is necessary as a scientific contribution to knowledge on entrepreneurial culture as a tool for sustainable competitive advantage in the Nigerian banking sector. The correlation matrix among the major constructs investigated is presented in Table 2. The Pearson's product moment correlation coefficient between entrepreneurial culture and human resource development policy fulfils the first research objective of this study.

Table 2: Results of bi-variate correlation and scale reliability with descriptive analysis

	Variables	Mean	Std. Deviation	1	2	3
1	Entrepreneurial culture	13.3344	2.10879	(798)		
2	HR development policy	47.8361	7.38504	.476**	(.907)	
3	Sustainable competitive advantage	18.4164	2.60952	.414**	.551**	(.809)

**Correlation is significant at the 0.001 level (2-tailed). Alpha coefficient estimates are presented in the diagonal.

Relationship between entrepreneurial culture and human resource development: As illustrated in Table 2, entrepreneurial culture is positively associated with human resource development policies in the Nigerian banking sector. In specific terms, the correlation coefficient between entrepreneurial culture and HR development policy is 0.476 ($n = 305$, $p < 0.01$). That is, higher levels of entrepreneurial values in the banks are associated with higher levels of learning. The correlation is significant at P value less than 0.01. Statistically, the study corroborated previous studies on the ground that higher level of entrepreneurial culture is associated with higher levels of individual, team and organisational learning in the banking sector (Daneshvar & Ramesh, 2011; Goel et al., 2010; Mondy, 2010; Mundra et al., 2011). Therefore, it can be concluded that entrepreneurial culture is positively associated with all the dimensions of learning in the Nigerian banking sector. Judging from the Pearson's correlation coefficient and the level of significance, hypothesis one (H1) was supported, which means that there is a significant relationship between entrepreneurial culture and human resource development policies in the Nigerian banking sector.

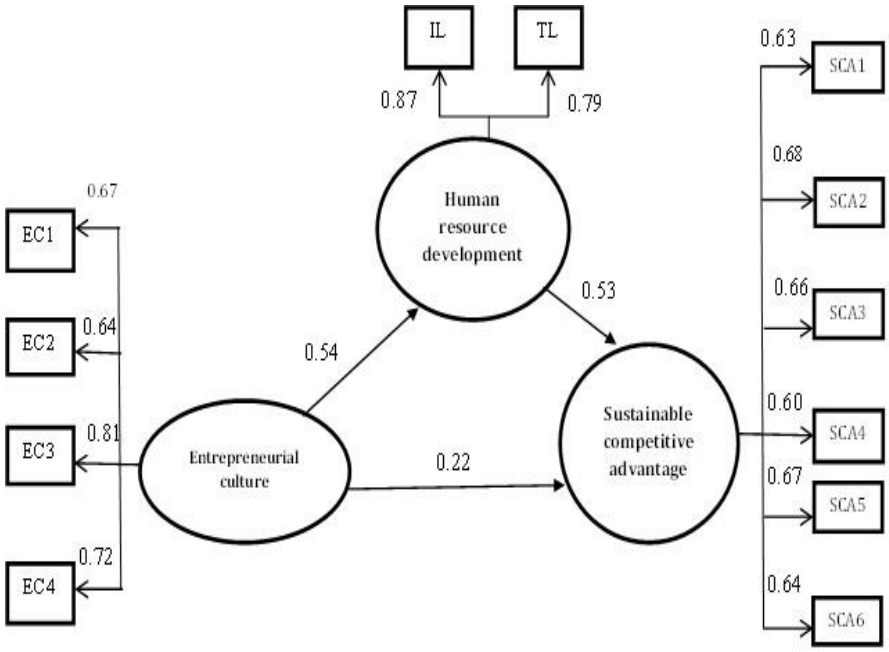
Relationship between entrepreneurial culture and sustainable competitive advantage: Table 2 illustrates the mean, the standard deviations and the correlation coefficient on the relationship between entrepreneurial culture and sustainable competitive advantage among the selected banks in Nigeria. The results show that there is a statistically significant relationship between entrepreneurial orientations or values and the sustainability of banks in Nigeria. The direction of the relationship between the variables as illustrated in Table 2 shows that higher level of entrepreneurial orientations or values is associated with a higher level of sustainable competitive advantage. Hypothesis two (H2) was supported, meaning that there is a significant relationship between entrepreneurial culture and sustainable competitive advantage. This suggests that business sustainability in the knowledge-based global economy is positively associated with entrepreneurial orientations such as creativity, innovation and proactive capabilities of the workforce (Liu, 2013; Macfarlane, 2014).

Mediating influence of human resource development on the link between entrepreneurial culture and sustainable competitive advantage: The mediating influence of human resource development programmes on the interplay between entrepreneurial culture and sustainable competitive advantage in the Nigerian banking sector was assessed using SEM via IBM SPSS statistics AMOS version 23. SEM is instrumental in testing the structural associations among variables; it gives pictorial modelling of observed and unobserved variables and also examines several associations concurrently in a model (Škerlavaj, Song, & Lee, 2010). Baron and Kenny (1986, cited in Hung et al. (2010, p. 289) emphasise that SEM is "the most efficient and least problematic means of testing mediation". This suggests the value of utilising SEM in testing the mediating influence of human resource development programmes on the interplay between entrepreneurial culture and sustainable competitive advantage in the Nigerian banking sector. The goodness of the proposed model was assessed by the model fit indices. The authors adopted chi-square value, degree of freedom, the corresponding P value, chi-square per degrees of freedom, Comparative fit Index (CFI), Non-Normed fit Index (NNFI), Tucker-Lewis fit Index (TLI), Incremental Fit Index (IFI), Goodness of Fit Index (GFI), and Root Mean Square Error of Approximation (RMSEA). All of these are used most often to assess model fit (Černe, Jaklič, & Škerlavaj, 2013; Hung et al., 2010; Katou & Budhwar, 2010). The measurement model fit indices comprising those three latent variables and their corresponding manifest variables are presented in Table 3.

Table 3: Assessment of the measurement model fit to the data

Model fit indices	CMIN	DF	CMIN/DF	RMSEA	GFI	NFI	IFI	TLI	CFI
Measurement model	91.118	49	1.860	0.053	0.952	0.932	0.967	0.956	0.967

Figure 2: Structural model explaining the mediating influence of HRDP on the link between entrepreneurial culture and sustainable competitive advantage



All model fit indices provided in Table 3 indicated acceptable results in terms of the psychometric properties of the latent and manifest variables investigated. This shows that approximately 95% of the variances and covariances of the proposed model could be explained by the collected data (GFI = .952). Statistically, all the factor loadings of latent and manifest variables ranged from .609 to .872, which confirmed the construct validity of the proposed model. The structural model produced the following model fit indices: CMIN (chi-square) = 109.290; df = 51; p < .001; CMIN/DF = 2.143; GFI = .942; NFI = .919; IFI = .955; TLI = .941; CFI = .954; RMSEA = .061. As illustrated in Figure 2, the boxes indicate independent (exogenous) or dependent (endogenous) manifest variables and/or mediating variables, while the circles represent their respective latent variables. The arrows linking the latent variables in the structural model constitute the operational associations between corresponding variables. The Beta loadings from one latent variable to another in the structural model can be referred to as estimated/standardised coefficients (ESC) or standardised regression weights (SRW). The underlying goodness of fit indices suggests a good fit of the structural model to the collected data. EC1, EC2, EC3 and EC4 are manifest variables measuring creative, innovative, proactive and competitive aggressiveness capabilities respectively. IL and TL measured individual and team learning respectively. SCA1 to SCA6 are manifest variables for the endogenous variable measuring competitive advantage, market share, profitability, efficiency, sales revenue and customer satisfaction respectively.

Entrepreneurial orientations or values were shown to have a strong, direct and positive influence on human resource development policies (ESC = 0.543, p < 0.001). Similarly, human resource development policies have a positive influence on sustainable competitive advantage (ESC = 0.535 p < 0.001). Entrepreneurial culture, on the other hand, significantly and positively contributed to sustainable competitive advantage (ESC = 0.218, p = 0.005). However, all effects (total, direct and indirect effects) on the link between the variables in the structural model are significant. This suggests that there is a partial mediation in the structural model illustrated in Figure 2. Human resource development programmes partially mediated the relationship between entrepreneurial culture and sustainable competitive advantage in the Nigerian banking sector.

Hypothesis three (H3) was supported on the ground that human resource development programmes partially mediated the relationship between entrepreneurial culture and sustainable competitive advantage in the Nigerian banking sector.Statistically, the indirect path from entrepreneurial culture to sustainable competitive advantage better explains the variations in business sustainability utilising learning and development programmes as mediating variable.

5. Conclusion and Recommendations

The overall objective of the research reported in this paper was to investigate the relationship between entrepreneurial culture and business sustainability in the Nigerian banking sector. The specific objectives were to assess the influence of entrepreneurial culture on human resource development policies and sustainable competitive advantage. The mediating influence of human resource development programmes on the link between entrepreneurial culture and sustainable competitive advantage was also assessed. The findings suggest that an entrepreneurial culture is positively associated with human resource development programmes and sustainable competitive advantage in the Nigerian banking sector. Statistically, the findings reveal that human resource development partially mediates the relationship between entrepreneurial culture and sustainable competitive advantage. Three major conclusions were drawnbased on the empirical evidence provided in the results and discussion section. The first conclusion was drawn on the statistics that there were significant positive relationship between entrepreneurial values and human resource development programmes in the Nigerian banking industry. This implies that creative, innovative and proactive capabilities were generally enhanced at individual and team levels in the Nigerian banking sector. Secondly, this paper concludes that there was a moderate positive relationship between entrepreneurial culture and sustainable competitive advantage in the Nigerian banking industry. This implies that creative, innovative and proactive capabilities as a set of entrepreneurial orientation moderately influenced sustainable competitive advantage in the Nigerian banking industry. The established bases for sustainable competitive advantage in the banking sector include; market shares, return on sales, profitability efficiency, customer satisfaction and productivity. The third conclusion drawn from the findings show that learning at individuals and teams' levels partially mediated the interplay between entrepreneurial orientations and sustainable competitive advantage in the Nigerian banking industry. Human resource development programmes were significantly associated with competitive advantage and explained the variations in business sustainability much better.

The management implications derived from the findings are the significance of entrepreneurial culture, facilitated through learning and development of the workforce, culminating in business sustainability in the knowledge-based global economy. Therefore, the major challenge in the present business environment has to do with sustainability, which could be overcome by enhancing creativity, innovation and proactive capabilities of employees through continuous learning and development programmes at individual, team and organisational levels. In this way, new skills are acquired, competences are developed, better attitudes and work behaviours are encouraged, leading to increased market share, return on sales, efficiency, productivity, profitability, customers' satisfaction and retention. Based on the outcomes of this research, the foregoing are indicators of sustainable competitive advantage in the Nigerian banking sector. The outcomes suggest an enhancement of entrepreneurial orientations or values through continuous learning and development programmes in order to achieve sustainable competitive advantage.

Entrepreneurial orientations, which are essential to a successful corporate entrepreneurship, are often developed in line with business strategies and/or needs. For example, the development of new products in line with customers' current and future needs require entrepreneurial orientations such as creativity, innovation, and proactive capabilities. These capabilities are best acquired or developed through continuous learning and development exercises both within and outside the organisation. It is apparent that entrepreneurial orientations are better acquired or communicated to employees through frequent learning and development programmes. Ambidextrous organisations/banks will require entrepreneurial orientations as well as regular learning and development programmes in the process of exploring and exploiting both current and future business opportunities. This is the true nature of sustained competitive advantage in the service industry, and it is crucial for any bank that wants to remain in business in the knowledge-based global economy. Continuous development and adequate retention of human resources in the banking industry could

be used as a source of business sustainability. This approach will require excellent human capital retention strategies for banks that are willing to take up this challenge to achieve sustainable competitive advantage. Effective human capital retention strategies are necessary to avoid developing human capital for the competitors in the banking industry.

Limitation and future research: The research reported in this article focused only on the relationship between entrepreneurial culture and sustainable competitive advantage in the Nigerian banking sector. The mediating influence of human resource development programmes was also examined in the interplay between the two variables. Submissions in this article are limited to empirical evidence in the Nigerian banking sector, and it is suggested that similar research may be carried out in other sectors of the Nigerian economy, for example, in the manufacturing sector. The methodological shortcoming of this research was the use of a cross-sectional approach. Future studies may consider a longitudinal approach, which is more appropriate in inferring cause and effect on the link between/among variables.

Acknowledgement: This paper is based on a PhD study at the University of KwaZulu-Natal. Dr Fields was the supervisor of the study.

References

Aaker, D. (2012). Four Strategies for Staying Relevant. Harvard Business Review. https://hbr.org/2012/05/four-strategies-for-staying-re

Anderson, K. (1992). The purpose at the heart of management. *Harvard Business Review,* 70(3), 52-62.

Armstrong, M. (2009). *Armstrong's handbook of human resource management,* (11th ed.). London: Kogan Page.

Atiku, S. O., Chitakunye, P. & Fields, Z. (2014a). Consensual and Entrepreneurial Culture: Insights from Organisational Culture and Human Resource Development Policy in Nigerian Banks. *Mediterranean Journal of Social Sciences,* 5(20), 101-113.

Atiku S. O., Chitakunye, P. & Fields, Z. (2014b). Influence of Organisational Learning and Human Resource Outcomes on Commercial Banks' Performance in Nigeria. *J Soc Sci,* 40(1), 9-20.

Atiku S. O. (2014). The Relationship between Organisational Culture and Performance: A case of the Banking Sector in Nigeria. PhD Thesis, Unpublised. Durdan: University of KwaZulu-Natal.

Baker, W. E. & Sinkula, J. M. (1999). Learning Orientation, Market Orientation, and Innovation: Integrating and Extending Models of organizational Performance. *Journal of Market Focused Management,* 4(4), 295-308.

Beugelsdijk, S. (2007). Entrepreneurial Culture, Regional Innovativeness and Economic Growth. *Journal of Evolutionary Economics,* 17(2), 187-210.

Bhatt, G. D. (2000). An Empirical Examination of the Effects of Information Systems Integration on Business Process Improvement. *International Journal of Operations & Production Management,* 20(11), 1331-1359.

Boso, N., Story, V. M. & Cadogan, J. W. (2013). Entrepreneurial Orientation, Market Orientation, Network Ties, and Performance: Study of Entrepreneurial Firms in a Developing Economy. *Journal of Business Venturing*, 28, 708-727

Cameron, K. S., Quinn, R. E., DeGraff, J. & Thakor, A. V. (2006). Competing Values Leadership: Creating Value in Organizations. MA: Elgar Northampton.

Černe, M., Jaklič, M. & Škerlavaj, M. (2013). Decoupling Management and Technological Innovations: Resolving the Individualism–Collectivism Controversy. *Journal of International Management,* 19(2), 103-117.

Cheung, S. O., Wong, P. S. P. & Lam, A. L. (2012). An Investigation of the Relationship between Organizational Culture and the Performance of Construction Organizations. *Journal of Business Economics & Management,* 13(4), 688-704.

Covin, J. G. & Miles, M. P. (1999) Corporate entrepreneurship and the pursuit of competitive advantage. *Entrepreneurship Theory and Practice,* 24(1), 47-63.

Daneshvar, P. & Ramesh, H. N. (2011). Gaining Competitive Advantage through Quality of Internet Banking Services -- An Empirical Study in the Indian Private Bank Sector. *Journal of Marketing & Communication,* 6(3), 34-43.

Della Corte, V. & Aria, M. (2016). Coopetition and sustainable competitive advantage. The case of tourist destinations. *Tourism Management,* 54, 524-540.

Deshpande, R. & Farley, J. U. (1999). Corporate Culture and Market Orientation: Comparing Indian and Japanese Firms. *Journal of International Marketing*, 7(4), 111-127.

Deshpande, R. & Farley, J. U. (2004). Organizational Culture, Market Orientation, Innovativeness, and Firm Performance: An International Research Odyssey. *International Journal of Research in Marketing,* 21(1), 3-22.

Dess, G. G., Lumpkin, G. T. & McGee, J. E. (1999). Linking corporate entrepreneurship to strategy, structure and process: suggested research directions. *Entrepreneurship Theory and Practice,* 24(1), 85-102.

Engelen, A. (2010). Entrepreneurial Orientation as a Function of National Cultural Variations in two Countries. *Journal of International Management,* 16(4), 354-368.

Evans, N. G. (2016). Sustainable competitive advantage in tourism organizations: A strategic model applying service dominant logic and tourism's defining characteristics. *Tourism Management Perspectives,* 18, 14-25.

Ezirim, C. B., Nwibere, B. M. & Emecheta, B. C. (2010). Organisational Culture and Performance: The Nigerian Experience. *International Journal of Business & Public Administration,* 7(1), 40-56.

Ezirim, C. B., Nwibere, B. M. & Emecheta, B. C. (2012). The Influence Of Corporate Culture on Organisational Commitment: The Nigerian Experience. *International Journal of Business & Public Administration,* 9(3), 155-180.

Fayolle, A., Basso, O. & Bouchard, V. (2010). Three Levels of Culture and Firms' Entrepreneurial Orientation: A Research Agenda. *Entrepreneurship & Regional Development,* 22(7/8), 707-730.

Floyd, S. W. & Wooldridge, B. (1999). Knowledge creation and social networks in corporate entrepreneurship: the renewal of organizational capacity. *Entrepreneurship Theory and Practice,* 24(1), 123-143.

George, D. & Mallery, P. (2003). *SPSS for Windows Step by Step: A Simple Guide and Reference 11.0 update* (4th ed.). Boston: Allyn & Bacon.

Goel, A., Rana, G. & Rastogi, R. (2010). Knowledge Management as a Process to Develop Sustainable Competitive Advantage. *South Asian Journal of Management,* 17(3), 104-116.

Grant, R. M. (1996). Toward a Knowledge-Based Theory of the Firm. *Strategic Management Journal*, 17, 109–122.

Harrington, J. (1991). Business Process Improvement: The Breakthrough Strategy for Total Quality, Productivity and Competitiveness. NewYork, USA: McGrawHill.

Huang, S. K. & Wang, Y. L. (2011). Entrepreneurial Orientation, Learning Orientation, and Innovation in Small and Medium Enterprises. *Procedia-Social and Behavioral Sciences,* 24, 563-570.

Hung, R. Y. Y., Yang, B., Lien, B. Y. H., McLean, G. N. & Kuo, Y. M. (2010). Dynamic Capability: Impact of Process Alignment and Organizational Learning Culture on Performance. *Journal of World Business,* 45(3), 285-294.

Katou, A. A. & Budhwar, P. S. (2010). Causal Relationship between Human Resource Management Policies and Organisational Performance: Evidence from the Greek Manufacturing Sector. *European Management Journal,* 28(1), 25-39.

Keh, H. T., Nguyen, T. T. M. & Ng, H. P. (2007). The Effects of Entrepreneurial Orientation and Marketing Information on the Performance of SMEs. *Journal of Business Venturing,* 22(4), 592-611.

Li, Y. H., Huang, J. W. & Tsai, M. T. (2009). Entrepreneurial Orientation and Firm Performance: The Role of Knowledge Creation Process. *Industrial Marketing Management,* 38(4), 440-449.

Lisboa, A., Skarmeas, D. & Lages, C. (2011). Entrepreneurial Orientation, Exploitative and Explorative Capabilities, and Performance Outcomes in Export Markets: A Resource-Based Approach. *Industrial Marketing Management,* 40(8), 1274-1284.

Liu, Y. (2013). Sustainable Competitive Advantage in Turbulent Business Environments. *International Journal of Production Research,* 51(10), 2821-2841.

Lumpkin, G. T. & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review,* 21(1), 135-172.

Macfarlane, M. A. (2014). Sustainable Competitive Advantage for Accountable Care Organizations. *American College of Healthcare Executives,* 59(4), 263-271.

Mahadea, D. & Youngleson, J. (2013). Entrepreneurship and small business development. Cape Town: Pearson Education South Africa (Pty) Ltd

Martin, B. C., McNally, J. J. & Kay, M. J. (2013). Examining the Formation of Human Capital in Entrepreneurship: A Meta-Analysis of Entrepreneurship Education Outcomes. *Journal of Business Venturing,* 28(2), 211-224.

Mashhadi, F., Azar, A. & Shahin, A. (2015). Proposing a Method for Implementing Business Process Re-Engineering. *International Journal of Services and Operations Management,* 20(4), 123-141.

Mello, J. A. (2011). *Strategic Management of Human Resources* (3rd ed.). Canada: Nelson Education Ltd.

Mondy, R. W. (2010). *Human Resource Management* (11th ed. ed.). Upper Saddle River, New Jersey: Pearson/Prentice Hall.

Moreno, A. & Casillas, J. C. (2008). Entrepreneurial orientation and growth of SMEs: a casual model. *Entrepreneurship and Theory in Practice,* 32(3), 507-528

Mundra, N. Gulati, K. & Vashisth, R. (2011). Achieving Competitive Advantage Through Knowledge Management and Innovation: Empirical Evidences from the Indian IT Sector. *IUP Journal of Knowledge Management,* 9(2), 7-25.

Nkosi, T. (2011). Corporate entrepreneurship and organisational performance in the Information and Communications Technology Industry. University of the Witwatersrand: Masters disseration.

Nwibere, B. M. (2013). The Influence of Corporate Culture on Managerial Leadership Style: The Nigerian Experence. *International Journal of Business & Public Administration,* 10(2), 166-188.

Pallant, J. (2011). *SPSS Survival Manual: A Step by Step Guide to Data Analysis using SPSS* (4 ed.). Australia: Allen & Unwin.

Pérez-Luño, A., Wiklund, J. & Cabrera, R.V. (2011). The Dual Nature of Innovative Activity: How Entrepreneurial Orientation Influences Innovation Generation and Adoption. *Journal of Business Venturing,* 26(5), 555-571.

Pollitte, W. A., Miller, J. C. & Yaprak, A. (2015). Returns to US Firms from Strategic Alliances in China: A Knowledge-Based View. *Journal of World Business*, 50(1), 144–148.

Principia Group. (2011). Why Banks Should Focus on Culture, Now More Than Ever. http://www.theprincipiagroup.com/downloads/Why-Banks-Should-Focus-On-Culture-v2.pdf

Rothaermel, F. T. & Hess, A. M. (2007). Building Dynamic Capabilities: Innovation Driven by individual-, Firm-, and Network-Level Effects. *Organ. Sci.*, 18(6), 898–921.

Russell, R. D. (1999). Developing a process model of intrapreneurial systems: a cognitive mapping approach. *Entrepreneurship Theory and Practice,* 24(1), 65-84.

Sanusi, L. (2012). Banking Reform and its Impact on the Nigerian Economy. *CBN Journal of Applied Statistics,* 2(2), 115-122.

Sevrani, K., Gorica, K. & Kordha, E. (2013). Analyzing of Entrepreneurial Dimensions in Albanian Banking Systems - Some Improvement from Information Technology Paper presented at the Global Conference on Business and Finance Proceedings.

Shihab, M. R. & Lestari, A. A. (2014). The Impact of Customer Knowledge Acquisition to Knowledge Management Benefits: A Case Study in Indonesian Banking and Insurance Industries. IEEEXplore

Škerlavaj, M., Song, J. H. & Lee, Y. (2010). Organisational Learning Culture, Innovative Culture and Innovations in South Korean Firms. *Expert Systems with Applications*, 37(9), 6390-6403.

Srivastava, M., Franklin, A. & Martinette, L. (2013). Building a Sustainable Competitive Advantage. *Journal of Technology Management & Innovation,* 8(2), 47-60.

Sudarmo, P. D. (2013). Influence Business Principles, Organizational Culture, Fundamental Safe Work Practices, Operational Excellence Expectations, and Corporate Commitment to the Tenets of Corporate Operations and Corporate Performance Oil and Gas Chevron Indonesia. *Journal of Accounting, Business & Management,* 20(1), 71-90.

Wang, X., Yang, B. & McLean, G. N. (2007). Influence of Demographic Factors and Ownership Type upon Organizational Learning Culture in Chinese Enterprises. *International Journal of Training and Development*, 11(3), 154–165.

Wang, W. C., Lin, C. H. & Chu, Y. C. (2011). Types of Competitive Advantage and Analysis. *International Journal of Business and Management,* 6(5), 100-104.

Watkins, K. E. & Marsick, V. J. (1993). Sculpting the Learning Organization: Lessons in the Art and Science of Systemic Change. Jossey-Bass: San Francisco.

Watkins, K. E. & Marsick, V. J. (2003). Making Learning Count! Diagnosing the Learning Culture in Organisations. Califonia: Sage publication.

Yiu, D. W. & Lau, C. (2008). Corporate entrepreneurship as resource capital configuration in emerging market firms. *Entrepreneurship theory and Practice,* 32(1), 37-57.

Zahra, S. A. & Garvis, D. M. (2000). International corporate entrepreneurship and firm performance: the moderating effect of international environmental hostility. *Journal of Business Venturing,* 15, 469-492.

Zivanovic, M. & Zivanovic, N. (2015). Business Process Improvement Application of Modern Management Techniques. *Ekonomika, Journal for Economic Theory and Practice and Social Issues,* 61(1), 183-192.

Journal of Economics and Behavioral Studies (JEBS)
Vol. 8, No. 2, April 2016 (ISSN 2220-6140)

The Influence of the Level of Environmental Complexity and Turbulence on the Choice of Marketing Tactics

Roger B. Mason, Thomas Dobbelstein
Institute of Systems Science, Durban University of Technology, South Africa
Baden-Württemberg Cooperative State University, Ravensburg, Germany
rogerm@dut.ac.za

Abstract: This paper proposes that the choice of marketing tactics is influenced by the company's external environment. It aims to illustrate the marketing tactics suggested for a complex, turbulent environment, when marketing and the environment are viewed through a complexity lens. A quantitative, descriptive, cross sectional study was used, based on an e-mailed survey to a purchased mailing list, which resulted in a sample of 860 senior marketing or sales managers in medium to large profit oriented businesses in South Africa. The study found that the manager's evaluation of the environment as complex/turbulent was important, and that there is a relationship between the use of destabilizing marketing tactics and complex/turbulent environments. Although there is only a limited relationship with 'success', the study generally stresses the importance of destabilizing tactics, and in fact, all marketing tactics, in a complex/turbulent environment. Most work on complexity in marketing has concentrated on strategy, with little emphasis on tactics and the marketing mix. Therefore, this paper is an important contribution to the understanding of marketing mix choices, of interest to both practicing marketers and marketing academics.

Keywords: *Complexity theory, chaos theory, external environment, marketing tactics, stabilizing, destabilizing*

1. Introduction

With the demise of the Apartheid government, and the development of a new constitutional democracy, South Africa has seen dramatic changes in all aspects of the external environment over the past 25 years. Continual change and disruption in the politico-legal, economic, socio-cultural and technological environments have meant a more complex and dynamic environment resulting in continuous challenges for business management. It has been proposed that such levels of complexity and turbulence must influence the nature of marketing tactics adopted by firms operating in such environments. Most research in this field relates to traditional methods, such as planning, forecasting and scenario planning, which are inadequate to cope with the speed, volume and unpredictability of discontinuous change (Edgar and Nisbet, 1996; Leitner, 2015).Most of the research using the new sciences (chaos and complexity theory) which are more suited to the volatility of turbulent and complex environments(Smith, 2002; Wollin and Perry, 2004; Gundlach, 2006; Turner, 2014; Woodside, 2015) have been either theoretical (e.g. Smith, 2002; Wollin and Perry, 2004), based on simulations or statistics (e.g. Hibbert and Wilkinson, 1994;Vojtko and Heskova, 2010),or exploratory/qualitative studies (Mason, 2004, 2008, 2012, 2013a & b; Mason and Staude, 2007, 2009).Thus a gap in the literature exists for a more quantitative approach to descriptive and/or conclusive research, adopting a new sciences approach.

Therefore, the purpose of this paper is to assess marketing activities (tactics) applied in complex and turbulent environments, as suggested by a review of the chaos and complexity literature, as applied to marketing. The following objectives were set to meet the above purpose:

- To test the model of the marketing mix tactics that could be expected to be found in successful companies in complex and turbulent environments,
- To identify the differences in marketing mix tactics between companies operating in complex/turbulent industries and in simple/stable industries,
- To identify the relationship between the different marketing mix tactics and marketing success in complex/turbulent industries.

A quantitative survey was used, investigating South African firms' perceptions of their environments and their marketing tactics. Thus, this study used both the new sciences and an emerging market context to add to

the marketing and complexity literature on the choice of marketing tactics for turbulent environments versus those used in stable environments.

2. Literature Review

Context of the study: The business environment is becoming extremely volatile and complex, experiencing continuous, rapid change (Doherty and Delener, 2001; Priyanker and Srinivasan, 2015), or, as Weeks (2014: 718) terms it, "black swan events and extreme uncertainty". In stable environments, coping is relatively easy, but as complexity increases, and change happens faster, coping becomes problematic. Traditional methods, such as planning, forecasting and scenario planning, have become inadequate to cope with the speed, volume and unpredictability of discontinuous change (Edgar and Nisbet, 1996; Leitner, 2015). Therefore, finding new ways of coping are essential (Fodness, 2015). One way of finding such new ways is by applying theories from outside marketing to obtain fresh insights. Many authors believe the new sciences, chaos and complexity theories, provide a set of powerful, intellectual tools (Turner, 2014: 7) that can provide a better understanding of marketing (Smith, 2002; Gundlach, 2006; Woodside, 2015). Wollin and Perry (2004: 569) maintain that:
"…Complexity theory…has implications for marketing managers as a holistic, self-consistent framework for understanding profound forces within a market and provides some guides for action when operating within such a system."

Another method of finding new ways is to use emerging markets as laboratories to expand marketing knowledge, as these markets are significantly different to those in industrialized countries (Burgess and Steenkamp, 2006). Theories and assumptions can be tested in contexts different to those in which the traditional marketing theories were developed. South Africa is an emerging market, different to the western markets in which most marketing theory was developed, and as such makes a good 'laboratory' for testing new marketing ideas.

Business environment: The business environment is comprised of relationships between environmental stakeholders, which 'co-create' the fast changing environment (Conner, 1998). Change occurs in two major dimensions; complexity and turbulence. As complexity increases, the ability to understand, plan and predict becomes more difficult (Black and Farias, 2000). The increasing complexity leads to more change (Conner, 1998) and uncertainty (Ashill and Jobber, 2013), and making sense of it and predicting its behavior becomes more difficult (Black and Farias, 2000). Shalender and Singh (2015) maintain that today's environment is in a "chronic state of flux" and Wilden and Gudergan (2015: 181) maintain that how "Marketing…align(s) with changing environments to secure superior performance remains unclear." Turbulence involves rapid, unexpected change in the environmental sub-dimensions (Conner, 1998). It is caused by changes in, and interaction between, environmental factors, including technology and the confluence of the computer, media and telecommunications industries. This turbulence results in less orderly competition, increasing need for information, quicker development cycles and more difficulty in predicting customer, product and service requirements (Chakravarthy, 1997). The net result of these changes is an environment with strong Knightian uncertainty, which states that the future is unknowable (Wilkinson and Young, 2005).

Many authors see such complex, turbulent environments as complex adaptive systems (CASs) (Holbrook, 2003). Others highlight the presence of complexity and chaos constructs in business environments, such as eco-systems (Ritter et al., 2004; Gundlach, 2006), self-organization and emergence (Wilkinson, 2006), sensitive dependence on initial conditions (Tedesco Analytics, 2001) and non-linearity (Black and Farias, 2000; Tedesco Analytics, 2001: 3). Furthermore, Black and Farias (2000) explain how actions taken to reduce uncertainty can lead to non-linearity and unpredictability, causing the marketplace to be in a continuous state of disequilibrium. Since environments do appear to be CASs, a complexity or chaos perspective should be used to understand their dynamics and behavior and to guide strategy development (Tedesco Analytics, 2001; Mason, 2007). For example, an entrepreneurial approach of constructing the future, rather than trying to predict the future, can be helpful (Mason, 2006). This literature has shown that the business environment can be seen as a complex adaptive system and that therefore alternative methods are required to manage marketing activities, especially when the system heads towards volatility with increasing complexity and

turbulence, as exists in the South African market. This justifies the need to view the research problem with a complexity lens.

Complexity theory: Complexity theory is an overarching theory that includes a number of other theories, such as chaos theory, autopoiesis, dissipative structures, catastrophe theory and fractal geometry. A detailed explanation of the complexity theory is not possible in this paper, but a short discussion on the key components is given below. The underlying idea of complexity 'is that all things tend to self-organise into systems' when simple rules are applied (Kelly & Allison, 1999). These systems can produce unexpected patterns or behaviours (Goldberg & Markoczy, 1998; Manuj & Sahin, 2011) because of non-linear feedback networks (Stacey, 1996), the interconnection and interdependence of complex systems (Bar-Yam, 2000) and because the system's parts interact and adapt to each other (Meade & Rabelo, 2004). Complex behaviour is orderly, yet full of surprise; it is apparently uncontrollable, yet not totally chaotic. The rules that generate this behaviour are not enforced by a 'manager', and cannot be predicted from any single part of the system and thus cannot be controlled (Wu & Zhang, 2007). Several complexity concepts have relevance to business.

The central concept is *self-organisation*; the process of order emerging from simple rules in a system, which a 'manager' does not control (Holbrook, 2003), but which is due to the interaction between autonomous actors or agents in the system (Wilkinson & Young, 2013; Arévalo and Espinoza, 2014). Creative and innovative responses emerge despite the difficulty of 'managing' the system (Dolan, Garcia & Auerbach, 2003). This *emergence,* the second important concept, happens when the system changes, leading to disorder and prevention of the systemfrom ossifying. Emergence happens at the edge-of-chaos, enabling new actions to emerge. This spontaneous organization creates new types of order (Turner, 2014). For example, new product development behavior emerges from the operational level (McCarthy et al., 2006). The third concept is *feedback*. Negative feedback damps change, pushing systems to equilibrium (Stacey, 1995). Positive feedback amplifies small changes, pushing systems towards chaos (Doherty & Delener, 2001). Together, positive and negative feedback balance the system at the 'edge-of-chaos', which is the best position for turbulent environments (Doherty & Delener, 2001). Tarokh, Dabiri, Shokouhi and Shafiei (2011) showed how inventory management can produce self-reinforcing positive or negative feedback loops.

The fourth concept is *sensitive dependence on initial conditions* (Briggs & Peat, 1999). In stable systems, small changes have small effects, but in complex or turbulent systems small changes can grow exponentially, making long-term prediction impossible (Doherty & Delener, 2001; Holbrook, 2003; Wu & Zhang, 2007). This phenomenon, also known as the 'butterfly effect', is similar to the 'bullwhip effect' in supply chains (Badillo-Pina, Tejeida-Padilla & Morales- Matamoros, 2012), which is typical of over-or under-reacting in dynamic environments (Wilkinson & Young, 2013). Small nudges, at the correct time, can lead to major changes (Wheatley, 1996). Patterns and clues indicate which changes to 'nudge' (Morrison & Quella, 1999) and when to nudge them (Gladwell, 2000). These patterns are known as *attractors*, which is the fifth concept. The edge-of-chaos attractor, known as a 'strange attractor', reflects the area where maximum creativity and innovation happens (Lewin, 1992). A unique feature of the strange attractor is that it stays within certain boundaries (Holbrook, 2003). How the system will develop cannot be predicted, but it will not go outside its attractor (Doherty & Delener, 2001). Thus, the attractor allows change whilst maintaining some order. These basic characteristics of complexity theory require different types of marketing reactions when an environment increases in complexity and turbulence. These complexity marketing approaches will be explicated, but first it is necessary to define what the standard, or traditional, marketing actions involve.

Traditional Marketing Approaches: Marketing success in a turbulent environment requires an approach that is different to that recommended by traditional strategic marketing theory. For example, the Product Life Cycle approach can be misleading if other environmental factors are not considered concurrently, and the marketing warfare approach focuses only on the competitive environment. Thus, such strategic approaches are unlikely to enable companies to develop and maintain defendable, competitive positions over the long term. Furthermore, they are not consistent with the current strategic approaches of collaboration and networking (Mason, 2004). Other authors who believe that sequential strategic marketing planning is too slow and unresponsive for a fast changing marketplace support this criticism of the traditional approach to marketing strategy. Nor can traditional marketing planning keep up with customers' requirements or aggressive competitors (Nilson, 1995; Heilbrunn, 1995). In addition, traditional market research and

traditional marketing mix models are too simplistic to understand complex marketing situations as such models assume linear relationships between mix variables and outcomes (Tedesco, 1998). In addition, Shalender and Singh (2015) see traditional approaches as irrelevant because of the lack of stability in environments. They produce strategies that follow rather than anticipate market changes (Singer, 2006). Since the simplistic approaches recommended by traditional theories can be dangerous, marketers should consider non-traditional marketing methodologies (Wollin and Perry, 2004). Such alternative marketing approaches have been termed 'complexity marketing' and are now explained.

Complexity Marketing Approaches: In complex and turbulent environments, speed in recognizing opportunities and developing new products, and reducing time to market is essential (Seybold, 2000). For marketing to be effective it must be proactive, creating events, and not merely relying on market research, as competitors can too easily copy the reactive following of customer requests. In other words, marketing flexibility and innovation is essential (Shalender and Singh, 2015). Richardson (1996) supports this view by maintaining that traditional marketing is inadequate for the future complex modern economy, while Vojtko and Heskova (2010) stress the importance of systems dynamics and thinking and agent-based modeling in such environments.

As the environment, product and customers become more complex, the firm must focus its scarce resources on those activities that will give the best result (Nilson, 1995). For example, Weeks (2014) stresses the importance of resilience (anticipating and adjusting to environmental trends), while Liu et al. (2015) found that corporate performance is related to how well the firm reacts to environmental complexity. There are two approaches to using marketing tactics effectively in complex and turbulent environments: stabilizing or destabilizing approaches (Nilson, 1995; McGlone and Ramsey, 1998; Melton and Hartline, 2015). Theodiridis (2009) suggests a similar approach of either absorbing, or adapting to, complexity. Stabilizing activities encourage the system to stay within boundaries, while destabilizing activities cause unanticipated consequences that break the system boundaries. This is typical of a 'chaos system'. A system operating at the edge of chaos is preferred because stabilizing and destabilizing activities can be used to balance the system between uncontrollability and stagnation. Thomas (in D'Aveni, 1999: 129) found that destabilizing tactics used in turbulent markets lead to greater success than when stabilizing tactics are used in such markets. To avoid lock-in to old or obsolete technologies or products, and hindering new product development, Mohr (2001: 45) suggests 'creative destruction', which involves continuous innovation to make the firm's own products obsolete and to replace them with the firm's own new developments.

Table 1: Nature of marketing tactics

Stabilizing/destabilizing nature	Perceived importance of tactics by successful firm in turbulent environment
Most destabilizing	***Most important***
Totally new products	Personal selling
Price change	Product innovation
Product innovation (new product development)	Develop new products
Sales promotion	PR/other communications
Product enhancement (old product development)	Product enhancement
PR & other non-advertising communication	Media advertising
Advertising	Price changing
Personal selling	Sales promotions
Own distribution system	Distribution
Most stabilizing	***Least important***
Source: Nilson, 1995	Source: Mason, 2004, 2009

From a chaos and complexity perspective, stabilizing is reducing change by encouraging negative feedback, or damping, which brings the system back towards its equilibrium point, or to within its attractor boundaries (Nilson, 1995; Hibbert and Wilkinson, 1994). In a marketing sense, Nilson (1995: 47) says that destabilizing

means the disrupting of a 'stable' environment, increasing the rate of change, setting off events to change the market or unsettling the established market. Destabilization can be seen as encouraging positive feedback ('the nudge' effect), which moves the system away from the status quo. Thus, destabilization can be either small, seemingly insignificant actions that influence the environment, or large dramatic actions that cause dramatic shifts in the environment. However, it must be remembered that, although the outcome is uncertain, such risk-taking leads to greater marketing competencies and innovation in turbulent environments, especially when related to product or service development (Garcia, 2004; Melton and Hartline, 2015). Further, Droge et al. (2009) showed that innovativeness is linked to new product success in turbulent markets. The literature on 'complexity marketing' has shown that it is not enough to view marketing tactics in terms of the standard 4Ps, but it is also necessary to understand whether each tactic 'stabilizes' or 'destabilizes' the environment. For example, strengthens of weakens a relationship with customers, or encourages or discourages brand switching, some of the findings from the literature in terms of stabilizing and destabilizing marketing tactics are shown in Table 1.

Research into marketing tactics: Although literature searches show that considerable work, from a complexity viewpoint, has been done on management, strategy and networks, very little has been done on marketing in general, and especially on marketing tactics. What have been done have been exploratory, conceptual, simulations, or using test or generated data. Almost nothing has been done on studying companies' actual marketing from a non-linear approach (Ritter et al., 2004). A considerable body of exploratory work has since been developed by Mason (2004, 2008, 2012, 2013a & b) and Mason and Staude (2007, 2009), but there is still a lack of conclusive, larger sample, empirical work in this field. South Africa has a very complex and turbulent business environment, yet businesses tend to make no allowances in their marketing planning for whether their environment is complex/turbulent or simple/stable. No quantitative research into this situation has been done locally, and very little internationally. Thus, marketers lack guidance on how marketing tactics should differ according to the nature of the environment, and thus may be adopting inappropriate marketing tactics. This can result in waste of scarce resources and lack of competitiveness against foreign competition in the local market, and unsuccessful marketing in export markets. Therefore, a conclusive, cross-sectional study with a larger sample, based on the findings of this exploratory work, was developed. The aim of the study was thus to assess the findings from the exploratory research and to see if they could be supported when examined via a larger sample across a wide variety of industries. To support this aim, the following research questions were set:

Research questions

RQ 1: Do companies in a more complex/turbulent environment feel that more destabilizing marketing tactics are more important?
RQ 2: Do companies in a more simple/stable environment feel that more stabilizing marketing tactics are more important?

Research objectives: To answer the research questions, the following objectives were set:

- to test the model of the marketing mix tactics that could be expected to be found in successful companies in complex and turbulent environments,
- to identify the differences in marketing mix tactics between companies operating in complex/turbulent industries and in simple/stable industries,
- To identify the relationship between the different marketing mix tactics and marketing success in complex/turbulent industries.

Research variables: Based on the literature and the research objectives, the variables for the study are:

Dependent variable: More or less success, measured by the respondents' assessment of their operating profit being above or below the industry average

Independent variables:

a. Complex/turbulent environment or simple/stable environment, measured via a number of questions about the nature of the respondents' environments
b. Stabilising or destabilising marketing mix tactics adopted, measured via a number of questions about the importance of various tactics in their marketing activities

3. Methodology

To achieve the objectives, the following methodology was used:

Research design: A quantitative, descriptive, cross sectional e-mailed survey to a purchased mailing list was used.

Respondents: The population was comprised of senior marketing or sales managers in all medium to large profit oriented businesses in South Africa. From this population, a list of 8093 businesses meeting the above criteria was purchased and a questionnaire e-mailed to the whole list. This was an opt-in list with all the list members having indicated a willingness to receive mailings. Since this was essentially a self-selected sample (i.e. list members chose whether to respond or not) the sampling method was non-probability. In this research, opinions are measured on a 5-point Likert scale. Assigning the accepted error at 0,1 and the significance level at 95%, and estimating a standard deviation of 1, a sample size of 384 is necessary. It is intended to compare two different groups (mainly high and low complexity/turbulence). Assuming that the two compared groups have the same size, an overall sample size of 2*384 = 768 is necessary. . Of the 8093 questionnaires mailed out, 0,94% were rejected/not delivered, leaving a net population of 8017. Of these, 860 useable responses were returned, giving a response rate of 10,73%,. The sample size provided a cushion in case the compared groups did not have the same size. Therefore we conclude that the sample was adequate and probably acceptably representative of the target population.

Data collection: A questionnaire based on relevant literature, including the previously mentioned qualitative study, was developed and distributed via e-mail to a purchased address list. The only demographic type question asked what industry the company operating in. The list of industries was based on the industries as specified by the McGregor BFA (2012) database, A letter of information and consent was built into the opening pages of the questionnaire confirming that the respondent had fully understood their rights and agreed to participate in the study. Thus, the questionnaire was an opt-in survey. Confidentiality and anonymity was ensured by the questionnaire not asking for any individual or business names..

Data analysis: The independent variables were created and measured as follows. Based on the eight turbulence and complexity questions used as indicators, indices of turbulence and complexity were created, to be able to rank the industries in terms of complexity and turbulence. The questions relating to marketing activities were grouped according to the standard four marketing mix factors (product, price, place and promotion) and were also grouped into stabilizing and destabilizing factors as per Nilson (1995), Mason (2004) and Mason and Staude (2009). The dependent variable, 'more or less success', was identified by asking respondents to indicate whether their firm's average operating profit was higher or lower than the average that had been calculated by McGregor BFA (2012). Note that for banks and financial services, operating profit is meaningless, and so average return on assets was used to identify successful or less successful performance. Using these variables, the research questions described above were assessed.

Validity and reliability: Face validity and construct validity were achieved by a comprehensive review, deconstruction, and analysis of, and detailed discussion of, the questionnaire, the individual questions, and their response categories. Individual questions were carefully matched to the dependent and independent variables to ensure that the questionnaire assessed what we intended it to assess. Furthermore, a pilot test of the questionnaire was conducted with twenty business marketers who matched the population criteria –. To assess reliability, Cronbach's Coefficient Alpha was used..The values of 0,59 for turbulence and 0,63 for complexity are just enough to be acceptable.

4. Findings

The 860 respondents were made up of membership of the various industries as shown in Table 2. The average operating profit margins for 2011 for each industry taken from the McGregor BFA (2012) database are also shown in Table 2.

Table 2: Sample

Industry	N	%	Average operating profit margin
Information technology	92	10.7	4.44
Business support services and training	89	10.3	5.93
Health care	69	8.0	21.61
** Financial services*	*62*	*7.2*	*0.24 **
Building, construction and materials	54	6.3	4.98
Travel and leisure	53	6.2	23.76
Retail	46	5.3	6.48
Food	45	5.2	11.36
Telecommunications	38	4.4	26.65
Automobiles. Parts and tyres	36	4.2	11.04
Electronics and electrical	33	3.8	9.86
Transport	32	3.7	5.84
Media	31	3.6	21.85
Beverages	29	3.4	23.95
Chemicals	28	3.3	9.95
Other	27	3.1	--
Insurance	23	2.7	27.08
** Banks*	*22*	*2.6*	*4.3 **
Clothing, footwear, leisure and personal products	19	2.2	20.38
Household goods and house construction	17	2.0	5.93
Packaging	15	1.7	9.41
TOTAL	860	100.0	

** For Banks and Financial services = Average return on assets*

Responses related to independent variables: To identify the first independent variable, namely perceived levels of turbulence and complexity in each industry, the questionnaire included four questions each. These questions and the descriptive answers are provided in Table 3.

Table 3: Perceived levels of turbulence and complexity questions

Questions	N	Min	Max	Mean	Std Dev
We are continuously having to react to changes in our external environment and to aggressive competitive activities	851	1	5	4.05	0.977
The number of issues that influence our industry simultaneously is not very high	849	1	5	3.87	0.986
Change is very high in our industry and happens very rapidly	855	1	5	3.63	1.143
My company collaborates with suppliers, competitors and/or other companies in our industry in marketing our products or services.	850	1	5	3.38	1.352
The future in our industry is quite easy to predict	852	1	5	3.27	1.112
Recoded: The events in our business environment are mostly familiar. In other words, we do not experience a lot of new, unfamiliar or unexpected happenings	852	1	5	3.05	1.133
The outcome of marketing actions in our industry is uncertain, surprises are common	854	1	5	2.98	1.057
Original: The events in our business environment are mostly familiar. In other words, we do not experience a lot of new, unfamiliar or	852	1	5	2.95	1.133

unexpected happenings					
The relationship between cause and effect in our industry is rather unpredictable. In other words it is difficult to be sure of the effect of any activities that we undertake	850	1	5	2.95	1.084

The questions identifying the second independent variable, the perceived importance of the various marketing activities to the company, are provided in Table 4, together with their descriptive answers.

Table 4: Perceived importance of various marketing activities

Questions	N	Min	Max	Mean	Std Dev
Personal selling aimed at retaining customers (relationship selling)	852	1	5	4.41	0.894
Product/service enhancement (improving existing/old products/services)	854	1	5	4.33	0.788
Personal selling aimed at winning new customers away from competitors	851	1	5	4.11	0.998
Advertising aimed at building brand loyalty and image	854	1	5	4.06	1.032
Developing totally new products or services	850	1	5	4.03	1.002
Public relations & other forms of non-advertising communications	853	1	5	3.97	0.953
Product/service innovation (new to company, but not new to market)	846	1	5	3.96	0.981
Having control over the distribution chain	853	1	5	3.91	1.143
Sales promotions (non-price related)	852	1	5	3.52	1.179
Price promotions, i.e. pricing included as part of a sales promotion	851	1	5	3.31	1.311
Carrying buffer or safety inventory	850	1	5	3.30	1.366
Using price cutting and discounting as a marketing weapon	851	1	5	2.91	1.239

Based on the perceived levels of turbulence and complexity, the various industries were plotted graphically on Figure 1. The circles indicate the six industries grouped as highly complex and turbulent, and the six grouped as low in complexity and turbulence.

Figure 1: Illustration of relative turbulence/complexity of industries

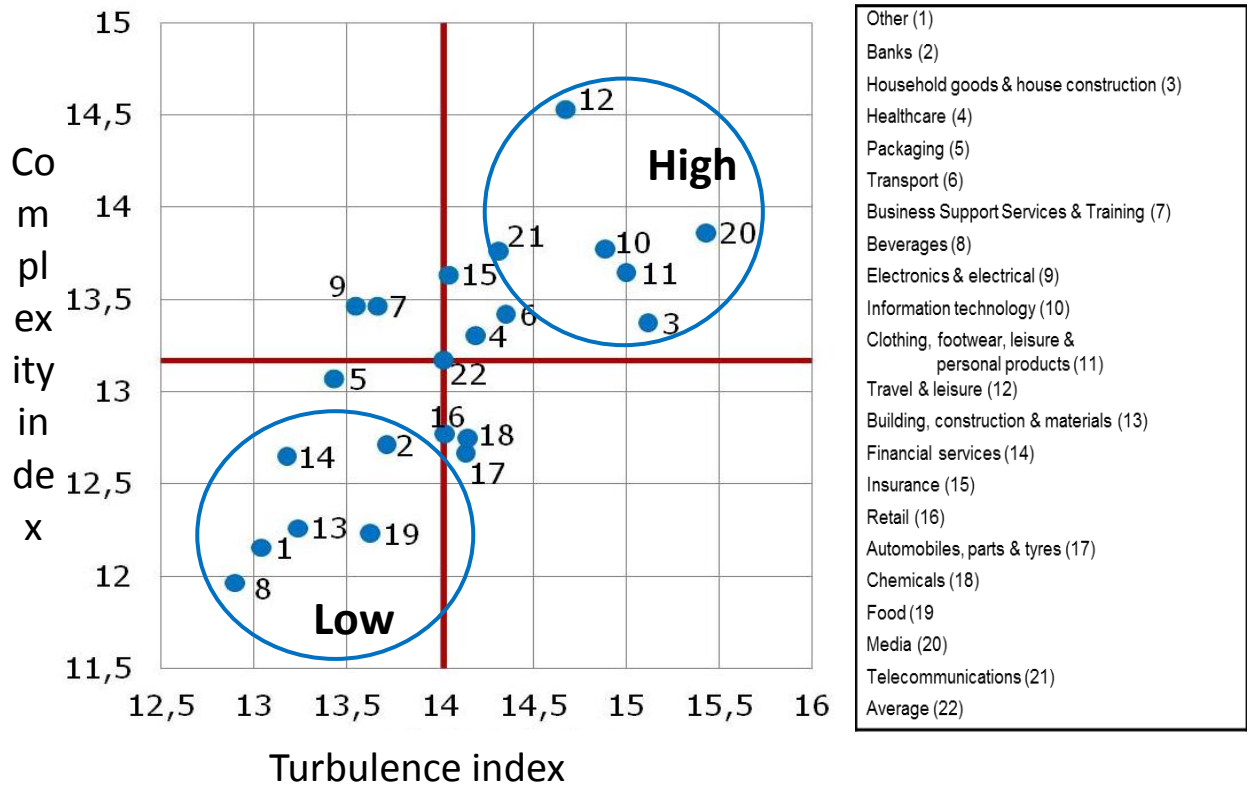


Table 5: Perceived importance of marketing tactics by industry

Which industry describes most closely the industry that you operate in?		Index (4 = low, 20 = high)			Importance (1 = low, 5 = high)					
		Turbu-lence index	Compl-exity index	Mean of Turb&Compl	Pro-duct	Place	Price	Prom-otion	Mean Destabili-zing tactics	Mean stabilizing tactics
Other	Mean	13.04	12.15	12.65	3.85	3.63	2.85	3.92	3.42	3.96
	N	27	26	27	27	27	26	27	27	27
Banks	Mean	13.71	12.71	13.11	4.08	3.07	2.66	4.07	3.42	3.91
	N	21	21	22	22	22	22	22	22	22
Household goods & house construct	Mean	15.12	13.38	14.18	4.33	4.12	3.68	3.95	3.88	4.18
	N	17	16	17	17	17	17	17	17	17
Health care	Mean	14.19	13.30	13.75	4.17	4.00	2.83	4.00	3.66	4.03
	N	68	69	69	69	69	69	69	69	69
Packaging	Mean	13.43	13.07	13.25	3.73	4.07	3.37	3.96	3.66	3.99
	N	14	14	14	15	15	15	15	15	15
Transport	Mean	14.35	13.42	13.89	3.99	3.61	2.73	3.81	3.38	3.89
	N	31	31	31	31	31	31	31	31	31
Business support services & training	Mean	13.66	13.47	13.54	4.08	3.00	2.89	3.95	3.47	3.83
	N	86	86	89	89	89	89	89	89	89
Beverages	Mean	12.9	11.96	12.50	4.06	4.19	3.74	4.19	3.94	4.22
	N	29	28	29	29	29	29	29	29	29
Electronics and electrical	Mean	13.55	13.47	13.50	4.08	3.97	2.89	4.01	3.59	4.09
	N	33	32	33	33	33	33	33	33	33
Information technology	Mean	14.89	13.77	14.33	4.14	3.24	3.02	4.04	3.65	3.87
	N	89	88	90	91	91	91	91	91	91
Clothing, footwear, leisure & personal products	Mean	15.00	13.65	14.39	4.20	4.19	3.83	4.20	4.06	4.22
	N	18	17	18	18	18	18	18	18	18
Travel and leisure	Mean	14.67	14.53	14.60	4.00	3.15	3.43	4.25	3.74	4.01
	N	52	51	52	53	53	53	53	53	53
Building, construction& materials	Mean	13.24	12.26	12.75	3.99	3.83	2.84	3.92	3.44	4.05
	N	51	54	54	54	54	54	54	54	54
Financial services	Mean	13.18	12.65	12.96	4.11	3.01	2.49	3.96	3.34	3.84
	N	62	60	62	62	62	62	62	62	62
Insurance	Mean	14.04	13.64	13.87	4.23	3.33	3.15	4.12	3.70	4.01
	N	23	22	23	23	23	23	23	23	23
Retail	Mean	14.02	12.77	13.43	4.09	4.06	3.58	4.07	3.82	4.16
	N	44	44	46	45	45	45	45	45	45
Automobiles. Parts & tyres	Mean	14.14	12.67	13.40	4.31	3.94	3.32	3.91	3.79	4.05
	N	36	36	36	36	36	36	36	36	36
Chemicals	Mean	14.15	12.75	13.36	3.92	4.16	3.05	3.90	3.53	4.08
	N	27	28	28	28	28	28	28	28	28
Food	Mean	13.62	12.23	12.99	4.21	4.07	3.44	4.01	3.83	4.13
	N	45	43	45	45	45	45	45	45	45
Media	Mean	15.43	13.86	14.74	4.13	3.50	3.37	4.09	3.74	4.04
	N	28	29	31	31	31	31	31	31	31
Telecommunications	Mean	14.32	13.76	14.04	4.29	3.68	3.64	4.02	3.98	3.96
	N	38	38	38	38	38	38	38	38	38
TOTAL	Mean	14.02	13.17	13.60	4.10	3.60	3.11	4.01	3.64	3.99
	N	839	833	854	856	856	855	856	856	856

Table 5 provides the results by industry, of the perceived importance of the various marketing activities, grouped into the standard four marketing mix factors, and grouped according to whether they are stabilizing or destabilizing. Table 6 compares the importance of these same groupings of marketing activities according to those firms that perceived themselves as having above average profit margins versus those that perceived themselves as having below average profit margins.

Table 6: Importance of marketing tactics according to relative profitability

Was company's operating profit margin (OP) or return on assets (ROA)……		4=low, 20 =high			Importance (1 = low, 5 = high)					
		Turbu-lence index	Compl-exity index	Mean of Turb&Compl	Pro-duct	Place	Price	Prom-otion	Mean DE-stabilizing tactics	Mean stabilizing tactics
…..higher than aveOP/ROA?	Mean	13.79	13.12	13.466	4.11	3.62	3.05	4.03	3.63	4.01
	N	547	545	559	558	558	557	558	558	558
…..lower than aveOP/ROA?	Mean	14.44	13.26	13.866	4.08	3.58	3.22	3.98	3.66	3.96
	N	292	288	295	298	298	298	298	298	298
TOTAL	Mean	14.028	13.17	13.604	4.10	3.60	3.11	4.01	3.64	3.99
	N	39	833	854	856	856	855	856	856	856

OP = Operating profit; ROA = Return on assets

Reponses relating to the dependent variable: Table 7 indicates the proportion of companies in each industry that saw themselves performing either above or below the industry average operating profit, as identified by McGregor BFA (2012).

Table 7: Proportion of companies above/below average Profit/Return on Assets

Which industry describes most closely the industry you operate in?	Was your company's operating profit/return on assets…..				
	…..higher than average		…..lower than average		Total
Industry	N	%	N	%	
Other	19	70.4	8	29.6	27
* Banks	20	90.9	2	9.1	22
Household goods and house construction	12	70.6	5	29.4	17
Health care	40	58.0	29	42.0	69
Packaging	11	73.3	4	26.7	15
Transport	20	62.5	12	37.5	32
Business support services and training	56	62.9	33	37.1	89
Beverages	12	41.4	17	58.6	29
Electronics and electrical	27	61.8	6	18.2	33
Information technology	74	80.4	18	19.6	92
Clothing, footwear, leisure & personal products	8	42.1	11	57.9	19
Travel and leisure	23	43.4	30	56.6	53
Building, construction and materials	39	72.2	15	27.8	54
* Financial services	50	80.6	12	19.4	62
Insurance	10	43.5	13	56.5	23
Retail	36	78.3	10	21.7	46
Automobiles. Parts and tyres	20	55.6	16	44.4	36
Chemicals	19	67.9	9	32.1	28
Food	29	64.4	16	35.6	45
Media	20	64.5	11	35.5	31
Telecommunications	16	42.1	22	57.9	38
TOTAL	561	65.2	299	34.8	860

Discussion of research question assessment: In order to answer the research questions previously set, the industries were ranked from lowest to highest in terms of the combined complexity and turbulence index, as provided in Table 5. This ranking of industries is provided in Table 8. To test the findings the principle of maximal variation sampling was used (Patton, 1987), comparing the six highest (Top 6) versus the six lowest (Lowest 6) industries in terms of perceived level of complexity and turbulence as shown in Table 8.

Table 8: Ranking of industries in terms of complexity and turbulence

Level of complexity & turbulence	Which industry describes most closely the industry you operate in?	Mean (4=low, 20=high)	N	Standard deviation
	Beverages	12.50	29	2.416
	Other	12.65	27	2.601
Low	Building, construction & materials	12.75	54	2.219
	Financial services	12.96	62	2.216
	Food	12.99	45	2.441
	Banks	13.11	22	2.187
	Packaging	13.25	14	2.119
	Chemicals	13.37	28	2.708
	Automobiles, parts & tyres	13.40	36	2.772
	Retail	13.43	46	2.102
Medium	Electronics & electrical	13.50	33	2.378
	Business Support Services & Training	13.54	89	2.400
	Healthcare	13.75	69	2.315
	Insurance	13.87	23	2.297
	Transport	13.89	31	2.390
	Telecommunications	14.04	38	3.010
	Household goods & house construction	14.18	17	2.365
High	Information technology	14.33	90	1.847
	Clothing, footwear, leisure & personal products	14.39	18	2.279
	Travel & leisure	14.60	52	2.475
	Media	14.74	31	2.291
	TOTAL	13.60	854	2.405

- *RQ 1: Do companies in a more complex/turbulent environment feel that more destabilizing marketing tactics are more important?* The Top 6 had a mean of 3.77 (n = 248; SD = .658) for the importance of destabilizing marketing instruments, whereas the Lowest 6 had a mean of 3.54 (n = 239; SD = .676). This shows that the Top 6 do see destabilizing instruments as more important than the Lowest 6 do. This finding was significant with a p value of 0.000 (t = .3.816; df = 485). Thus, the research question can be answered "yes"

- *RQ 2: Do companies in a more simple/stable environment feel that more stabilizing marketing tactics are more important?* The Lowest 6 had a mean of 4.01 (n = 239; SD = .576) for the importance of stabilizing marketing instruments, whereas the Top 6 had a mean of 3.98 (n = 248; SD = .589). This shows that the Lowest 6 see stabilizing instruments as slightly more important than the Top 6 do. This finding, however, was not significant with a p value of 0.623 (t = -.492; df = 485). Thus, research question 2 cannot be answered with any level of confidence.

However, when comparing the Lowest 6's feelings about destabilizing instruments (mean = 3.77; n =248; SD = .658) to their feelings about stabilizing instruments (mean = 3.98; n = 248; SD = .589), it can be seen that RQ 2 can be answered in the affirmative (significant with p = .000; df = 247). To further assess the relationship, the type of marketing tactics was regressed against the nature of the perceived environment, producing Table 9.

Table 9: Regression of nature of environment against marketing tactics

	R^2	Regress.Coef.	Sig
Complex/turbulent index regression to importance of **destabilising** tactics Durban-Watson: 1,77; Tolerance: 0,99	0,29	0,17	0,000
Complex index regression to importance of **destabilising** tactics Durban-Watson: 1,78; Tolerance: 0,99	0,24	0,154	0,000
Turbulent index regression to importance of **destabilising** tactics Durban-Watson: 1,74; Tolerance: 0,99	0,23	0,152	0,000

For all regressions, homoscedasticity was tested by a regression of the squared residuals on the independent variables and normal distribution of the residuals by a plot compared to the normal distribution. Both results are satisfying. Autocorrelation is tested by the Durban-Watson test and multicollinearity by the tolerance values (see both values in Table 9). This regression analyses show that, both with increasing complexity and turbulence, the importance of destabilizing tactics increases. Thus it can be concluded that destabilizing marketing instruments are very important in complex and turbulent environment.

The third objective of the study was to identify the relationship between the different marketing mix tactics and marketing success in complex/turbulent industries. To meet this objective, the more successful companies in highly complex/turbulent environments (as calculated from the original data used to construct Tables 7 and 8) were compared against all other companies. Those more successful in high complex/turbulent environments had a mean for importance of destabilising tactics of 3.74 (n = 239; SD = .635), whereas the mean for all other companies was 3.60 (n = 617; SD = .681). This finding was significant at p = .004 (t = 2.855; df = 854). Thus, it can be concluded that there is definitely a relation between the use of destabilising tactics and success in complex/turbulent environments. However, it was also found that less successful companies in complex/turbulent environments also saw destabilising activities as important (p = .004; t = 2.876; df = 854). As a further check, it was found that more successful and less successful firms in simple/stable environments do not have any significantly different attitudes to the use of stabilising marketing tactics.

Discussion of the Findings: These findings are now discussed in terms of the research objectives set for the study, namely:

Objective 1 -to test the model of the marketing mix tactics that could be expected to be found in successful companies in complex and turbulent environments,
The model of marketing mix tactics proposed in Table 1 has been shown by the findings to have some benefit for marketing managers. The results have highlighted that destabilising marketing tactics are important in complex/turbulent environments, and since most respondents from most industries saw their environments as more or less complex and turbulent (rather than simple and stable), such destabilising tactics would be important to <u>all</u> marketers. However, stabilising tactics should not be neglected, as they are also seen as having some importance – they help to avoid disruption of the firm's own relationships with loyal customers and build and maintain sound customer relationships and maintain customer loyalty (Mason, 2014).

Objective 2 -to identify the differences in marketing mix tactics between companies operating in complex/turbulent industries and in simple/stable industries,
There is a subtle difference in the attitudes towards the different marketing tactics between those companies in the more complex/turbulent environments and those in the less complex/turbulent environments. Although all firms indicate a belief in the importance of destabilising tactics, there is a difference in the intensity of these beliefs. Those in the more complex/turbulent environments feel destabilising tactics are more important than the stabilising tactics, whereas those in the less complex/turbulent environments feel that the stabilising tactics are more important than the destabilising tactics. What is not certain is the degree to which these differences are influenced by actual differences in environmental complexity/turbulence, as opposed to being influenced by the marketers' perceptions of such environmental complexity and turbulence. The fact that most respondents from most industries saw their environments as complex and turbulent to greater or lesser degrees, and very few saw them as simple and stable, highlights this weakness.

Objective 3 -to identify the relationship between the different marketing mix tactics and marketing success in complex/turbulent industries.

The findings showed a significant relationship between success and importance of destabilising tactics in more complex/turbulent environments. However, since even the less successful companies also indicated a belief in the importance of destabilising tactics, it cannot be concluded that there is a strong causative relationship. It could be, for example, that companies that perceive their environment as more complex and turbulent are more aggressive in the marketing activities as a result, and it could be the aggressiveness of the implementation of the tactics that leads to success. It is also possible that there is a relationship between short-term success and destabilising tactics, and a different relationship between long-term success and stabilising tactics, due to the relationship building nature of such tactics.

Implications

For marketers: Since the use of destabilising marketing tactics is clearly important in complex and turbulent environments, it is suggested that all marketers should make more use of destabilising tactics. Tactics such as: innovative and fast product development (involving customers in the process); innovative and aggressive pricing aimed at leading the market in pricing tactics; aggressive, shocking or amazing promotions campaigns intended to surprise and shift perceptions. However, such destabilising activities need to be tempered with some stability, especially with regard to maintaining strong customer relationships. For this reason, distribution is an important stabilizing force, but also helping to improve supply chain responsiveness and flexibility, which is consistent with the needs of complex, turbulent environments. Branding, corporate identity and personal selling are other tactics that can be used to maintain strong relationships whilst destabilising the rest of the market.

For academics: This study has confirmed some of the previous theoretical and exploratory studies that have emphasised the importance of using the new sciences (complexity and chaos theory) as techniques to better understand the market dynamics. It has shown that research in volatile markets would be less than optimal if they are not considered as complex adaptive systems and that, therefore, they are viewed through a complexity lens.

5. Conclusion and Recommendations

In terms of Objective 1, the study has shown that destabilising marketing tactics are important in complex/turbulent environments, but that stabilising tactics should also be used to stabilise the firm's own customer relationships. With regard to Objective 2, although all firms felt that the destabilising tactics are important, those in complex/turbulent environments felt that they were more important than stabilising tactics, while those firms in simple/stable environments felt that the stabilising tactics were more important. The results for Objective 3 showed a positive relationship between success and the perceived importance of destabilising tactics in complex/turbulent environments, but since even less successful firms saw destabilising tactics as important, this relationship cannot be concluded to be causative. The conclusion that can be reached from these analyses is that it is the evaluation of the environment that is more important. The more the environment is perceived to be complex and turbulent, the more important destabilising marketing tactics are seen to be. Furthermore, it can be concluded that the higher the complexity and turbulence, then the more important ALL marketing tactics become, which highlights the overall importance of marketing in the South African business environment.

Recommendations for further research: Because of the uncertainties highlighted by this study, it is recommended that further research be conducted, specifically:

- Research that investigates the actual implementation of stabilising and destabilising tactics, rather than just attitudes towards them
- Investigation into whether there are differing relationships over the short-term versus the long-term with regard to the implementation of stabilising versus destabilising tactics.
- Identify an industry that is truly simple and stable, and accepted as such by its inhabitants, and investigate the use of stabilising versus destabilising tactics in that industry

References

Arévalo, L. E. B. & Espinoza, A. (2014). Theoretical approaches to managing complexity in organizations: A comparative analysis. Estudios Gerenciales.

Ashill, N. J. & Jobber, D. (2015).The effects of the external environment on marketing decision-maker uncertainty. *Journal of Marketing Management*, DOI: 10.1080/0267257X.2013.811281.

Badillo-Pina, I., Tejeida-Padilla, R. & Morales-Matamoros, O. (2012). A systems science perspective for supply chain management. Proceedings of the 56th annual meeting of the ISSS, San Jose, CA, USA

Bar-Yam, Y. (2000). Guide to Complex Systems [online]. New England Complex Systems Institute. Available from: www.necsi.org/guide [Accessed 29 June 2000].

Black, J. & Farias, G. (2000). Dynamic Strategies: Emergent Journeys. *Emergence*, 2(1), 101–113.

Briggs, J. & Peat, F. D. (1999). Seven Life Lessons of Chaos: Timeless Wisdom from the Science of Change. New York: Harper Collins.

Burgess, S. M. & Steenkamp, J. B. E. M. (2006). Marketing renaissance: How research in emerging markets advances marketing science and practice. *International Journal of Research in Marketing*, 23(4), 337-356.

Chakravarthy, B. (1997).A New Strategy Framework for Coping with Turbulence. *Sloan Management Review*, 38(2), 69–82.

Conner, D. R. (1998). Leading at the Edge of Chaos: How to Create the Nimble Organization. New York: Wiley.

D'Aveni, R. A. (1999). Strategic supremacy through disruption and dominance. *Sloan Management Review,* 40(3), 127-135.

Doherty, N. & Delener, N. (2001). Chaos Theory: Marketing and Management Implications. *Journal of Marketing Theory and Practice*, 9(4), 66–75.

Dolan, S. L., Garcia, S. & Auerbach, A. (2003). Understanding and Managing Chaos in Organizations. *International Journal of Management*, 20(1), 23–35.

Droge, C., Calantone, R. & Harmancioglu, N. (2009). New product success: Is it really controllable by managers in highly turbulent environments? *Journal of Product Innovation Management*, 25(3), 272-286.

Edgar, D. A. & Nisbet, L. (1996). A Matter of Chaos: some issues for hospitality businesses. *International Journal of Contemporary Hospitality Management*, 8(2), 6–9.

Fodness, D. (2015). Managing the wickedness of socially responsible marketing. *Journal of Business Strategy*, 36(5), 10-17.

Garcia, R. (2004). Encouraging Failure in New Product Development [online]. Paper presented at New Priorities and Challenges for Business-to-Business Marketers, 5 – 6 August, Harvard Business School, Boston. Available: www.smeal.psu.edu/isbm/seminars/boston04/Garcia.pdf [Accessed 17/9/2004]

Gladwell, M. (2000).The Tipping Point: How little things can make a big difference. London: Abacus.

Goldberg, J. & Markoczy, L. (1998).Complex Rhetoric and Simple Games. Cranfield University. Available at: www.Cranfield.ac.za/public/cc/cc047/papers/ complex/html /complex.htm (accessed 2 February 1999).

Gundlach, G. T. (2006).Complexity science and antitrust. *Antitrust Bulletin*, 51(1), 17-31.

Heilbrunn, J. (1995). AMA Marketing Encyclopedia: Issues and Trends Shaping the Future. Chicago: American Marketing Association.

Hibbert, B. & Wilkinson, I. F. (1994).Chaos Theory and the Dynamics of Marketing Systems. *Journal of the Academy of Marketing Science*, 22(3), 218–233.

Holbrook, M. B. (2003). Adventures in Complexity: Dynamic Open Complex Adaptive Systems, Butterfly Effects, Self-Organizing Order, Co-evolution, the Ecological Perspective, Fitness Landscapes, Market Spaces, Emergent Beauty at the Edge of Chaos, and All That Jazz. Academy of Marketing Science Review. Available at: www.amsreview.org/articles/holbrook06-2003.pdf (accessed 2 February 2006).

Kelly, S. & Allison, M. A. (1999).The Complexity Advantage: How the Science of Complexity Can Help Your Business Achieve Peak Performance. New York: Business Week Books.

Leitner, K. H. (2015). Pathways for the co-evolution of new product development and strategy formation processes: empirical evidence from major Austrian innovations. *European Journal of Innovation Management*, 18(2).

Lewin, R. (1992). Complexity: Life at the edge of chaos. New York: MacMillan.

Liu, H., Ma, L. & Huang, P. (2015).When organizational complexity helps corporation improve its performance. *Journal of Management Development*, 34(3), 340-351.

Manuj, I. & Sahin, F. (2011). A model of supply chain and supply chain decision-making complexity. *International Journal of Physical Distribution & Logistics Management*, 41(5), 511-549.

Mason, R. B. (2004). An investigation into how marketers cope with an environment of high complexity and turbulence, with special reference to the South African environment. Unpublished PhD thesis, Rhodes University, Grahamstown, South Africa.

Mason, R. B. (2006). Coping with complexity and turbulence – an entrepreneurial solution. *Journal of Enterprising Culture*, 14(4), 241-266.

Mason, R. B. & Staude, G. (2006).A marketing mix model for the complex and turbulent South African environment: A complexity theory approach. Paper read at the 1st International Management Conference, University of Johannesburg, South Africa, 29-31 October.

Mason, R. B. & Staude, G. (2007). A marketing mix model for a complex and turbulent environment: a complexity theory approach. *Acta Commercii*, 7, 236-254.

Mason, R. B. & Staude, G. (2009). Marketing tactics in turbulent environments: A complexity theory approach. *Industrial Management & Data Systems*, 109(2), 173-190.

Mason, R. B. (2007). The external environment's effect on management and strategy: A complexity theory approach. *Management Decision*, 45(1), 10-28.

Mason, R. B. (2008). Word of mouth as a promotional tool for turbulent markets. *Journal of Marketing Communications*, 14(3), 207-224.

Mason, R. B. (2012). Product tactics in a Complex and Turbulent Environment Viewed through a Complexity Lens. *The Business Review*, 21(1), 144-150.

Mason, R. B. (2013a). Distribution tactics in a turbulent environment: A complexity theory approach. *Journal of Transport and Supply Chain management*, 7(1), 1-9.

Mason, R. B. (2013b). Follow me, I'm right behind you: Complexity theory and leadership for turbulent environments. *Journal of Social Sciences*, 36(3), 295-307.

Mason, R. B. (2014). Marketing Communications and Environmental Turbulence: A Complexity Theory View. *Journal of Economics and Behavioral Studies*, 6(4), 279-290.

McCarthy, I. P., Tsinopoulos, C., Allen, P. M. & Rose-Anderssen, C. (2006). New Product Development as a Complex Adaptive System of Decisions. *Journal of Product Innovation Management*, 23(5), 437-456.

McGlone, T. A. & Ramsey, R. P. (1998).Getting Realistic about Reality: Using Chaos Theory to Explain Marketing Phenomena. Paper read at the Society for Marketing Advances conference, New Orleans, 4-7 November.

McGregor, B. F. A. (2012). McGregor BFA Research domain. Johannesburg. Available at http://research.mcgregorbfa.com/CompanySearchDefault.aspx?Token=7cAGVEWDwwuNlsMDFEKpA%3d%3d&ClientID=1450&ConModule=129&ReturnURL=%2fStation%2fFinancialRatios%2fFinancialRatiosDefault.aspx.(accessed 17 May 2012).

Meade, P. T. & Rabelo, L. (2004).The technology adoption life cycle attractor: Understanding the dynamics of high-tech markets. *Technological Forecasting and Social Change*, 17, 667–684.

Melton, H. & Hartline, M. D. (2015).Customer and employee co-creation of radical service innovation. *Journal of Services Marketing*, 29(2), 1-36

Mohr, J. (2001). Marketing of High-Technology Products and Innovations. Upper Saddle River: Prentice Hall.

Morrison, D. J. & Quella, J. A. (1999).Pattern thinking: Cutting through the Chaos. *Marketing Management*, 8(4), 17-23.

Nilson, T. H. (1995). Chaos Marketing: How to win in a turbulent world. London: McGraw-Hill.

Patton, M.Q. (1987). How to Use Qualitative Methods in Evaluation. Newbury Park: Sage.

Priyanker, P. V. & Srinivasan, P. (2015).Marketing innovation to meet market complexity in the 21st century. *Global Journal of Commerce & Management Perspective*, 4(2), 12-15.

Richardson, B. (1996). Synthesis marketing: a shift of the marketing paradigm [online]. Professional Marketing, September. Available from: http://www.scenario-planning.com/archive/art1.htm(accessed 24 February 1998).

Ritter, T., Wilkinson, I. F. & Johnston, W. J. (2004).Managing in complex business networks. *Industrial Marketing Management*, 33, 175-183.

Sekaran, U. & Bougie, R. (2010). *Research Methods for Business: A Skill Building Approach*. (5th Ed.), Chichester: Wiley.

Seybold, P. B. (2000). Ubiquity Breeds Wealth. Business 2.0, supplement to Intelligence, May, 33-38.

Shalender, K. & Singh, N. (2015). Marketing Flexibility: Significance and Implications for Automobile Industry. *Global Journal of Flexible Systems Management*, 4, 1-12.

Singer, J. (2006). Framing brand management for marketing ecosystems. *Journal of Business Strategy*, 27(5), 50-57.

Smith, A. (2002). Three Scenarios for Applying Chaos Theory in Consumer Research. *Journal of Marketing Management*, 18, 517-531.

Stacey, R. D. (1995). The science of complexity: An alternative perspective for strategic change processes. *Strategic Management Journal*, 16, 477-495.

Stacey, R. D. (1996). Complexity and Creativity in Organizations. San Francisco: Berrett-Koehler.

Tarokh, M. J., Dabiri, N., Shokouthi, A. H. & Shafiei, H. (2011).The effect of supply network configuration on occurring chaotic behavior in the retailer's inventory. *Journal of Industrial Engineering International*, 7(14), 19-28.

Tedesco, B. G. (1998). Neural Network Complexity Models for the Marketing Mix. Paper read at the Advertising Research Foundation Media Accountability Workshop, New York, October 1998.

Tedesco Analytics. (2001). Complexity Science and Consumer Decisions. Available at: http://www.TedescoAnalytics.com/content/philosophy/phil.htm (accessed 25 May 2001).

Theodoridis, C. (2009). Complexity in retail organizations: An empirically informed discussion with particular reference to retail location strategy. Available athttps://www.researchgate.net/ profile/Constantinos_Theodoridis/contributions (accessed 6 April 2015)

Turner, F. (2014).Quality, Quantity, Granularity, and Thresholds of Emergence. *Cosmos + Taxis,* 1(2), 1-7.

Vojtko, V. & Heskova, M. (2010). Analyzing Retailing Opportunities and Threats Using Agent-Based Simulation. In Proceedings of the 14th IBIMA Conference on Knowledge Management and Innovation in Advancing Economies, Istanbul, Turkey, International Business Information Management Association, 2514-2523.

Weeks, R. V. (2014). Management perspectives on dealing with contextual uncertainty and unexpected emergent events. *Journal of Contemporary Management*, 11, 703-722.

Wilden, R. & Gudergan, S. P. (2015). The impact of dynamic capabilities on operational marketing and technological capabilities: investigating the role of environmental turbulence. *Journal of the Academy of Marketing Science*, 43, 181-199.

Wilkinson, I. F. (2006).The evolution of an evolutionary perspective of B2B business. *Journal of Business and Industrial Marketing*, 21(7), 458-465.

Wilkinson, I. & Young, L. (1998).On Competing: Firms, Relations and Networks. Paper read at Research Conference on Relationship Marketing, October, Emory University.

Wilkinson, I. F. & Young, L. C. (2013).The past and the future of business marketing theory. *Industrial Marketing Management*, 42, 394-404.

Wollin, D. & Perry, C. (2004). Marketing management in a complex adaptive system: An initial framework. *European Journal of Marketing*, 38(5/6), 556-572.

Woodside, A. G. (2015). The general theory of behavioral pricing: applying complexity theory to explicate heterogeneity and achieve high-predictive validity. Industrial Marketing Management, available at http://dx.doi.org/10.1016/j.indarman.2015.02.004(accessed 16 March 2015).

Wu, Y. & Zhang, D. Z. (2007). Demand fluctuation and chaotic behavior by interaction between customers and suppliers. *International Journal of Production Economics*, 107, 250-259.

Journal of Economics and Behavioral Studies (JEBS)
Vol. 8, No. 2, April 2016 (ISSN 2220-6140)

The Necessity for Education and Training within the Survivalist Retail Entrepreneurship Sector

Chux Gervase Iwu*, Saphetha Gwija, Robertson Tengeh, Chris Cupido, Roger B Mason
Cape Peninsula University of Technology, South Africa
*IwuC@cput.ac.za

Abstract: This paper investigates the necessity for education and training within the survivalist retail entrepreneurship sector in Khayelitsha, in the Western Cape Province of South Africa. A structured questionnaire, informal interviews and observations were employed to collect data. To analyse the collected data, Statistical Package for the Social Sciences (SPSS version 23) was employed. A total of 150 questionnaires were distributed, but only 128 usable completed copies were returned. The key findings were twofold: (1) an admission by the majority of the subjects that their businesses are not doing particularly well owing to their lack of basic business skills; and (2) the subjects' admission that competitive practices of the immigrant retail entrepreneurs in the township can be counteracted if they had adequate business skills. These findings imply that should survivalist retail entrepreneurs in Khayelitsha be expected to add greater value to the economy by creating employment opportunities, it is essential that they are provided with skills training on a regular basis by government agencies and other stakeholders such as the Wholesale and Retail Sector Education and Training Authority (W&RSETA). This paper has its origin in the considered intention of the Wholesale and Retail Leadership Chair of CPUT[1] to assist in developing the retail sector of the community of Khayelitsha.

Keywords: *Informal survivalist retail entrepreneurs, education, skills training, informal sector economy, networking*

1. Introduction

Since 1994, South Africa has 'enjoyed' democracy. However, there have been displays of unhappiness through protest actions mostly as a result of what can be described as unsatisfactory social and economic issues - insufficient public utility and growing levels of unemployment - that urgently demand government attention. More than anything else, access to proper education (either formal or non-formal) is crucial, not just for an individual but the country as well (Arko-Achemfuor, 2014:607). Worryingly, the quality of education in South Africa is not satisfactory (Herrington, Kew & Kew, 2009; Turton & Herrington, 2012), probably as a result of the segregated educational system of the apartheid era (Bhorat, 2001), which deliberately subjected Blacks to a second-class education (Levinsohn, 2008). In addition Levisohn continues, labour laws were promulgated to impede the advancement of Black people, while business policies prohibited them from profitable participation in mainstream economic practices. And no doubt this situation 'created an unequal distribution of wealth and a high rate of unemployment and poverty across the country, leaving those who struggled throughout the apartheid era to excessively bear the price of unemployment and live below the poverty line' (Levinsohn, 2008). So those who are unable to access employment, perhaps as a result of the quality of education they posses, then resort to self-employment in the form of selling petty goods in the marketplace so as to provide basic necessities such as food and clothing. Nieman and Nieuwenhuizen (2009:34) regard reasons behind such behaviours as push factors, i.e. such individuals started businesses on the basis of necessity-, as opposed to opportunity, based reasons. This epitomises how informal survivalist entrepreneurship may emerge in society.

Informal micro and survivalist entrepreneurs seek to improve their lot and those of their families as well. For instance, the basic needs (such as food, water and electricity, clothes, school fees and transportation fare for their children, and so on) largely depend on the profits that the business generates, especially if there is no other source of income in the family. This means that the livelihood of households owning a survivalist enterprise depends on the success of that business. One can imagine the pressure that is on such a business to be profitable. The truth of the matter is that micro and survivalist entrepreneurs do not operate in a

[1] Cape Peninsula University of Technology, South Africa

vacuum, and therefore are affected by most of the business environmental factors that their counterparts in the formal economy encounter (Co, Groenewald, Mitchell, Nayager, van Zyl, Visser, Train & Emanual, 2006:13).

Of interest is that Hutchinson and de Beer (2013:237) maintain that informal micro and survivalist businesses are expressions of the discontent with the unfriendly socio-economic state of a country. Co et al. (2006:121) note that although the informal survivalist and micro-enterprise sector is large in South Africa, yet it continues to wrestle poverty with very little success. It is against this background that this study poses this important question: Can education and training be the long awaited remedy for a struggling informal survivalist retail entrepreneur in a less advantaged township such as Khayelitsha? The objective of this important research is to understand if there is a necessity for education and training for survivalist retail entrepreneurs in a less-advantaged township such as Khayelitsha.

Problem Statement: Despite the establishment of the National Small Business Act of 1996 and other government pioneered interventions that are aimed at facilitating the business environment in South Africa, the informal survivalist retail sector has remained largely under-developed. On one hand they are excluded from government's small business support services, while on the other, the pressures of family/households and stringent competitive practices of formal businesses can be stifling. The dynamics posed by globalisation are also problematic in the informal sector economy, as the sector is dominated by individuals with limited education. One can only imagine how far these determined survivalist entrepreneurs could progress should they access the support systems that they need the most. Such support systems could be in the form of capacity building or knowledge of how to successfully grow a business. Therefore, improvement of knowledge and creative thinking, in a competitive setting such as Khayelitsha, should be seen as a worthwhile investment. The present gaps do not only hold back these enterprises from transiting to the formal sector economy, but influence the entrepreneurs' standards of living as well.

2. Literature Review

Informal survivalist entrepreneurship in South Africa: In the South African context, when one speaks about small businesses one refers to firms that are independently owned and managed, and with 50 or fewer employees (Co et al., 2006:11), whereas in some countries such as Europe and USA the construct 'small business' implies firms that have employees ranging from 100 to 500 (Nieman, 2006). Again, in the South African context, small businesses are classified into micro, very small and small enterprises (South Africa, (2003: 8). Among these classifications of small businesses, micro–enterprises are dominant particularly in the informal sector economy, and are family owned and operate mostly in developing communities (Mago & Toro, 2013: 21). Rolfe et al. (2010:5) describe the informal sector economy as the business environment in which informal businesses that are non-taxed and unregulated engage in economic activities. Nieman (2006:8) cites DTI (2003:28) which notes that most entrants into the business world start as micro-entrepreneurs for survival, with zero up to ten employees. Hence the term 'survivalist' is used to refer to informal businesses (including micro, and very small enterprises). This paper adopts the concept of 'survivalist' when referring to either micro or very small enterprise. Also, for the purpose of the study, the term 'survivalist' was adopted to refer to 'informal retail survivalist entrepreneurs' which forms the unit of analysis.

Even though survivalists can be found in the formal economy, what sets them apart from the formal businesses is that as informal enterprises they carry unique features that include the following: they operate as small-scale, very small businesses; mostly only the owner, with some family members and at most a couple of paid employees; inadequate formality in terms of business licensing, VAT registration, formal business premises, and accounting procedures; limited capital; and they lack technical or business skills among others (Nieman, 2006:8). Encouragingly, Mago and Toro (2013) affirm that these entrepreneurs provide for the livelihoods of thousands and thousands of people in South Africa. This could be the reason why Hutchinson and de Beer (2013:237) are of the view that informal survivalist entrepreneurship is the backbone of socio-economic development in any economy. Choto, Tengeh and Iwu (2014:93) concur that survivalist enterprises have a significant impact in the country's economic growth. Charman, Petersen and Piper (2012:51) however, caution that even though informal sector economy presents potential opportunity for success, many,

especially new entrants do not succeed. Naidoo and Urban (2010) locates lack of managerial skills among impediments of survivalist entrepreneurship, which extremely contributes to business collapse.

Necessity for improved skills for the survivalist retail entrepreneur: Herrington, Kew and Kew (2009:12) have noted that inadequate skills and education are the key impediments to the development of entrepreneurship in South Africa. Daniel and Sifuna (2007:689), Modisaotsile (2012), as well as Gyan, Mabefam and Baffaoe (2014:409) assert that proper education is critical to human development and maintenance of a socially responsive economic and political system. Gordhan (2012:21) also points out that the unpredictable and competitive global environment has forced many governments across the world to prioritise investment in their education. The types of education offered in many institutions (of either lower or higher learning) focus largely on the theoretical side and fail to introduce and expose students to practical entrepreneurship experience (Fal, Daniels, Williams & Bantobetse, 2011:9; Arko-Achemfuor, 2014). This limits learners from practically applying what they have learned in class. In general, education is aligned to processes that are involved in acquiring knowledge, attitudes and values from public or private schooling environments. In the current study, we argue that formal education may not be suitable for survivalist retail entrepreneurs as they are unlikely to adapt to the rigour of teaching and learning practices of formal educational systems.

Contrary to formal education, informal education in the form of vocational/skills training, would be a viable route for improving the informal sector economy. This type of education can be associated with what Arko-Achemfuor (2014) refers to as hands-on practical training including, computer literacy, delivered in the form of short courses. With access to such courses, the survivalist entrepreneur can be exposed to new and worthwhile business ideas, as well as opportunities to access other networks. Albert Bandura's theory of social learning explains that people can learn by associating and/or observing the behaviour of others and the results of such behaviours. Through observation one is able to acquire large, integrated units of behaviour without having to build up the behavioural patterns regularly by tedious trial and error (Bandura, 1971:2). Burke (2006:96) suggests another recipe for business success, which could outweigh any portfolio of academic degrees and certification. Burke calls this networking with helpful contacts, who can give advice, information and resources that can facilitate the entrepreneur's business venture. Regarding the informal sector, networking skills are very important for survivalist retail entrepreneurs. Evidence of the use of the right networks can be indicated by the success of foreign nationals who operate spaza[2] shops in the South African townships (Liedeman et al., 2013:4). Nieman and Nieuwenhuizen (2009:192) describe networking as the art of making and using the right contacts, which may include communication and exchange of information between parties of interest (e.g. friends, family members, customers, suppliers, bankers, professional associates, support structures, internet, business advisors, and so on).

3. Methodology

The research design for this study was exploratory in nature. To reinforce and balance the reviewed literature a structured questionnaire, unstructured interviews and observations were used to gather the necessary information. The combination of these methods is capable of fulfilling the intended purpose of the study. This is because they complement one other: where one is not strong enough to dig deeper to the crux of the phenomenon, the other compensates.

Population and sample size: In the context of research, population does not only refer to individuals, but also includes elements such as groups, organisations, human products, and events (Fox & Bayat, 2007:51). Fox and Bayat describe population as a full set of any of these elements from which a sample can be drawn for interrogation. In this study the population comprised informal (unregistered and non-taxed) retail entrepreneurs from the selected township (known as Khayelitsha) in the Western Cape province of South Africa. The informal retail industry has gained some limelight recently owing to fierce competition between local (indigenes) and foreign (immigrant) informal retail entrepreneurs who own spaza shops in the townships. The informal retail industry in this township is large and varied, not only constituting spaza shops.

[2] An isiZulu concept, which was used to define informal businesses that were secretly operated from home by Black South Africans selling petty goods/groceries to make a living (Bear et al., 2005) .

Khayelitsha was thus selected as it is one of the largest townships in Cape Town with a large number and variety of informal, survivalist enterprises, who are operating in an unusually competitive environment. With the help of snowballing, one of the nonprobability sampling techniques, 150 subjects were selected. According to Fox and Bayat (2007:59), in this sampling technique the researcher approaches one subject of the study who in turn refers the researcher/s to another suitable member/s to be studied. Therefore this sampling method is suitable, especially considering the enormous size of Khayelitsha and the need to capture a willing and representative sample.

Research instruments, procedure and data analysis: A standardized questionnaire containing closed-ended (Likert scaled) and open-ended questions was designed. The questionnaire items were scrutinized by an ethics committee of a faculty of business in an institution of higher learning in South Africa. Following a pre-assessment of the study area (Khayelitsha), the researchers considered it necessary to appoint interpreters who are fluent in isiXhosa (the dominant language of the subjects). This approach was helpful as it facilitated faster data collection. We also obtained data by conducting informal (unstructured) interviews with some of the participants. The interview questions were primarily devoted to gaining insight into the participants' perception of the significance of education and training in their retail businesses. In line with research ethics, subjects were informed of their rights: they were at liberty to discontinue with the process; they did not have to disclose their identities; and they were at liberty not to respond to any questionnaire item that they were uncomfortable with. As far as we were concerned, we viewed the appointment of interpreters as helpful as we did not have the 'space' to influence the subjects' responses. 128 usable questionnaires were returned. For analysis, use was made of SPSS (version 23) for the quantitative data, which assisted in the descriptive presentation of results. Information obtained through the informal interviews was used to draw inferences and to support our interpretation, findings and conclusions.

4. Results and discussion

This section is dedicated to displaying and discussing the results of the study.

Informal survivalist retail entrepreneurs: Table 1 explicitly shows a variety of businesses owned by the subjects.

Table 1: Variety of informal survivalist retail entrepreneurs

Business category	Frequency	Percent	Valid Percent	Cumulative Percent
Braai-meat	5	3.9	3.9	3.9
Dress-making	10	7.8	7.8	11.7
Timber & used-building material	5	3.9	3.9	15.6
Car-trailer producer	1	.8	.8	16.4
Clothing stall	5	3.9	3.9	20.3
Fishery	3	2.3	2.3	22.7
Fruit & Vegetables stall	7	5.5	5.5	28.1
Furniture upholstery & bed makers	4	3.1	3.1	31.3
Posters & mirrors	1	.8	.8	32.0
Kasi restaurant	29	22.7	22.7	54.7
Shebeen	33	25.8	25.8	80.5
Spaza shop	25	19.5	19.5	100.0
Total	128	100.0	100.0	

The Kasi restaurants supply more of South African traditional food with a mix of Western food and soft drinks. The term Kasi generally means township, and is popularly used in such communities, especially by young people. Therefore, to emphasise the difference between township and up-market restaurants such as MacDonald, KFC, and Spur, the term Kasi restaurant was necessary. We categorise them within the retail

industry as most of them operate in the form of a take-away eatery due to a lack of space in the business premises. In fact, most of these eateries are operated from shipping containers.

It was observed that there are still some locally-owned spaza shops (especially in the informal-settlements) regardless of the tough competition posed by other rivalries, including the foreign nationals who are known for dominance in the category of informal spaza shop businesses. Shebeens are also among popular businesses in the informal settlements. It is illegal to sell alcohol without a liquor license in South Africa, yet there are many operating without licences in the townships. Perhaps the reason for this is that it is not easy for the Police to access such areas due to the clutter of shacks and the inaccessible vehicular access. The level of alcohol consumption is high in the townships, and therefore it can be argued that shebeens are viable businesses in the townships.

Figure 1: A Kasi restaurant in Khayelitsha

Level of education achieved: The results in Table 2 are crucial in the study, as they show levels of schooling among the subjects in a cross tabulation.

Table 2: Level of education acquired

		School Level					
Item		**Primary school**	**High school (not completed)**	**High school (completed)**	**Tertiary (not completed)**	**Tertiary (completed)**	**Total**
Gender	Male	6	24	25	4	1	60
	Female	2	46	19	1	0	68
Total		8	70	44	5	1	128

What can be drawn from these findings is that the levels of schooling among the subjects are very low, especially among females. This relates to what the literature maintains regarding survivalist retail entrepreneurs' low levels of formal education (Nieman & Nieuweuhuizen, 2009:41). Herrington, Kew and Kew (2009:12) point out that inadequate skills and education are the key impediments to the development of entrepreneurship in South Africa. Gordhan (2012:21) also highlights that the unpredictable and competitive global environment forces many governments across the world to prioritise investment in their education. Arko-Achemfuor (2014) asserts that the types of education offered by many institutions of lower and higher learning largely focus on the theoretical angle rather than the practical side, which limits a learner's ability to apply the lessons learned. Hence, in this study we propose a broader investment in informal education (because it specialises in practical training) for the survivalist retail entrepreneur. Equipping survivalist retail entrepreneurs with more customised and lucrative skills for business will not only nurture their businesses,

but will also attract more entrants to entrepreneurial businesses. Through observation one is able to acquire large, integrated units of behaviour without having to build up the behavioural patterns regularly by tedious trial and error (Bandura, 1971:2). This means that an individual who learns by observation has a greater chance of success when applying whatever behaviour s/he has learnt from others.

Creativity to improve business products/services: In the context of business, creativity is all about the capability to generate a wide range of different ideas (Booysen, 2015:46). One however cannot escape the fact that ideas need to be correctly implemented at the right time. Table 3 indicates the frequency with which respondents felt that they used creative ideas to improve their businesses.

Table 3: Creativity to improve business products/services

Response category	Frequency	Percent	Valid Percent	Cumulative Percent
Always	10	7.8	7.8	7.8
Often	52	40.6	40.6	48.4
Occasionally	28	21.9	21.9	70.3
Rarely	16	12.5	12.5	82.8
Never	22	17.2	17.2	100.0
Total	128	100.0	100.0	

Looking at the results in Table 3, one will notice that most of the subjects admit that creative ideas to improve their business concept are not in place (for instance 52.6% of respondents said they used creative ideas 'occasionally', 'rarely' or 'never', with only 7.8% saying 'always'). Research shows that creativity and innovation are some of the key personal traits of an entrepreneur. Creative behaviour and thinking may result in better performance and innovative outputs (Nieman & Nieuweuhuizen, 2009:55). We also argue that skills training are key to creative and innovative behaviour. Nieman (2006:11) further connects innovative behaviour to access to technological systems, which suggests that through more customised training a survivalist retail entrepreneur individual can advance his business through creativity.

Rivalries: McDaniel and Terblanche (2004) categorise competitive advantage in a business venture as the 'quality of service, customer value, customer satisfaction, customer-orientated personnel, well-trained employees, employee empowerment, and teamwork'. Without this, the ability to handle competitive rivalry is limited. Table 4 provides the respondents opinions with regard to the level of competitiveness in their markets.

Table 4: Competition to the business

Response category	Frequency	Percent	Valid Percent	Cumulative Percent
Always	91	71.1	71.1	71.1
Often	9	7.0	7.0	78.1
Occasionally	9	7.0	7.0	85.2
Rarely	14	10.9	10.9	96.1
Never	5	3.9	3.9	100.0
Total	128	100.0	100.0	

An overwhelming majority of 71% admit that competition is always high in the marketplace. This implies that the business environment is very competitive; as a result businesses can emulate competitors' product/service offering, whereas customer's buying decisions are based on rational reasons. Customers avoid other businesses selling similar products/services to buy from a business of choice because of competitive advantage (McDaniel & Terblanche, 2004). Therefore, for as long as these enterprises continue to operate without this special ingredient, competition will remain a challenge. Survivalist retail entrepreneurs seem to lack fundamental business skills, and rather rely more on what works for them. Burke (2006:96) insists that networking is another useful tool, if one meets helpful contacts, who can give advice, information and resources that can facilitate his/her business venture. Facing competitive rivalry, networking skills are

vital. Evidence of the use of the right networks, can be traced to the success of foreign nationals who successfully operate spaza shops in South African townships (Liedeman et al., 2013:4).

5. Conclusion and Recommendation

Two very important findings have emerged from this study. The first relates to an admission by the majority of the subjects that their businesses are not doing particularly well owing to their lack of basic business skills. The second relates to the subjects' admission that the competitive practices of the immigrant retail entrepreneurs can be successfully competed against if they had adequate business sense, knowledge and abilities. Evidence is found in the statements by some of the subjects. For instance, one of the subjects said 'I have no doubt in my mind that if I went for simple business lessons, I am able to submit applications for funding and confidently defend the submission when I am called upon to do so'. Another subject indicated a willingness 'to participate in any form of training that will help me grow my business'. However, what was quite interesting to the researchers was the concern shown by the owners of a local eatery in Khayelitsha. These subjects questioned the significance of teaching style '....as though they were in university'. The subjects disclosed that they attended some training programs organised by a certain agency where they were subjected to 'too much talk (theory)'. When pressed further to share their overall assessment/perception of the training they attended, they said that they were lost and could not connect with the trainers. We infer from this statement that the facilitators of the programme may not have engaged the subjects practically. With regard to competitive muscle, we infer that if the subjects understood competitive practices, they are better able to come up with creative ways of keeping their businesses going instead of playing second fiddle to immigrant retail entrepreneurs in the townships. In fact, recent entrepreneurship literature suggests the need for cooperation and/or collaboration with identified competitors. Xesha, Iwu and Slabbert (2014) are of the opinion that collaborative relationships enable the growth of businesses, as participants share information as well as other resources. In the case of Khayelitsha, immigrant retail entrepreneurs should not be viewed as monsters but as partners who can be beneficial to the growth of businesses in the township. We suggest that instead of antagonizing immigrant retail entrepreneurs, local business owners should embrace them, learn from them and possibly become partners in their wholesale/bulk buying practices.

In light of the key findings of the study and the above interpretations, we are of the view that the survivalist retail entrepreneur is able to transit to a much bigger enterprise if he is exposed to skills programmes that focus on providing practical training in entrepreneurship. The package should include hands-on lessons on business management incorporating simple bookkeeping practices, proposal writing and presentation, and so on. The facilitation should take place in a simulated business environment with experienced and highly skilled staff to develop learning material and conduct such training. Sustainability of such programmes is only possible if credible partnerships with critical funding and support agencies are in place; if a range of assessment tools that align with the objectives of a programme as well as the participants' abilities are available. We insist that such training should take a hands-on approach because of the value we find in Brush, Neck and Greene (2015), Maritz and Donovan (2015), and Karia, Bathula and Abbott (2015) who have consistently argued for practice based learning owing to its potential to excite learners and reduce the risk of learners not turning up for lessons.

Should survivalist retail entrepreneurs in Khayelitsha be expected to add value to the economy by creating employment opportunities, it is essential that they are provided with skills training on a regular basis by government agencies and other stakeholders such as the W&R SETA. It is, judging by the participants' responses, possible that their businesses will blossom, thus requiring extra capacity in the form of employees. Interestingly, although Eresia-Eke and Rath (2014) found no statistically significant relationship between business owners' financial literacy and enterprise growth, an estimated 33% who were financially literate revealed that they increased their number of full time employees. While we do not consider this number large enough, we are equally adamant that investment in business literacy of a business owner is a worthwhile investment. In fact, in Jordan, Magableh, Kharabsheh, and Al-Zubi (2011) found improved performance in SMME profit, revenue and employment as a result of training. Elsewhere, Malaysia, Yahya, Othman, and Shamsuri (2012) found a 'significant and positive relationship between training and SMEs' performance.' We conclude that survivalist retail entrepreneurs in Khayelitsha can create jobs if they have the right opportunity (i.e. skills development) to grow their businesses.

Scope for future research: This paper only focused on the informal survivalist retail entrepreneurs, in a large township in the Western Cape Province of South Africa. South Africa has nine Provinces. This alone underscores the necessity for further relevant studies around the subject of informal survivalist retail entrepreneurship and its development in other geographical settings of the country.

References

Arko-Achemfuor, A. (2014). Teaching youth and adults through education with production: the case study of Tiger Kloof Educational Institution. *Mediterranean Journal of Social Sciences*, 5(1), 607-612.

Bandura, A. (1971). *Social learning theory*. New York: Library of Congress.

Bear, M., Bradnum, P., Tladi, S. & Pedro, D. (2005). Making retail markets work for the poor – why and how Triple Trust Organisation decided to intervene in the spaza market in South Africa. Washington, D.C.: The SEEP Network.

Bhorat, H. (2001). Fighting poverty: labour markets and inequality in South Africa. Cape Town: Juta.

Booysen, K. (2015). Dynamics of entrepreneurship. Cape Town: Juta.

Brush, C., Neck, H. & Greene, P. (2015). A practice-based approach to entrepreneurship education. Evolving entrepreneurial education: innovation in the Babson Classroom, 35.

Burke, R. (2006). Entrepreneurs Toolkit. Cape Town: Burke Publishing.

Charman, A. Petersen, L. & Piper, L. (2012). From local survivalism to foreign entrepreneurship: the transformation of the spaza sector in Delft, Cape Town. *Transformation: Critical Perspectives on Southern Africa,* 78(1), 47-73.

Choto, P., Tengeh, R. K. & Iwu, C. G. (2014). Daring to survive or to grow? The growth aspirations and challenges of survivalist entrepreneurs in South Africa. *Environmental Economics*, 5(4), 93-101.

Co, M. J., Groenewald, M. J., Mitchell, B., Nayager, T., van Zyl, J., Visser, K., Train, W. & Emanual, B (2006). Entrepreneurship: fresh perspective. Cape Town: Pearson.

Daniel, N. & Sifuna, D. N. (2007). The challenge of increasing access and improving quality: Analysis of universal primary education interventions in Kenya and Tanzania since 1970s. *International Review of Education*, 53, 687–699.

Eresia-Eke, C. E. & Raath, C. (2013). SMME owners' financial literacy and business growth. *Mediterranean Journal of Social Sciences*, 4(13), 397.

Fal, M. Daniels, R. Williams, A. & Bantobetse, R. (2011). The state of entrepreneurship in South Africa: the key archetypes of an entrepreneurial culture. Bryanston: Endeavor South Africa.

Fox, W. & Bayat, M. S. (2007). A guide to managing research. Cape Town: Juta.

Gordhan, P. (2012). 2012 Budget Speech. Pretoria: Communications Unit National Treasury.

Gyan, C., Mabefam, M. G. & Michael-Baffoe, M. (2014). Push out or drop out? Taking a critical look at the poor performance and drop-out of students of the JSS/JHS Programme in Ghana. *Academic Journal of Interdisciplinary Studies*, 3(1), 409-420.

Herrington, M., Kew, J. & Kew, P. (2009). Tracking entrepreneurship in South Africa: a GEM perspective [online]. Available at: http://www.gsb.uct.ac.za/files/Gembook2009.pdf. [10 June 2011].

Hutchinson, M. V. & de Beer, M. (2013). An exploration of factors that limit the long-term survival and development of micro and survivalist enterprises: empirical evidence from the informal economy in South Africa. *Mediterranean Journal of Social Sciences*, 4(13), 237-245.

Karia, M., Bathula, H. & Abbott, M. (2015). An experiential learning approach to teaching business planning: connecting students to the real world. In Exploring Learning & Teaching in Higher Education. Swinburne University of Technology: Springer-Veriag Berlin.

Levinsohn J. (2008). Two policies to alleviate unemployment in South Africa. Centre for International Development at Harvard University (CID) Working Paper, 166.

Liedeman, R., Charman, A. Piper, L. & Petersen, L. (2013). Why are foreign-run spaza shops more successful? The rapidly changing spaza sector in South Africa [online] Available at: www.econ3x3.org./article/why-are-foreign-run-spaza-shops-more-successful-rapidly-changing-spaza-sector-south-africa. [02 May 2015].

Mago, S. & Toro, B. (2013). South African government's support to small, medium micro-enterprise (SMMEs): the case of King William's town area. *Journal of Economics*, 4(1), 19-28.

McDaniel, L. H. & Terblanche, B. (2004). *Marketing: SA edition*. Cape Town: Oxford University Press.

Magableh, I. K., Kharabsheh, R. & Al-Zubi, K. A. (2011). Determinants and impact of training: the case of SMEs in Jordan. *International Journal of Economics and Finance*, 3(5), 104-116.

Maritz, A. & Donovan, J. (2015). Entrepreneurship and Innovation: Setting an agenda for greater discipline contextualisation. *Education+ Training*, 57(1), 74-87.

Modisaotsile, B. R. (2012). The failing standard of basic education in South Africa. Africa Institute of South Africa. Policy brief No. 72. March [online]. Available at: http://www.ai.org.za/wp-content/uploads/downloads/2012/03/No.-72.The-Failing-standard-of-basic-education-in-South-africa1.pdf. [20 June 2014].

Naidoo, R. & Urban, B. (2010). The relevance of Operational Skills towards Business sustainability: A focus on SMME manufacturers in the Vaal Triangle region. *Acta Commercii*, 4, 234-248.

Nieman, G. (2006). Small business management. A South African approach. Pretoria: Van Schaik.

Nieman, G. & Nieuwenhuizen, C. (2009). Entrepreneurship. A South African perspective. Cape Town: Interpak Books.

Rolfe, R., Woodward, D., Ligthelm, A. & Guimaraes, P. (2010). The viability of informal micro-enterprise in South Africa. Presented at the Conference on—Entrepreneurship in Africa, Whitman School of Management, Syracuse University, Syracuse, New York, April 1-3, 2010.

South Africa. (2003). National Small Business Amended Act No. 26, 2003. *Government Gazette*, 461(25763), 1-10, November 26.

Turton, N. & Herrington, M. (2012). Global Entrepreneurship Monitor, South Africa. Cape Town: The UCT Centre for Innovation and Entrepreneurship.

Xesha, D., Iwu, C. G. & Slabbert, A. (2014). Business relationships as a driver of success for small, medium, and micro enterprises (SMMEs) in South Africa. *Journal of Economics*, 5(1), 37-43.

Yahya, A. Z., Othman, M. S. & Shamsuri, A. L. S. (2012). The impact of training on small and medium enterprises (SMEs) performance. *Journal of Professional Management*, 2(1), 15-25.

Journal of Economics and Behavioral Studies (JEBS)
Vol. 8, No. 2, April 2016 (ISSN 2220-6140)

The Role of Economic Factors in the Choice of Medical Providers in Rwanda

Charles Mulindabigwi Ruhara, Josue Mbonigaba
University of Rwanda, Rwanda
School of Accounting, Economics and Finance, University of KwaZulu-Natal, South Africa
mbonigaba@ukzn.ac.za

Abstract: The purpose of this paper is to investigate the role of economic factors in choosing alternative service providers and to recommend suitable measures that could be taken to improve the use of health services in Rwanda. The study uses a multinomial logit framework and employs the Integrated Household Living Conditions Survey (EICV2) conducted in 2005 by the National Institute of Statistics of Rwanda (NISR). To handle the problem of endogeneity, we estimate a structural model. The results indicate that health insurance is an important factor in the choice of health facilities. User fees are major financial barriers to health care access in Rwanda. The results suggest that as household income increases, patients shift from public to private health facilities where quality is assumed to be high. A number of policy recommendations emerge from these findings. First, as insurance is an important factor in choosing a health care facility, policies that reduce health care costs to patients would substantially increase the use of health services. Second, since an increase in income allows the patient to shift to private facilities, the government should consider subsidizing private health facilities to enable access to care in private sector facilities by low-income households. Finally, since distance affects access to health care in Rwanda, there is a need to improve geographical accessibility to health facilities across regions by upgrading and expanding transportation and health infrastructures.

Keywords: *Health, Price, Insurance, Service Multinomial*

1. Introduction

Health seeking behaviour is based on a number of dimensions. First, there is a choice of whether or not to seek formal medical care followed by the choice of what kind of health care a patient wishes to receive. Second, having made these choices, patients choose the type of provider facility to visit; public or private (Mwabu, 1986). Analysing the demand for health care by only focusing on whether or not a sick individual seeks formal health care can lead to an incomplete analysis of the demand function because it does not consider valuable information related to the choice of a health service provider. This suggests that a clear understanding of health seeking behaviour can be obtained when in addition to identifying the factors influencing demand for health care, the determinants of choice of a health facility are examined. While some of these input decisions might be based on recommendations made by physicians, such recommendations may be altered by the level of expected price, income, insurance and other individual characteristics. Most of the studies on demand for health care focused on the quantity of health care (see Mocan et al., 2004; Hotchkiss et al., 2004; Feng et al., 2008; Lépine and Nestour, 2008; Hahn, 1994). To our knowledge, there are no studies in Rwanda that have been done to determine factors influencing the choice of a health facility. The available evidence on demand for health care by Jayaraman et al., (2008) and Shimeles (2010) focused on the decision to use maternal health care services and the effects of community-based health insurance schemes (CBHIs) at the district level. For countries in which estimates related to the choice of health facilities exist, research results provide conflicting evidence as to the effect of price, income and insurance across providers (Muriithi, 2013; Kaija and Okwi, 2011). This paper aims at filling the gap in knowledge by examining the role of economic factors in the choice of alternative health facilities in Rwanda.

Identifying the determinants of facility choice is necessary so as to establish a complete picture of health seeking behaviour by patients at different stages of the care decision process (Mwabu, 1986). In Kenya, Muriithi (2013) found that more than 70 percent of the respondents did not seek health care from government health facilities despite the fact that these facilities were the closest to them. Moreover, the private health facilities visited were more expensive than the closest, public health facilities. Thus, information on facility choice can help a lot in explaining health service utilization in Rwanda. This paper provides the evidence. In addition, most of the studies on demand for health care have not controlled for

endogeneity of health insurance. Greene (2007) stated that failure to address this problem leads to biased estimates and this statement has been supported by some empirical evidence. Rosenzweig and Schultz (1982), for example documented that failing to take into account the interaction between variables leads to misleading results and consequently wrong policy recommendations. Hunt-McCool et al. (1994) pointed out that ignoring endogeneity leads to misleading estimates, which in turn can affect the impact of related health care financing policies. In a more recent study, Mwabu (2008a) reported that endogeneity-related issues of simultaneity and measuring errors lead to wrong estimates. A common conclusion of these studies is that inappropriate policy making is most likely when endogeneity is not considered. So, this paper addresses this estimation problem, providing rigorous evidence on the determinants of choice of health service providers that policy-makers can use to improve health service utilization across all the regions in Rwanda.

2. Literature Review

Mwabu (1986) documented the choice of health care provider as being based on utility maximization theory where the decision maker chooses the health facility that provides the highest utility. The choice made is not directly based on the alternative facility, but rather on the characteristics or attributes of the alternative (Luce, 1959). In practice, however, utility from any alternatives is driven by economic and other factors, and the determination of which factor is or is not important in explaining the choice is an empirical matter. Several studies have examined the role of price of health care in the choice of alternative providers (Sahn et al., 2003; Akin et al., 1998). Their findings confirmed that if we control for quality of care, the price plays a significant role in the choice of service providers. However, the magnitude was found to be very small especially for public facilities. For instance, doubling the price of public facilities was to induce a decline in the probability of their use by 0.10 while doubling the price of private clinics was accompanied by a large increase in the use of public clinics.Similar findings were reported by Mwabu et al. (1993) where a 10 % increase in the price of public health facilities reduced demand by only 1% while increasing the price of private facilities by 10 % caused a decline of visits to private facilities by more than 15 %. Ssewanyana et al. (2004) documented that the low responsiveness to prices for choosing public health facilities suggests that increasing user fees could generate more revenue for public health care providers without significantly reducing demand. Comparable results were reported byMuriithi (2009) who found user fees to be significantly correlated with the use of alternative health facilities.

However, studies related to the effect of price on the choice of service providers were inconclusive because some of them reported an insignificant price effect. Kaija and Okwi (2011) found, for instance, that the effect of price on the choice of any health facility was insignificant. This finding was attributed to the information asymmetry between consumers and providers where consumers often do not have enough information to make their own decisions but have to rely on prescriptions by physicians. The insignificant price results were in line with studies by Lacroix and Alihonou (1982) and Akin et al. (1998), who found the price to have little effect on the choice of providers. Given the conflicting results on the role of price on health care choices, more investigation needs to be conducted. The role of income in choosing alternative choices has been highlighted by many authors. Heller (1982) showed that the choice of service providers was inelastic to income. In addition, the choice of service provider among low-income earners and high-income individuals differed significantly. An increase in household-income level was associated with a reduction in seeking treatment from public health facilities and consequently an increase in demand for private health services. Such behaviour is quite rational given that it is well known that with higher incomes, access to high quality service in private facilities becomes possible. Similar findings established that pregnant women from wealthy households were more likely to deliver a child at hospital assisted by medical personnel (Jayaraman et al., 2008).If the results above imply that household income is an important factor in explaining the choice of service delivery; other studies moderated the effect of income on health seeking behaviour. Lindelow (2002) reported an insignificant difference between the poor and non-poor on the choice of alternative health facilities. This was explained by the complex way through which the income variable is measured in the model. Income proxied by total expenditure is first entered directly in the model, but also through income-price interaction, and finally, through opportunity cost of time. Since the role of income differed across studies and services provider, more studies are needed.

Other studies have examined the role of non-monetary factors in determining the choice of health care providers (Acton, 1975 and Mwabu, 1989). Both studies used a utility maximization model to develop predictions for free and non-free care in New York and Kenya, respectively. The results showed that non-monetary factors such as distance to health care from home, a proxy for the price of health care, influence the choice of alternative health facilities. In support of this view, Awoyemi et al. (2011) reported a negative and significant effect of the distance to hospital from the area of residence on the utilization of both public and private hospitals. The results implied that the longer the distance to the hospital from home, the less the utilization of private hospitals and the more people living in rural areas would show preference for no-care or self-treatment. The results were consistent with the findings by Ssewanyana et al. (2004) who found a negative effect of distance to health service provider suggesting that the probability of seeking care from any formal provider decreases with distance. However, Mwabu, et al. (2003) found distance to have little effect on demand for health care services. The plausible reason for this finding was that majority of people reported residing within three kilometres of a health facility suggesting that health facilities in the study area were accessible to the population. Individual and household characteristics play an important role in choosing the service providers (Lindelow, 2002). Research has shown that household characteristics such as age influence the choice of service providers. Old age tended to be associated with a decrease in the probability of seeking care from a public hospital or health post. Relative to the category of children under the age of 5 years, the group aged 50 years and above were found to be less likely to seek care from private clinics but was more likely to obtain care from public clinics and hospitals (Kaija and Okwi, 2011). Other studies showed that old age tended to be associated with an increase in the probability of seeking care from a traditional medical practitioner and a decrease in the probability of care being sought at a hospital (Lindelow, 2002). The research showed that the most important effect was the shift away from consultation at a health post to no-consultation as age increased.

Research has reported inconclusive evidence for the gender effect (Ssewanyana et al., 2004; Mwabu et al., 1993; Sahn et al., 2003; Hutchinson, 1999). Although distance and user fees reduced access to health care, men were less constrained by distance than women. Males were less likely to seek care from public facilities relative to no-care, and the researcher considered that the differences in education were the main reason (Wong et al., 1987). In most studies, relative to the self- treatment option, females were more likely to seek care from public health facilities compared to men who had a high probability of seeking care from private health facilities. Men's demand for private health care increased with age, reflecting that as men age they encounter increasingly serious illnesses that can only be treated by the better equipped private facilities. As with females, the probability of men seeking government health care started to decline as they aged (Lawson, 2004). In some other studies however, the gender effect on alternative choices was ambiguous leading to a narrowing of the gap of gender disparities. There was no evidence of gender differences in health care seeking (Ssewanyana et al., 2004). Gender disparities were also examined for children. The findings were such that if income plays an important role in raising the health care demand for children, boys were more likely to seek care when in richer households and less care when in poorer households than girls (Ssewanyana et al., 2004).

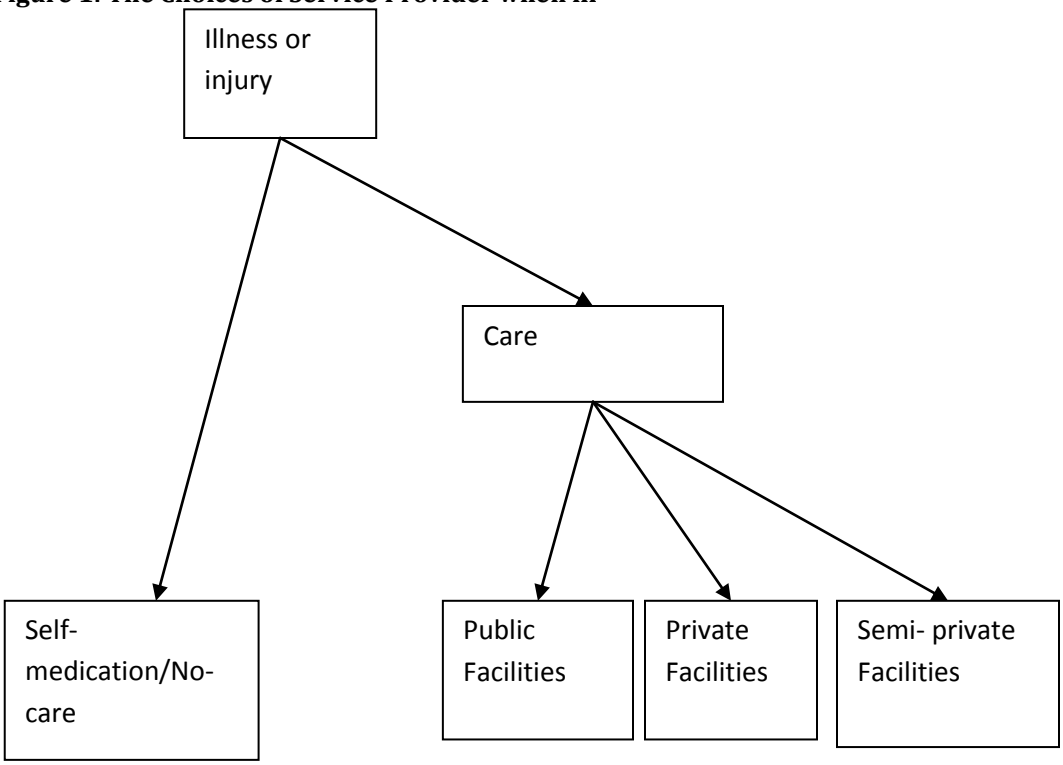
Other studies have included the household size in the determinants of choice of service providers (Sahn et al., 2003). The effect of household size on the choice of alternative providers was found to be significant. The negative effect of household size confirmed the notion of competition for resources in larger households. Individuals from large-size households were less likely to choose private health facilities probably due to high costs. Households with a large number of people are financially limited and thus not likely to seek care from private clinics due to high costs and instead rely on self-treatment at home. Results from empirical studies on choice of service providers have differed in several ways. Some of the studies reviewed found a statistically significant or insignificant positive relationship between income and choosing alternative facilities. The results discussed above show inconsistency in terms of the effect of price, income and other variables. Because no-consensus has emerged, this paper seeks to present new evidence of the role of economic factors on the choice of service providers in Rwanda. In addition, most of the studies on choice of health provider did not address the endogeneity and heterogeneity issues.

3. Data and Methodology

The data used in this paper is drawn from the Integrated Household Living Conditions survey (EICV2) conducted in 2005 by the National Institute of Statistics of Rwanda (NISR). This nationally representative survey collected data from 7,620 households and 34,819 individuals. Data were collected at the household and the individual level. The EICV2 aimed at enabling the government to assess the impact of the different implemented policies and programs in improving the living conditions of the population in general. The survey covered all the 30 districts in Rwanda and collected data on a wide spectrum of socioeconomic indicators: labour, housing, health, agriculture, debt, livestock, expenditure and consumption in different areas, regions and locations in the country. Household level information included consumption expenditures on health and out of pocket expenditure for health care services (consultation; laboratory tests; hospitalization; and medication costs). Individual level information included socio-economic indicators and insurance status. There were also a number of community variables such as distance to the nearest health facility. In order to estimate the choice of service providers we constructed a sub-sample for choice of service providers. We considered this data set, although collected in 2005, as suitable for capturing the demand effects because household dynamics and responses do not change too frequently.

In this paper, we assume that an individual selects a service provider conditional on having decided to seek formal health care. The framework is based on Gertler and Sanderson (1987) and Ssewanyana et al. (2004) where the decision to choose an alternative facility is influenced by economic and other factors. Because the choice of health service provider is a discrete type of decision, probabilistic choice models are a better theoretical representation for estimating choice of service provider (McFadden, 1981). The assumption is that in the event of illness, a household's decision to seek medical treatment for a sick member can be viewed as being influenced by the household's own characteristics and attributes of the available health care providers.

Figure 1: The Choices of Service Provider when ill



Source: Researcher's own construction

Based on the data set, the choice structure in Rwanda comprises four choices of health care providers; public providers, private providers, semi-private providers and self-medication. When ill or injured, an individual

chooses whether or not to seek health care and once the decision is made, the patient chooses one of the four available alternatives as shown in Figure 1. The alternatives might include self-care, no-care, pharmacy, public clinics/hospitals, private hospitals/clinics, semi-private hospitals/clinics and others. In this study visits are limited to one consultation only. If several consultations were made in the last 15 days, answers referred to the last consultation. Because the number of observations in some cases was small, the alternatives were grouped into four options: (1) Self-medication including no-care, pharmacy/drug shop and traditional healers (See Odwee et al, 2006; Kaija and Okwi, 2011; Lawson, 2004); (2) Public facilities including all government health providers; hospital, clinics, dispensaries and health centres; (3) Private facilities; privately owned hospital, clinics, dispensaries and health centres; and (4) Semi-private facilities owned by private companies but subsidized by the government. This last group includes the faith-based facilities run by religious organizations such as the Catholic Church, Protestant churches or others.

The patient chooses the provider option that maximizes his/her utility given the individual's illness, the economic actors (fee charged by a particular provider and the level of income) and considering the type of insurance. With some modifications, the utility function of the choice model is expressed as in Ssewanyana et al. (2004) as follows:

$$U_{ij} = U_{ij}(H_{ij}, E_{ij}) \quad (1)$$

Where H_j is the level of health expected by individual i after being treated by jth service provider (or treatment in jth place); E_j are expenditures in all other goods given that the jth choice is made. The consumer decides first to demand care against no-care. Conditional on this decision, the individual chooses the provider expected to yield the highest satisfaction. Supposing that there are J+1 feasible alternatives (where j = 0, alternative being self-care or no-care), then, the unconditional utility maximization will be given by:

$$U^* = \max\ (U_o, U_1 ..., U_j) \quad (2)$$

Where U^* is the highest level of utility the individual can obtain. This is obtained by comparing the different utility levels obtainable from each alternative facility, varying from 0 to j. Based on equation (1); the health production function can be formulated as:

$$H_{ij} = h(S_i, Q_j) + \varepsilon_{ij} \quad (3)$$

where H_{ij} is the improvement in health by individual i after being treated by the jth provider, which is a function of economic factors, income and price; individuals characteristics including age, sex, education etc.; and household level factors including insurance and household size,. S_i represents specific factors related to a provider such as qualified health staff, Q_j represents unobservable heterogeneity characteristics at individual, household and facility level, while ε_{ij} is the error term. In the case of the self-medication option, H_{ij} is equal to zero because we assume that there is no improvement in health status for those who do not consume health services.

After consulting jth provider, the disposable income by the individual ith is a function of her/his individual income, B_i; and the charge, C_j, that she/he pays at the jth provider representing both direct costs such as user fees and indirect costs such as transportation cost to the health facility from home. The relationship is expressed as:

$$Di_{ij} = f(B_i - C_j) \quad (4)$$

The equation states that the individual ith disposable income D_{ij} when jth provider is chosen is a function of the individual income B_i and the direct and indirect charges C_j at the jth provider. Substituting equations (4) and (3) into (1) gives the conditional utility function expressed as:

$$U_{ij} = h_{ij}(S_i, Q_j) + f(B_i - C_j) + \varepsilon_{ij} \quad (5)$$

The equation says that the maximum utility by individual i is obtained by choosing the jth service provider taking into consideration the individual budget (income), direct costs such as charges by the provider and the indirect costs such as the transportation costs. The other variables in equation (5) are explained as in equations (3-4). Noting the deterministic part of equation (5) as V_{ij}, the equation can further be expressed as:

$$U_{ij} = V_{ij} + \varepsilon_{ij} \quad (6)$$

Where the ith individual chooses the jth health service provider from which he/she expects to get the greatest level of utility. Any service provider is chosen if the expected utility is higher than the satisfaction that could be derived from all other service providers. Then, an individual chooses the alternative that maximizes the welfare utility which also reflects his/her future health state. He or she chooses an alternative from a set of j's, $j \in J = \{0,1,\ldots,m\}$ where 0 is no-care (self-medication) and j=1… m are the other choice alternatives. The provider j will be chosen by individual if:

$$U_{ij} > U_{ik} \text{ Where } j \neq k \text{ and j, k} \in \text{J} \quad (7)$$

Equation (7) says that individual i will choose the health service provider j if and only if the expected utility from health service provided by the jth provider is strictly greater than the expected utility from any other health service providers. This means that the probability of a given medical care provider against all other providers is:

$$\begin{aligned} P_{MC} &= P(U_{MC} \geq U_{OTHER}) \\ &= P[V_{MC} + \varepsilon_{MC} \geq V_{OTHER} + \varepsilon_{OTHER}) \\ &= P[V_{MC} - V_{OTHER} \geq \varepsilon_{OTHER} - \varepsilon_{MC}] \quad (8) \end{aligned}$$

Where P_{MC} = probability of choosing a given medical care provider, U_{MC} = the utility from the visited medical provider and U_{OTHER}= the utility from all other medical providers. The equation says that a given medical care provider is chosen if the expected utility once visited is greater than the utility from any other health providers. For instance, an individual will choose a public health facility for treatment if

$$\begin{aligned} P_{PUB} &= P(U_{PUB} \geq U_{OTHERtype}) \\ &= P[V_{PUB} + \varepsilon_{PUB} \geq V_{OTHERTYPE} + \varepsilon_{OTHERTYPE}] \\ &= P[V_{PUB} - V_{OTHERTYPE} \geq \varepsilon_{OTHERTYPE} - \varepsilon_{PUB}] \quad (9) \end{aligned}$$

Where P_{UB} = probability of choosing a public medical care provider, and U_{OTHER} = the utility from all other medical providers. That is, a public health facility is chosen if the utility to be derived once visited is greater than the utility from any other type of service providers. Conversely, a private health facility will be chosen for treatment if the utility to be derived once visited is greater than the utility from any other type of health facilities. This is expressed as in equation 10:

$$\begin{aligned} P_{RI} &= P(U_{PRI} \geq U_{OTHERtype}) \\ &= P[V_{PRI} + \mu_{PRI} \geq V_{OTHERTYPE} + \varepsilon_{OTHERTYPE}] \\ & P[V_{PRI} - V_{OTHERTYPE} \geq \varepsilon_{OTHERTYPE} - \varepsilon_{PRI}] \quad (10) \end{aligned}$$

Where P_{RI} = probability of choosing a private medical care provider, U_{OTHER}= the utility from all other medical providers.

If in equation (10) $h(S_i, Q_j)$ is linear in S_i and Q_j, we can denote the coefficient vectors of S_i by δ_j and those for Q_j will be denoted by γ_j which might vary across alternative providers. To avoid responsiveness of prices being independent of income we consider a non-linear specification of $f(B_i - C_j)$ (See Gertler and

Sanderson, 1987; Gertler and Van der Gaag, 1990; Ssewanyana et al., 2004). As specified in Sahn et al. (2003) and Ssewanyana et al. (2004), we employ a quadratic utility function linear in health goods and quadratic in the logs of consumptions of non-health goods. This is given by:

$$f(B_i - C_j) = \phi_1 \ln(B_i - C_j) + \phi_2 [\ln(B_i - C_j)]^2 \quad (11)$$

Where ϕ_s are assumed to be equal across provider options. Sahn et al. (2003) showed further that the equation can be reduced to

$$f(B_i - C_j) \approx \kappa_1 [\ln(B_i) - C_j / B_i] + \kappa_2 [\ln(B_i)^2 - 2\ln(B_i)(C_j / B_i)] \quad (12)$$

The equation (12) shows that the functional form for prices and income is quadratic in the logs of net income. Given that ln (B_i) and ln $(B_i)^2$ are constant across provider options it is better to use the difference in utilities, V_{ij}-V_{i0}, where V_{i0} is a reference utility, which in this case refers to no-care and can be normalized to zero. Then, the equation to estimate is obtained by getting the difference in utilities as shown in equation (13) below

$$V_{ij} - V_{i0} = \delta S_i + \gamma Q_j + \kappa_1(-C_j / B_i) - \kappa_2 [2\ln(B_i)(C_j / B_i)] \quad (13)$$

The empirical model commonly used in the literature to estimate the choice of health provider is a multinomial logit (see Li, 1996; Lawson, 2004). The problem with this model is that it imposes the property of independence of irrelevant alternatives (IIA), an assumption of no-correlation between the error terms of the different choices. The assumption of IIA states that the odds of facility type *i* being chosen over facility type *k* are independent of the available alternatives other than *i* and *k*. An interesting feature is that the odds of choosing a given alternative does not depend on how many alternatives there are in total because each alternative has its own value independent of the other alternatives. With this, we would expect that if there were three options, and one were removed, people would still choose among the remaining two in the same proportion as they did when there were three. The model cannot be appropriately applied when there are different degrees of substitutability or complementarily among the various choices. The alternative model in this case is the nested logit allowing the correlation of some of the choices.

However, given the nature of the choice structure in Rwanda and considering that the dataset used in this paper contains one-level with four choices of health care providers, self-treatment, public, private and semi-private, we cannot use the nested logit model[3]. Instead, we adopt the multinomial logit model to estimate the choice of service providers. This option is supported by McFadden (1981) who argued that the multinomial logit model should be used when outcome categories are plausibly independent for each one of the decision makers. In addition, the Hausman test for IIA showed that the four alternatives are independent[4] (See Appendix Table A3). Moreover, the test statistic cannot reject the null, i.e., the choice alternatives are uncorrelated (see also Hausman and McFadden, 1981). In estimating the choice model, we assume that each individual has four different providers available: the nearest public provider, the nearest private provider, the nearest semi-private provider and the self-medication alternative. Self-medication includes traditional healers, no-care as well as retail drug shops (Odwee et al., 2006). Given the assumption, the probability that the jth provider is chosen given other providers is expressed as in Long (1997), Kaija and Okwi (2011) and Lawson (2004) as follows:

$$\Pr(Y_i = j / x_i) = \frac{\exp(x_i \beta_j)}{1 + \sum_{j=2}^{J} \exp(x_i \beta_j)}, \; j > 1 \quad (14)$$

[3] To be used, the nested logit model requires two-level subgroups with the possibility of correlation of different choice alternatives. For instance, the two levels would be public and private health providers (first level) and each one being divided into hospitals and clinics (second level).

[4] We conducted the test for IIA as reported in Ttable A3 in the Appendix. The test performed on the independence of the four alternatives was conclusive showing that the alternatives are independent.

Where *i* refers to the individual in a household; j indexes the service provider (self-medication, public, private or semi-private and X_i are covariates including income, user fees, health insurance. β_j are the parameters to estimate. β_j is constrained to equal zero because one is the reference alternative ($\beta_1 = 0$). We use this model to test whether or not the effects of determinants (such as user fees, income, and insurance) differ across service providers. Marginal effects can be computed for all the independent variables in order to obtain probability that a particular provider or alternative will yield the greatest amount of utility. The marginal effect of a variable *x* on alternative *j* refers to a change in the probability of individual *i* choosing alternative *j* in response to a change in the variable *x*. This can be computed using the multinomial logit functional form as:

$$\frac{\partial \Pr(Y=1)}{\partial X_i} = \Pr(Y_j = 1)[\beta_{j,x} - \sum_{j=1}^{J} \beta_{j,x} \Pr(Y_j = 1), j > 1 \quad (15)$$

where β_{jk} are the alternative specific coefficients associated with variable *x*. In this case, we observe that the marginal effects depend on the values of all explanatory variables and the coefficients for each outcome.

Due to reverse causality, one of the independent variables, health insurance, is endogenous and the estimation has to address this problem. Endogeneity is due to the reverse causality between health insurance and demand for health care. So, in order to obtain unbiased and consistent estimates, instrumentation of the endogenous variable is required. The instrumental variable should be correlated with the endogenous regressors but unrelated directly to the dependent variable (Ajakaiye and Mwabu, 2007). Estimating the choice equation without taking into account this problem might result in biased estimates (Rosenzweig and Schultz, 1982). To address the problem of endogeneity of insurance, we used Waters (1999). A reduced-form of health insurance demand was estimated using logistic regression by including all independent variables in the demand equation and the instrumental variables. We then generated the predicted values and included them in the choice of provider's equation together with the actual observed values of the insurance variable. The decision rule is that in case the null hypothesis that the coefficient of the predicted values of health insurance is equal to zero is not rejected, there is no-strong correlation between the health insurance variable and the error-term. This would mean that, insurance is an exogenous variable (Waters, 1999). The instrumental variables included the employment status (employed or not employed) and the relationship to household head.

We tested for both the endogeneity of insurance and the validity of instruments. We carried out the test for endogeneity of health insurance by using the Durbin-Wu-Hausman test. The results showed that the Durbin-Wu-Hausman statistic values were significant at the 10 percent level. This result was further in favour of estimating structural rather than reduced form demand for choice of service providers. We also tested the impact of the instruments on the dependent variable. These were found to be insignificant. The strength of the instruments was tested by considering the impact of the instruments on the endogenous variable. As the coefficients of instruments were large and significant at the 1 percent level, the instruments were strong. In addition, we conducted the F-test to check the role of the instruments on the endogenous variable. While an F-statistic of at least 10 is recommended (Kioko, 2009; Staiger and Stock, 1997), the minimum Eigen value statistic for F-test was 97.2 suggesting that the null hypothesis of weak instrument had to be rejected. In addition, as we had two instruments and only one endogenous variable; there was then a possibility of over-identification of the structural model. This means that one or more instruments may be correlated with the stochastic error-term (Wooldrige, 2002). It was then necessary to test if the model was correctly specified and that the instruments are valid. We carried out the Sargan and Basmann tests of over-identifying restrictions. The Sargan test of over-identifying restrictions was (0.45036; p-value= 0.5732) while the Basmann test of over-identification restrictions was (0.45024; p-value = 0.5733). With these values, the results could not reject the null hypothesis of no-correlation and instead suggested that the instruments were valid and uncorrelated with the stochastic error-term.

4. Results and Discussion

The results of the study are presented in Table 1, which reports the parameter estimates of the role of economic and other factors on the choice of service providers and their z-statistics. The choice options are: self-medication, public provider, private provider and semi-public provider. Self-medication is the reference category. For the sake of space, other results such as marginal effects, first-stage regression and Hausman tests of IIA assumption for the choice of health provider are shown in the Appendix in Table A1, Table A2 and Table A3, respectively.

The results in Table 1 show that household income is significantly correlated with the probability of using the provider' services. For instance, income is positively related to choosing a private provider. Its coefficient is significant at the 1 percent level suggesting that while holding all other variables constant, if income increases by 1 Rwandan franc (FRW), the expected utility of choosing a private provider would increase by 0.0004. The reason for this correlation is that high income individuals perceive that public providers offer lower quality services while private providers offer better quality services. However, the coefficient of income for public provider was negative implying that the probability of seeking health care from public provider drops as income increases. The result finds support in Kaija and Okwi (2011) who showed that health seeking behaviour of low- and high-income individuals differs significantly. Insurance is an important factor explaining the choice of public and private treatment alternatives in Rwanda. The predicted values of insurance were included in the model to test for endogeneity in the model. As they were significant at the 5 percent level for both public provider and private provider and at 10 percent level for semi-private provider, treating insurance as exogenous would yield a correlation between the health insurance variable and the error-terms. This supports the need for estimating a structural model of choice of service providers rather than its reduced form. The finding is comparable to that of Jowett et al. (2004) who reported that individuals without or with less generous insurance coverage tended to use public providers to a far greater extent than those with a more generous insurance scheme.

Table 1: Multinomial Logit Model of Provider Choice Estimates (*z*-Statistics in parentheses)

Variables	**Public provider** (Coefficient estimates)	**Private provider** (Coefficient estimates)	**Semi-private provider** (Coefficient estimates)
Household income	-0.0003 (-2.67)**	0.0004 (3.01)***	-0.00026 (-0.52)
User fees	0.72 (6.70)***	-0.95 (-6.70)***	0.065 (0.34)
Quality of health care (=1 if medical specialist in the visited health facility exists, and 0 otherwise)	-0.209 (-2.73)**	0.409 (2.73)**	-0.169 (-0.84)
Insurance (=1)	0.34 (3.8)***	3.1 (4.3)***	0.345 (1.8)*
Predicted values of insurance	3.15 (2.66)**	3.435 (2.61)**	5.326 (1.91)*
Distance to the health facility	-0.31 (-2.36)**	-0.455 (-2.36)**	-0.956 (-4.06)***
Household size	0.035 (1.37)	-0.0357 (-1.37)	0.0403 (1.27)
Age	-0.009 (-2.48)**	0.009 (2.48)**	-0.007 (-1.39)
Transportation cost	0.00006 (1.16)	-0.00006 (-1.16)	0.00006 (1.12)
Primary (=1)	0.456 (2.9)**	0.011 (1.7)*	0.003 (0.96)
Secondary (=1)	0.675 (3.9)***	0.023 (4.7)***	0.764 (0.67)
Tertiary (=1)	0.0005 (0.9)	0.0002 (5.9)***	0.0005 (2.12)*
Male(=1)	-0.153 (1.22)	0.153 (1.22)	-0.031 (-0.18)
Urban (=1)	-0.82 (-3.22)***	0.821 (3.22)***	-0.85 (-2.69)**
Kigali region (=1)	-0.6166 (-2.74)**	0.8212 (2.74)**	-1.35 (-4.09)***

Variables	Public provider (Coefficient estimates)	Private provider (Coefficient estimates)	Semi-private provider (Coefficient estimates)
Southern region (=1)	0.16 (0.82)	-0.16 (-.82)	0.54 (2.37) **
Western region (=1)	-.1451 (-0.76)	0.145 (0.76)	0.82 (3.67)***
Northern region (=1)	-0.294 (-1.71)	0.29 (1.71)	-0.84 (-3.15)***
Married (=1)	0.146 (1.06)	-0.14 (-1.06)	0.141 (0.72)
Constant	1.116 (3.09)***	-1.11 (-3.09)***	0.49 (1.09)
Number of observations	5036	5036	5036
Durbin-Wu-Hausman chi-sq			0.006*
Sargan statistic (overid. of all instruments)			0.45036 (p = 0.5732)
Basmann statistic (overid. of all instruments)			0.45024 (p = 0.5733)
F(2,5036)			97.2
LR chi2(42)			1535.88***
Log likelihood			3602.8167

Note: ***, ** and * = significant at 1%, 5% and 10% level respectively.
Source: Researcher's own construction

The monetary price has a negative and significant impact on the choice of private health facilities. The result suggests that as the private hospital/clinic charges increase by 1FRW, the log odds of visits by patients reduce by 0.95 and these patients shift to self-medication. However, the coefficient on fees for public health facilities is unexpectedly positive indicating that the price charged by public health facilities is not enough to discourage patients since it remains affordable. The direct implication is that increasing user charges decreases the likelihood of seeking health care from a private health provider relative to self-medication. The findings were in line with Yoder (1989); Mwabu (1989); and Mwabu et al. (1993), who found negative user fees effects on health seeking behaviour. The distance to health care facilities from the area of residence seems to discourage the choice of public and semi-private health facilities. Thus, increasing distance induces an increase in the likelihood of a household member opting for self-treatment. The negative sign is not surprising since the distance to health care facilities is highly related to the transportation cost. Muriithi (2013) showed that an increase in distance induces a payment of some extra cost to travel to the source of treatment as opposed to seeking self-treatment. The results support the findings by Ssewanyana et al. (2004), Lawson (2004) and Awoyemi et al. (2011) who argued that distance reduces the probability of using distant service providers. However, the distance to a health facility from home is positively associated with the choice of a private health facility. This means that distance to private health providers is perceived to be associated with quality of health care. In this case, private health facilities although distant are chosen provided their quality services are perceived to be high. This result is in line with Bolduc et al. (1996) who showed that distance to health care facilities measured by travel cost was positively related with the probability of seeking health care at private facilities.

The results further showed that regions have an influence on the choice of service providers. For instance, the coefficient on the Kigali dummy relative to the East (base category) was positive and significant for the choice of private facilities, suggesting that living in Kigali as compared to the Eastern region increases the perceived treatment benefit of a private health provider. This result finds supports in Brown (2002) who noted that there were regional differences in probabilities of using health facilities. Age was found to have a positive effect on the choice of private health facilities in Rwanda. The results implied that as one ages, the relative chance of choosing a private health provider increases. The reason behind this is related to the ability to afford payment because income rises with age. The study did not find meaningful results relating to the effect of gender on the choice of health providers because all the three coefficients of gender were statistically insignificant. Similar findings were reported by Sahn et al. (2003) and Ssewanyana et al. (2004). Table A1 in the Appendix presents the marginal effects for the provider choice model. Considering the public treatment alternative, the results show that a 1 FRW increase in the price of health care is associated with a 0.49

decrease in the probability of choosing a provider. The results further show that a 1 FRW increase in fees would increase the probability of choosing the public service providers by 0.09. If this seems surprising, it shows that user fees is not a constraint to using health services from public institutions because they charge less as compared to the private ones. Further, living in urban areas as compared to rural areas increases the probability of choosing a private provider by 0.16. This is as expected because urban people earn higher incomes than their rural counterparts and can afford private health services.

5. Conclusion and Recommendations

The purpose of this study was to investigate the role of economic factors in choosing the alternative service providers and to recommend suitable measures that could be taken to improve the use of health services in Rwanda. These factors were investigated based on the theoretical relationships between health care usage and socio-economic factors. The data in this respect were collected from the Integrated Household Living Conditions Survey (EICV2) conducted in 2005 by the National Institute of Statistics of Rwanda (NISR) and were analyzed using a multinomial logit model. Three main conclusions arose from the analysis. The first main conclusion of the study is that when income emerged as an important determinant of the choice of service provider, the probability of seeking health care from a public provider dropped as income increased. This suggests that health seeking behavior of low- and high-income individuals differed significantly. The second main conclusion is that the distance to health care facilities from the area of residence discouraged the choice of public and semi-private health facilities in Rwanda. Thus, an increase in the distance to a health facility induced an increase in the likelihood of a household member opting for self-treatment. The third most important conclusion is that insurance was an important factor explaining the choice of public and private treatment alternatives in Rwanda. In other words, the total of the out-of-pocket payment required to access services mattered for the choice between public and private health care facilities. Related to this conclusion, the study found that monetary price had a significant and negative impact on the choice of private health facilities. The direct implication is that increasing user charges decreased the likelihood of seeking health care from private health providers.

Given the above results, a number of policy recommendations emerge from these conclusions. First, since an increase in income causes patients to shift to private facilities, the government should consider subsidizing private health facilities to enable access to care in the private sector by low-income households. The government should explore ways of implementing a voucher scheme system to boost rural incomes in specific regions in particular. Second, as insurance is an important factor in choosing a health care facility, policies that reduce health care costs at the time of need would substantially increase the use of health services. Finally, since distance affects access to health care in Rwanda, there is a need to improve geographical accessibility to health facilities across regions by upgrading and expanding transportation infrastructures such as roads, telecommunication, and other health infrastructures in different areas to make health care providers more accessible.

Acknowledgement: The authors would like to thank Carol Brammage for providing prompts and efficient English editing services. The authors however assume responsibility of any remaining English errors.

References

Acton, J. P. (1975). Nonmonetary factors in the demand for medical services: Some empirical Evidence. *The Journal of Political Economy*, 83(3), 595-614.

Ajakaiye, O. & Mwabu, G. (2007). The demand for reproductive health services: An Application of Control function Approach. AERC, Nairobi.

Akin J. S., Guikey, D. K. & McIntosh, M. (1998). Price elasticities of demand for curative care with control for sample selectivity on endogenous illness: An analysis for Sri Lanka. *Health Economics,* 7(6), 509-531.

Awoyemi, T. T., Obayelu, O. A. & Opaluwa, H. I. (2011). Effect of distance on utilization of health care services in rural Kogi State, Nigeria. *Journal Human Ecology*, 35(1), 1-9.

Bolduc, D., Muller, C. & Lacroix, G. (1996). The choice of medical providers in rural Benin: A comparison of discrete choice models. *Journal of Health Economics,* 15, 477-498.

Brown, C. J., Pagán, J. A. & Rodríguez-Oreggia, E. (2002). Inequality in health care utilization in Mexico, Working Paper. Working Paper No2002-12.

Feng, J., Bei, Q. & Yangyang, Y. (2008). Wealth, education and demand for medical care. Evidence from rural China. *World* Scientific, 10, 215-30.

Gertler, P. & Sanderson, L. (1987). Are user fees regressive? The welfare implications of health care financing proposals in Peru. *Journal of Econometrics,* 36, 67-88.

Gertler, P. & Van der Gaag, J. (1990). *Willingness to pay for medical care: Evidence from two developing countries*, Johns Hopkins University Press, Baltimore, MD.

Greene, W. L. (2007). *Econometric Analysis.* New York: Macmillan.

Hahn, B. (1994). Health care utilization: The effect of extending insurance to adults on Medicaid or uninsured. *Medical Care,* 32(3), 227-239.

Hausman J. A. & McFadden, D. (1984). Specification tests for multinomial logit model. *Econometrica*, 52, 1219-1240.

Heller, P. (1982). A model of the demand for medical and health services in peninsular Malaysia. *Social Science and Medicine*, 16(3), 267–284.

Hotchkiss, D. P., Hutchinson, L., Malaj, A. & Berruti, A. (2004). Out-of-Pocket Payments and Utilization of Health Care Services in Albania: Evidence from Three Districts, Partners for Health Reform plus.

Hunt-McCool, J., Kiker, B. F. & Ng, Y. C. (1994). Estimates of the demand for medical care under different functional forms. *Journal of Applied Econometrics*, 9(2), 15-16.

Hutchinson, P. (1999). Health care in Uganda selected issues. World Bank Discussion paper No 404.

Jayaraman, A., Chadndrasekhar, S. & Gebreselassie, T. (2008). Factors affecting maternal healthcare seeking in Rwanda. *USAID*. Working Paper.

Jowett, M., Deolalikar, A. & Martinsson, P. (2004). Health insurance and treatment seeking behaviour: Evidence from a low-income country. *Health Economics,* 13, 845–857.

Kaija, D. O. & Okwi, P. O. (2011). Quality and demand for health care in Rural Uganda: Evidence from 2002/03 household survey, Economic Research Consortium, Nairobi. http://www.csae.ox.ac.uk/conferences/2007-edia-lawbidc/papers/428-kaija.pdf

Kabubo-Mariara, J., Mwabu, G. & Nd'enge, G. K. (2009). The consequences of fertility for child health in Kenya: Endogeneity, heterogeneity and the control function approach. African Economic Research Consortium, Nairobi. Report for AERC Collaborative Research Project on Reproductive Health, Economic Growth

Kioko, M. U. (2009). The Economic Burden of Malaria in Kenya: A Household Level Investigation. PhD Thesis, University of Nairobi.

Lacroix, G. & Alihonou, E (1982). An empirical model of primary health care demand in Benin. Working Paper, Laval University.

Lawson, D. (2004). A Microeconomic analysis of health, health care and chronic poverty. Unpublished, University of Nottingham.

Lépine, A. & Nestour, A. (2008). Health care Utilization in rural Senegal: The factors before the extension of health insurance to farmers. International Labour Office, Research Paper No.2.

Li, M. (1996). The demand for medical care: Evidence from urban areas in Bolivia. Living Standards Measurement Study Paper No. 12. World Bank, Washington D.C.

Lindelow, M. (2002). Health care demand in rural Mozambique: Evidence from 1996/97household survey. International Food Policy Research Institute (IFPRI), FCND Discussion Paper, No. 126.

Long, J. S. (1997). Regression models for categorical and limited dependent variables. Advanced Quantitative Techniques in the Social Sciences Number 7. Sage Publications: Thousand Oaks, CA.

Luce, R. D. (1959). Individual choice Behaviour: A theoretical analysis, New York, NY: John Willey and Sons.

McFadden, D. (1981). Econometric models of probabilistic Choice. In: Manski, C. and McFadden, D. (Eds). Structural Analysis of Discrete Data with Econometric Applications: Cambridge, MA: MIT Press.

Mocan, N. H., Tekin, E. & Jeffrey, S. Z. (2004). The demand for medical care in Urban China. W*orld Development,* 32(2), 289–304.

Muriithi, M. K. (2009). The demand for health Care in Nairobi Slum: The Role of Quality and Information. PhD Thesis, University of Nairobi.

Muriithi, M. K. (2013).The Determinants of health seeking behaviour in a Nairobi slum-Kenya. *European Scientific Journal*, 9(8), 151-164.

Mwabu, G. (1986). Health care decisions at the household level: Results of a rural health survey in Kenya. *Social Science and Medicine,* 22(3), 315-319.

Mwabu, G. (1989). Referral system and health care seeking behaviour of patients: An economic analysis. *World Development,* 17(1), 85-92.

Mwabu, G., Ainsworth, M. & Nyamete, A. (1993). Quality of medical care and choice of medical treatment in Kenya. An empirical analysis. *Journal of Human Resources,* 28(4), 283- 291.

Mwabu, G., Wang'ombe, J. B. & Nganda, B. (2003). The Demand for medical care in Kenya. African Development Bank, Oxford, OX4 2DQ, UK and 350 Main Street, Malden, MA02148, USA.

Mwabu, G. (2008) Health economics for Low-Income countries, in Schultz T.P. and J. Strauss (2008) eds., Handbook of Development Economics, Vol. 4, Chapter 53. Elsevier, Amsterdam; North-Holland

National Institute of Statistics of Rwanda (NISR). (2006). Integrated household living conditions survey in Rwanda (2005-2006), Kigali: *NISR*.

Odwee, J. A. O., Okurut, F. N. & Adebua, A. (2006). The determinants of health care demand in Uganda: The case study of Lira District, Northern Uganda. African Economic Research consortium Research Paper No 155, Nairobi.

Rosenzweig, M. R. & Schultz, T. P. (1982). The Behaviour of mothers as inputs to child health: The determinants of birth weight, gestation, and the rate of fatal growth. In: Fuchs, Victor R., ed., Economic aspects of health, Chicago: University of Chicago Press.

Sahn, D. E., Younger, S. D. & Genicot, G. (2003). The Demand for health care services in rural Tanzania. *Oxford Bulletin of Economics and Statistics,* 65(2), 241-259.

Shimeles, A. (2010). Community Based Health Insurance Schemes in Africa: The Case of Rwanda. African Development Bank group, Working Paper, No. 120.

Ssewanyana, S., Nabyonga, O. J., Kasirye, I. & Lawson, D. (2004). Demand for Health Care Services in Uganda, Implications for Poverty Reduction. Munich Personal RePEc archive, Unpublished.

Staiger, D. & Stock, J. H. (1997). Instrumental variables regression with weak instruments. *Econometrica,* 65(3), 557-587

Wong, E., Partin, B., Guilkey, D. & Akin, J. (1987). Accessibility quality of care and prenatal care use in the Philippines. *Social Science and Medicines*, 24 (11), 927-944

Waters, H. R. (1999). Measuring the impact of health insurance with a correction for selection bias--a case study of Ecuador. *Health Economics,* 8(5), 473-483

Yoder, R. (1989). Are people willing and able to pay for health services? *Social Science and Medicine*, 29(1), 35–42.

Appendix Tables

Table A1: Multinomial Logit Model of Provider Choice: Marginal Effects (*z*-Statistics in Parentheses)

Variables	Public provider	Private provider	Semi private provider
Household income	-0.0006 (-0.79)	0.0018 (0.03)	-0.002 (-0.07)
User fees	0.0916 (6.38)***	-0.0489 (-6.88)***	-0.229 (-2.04)**
Quality of health care (=1 if medical specialist in the visited health facility exists)	0.116 (3.25)***	0.07 (2.48)**	0.024 (0.61)
Distance to the health facility	-0.029 (-0.79)	-0.214 (-2.94)**	-0.299 (-3.53)
Household size	0.0024 (0.44)	-0.183 (-1.74)*	0.260 (1.69)*
Insurance (=1 if insured)	0.0035 (3.7)***	0.021 (1.78)*	0.0056 (2.41)**
Predicted values of insurance	0.0043 (4.1)***	0.0042 (1.95)*	0.0083 (2.6)**
Transportation cost	-0.009 (-3.03)***	0.0123 (4.19)***	-0.005 (-4.68)***
No education (=1)	0.033 (1.80)*	-0.0013 (-0.11)	0.82 (0.23)
Primary (=1)	0.065 (2.5)**	0.0004 (1.91)*	0.045 (0.78)
Secondary (=1)	0.005 (2.9)***	0.0041 (3.4)***	0.35 (0.97)

Variables	Public provider	Private provider	Semi private provider
Tertiary (=1)	0.031 (0.9)	0.051 (4.1)***	0.062 (3.5)*
Age	0.0016 (2.05)**	0.2057 (2.46)**	0.005 (4.7)***
Gender (=1 if male)	-0.034 (1.30)	0.036 (-1.05)	-0. 024 (-0.47)
Location (=1 if urban)	-0.06 (-2.54)**	0.159 (3.32)***	-0.07 (-1.20)
Kigali region (=1)	-0.011 (-0.77)	0.09 (3.51)***	-0.135 (-3.13)***
Northern region (=1)	-0.0004 (-0.05)	0.042 (2.41)**	-0.081 (-2.67)**
Marital status (=1 if married)	0.0191(0.81)	-0.0476 (-1.09)	0.017 (0.25)

Note: ***, ** and * = significant at 1%, 5% and 10% level respectively
Source: Researcher's own construction

Table A2: Determinants of the Demand for Insurance, First Stage Regression (Provider Choice)

Explanatory variables	Estimates	Standard errors	z-statistics
Household income	0.00023	0.00003	8.97***
User fees	-0.0173	0.0106	-1.36
Quality of health care (=1 if medical specialist in the visited facility exists)	0.0152	0.0068	2.23**
Distance to the health facility	-0.0605	0.0107	-5.61***
Household size	0.0142	0.0012	11.39***
Age	0.00063	0.00022	2.83 ***
Age squared	-0.0032	0.00075	-4.2***
Primary (=1)	0.00035	0.000087	4.0***
Employment status (=1 if employed)	0.006	0.0009	6.6***
Relationship to household head (=1 if spouse)	0.0002	0.00007	2.85**
Secondary (=1)	0.0078	0.0054	1.4
Tertiary (=1)	0.00092	0.001	0.92
Male (=1)	-0.00279	0.00589	-0.47
Urban (=1)	-0.0982	0.0137	-7.16 ***
Kigali (=1)	-0.0282	0.0114	-2.47 **
Southern (=1)	-0.0590	0.0088	-6.7 ***
Western (=1)	0.0582	0.00872	6.67***
Northern (=1)	0.063	0.0083	7.59 ***
Transportation cost	0.0045	0.00037	0.12
Marital status (=1 if married)	0.0942	0.0075	12.44
Constant	-0.359	0.0146	-24.63***
Number of observation=			5040
F(21, 32145) =			68.23***

Note: ***, ** and * = significant at 1%, 5% and 10% level respectively
Source: Researcher's own construction

Table A3: Hausman Test of IIA Assumption for the Choice of Health Provider (N=5036)

Omitted	Chi 2	DF	P>Chi2	Evidence
Self-medication	-232,000	28	1	for HO
Public	-240,000	25	1	for HO
Private	-25.07	28	1	for HO
Private semi-private	-274,000	32	1	for HO

Ho: Odds (outcome J versus outcome K) are independent of other alternatives

Journal of Economics and Behavioral Studies (JEBS)
Vol. 8, No. 2, April 2016 (ISSN 2220-6140)

Celebrity Endorsement Advertising: Brand Awareness, Brand Recall, Brand Loyalty as Antecedence of South African Young Consumers' Purchase Behaviour

Thubelihle Ndlela, *Tinashe Chuchu
University of the Witwatersrand, South Africa
tinashe.chuchu@wits.ac.za

Abstract: Celebrity endorsement advertising has received much attention in recent years from marketing practitioners and academic researchers. Pepsi spent $50 million dollars on an endorsement contract with Beyoncè Knowles which accounted for a sixth of the company's total budget. This research paper aims to examine whether or not South African marketers can utilise celebrity endorsements to promote their products or brands to young consumers effectively. The other purpose of this study is also to establish whether brand recall, brand awareness, brand loyalty and purchase behaviour are positively influenced by celebrity endorsement advertising. Utilising a quantitative research approach a field study was conducted in Durban whereby research data was collected from 325 participants 18 to 24 years of age. The research survey comprised of 25 questions that were self-administered to willing participants over a one month period. Using SPSS 23 and AMOS 23 software programs, Structural Equation Modeling (SEM) was performed to analyze the data set. Major findings revealedthat brand loyalty is the most significant antecedent of purchase behaviour. Furthermore the study also revealed that participants in the 18-20 year age group were more inclined towards purchasing and paying more for celebrity endorsed brands as compared to any other age group in the survey.Lastly this study provides marketing practitioners an understanding of how firms can benefit from the use as it was found that brand recall and brand loyalty positively influence purchase behaviour whilst brand awareness had no direct influence on purchase behaviour.

Keywords: *Celebrity endorsement, purchases, brands, advertising*

1. Introduction

Han, Rashad and Yazdanifard (2015) refer to celebrity advertising as the use a famous person's image to sell products or services by embracing the individual's wealth, popularity, or fame to endorse the products or services. The specific purpose of this research paper is to establish the influence of celebrity endorsement advertising on young South African consumers. Approximately 20-25 % of advertisements feature a famous person as an endorser (Sliburyte, 2009). Advertising has infiltrated every part of our day-to-day lives. Each day, consumers are exposed to more than 1,500 advertising messages from a variety of sources namely television, billboards, radio, flyers enclosed with credit card and utility bills, mobile phones, the grocery store floor, and even public restrooms (Koernig & Boyd, 2009). A commonly used strategy to slice through this advertising clutter is to include celebrity endorsers in advertisements (Koernig & Boyd, 2009). Celebrity endorsement advertising appears to be a new trend but it actually dates back to the 19th century when British actress Lillie Langtry appeared on a Pears soap commercial proving that this is a culture that is engrained in society (Han et al., 2015). Barnes (2011) and Han et al. (2015) postulate that celebrity advertising influences consumer purchases in allowing the consumer to think that products will work for them as they did for a celebrity. Notwithstanding the popularity of celebrity endorsement as a modern advertising strategy its profitability and marketing effectiveness has garnered considerable interest (Sheu, 2010). Furthermore, the exorbitant annual advertising budgets that are set aside for endorsement deals, especially by multinationals and other local South African companies such as Unilever, Proctor and Gamble and Nike motivates the need to evaluate endorser's financial effects on the organisation and consumer brand attitudes.

Celebrity is a means of brand communication whereby the celebrity acts as a brand's spoke's person and endorses a brand's claims and position by spreading his or her personality, popularity and status in the field of the brand (Sajan & Nerhu, 2014). Celebrity endorsement has the influence to initiate, arouse, inform, infuriate, amuse and inform the consumer (Sajan & Nerhu, 2014). Celebrity endorsement is highly regarded as a lucrative promotional tool for advertisers' brands and services (Patel, 2009). However, there is minimal evidence that a celebrity advertising strategy influences or affects consumer brand attitudes such as purchase behaviour amongst young consumers in South Africa. This study will thoroughly examine this advertising

strategy. Companies invest large sums of money to align their brands and themselves with endorsers (Rawtani, 2010). In fact, such enormous investments benefit brand managers if they translate into favourable brand recall as compared to a similar advert that features an unknown endorser (Erfgen, Zenker & Sattler, 2015). Such endorsers are seen as dynamic, with both attractive and likeable qualities and companies hope that these qualities will be transferred to their products. Due to their fame, celebrities serve not only to create and maintain attention but also to achieve high recall rates for advertising messages in today's highly brand saturated environments (Rawtani, 2010).

This study aims to ascertain if utilising such a costly advertising strategy is justified in South Africa. The current popularity of celebrity endorsements can be attributed to the numerous benefits retailers see in utilising this form of advertisement (White, Godard & Wilbur, 2009). For example, celebrities who are featured as endorsers have the ability to grab the audience's attention, giving retailers a better chance of communicating their message to consumers (White et al., 2009). Specifically, this study seeks to establish the effectiveness of the use the celebrity advertising strategy as a promotional tool for advertisers. Furthermore, to investigate to what extent it influences brand attitudes and purchase intention in a South African context. There is a need for insightful research on celebrity endorsement advertising in South Africa, for example, exploring innovative ways to better ensure that organisations attain good returns on their investment whilst fulfilling their advertising objectives such as brand awareness, brand memorability and purchase behaviour. Overall, this study makes several contributions to literature specifically adding to the body of knowledge surrounding the use of celebrity endorsements in advertising, consumer behaviour and branding in South Africa.

2. Literature Review

The review of literature plays a crucial role in the current research. In this section efforts are directed to explore or assess the findings of the studies conducted by various scholars in the same field.

Theory of Planned Behaviour: The theory of planned behaviour (TPB) is a theory intended to predict and explain human behaviour in precise situations (Ajzen, 1991). The TPB was adopted and deemed appropriate for the current study as it focuses on purchase of behaviour and attitudes of consumers. The TPB has arose as one of the most influential and prominent conceptual frameworks for the study of human action (Ajzen, 2002). Conner and Armitage (2001) pointed out that the theory of planned behaviour (TPB) is essentially an extension of the theory of reasoned action (TRA) that includes measures of control belief and perceived behavioural control.It predicts the occurrence of a specific action provided that the action is intentional (Francis, Eccles, Johnston, Walker, Grimshaw, Foy, Kaner, Smith & Bonetti, 2004).The theory of planned behaviour emerged about due to the fact that the theory of reasoned action had limitations in its model when dealing with behaviours over which people have incomplete voluntary control (Ajzen, 1991). Henle, Reeve & Pitts (2010) pointed out that when individuals have a stronger motivation or intention to engage in a particular behaviour, the TPB proposes that individuals are more likely to follow through with that behaviour. Francis et al. (2004) pointed out that in order to predict whether an individual intends to do a particular act, there is need to know: whether that individual is inclined towards performing that particular act, how much the individual feels social pressure to do it and whether the individual feels in control of the action in question.

Celebrity Endorsement Advertising: Endorsement occurs when a celebrity lends his/her name to and appears on behalf of a product or service on which he or she may or may not be an expert (Bekk & Spörrle, 2010). Celebrity endorsement advertising can be executed in different ways. For example, a celebrity can casually appear in the advert or commercial using the manufacturer's product or brand. In other instances a celebrity may give a testimonial about a brand's features and benefits and recommend that consumers use it. In addition, some celebrity endorsements involve celebrities giving expert opinions, being a spokesperson for a product or just being associated with the product. Celebrities as part of a marketing communications strategy is a fairly common marketing practice for major firms in supporting corporate and brand imagery (Erdogan, Baker & Tagg, 2001). Celebrity endorsements have been growing consistently since the 1970s (Costanzo & Goodnight, 2006). Choi and Rifon (2007) point out that American society today is to be

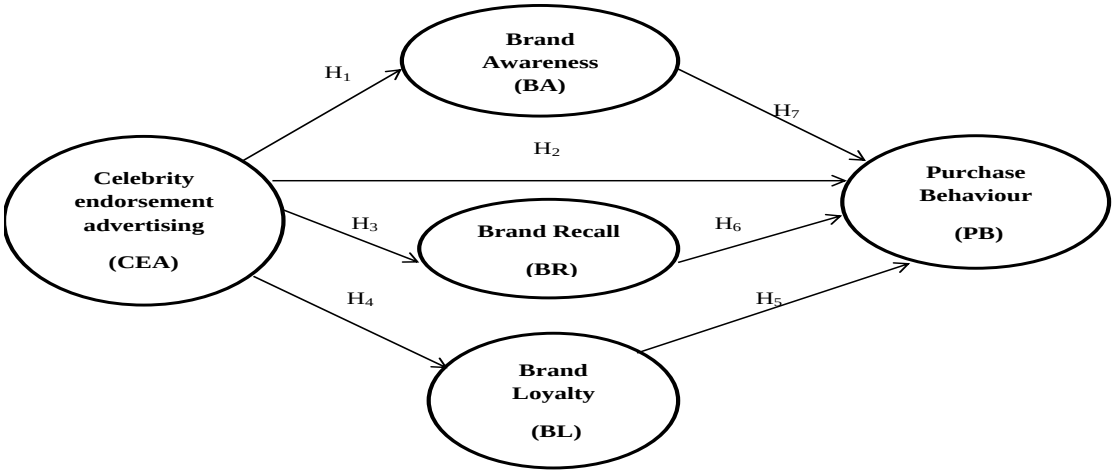
fascinated by celebrities. Many successful individuals from a variety of fields, ranging from entertainment to sport, to cuisine, business and politics are elevated to celebrity status (Choi & Rifon, 2007).

Brand Awareness: Brand awareness refers to the ability of consumers to recall or recognise a brand, or simply whether or not consumers know about a brand (Keller, 2008). According to Berry (2000) brand awareness is the customer's ability to identify and remember the brand when provided a cue. Furthermore brand awareness offers a sort of learning advantage for the brand (Keller, 2008). Brand awareness influences consumer decision-making, especially for low-involvement packaged goods. Brands that consumers are familiar with are likely to be included in the consumers' consideration set (Macdonald & Sharp, 2000; Huang & Sarigöllü, 2012). Brand awareness can be used by consumers as a purchase decision heuristic (Macdonald & Sharp, 2000; Huang & Sarigöllü, 2012). Therefore, brand awareness increases brand market performance.

Brand Recall: Brand recall is the consumer's ability to remember a brand when given the product category whilst brand recognition refers to a consumer's ability to identify a brand when given the brand name as a clue (Lu, Chang and Chang, 2014). Illicic & Webster (2011) pointed out that celebrity endorsement focuses on how specific celebrity characteristics influence the consumer's evaluations and recall if advertising as well as the featured products and brands. The use of celebrity endorsements can improve advertising recall rates (Ilicic & Webster, 2011). Hudders, Cauberghe, Panic, Faseur and Zimmerman(2012) found that the extent of a brand's prominence positively affects the extent to which that brand is recalled, regardless of the extent to which that respondent is connected to the artist endorsing the brand. Hudders et al. (2012) add that prior research has revealed that prominent placements indeed draw more attention to the placed brand and therefore lead to greater recall and recognition than regular placements.

Brand Loyalty: Belaid and Behi (2011) state that brand loyalty can be regarded as the consumers' repetitive and systematic purchase of the same brand. Liu, Li, Mizerki and Soh (2012) posit that for real brand loyalty to be present, consumers must be emotional attached to the brand and be prepared to make sacrifices for this attachment (Tsai, 2011). Rauyruen and Miller (2007) point out that brand loyalty is motivated principally by the sense of attachment linking buyers to their supplier(s), and secondarily by rational and normative intentions. Illicic and Webster (2011) stated that that past research has established that a greater degree of satisfaction leads to a greater degree of loyalty. However Petzer, Mostert, Kruger and Kuhn (2014) argue that satisfaction on its own does not necessarily lead to brand loyalty. Biscaia, Correia, Rosado, Ross and Maroco (2013) posit that behavioral loyalty has a direct positive effect on attitude towards actual sponsors

Figure 1: The Proposed Research Conceptual Model



Purchase Behaviour: Understanding the ways in which consumers' involvement levels influence how they use different cues to make purchase decisions has been a topic of research for several decades (Hollebeek, Jaeger, Brodie & Balemi, 2007). According to Akehurst, Afonso and Goncalves (2012) consumer behaviour is also influenced by concerns about the brand, culture, demographic characteristics, finance, behaviours, lack of information, lifestyles, personalities or moral issues. However according to a study by Tan (2002), in which

377 Chinese software users where interviewed, it was established that purchase behaviour is influenced by; the perceived moral intensity; degree of consequences; temporal use and social risk; the perceived commercial performance; and prosecution and moral judgment.

Proposed Conceptual Model and Research Hypotheses: The proposed conceptual model below in figure1consists of one predictor variable Celebrity endorsement advertising (CEA), three mediator variables brand awareness (BA), brand recall (BR) and brand loyal (BL) and the outcome variable purchase behaviour (PB). An illustration of the conceptual model is provided above page.

Hypothesis Development: The proposed conceptual model consists of the predictor variable celebrity endorsement advertisement, three mediator variables (brand awareness, brand recall and brand loyalty) and the outcome variable (purchase behaviour). The proposed conceptual model displaying all of the hypothesized relationships is presented in Figure 1. Individual hypotheses are developed and discussed next.

H1: Celebrity endorsement advertising is positively related to brand awareness

Celebrity refers to a notable personality (Muda, Musa and Putit, 2012). According to Ranjbarian, Shekarchizade and Momeni (2010), a celebrity endorser is a well-known person due to his or her successes in a field other than the endorsed product class. An endorser is a person who makes a testimonial, or a written or spoken statement, extolling the virtue of a product (Rodriguez, 2009). This person could be a public figure or a private citizen. (Rodriguez, 2009) stated that, a testimonial usually applies to sales pitches attributed to ordinary citizens, whereas endorsement usually applies to pitches by celebrities. Brand awareness refers to whether consumers can recall or identify a brand, or merely whether or not consumers know about a brand (Keller, 2008). Brand awareness and perceived quality are generally perceived as stocks that are built up over time in response to advertising (Clark, Doraszelski & Draganska, 2009). Macdonald and Sharp (2000) state that consumers have a strong tendency to rely on brand awareness when selecting a product because consumers will feel that a renowned brand is more reliable than an unknown brand. Celebrity endorsers have been utilised in advertising not simply to attract attention of audiences, but also to escalate message persuasiveness, thereby enhancing advertising effectiveness (Muda et al., 2012). Therefore, inferring from the literature and the empirical evidence abovementioned, the study hypothesizes that:

H_1: celebrity endorsement advertising has a positive relationship with brand awareness

H2: Celebrity endorsement advertising is positively related to purchase behaviour

Prior research has demonstrated that consumer's evaluations in terms of attitudes towards the advert, attitude towards the brand and purchase intention are greater when a celebrity endorses a brand (Illicic &Webster, 2011).A number of researchers found that the celebrity's credibility is a much more significant factor in explaining consumers' purchase intentions than the celebrity's attractiveness(Dix, Phau & Pougnet, 2010). Sport celebrities for example have been established as viable and influential role models for young people, playing an important part in the consumer socialization process, and it is expected that they would influence young adult's buyer intentions and behaviour (Dix et al., 2010). However, for sports celebrity endorsers to be persuasive in influencing purchase intention, there should be celebrity- product- match and the celebrity should be regarded as an expert in the product category (Dix et al., 2010). Biscaia et al. (2013) suggested that attitudes towards sponsor have a positive and direct influence on purchase intention.Therefore, inferring from the literature and the empirical evidence abovementioned, the study hypothesizes that:

H_2: celebrity endorsement advertising has a positive relationship with purchase behaviour

H3: Celebrity endorsement advertising is positively related to brand recall

Brand recall, is defined as the consumer's capacity to recall and recognise the brand (Malik & Sudhakar, 2014). Empirical studies in the area of celebrity endorsement focus on how specific celebrity characteristics influence consumer's evaluations and recall if advertising as well as the featured products and brands (Illicic &Webster, 2011). Most marketers justify the enormous amounts budgets on celebrity endorsements since it is believed that celebrities make advertisements attractive and enhance message recall thereby engaging potential consumers and aiding brand marketing (Sheu, 2010). Moreover, celebrity endorsers create attention, maintain attention and also achieve high recall for the stigma because of their fame in today's

highly cluttered marketing communications environment (Malik & Sudhakar, 2014). Therefore, inferring from the literature and the empirical evidence abovementioned, the study hypothesizes that:
H_3: celebrity endorsement advertising has a positive relationship with brand recall

H4: Celebrity endorsement advertising is positively related to brand loyalty
Brand loyalty has attracted much attention in recent years as brands are increasingly regarded as a means to meet the challenge of building lasting relationships with customers in business-to-business markets (Pedeliento, Andreini, Bergamaschi & Salo, 2015). Prior studies provided evidence that brand loyalty is driven predominantly by the sense of attachment linking buyers to their supplier(s), and secondarily by rational and normative intentions (Rauyruen & Miller, 2007). Celebrity endorsers are thought to help in the brand recognition and to establish both positive attitude and a distinct personality for the endorsed brand (Ding, Molchanov & Stork, 2011).Many consumers aspire to share values and lifestyle of celebrities as models of success as they imitate and even impersonate celebrities' behaviour to enhance their own self-esteem (Alsmadi, 2006; Muda, Musa & Putit, 2012). Therefore, inferring from the literature and the empirical evidence abovementioned, the study hypothesizes that:
H_4: celebrity endorsement advertising has a positive relationship with brand loyalty

H5: Brand loyalty is positively related to purchase behaviour
Brand loyalty has attracted much attention in recent years as brands are increasingly regarded as a vehicle to meet the challenge of building lasting relationships with customers in business-to-business markets (Pedeliento et al., 2015). Since consumers identify with celebrities on several levels, marketers have an opportunity to associate consumers with product quality and or corporate reputation through celebrity endorsement (Petty & D'Rozario, 2009) and gain a competitive advantage in specific markets(Wee & Ming, 2003) through conveying product imagery to consumers(Kim, Lee & Prideaux, 2014). The ability of celebrity to sell a product or service they endorse together with that celebrities worth to a firm is a function of the level of appeal he or she has to specific markets (Petty & D'Rozario, 2009). Chi, Yeh and Yang (2009) argue that brand loyalty mediated the relationship between brand awareness and purchase behaviour. This implies that brand loyalty directly and positively influenced brand loyalty which in-turn led to purchase behaviour.Therefore, inferring from the literature and the empirical evidence abovementioned, the study hypothesizes that:
H_5: Brand loyalty has a positive relationship with purchase behaviour

H6: Brand recall is positively related to purchase behaviour
Brand recall is defined as the consumer's ability to remember a brand when given the product category whilst brand recognition refers to a consumer's ability to identify a brand when given the brand name as a clue (Lu, Chang & Chang, 2014). Celebrity endorsement is believed to create brand equity, enhance brand recall and other branding constructs (Illicic & Webster, 2011). Illicic and Webster (2011) found that a celebrity endorser who is perceived to be an expert is found to be more persuasive and highly likely to generate greater intentions to buy a brand. Similarly, there is general consensus that credible endorsers can produce more favourable attitudes toward the advertisement and the intent to purchase a product (Wei & Lu, 2013).Therefore, inferring from the literature and the empirical evidence abovementioned, the study hypothesizes that:
H_6: brand recall has a positive relationship with purchase behaviour

H7: Brand awareness is positively related to purchase behaviour
Brand awareness can be used to measure the effectiveness of brand communication (Malik & Sudhakar, 2014). Moreover, brand awareness affects perceptions, attitudes of the customers and it also reflects the salience of the brand in the customers mind (Malik & Sudhakar, 2014). If consumers are knowledgeable about a specific brand, regardless of this knowledge being actively or inactively obtained, their brand awareness toward a certain product or service is high (Valkenburg & Buijzen, 2005; Lu, Chang & Chang, 2014). Prior studies reveal that if consumers are more familiar with a brand they will be more likely to trust in that brand (Lu, Chang & Chang, 2014). Therefore, inferring from the literature and the empirical evidence abovementioned, the study hypothesizes that:
H_7: brand awareness has a positive relationship with purchase behaviour

3. Methodology

Research Design: The study utilised the positivist paradigm, a philosophy that is of the view that knowledge stems from human experience (Collins, 2010). A quantitative research approach was adopted for this study whereby a 25 question survey was self-administered to 325 willing participants in Durban, South Africa. Simple random sampling, a form of probability sampling was adopted in selecting participants with the sole purpose of providing every unit within the population an equal chance to be sampled as suggested by (Galpin, 2011; Daniel, 2011).

Measurement Instruments: The research constructs were adapted from prior studies of the same research area. Adequate adaptations were made to the research constructs so as to accommodate the current study's context and purpose. A five-item Likert scale anchored by 1= strongly agree to 5= strongly disagree. Individual scale items are listed in the Appendix.

Survey Design: In any study the theoretical constructs that are measured are the determining factors for the choice of measurement methodology (Fagarasanu & Kumar, 2002). The primary data collection instrument used for this research was a research questionnaire. The questionnaire comprised of five sections A, B, C, D, E and F. Section A represented the respondent's biographical information such as gender and age. Sections B, C, D and E utilised a 5 point likert scale to ask the respondents questions that were based on the research model. Section B asked the respondent questions regarding Celebrity Endorsement Advertising (CEA). Section C asked about Brand Awareness (BA). Section D asked about Brand Recall (BR). Section E asked about Purchase behaviour and finally Section E asked about Brand Loyalty. The questionnaire was designed based on the study's research model. A total of 325 questionnaires were collected and used for data analysis.

4. Data Analysis and Results

Sample Description: Table 1 presents the profile of the participants. The profile indicates that the proportion of males to females. Males represent 26.8% of the total sample and females represent 73.2%. Most of the respondents were in the 18-20 year age category and represented 48.3% and the age group with the least number of respondents was the 24 year age group representing 8 percent of the total sample. Most of the respondents chose L'OREAL advertised by Terry Phetho as their preferred brand and this was indicated by 32.3% of the total sample and the least preferred brand was Shield body spray advertised by Lira indicated by 12.3% of the total sample. Table 1 illustrated in the following section presents a profile of the participants.

Table 1: Sample Demographic Profile

Gender	Frequency	Percentage
Male	87	26.8%
Female	238	73.2%
	325	100%
Age	Frequency	Percentage
18-20	157	48.3%
21-23	142	43.7%
24	26	8%
	325	100%
Respondents' choice of brands and celebrities	Frequency	Percentage
Garnier Oil Control: Zizo Beda	89	27.4%
L'OREAL: Terry Phetho	105	32.3%
Vaseline Men: ItumelengKhune	42	13.8%
Status body spray: HHP	60	18.5%
Shield body spray: Lira	40	12.3%
	325	100%

Scale Accuracy Analysis: The scale construct correlations are presented in Table 2, the mean scores of scales and their corresponding scale items are presented in Table 3. Individual scale item test summaries related to research scale reliability and validity are explored thereafter. The results of scale reliability tests are shown in Table 3. As can be seen, item-to-total values ranged from 0.663 to 0.881, while Cronbach's alpha coefficients ranged from 0.871 to 0.932 and composite reliability (C.R.) indexes were between 0.852 and 0.953. These values exceeded the estimate criteria used by previous literature. Average variance extracted (AVE) values ranged from 0.718 and 0.882 exceeding the recommended 0.7 thus marginally accepted according to the (Fraering & Minor, 2006). These results provided proof of marginal to acceptable levels of research scale reliability and validity. The scale validity was investigated mainly utilising a confirmatory factor analysis (CFA) while all scale items were joint. The results are illustrated in Tables 2 and 3. Convergent validity was tested by evaluating whether the path coefficients (loadings) between each latent construct and its corresponding scale items were statistically significant. Most of the factor loadings in the CFA were significant (between 0.6 and 0.9), confirming the convergent validity of all scale items. The measurement model produced a ratio of chi-squared value over degree-of-freedom of 2.384, and GFI, CFI, IFI, TLI, RFI, NFI and RMSEA were 0.911, 0,966, 0,947, 0,966, 0,912, 0,943 and 0,065 respectively.The above results indicated that the research scales decisively encompassed distinct components, thus supporting discriminant validity of the research constructs.

Proposed Conceptual Model Fit Assessments: The evaluation of the proposed conceptual model proceeded utilising the same data set. The following model fit measures were used to assess the reliability and validity of the data. The ratio of chi-squared over degree-of-freedom was 2,384. Additional GFI, CFI, IFI, TLI, RFI, NFI and RMSEA values were 0.911, 0,966, 0,947, 0,966, 0,912, 0,943 and 0,065 respectively.All model fit measures exceeded recommended thresholds, which posited that the proposed conceptual model converged well and could be a plausible representation of the underlying empirical data structure collected. The corresponding coefficients of the research hypotheses that suggested the existence of positive relationships between all relationships with the exception of brand awareness and brand preference (H_7) were then observed. Accuracy analysis statistics are illustrated in table 3 below. Table 2 below illustrates correlations between research constructs.

Table 2: Correlations between Constructs

	CEA	BA	BR	PB	BL
CEA	1				
BA	0.311**	1			
BR	0.141*	0.609**	1		
PB	0.029	0.229**	0.658**	1	
BL	0.044	0.187**	0.395**	0.637**	1

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

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

As observed in Table 2 above all correlation values range from 0.044 to 0.311. Most of the correlation values were significant at both 0.01 and 0.05 p value level of significance. Discriminant validity of the research constructs was assessed using correlations among latent constructs of less than 1.0. Table 3 below illustrates descriptive and reliability statistics.

Table 3: Descriptive and Reliability Statistics

Research Construct		Descriptive Statistics				Cronbach's Test		C.R.	AVE	HSV	Factor Loading
		Mean Value		Standard Deviation		Item-total	α				
BL	BL1	3,649	3,581	0,790	0,796	0,747	0,932	0,953	0,882	0,406	1,031
	BL2	3,569		0,793		0,881					0,924
	BL3	3,588		0,810		0,840					0,869
	BL4	3,557		0,790		0,879					0,897
	BL5	3,542		1,795		0,760					0,739
BP	BP1	3,668	3,601	0,790	0,831	0,697	0,896	0,884	0,730	0,433	0,734
	BP2	3,640		0,829		0,805					0,849
	BP3	3,655		0,808		0,824					0,791
	BP4	3,449		0,920		0,678					0,671
	BP5	3,594		0,810		0,730					0,835
BR	BR1	3,640	3,662	0,803	0,804	0,722	0,894	0,852	0,718	0,433	0,838
	BR2	3,649		0,820		0,802					0,742
	BR3	3,686		0,809		0,812					0,742
	BR4	3,674		0,785		0,730					0,749
BA	BA1	3,508	3,567	0,748	0.778	0,663	0,908	0,894	0,749	0,371	0,619
	BA2	3,545		0,783		0,789					0,763
	BA3	3,578		0,792		0,831					0,829
	BA4	3,628		0,758		0,829					0,916
	BA5	3,578		0,811		0,737					0,815
CEA	CEA1	3,640	3,568	0,730	0,744	0,785	0,871	0,870	0,810	0,097	0,878
	CEA2	3471		0,731		0,707					0,756
	CEA3	3594		0,771		0,770					0,855

CR: composite reliability; AVE: average variance extracted; HSV: highest shared variance;
[a] significance level $p<0.05$; [b] significance level $p<0.01$; [c] significance level $p<0.001$.

As can be seen it table 3 above all the mean values range from 3.449 to 3.668, standard deviations range from 0.730 to 0.920. The item to total values ranged from 0.678 to 0.881. The composite reliability (CR) values range from 0.852 to 0.953 whilst the average variance extracted (AVE) values range from 0.718 to 0.882. Most of the factor loadings are above 0.671. It can also be observed that there is evidence of discriminant validity as the average variance extracted values are greater than the highest shared variance values.

Path Modeling & Hypotheses Testing: Table 4 presents the results of the structural equation modeling followed by a discussion

Table 4: Results of Structural Equation Model Analysis

Proposed relationship hypothesis	Hypothesis	Factor Loading	P Value	Supported/ Rejected
Celebrity Endorsement Advertising **(CEA)** Brand Awareness **(BA)** →	H_1	0.32[b]	***	Supported and significant
Celebrity Endorsement Advertising **(CEA)**Purchase Behaviour **(PB)** →	H_2	0.02[b]	***	Supported and significant
Celebrity Endorsement Advertising **(CEA)** Brand Recall **(BR)** →	H_3	0.18[b]	***	Supported and significant
Celebrity Endorsement Advertising **(CEA)** Brand Loyalty **(BL)** →	H_4	0.06	0,318	Unsupported and insignificant
Brand Loyalty**(BR)**Purchase Behaviour**(PB)** →	H_5	0.67[b]	***	Supported and significant
Brand Recall**(BL)** Purchase Behaviour **(PB)** →	H_6	0.35[b]	***	Supported and significant
Brand Awareness **(BA)**Purchase Behaviour **(PB)** →	H_7	-0.23[b]	***	Unsupported but significant

Structural model fits: χ^2/df= 2,384; GFI= 0.911; CFI= 0,966; TLI= 0,947; IFI= 0,966; RFI= 0,912; NFI=0,943; RMSEA= 0,065; [a] significance level p<0.05; [b] significance level <0.01;
[c] significance level<0.001

Discussion of Hypotheses Results: As illustrated in Figure 1, all hypotheses coefficients were at least at a significant level of p<0.01. Therefore all the proposed hypotheses from H1 to H6 were all supported. Individual hypothesis coefficients between Celebrity Endorsement Advertising **(CEA)** and Brand Awareness **(BA)** (H1), Celebrity Endorsement Advertising **(CEA)** and Brand Preference **(BP)**, (H2),Celebrity Endorsement Advertising **(CEA)** and Brand Recall **(BR)**(H3), Celebrity Endorsement Advertising **(CEA)** and Brand Loyalty **(BL)**(H4), Brand Recall **(BR)**and Brand Preference **(BP)** (H5), Brand Loyalty **(BL)** and Brand Preference **(BP),** Brand Loyalty **(BL)** and Brand Preference **(BP)** (H6), Brand Awareness **(BA)** and Brand Preference **(BP)** (H7) were 0.32; 0.02; 0.18; 0.06; 0.67; 0.35 and -0.23.

Implications of the Study: The present study offers implications for marketing practitioners and academicians with regards to celebrity endorsement advertising. Based on the results of the current study brand loyalty is seen to have the strongest influence on purchase behaviour indicated by a path coefficient of 0.67 implying that marketing managers have to ensure that consumers are committed to a brand that a celebrity is endorsing in order to influence them the purchase that brand. As for academicians in the field of marketing this finding enhances their understanding of the relationship between brand loyalty and purchase behaviour as this is a useful contribution to existing literature on these to variables. It is also observed in the study that consumers 18 to 20 years of age are more likely to pay for celebrity endorsed brands and pay more than any other age group therefore implying that marketing practitioners should focus most, if not all of their efforts on targeting this age group with celebrity endorsement advertising. On the other hand the current study also reveals that brand awareness is inversely related to purchase behaviour implying that regardless of a consumer being aware of a brand it has no direct influence on that consumer actually purchasing that product and this is indicated by a negative path coefficient -0.23. Therefore marketing managers must not sorely rely on consumers merely being aware of a brand as it has no direct influence on their purchase behaviour.

5. Conclusion

Based on the findings of the study it can be concluded that directly and positively affects, brand awareness, purchase behaviour, brand recall, brand loyalty. It is important to also note that brand awareness and purchase behaviour are negatively correlated implying that consumers merely knowing about a brand is not motivation enough for them to be loyal to that brand. It is observed that brand loyalty is the most influential

antecedent of purchase behaviour implying that the extent to which consumers are loyal to a brand greatly determines their likelihood of purchasing the product advertised and is indicated by the highest factor loading which is 0.67. This was indicated with a factor loading of (0.32) which was higher than those of the other relationships. Furthermore, the study also found that participants in the 18-20 year age group were more likely to pay for celebrity endorsed brands than any other group at the same time also willing to pay for more for these brands than any other age group. It is also observed in the current study that advertising strategy influences consumers' brand attitudes such as brand recall, brand awareness, brand loyalty and purchase activity. However, the extent of this influence varies from one consumer to the next. It was also interesting to note that celebrity brand awareness was positively influenced purchase behaviour but did not influence brand loyalty as indicated by results of the study. It important to note that based on the findings of the study brand awareness was inversely related to purchase behaviour as indicated by a factor loading of (-0.23) implying that regardless of consumers being knowledgeable about a brand that did not influence them to purchase it. It is important to note that a key finding of this study is that brand loyalty leads to purchase behaviour and this is supported by the finding of (Chi et al., 2009). The current study also found that brand awareness does not lead to purchase behaviour however interestingly this finding contradicts that of (Chi et al., 2009) which established that brand awareness directly leads to purchase behaviour. In conclusion, it is clear from the results of this study that celebrity endorsement affects consumer behaviour; however, the extent to which it does so depends on how well the marketing communications team executes the strategy in the relevant target market.

Suggestions for Future Research: The current study leaves room for further future research in the field of celebrity brand endorsements. There is an opportunity for researchers to either explore the same variables of this study in greater depth or to add new variables that could potentially predict purchase behaviour in relation to celebrity endorsements more accurately or differently. The author would recommend that similar studies as to the current study be conducted on a larger scale, that is a larger sample size, larger geographic regions and not limit the study to respondents of a certain demographic profile. For instance the current study only utilized respondents residing in one city and recommendations for future research would be for researchers to consider larger populations such as surveying respondents from more than one city or province. This would allow for more diversity in the sample and more informed results. The study suffered greatly from financial and time constraints and the researchers believe that if these challenges are addressed it would result in a more meaningful and superior contribution to the literature of celebrity endorsement advertising.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.

Ajzen. (2002). Perceived Behavioural Control, Self-Efficacy, Locus of Control, and the Theory of Planned Behaviour. *Journal of Applied Social Psychology*, 32(4), 665-683.

Akehurst, G., Afonso, C. & M. Gonçalves, H. (2012). Re-examining green purchase behaviour and the green consumer profile: new evidences. *Management Decision*, 50(5), 972-988.

Alsmadi, S. (2006). The power of celebrity endorsement in brand choice behaviour: An empirical study of consumer attitudes in Jordan. Journal of Accounting – Business & Management, 13, 69-84.

Barnes, A. (2011). Celebrity: Celebrity and food. *Lifted Brow, The*, 12, 6-7

Bekk, M. & Spörrle, M. (2010).The Influence of Perceived Personality Characteristics on Positive Attitude towards and Suitability of a Celebrity as a Marketing Campaign Endorser. *Open Psychology Journal,* 3(1), 54-66.

Belaid, S. & T. Behi, A. (2011). The role of attachment in building consumer-brand relationships: an empirical investigation in the utilitarian consumption context. *Journal of Product & Brand Management*, 20(1), 37-47.

Berry, L. L. (2000). Cultivating service brand equity. *Journal of the Academy of marketing Science*, 28(1), 128-137.

Biscaia, R., Correia, A., Rosado, A. F., Ross, S. & Maroco, J. (2013). Sport sponsorship: The relationship between team loyalty, sponsorship awareness, attitude toward the sponsor, and purchase intentions. *Journal of Sport Management*, 27, 288-302.

Chi, H. K., Yeh, H. R. & Yang, Y. T. (2009). The impact of brand awareness on consumer purchase intention: The mediating effect of perceived quality and brand loyalty. *Journal of International Management Studies*, 4(1), 135-144.

Choi, S. & Rifon, N. J. (2007). Who is the celebrity in advertising? Understanding dimensions of celebrity images. *The journal of popular Culture*, 40(2), 304-324.

Clark, C. R., Doraszelski, U. & Draganska, M. (2009). The effect of advertising on brand awareness and perceived quality: An empirical investigation using panel data. *QME* 7, 2, 207-236.

Collins, H. (2010). Creative research: the theory and practice of research for the creative industries. Ava Publishing.

Conner, M. & Armitage, C. J. (1998). Extending the theory of planned behaviour: A review and avenues for further research. *Journal of applied social psychology*, 28(15), 1429-1464.

Costanzo, P. J. & Goodnight, J. E. (2006). Celebrity endorsements: Matching celebrity and endorsed brand in magazine advertisements. *Journal of Promotion Management*, 11(4), 49-62.

Daniel, J. (2011). Sampling essentials: Practical guidelines for making sampling choices. London, UK: Sage.

Ding, H., Molchanov, A. E. & Stork, P. A. (2011). The value of celebrity endorsements. A stock market perspective. *Marketing letter*, 22, 147-163.

Dix, S., Phau, I. & Pougnet, S. (2010). Bend it like Beckham": the influence of sports celebrities on young adult consumers. *Young Consumers*, 11(1), 36-46.

Erdogan, B. Z., Baker, M. J. & Tagg, S. (2001). Selecting celebrity endorsers: The practitioner's perspective. *Journal of advertising research*, 41(3), 39-48.

Erfgen, C., Zenker, S. & Sattler, H. (2015). The vampire effect: When do celebrity endorsers harm brand recall? *International Journal of Research in Marketing*, 32(2), 155-163.

Fagarasanu, M. & Kumar, S. (2002). Measurement instruments and data collection: a consideration of constructs and biases in ergonomics research. *International Journal of Industrial Ergonomics*, 30(6), 355-369.

Francis, J. J., Eccles, M. P., Johnston, M., Walker, A., Grimshaw, J., Foy, R. & Bonetti, D. (2004). Constructing questionnaires based on the theory of planned behaviour. *A manual for health services researchers*, 2, 2-12.

Fraering, M. & Minor, M. S. (2006). Sense of Community: An Exploratory Study of US Consumers of Financial Services. *International Journal of Bank Marketing*, 24(5), 284-306.

Han, W. & Rashad Yazdanifard, O. (2015).The Review of the Effectiveness of Celebrity Advertising that Influence Consumer's Perception and Buying Behavior. *Global Journal of Management and Business Research*, 15(4), 23-29.

Galpin, J. S. (2011). Statistical research design and analysis. [Lecture notes]. Johannesburg, South Africa: University of the Witwatersrand, School of Statistics and Actuarial Science.

Henle, C. A., Reeve, C. L. & Pitts, V. E. (2010).Stealing time at work: Attitudes, social pressure, and perceived control as predictors of time theft. *Journal of Business Ethics*, 94(1), 53-67.

Hollebeek, L. D., Jaeger, S. R., Brodie, R. J. & Balemi, A. (2007).The influence of involvement on purchase intention for new world wine. *Food Quality and Preference*, 18(8), 1033-1049.

Huang, R. & Sarigöllü, E. (2012). How brand awareness relates to market outcome, brand equity, and the marketing mix. *Journal of Business Research*, 65(1), 92-99.

Hudders, L., Cauberghe, V., Panic, K., Faseur, T. & Zimmerman, E. (2012). Brand placement in music videos: the effect of brand prominence and artist connectedness on brand recalls and brand attitude. In 11th International conference on Research in Advertising (ICORIA 2012): The changing roles of advertising.

Illicic, J. & Webster, C. M. (2011). Effects of multiple endorsements and consumer–celebrity attachment on attitude and purchase intention. *Australasian Marketing Journal (AMJ)*, 19(4), 230-237.

Keller, K. L. (2008). *Strategic branding management building, measuring and managing brand equity* 3ed. Upper saddle River, New Jersey. Prentice Hall.

Kim, S. S., Lee, J., & Prideaux, B. (2014). Effect of celebrity endorsement on tourists' perception of corporate image, corporate credibility and corporate loyalty. *International Journal of Hospitality Management*, 37, 131-145.

Koernig, S. K. & Boyd, T. C. (2009). To Catch a Tiger or Let Him Go: The Match-up Effect and Athlete Endorsers for Sport and Non-Sport Brands. *Sport Marketing Quarterly*, 18(1), 15-37.

Liu, F., LI, J., Mizerki, D. & Soh, H. (2012). Self-congruity, brand attitude, and brand loyalty: A study on luxury brands. *European Journal of Marketing*, 46(7/8), 922-937.

Lu, L. C., Chang, W. P. & Chang, H. H. (2014). Consumer attitudes toward blogger's sponsored recommendations and purchase intention: The effect of sponsorship type, product type, and brand awareness. *Computers in Human Behaviour*, 34, 258-266.

Macdonald, E. K. & Sharp, B. M. (2000). Brand awareness effects on consumer decision making for a common, repeat purchase product: A replication. *Journal of business research*, 48(1), 5-15.

Malik, A. & Sudhakar, B. D. (2014). Brand positioning through celebrity Endorsement- A review contribution to brand literature. *International Review of Management and Marketing*, 4(4), 259-275.

Muda, M., Musa, R. & Putit, L. (2012). Breaking through the Clutter in Media Environment: How Do Celebrities Help? *Procedia-Social and Behavioral Sciences*, 42, 374-382.

Patel, P. C. (2009). Impact of Celebrity Endorsement on Brand Acceptance. *ICFAI Journal of Consumer Behaviour*, 4(1), 36-45.

Pedeliento, G., Andreini, D., Bergamaschi, M. & Salo, J. (2015). Brand and product attachment in an industrial context: The effects on brand loyalty. Industrial Marketing Management.

Petty, R. D. & D'Rozario, D. (2009). The use of dead celebrities in advertising and marketing: balancing interests in the right of publicity. *Journal of advertising*, 38(4), 37-49.

Petzer, D., Mostert, P., Kruger, L. M. & Kuhn, S. (2014). The dimensions of brand romance as predictors of brand loyalty among cell phone users. *South African Journal of Economic and Management Sciences*, 17(4), 457-470.

Ranjbarian, B., Shekarchizade, Z. & Momeni, Z. (2010). Celebrity endorser influence on attitude toward advertisements and brands. *European Journal of Social Sciences*, 13(3), 399-407.

Rauyruen, P. & Miller, K. E. (2007).Relationship quality as a predictor of B2B customer loyalty. *Journal of business research*, 60(1), 21-31

Rawtani, K. J. (2010). Celebrity endorsements and brand building. India. MBA- IB: 1-88

Rodriguez, K. P. (2009). Apparel brand endorsers and their effects on purchase intentions: a study of Philippine consumers. *Philippine Management Review*, 15, 83-99

Rossiter, J. R. & Percy, L. (1997). *Advertising communications & promotion management* (2nd Ed.). New York: McGraw-Hill Company.

Sajan, K. V. & Nehru, S. (2014). Effectiveness of celebrity endorsement on brand recognition with special reference to Trivandrum city Kerala. Conference paper

Sheu, J. B. (2010). A hybrid dynamic forecast model for analyzing celebrity endorsement effects on consumer attitudes. *Mathematical and Computer Modelling*, 52(9), 1554-1569.

Sliburyte, L. (2009). How celebrities can be used in advertising to the best advantage. *World Academy of Science, Engineering and Technology*, 58(2), 934-939.

Tan, B. (2002). Understanding consumer ethical decision making with respect to purchase of pirated software. *Journal of consumer marketing*, 19(2), 96-111.

Tsai, S. P. (2011). Fostering international brand loyalty through committed and attached relationships. *International Business Review*, 20(5), 521-534.

Valkenburg, P. M. & Buijzen, M. (2005). Identifying determinants of young children's brand awareness: Television, parents, and peers. *Journal of Applied Developmental Psychology*, 26(4), 456–468.

Wang, Y. & Song, Y. (2013). Counterfeiting: Friend or Foe of Luxury Brands? An Examination of Chinese Consumers' Attitudes toward Counterfeit Luxury Brands. *Journal of Global Marketing*, 26(4), 173-187.

Wang, Y. (2014). Consumers' Purchase Intentions of Shoes: Theory of Planned Behaviour and Desired Attributes. *International Journal of Marketing Studies*, 6(4), 50-58

Wee, T. T. T. & Ming, M. C. H. (2003). Leveraging on symbolic values and meanings in branding. *Journal of Brand Management*, 10, 208-218.

Wei, P. S. & Lu, H. P. (2013). An examination of the celebrity endorsements and online customer reviews influence female consumers' shopping behaviour. *Computers in Human Behaviour*, 29(1), 193-201.

White, D. W., Goddard, L. & Wilbur, N. (2009). The effects of negative information transference in the celebrity endorsement relationship. *International Journal of Retail & Distribution Management*, 37(4), 322-335.

Journal of Economics and Behavioral Studies (JEBS)
Vol. 8, No. 2, April 2016 (ISSN 2220-6140)

Analysis of the Perceptions of School Administrators on the Recent Published Regulation

Saduman Kapusuzoglu, Habibe Ozturk
Hacettepe University, Faculty of Education, Ankara, Turkey
saduman.kapusuzoglu@hacettepe.edu.tr

Abstract: The aim of study is to examine the perceptions of school administrators about the regulation published on 10th June 2014. This study is a qualitative research and in order to acquire the data phenomenological method, which provides to focus on cases that we are aware of but do not have deep and detailed insight, was used. The target group of the study included 5 primary, 5 secondary and 2 high school administrators in Ankara province Polatlı district. The target group was designed based on purposive sampling method. The data was collected by using semi-structured interview method. Content analysis method was conducted to analyze the data. School principals in the study, expressed their ideas as follows; the assessments for school managements should be done by a lawful and objective exam. The exam should be written. The exam should be esteemed at; general ability, education management and regulations. The written exam should apply for both work of director and assistant director. Although the first rule for being appointed to educational institutions is being selected by an exam, the management knowledge and ability, master's degree, in service training on management etc. should be given importance, too.

Keywords: *Regulations related to educational administration, principal selection, principal assignment*

1. Introduction

Principals are the main characters in the formation of efficient and qualified schools. Besides their bureaucratic status, principals are regarded as the most important and effective individuals of schools who regulate the learning climate, influence a sense of belonging for teachers and the success of students, initiate decision making, facilitating and change (Balyer and Gündüz, 2011; Korkmaz, 2005). School principals need to be the leaders of the schools besides being the administrators of the schools they manage. Therefore, the selection and training of school principals comes to the fore as an important factor which influences the educational system and the success of students (Süngü, 2012). The regulations to which educational administration appointment criteria are related frequently change. From 2004 until today, 8 regulations have changed (the 2004, 2006, 2007, 2008, 2009, 2011, 2013, 2014 administrator appointment regulations). The Administrator Appointment and Translocation Regulations prior to 2014 have been subject to various criticisms in terms of content and scoring metrics in the studies carried out by Bakioğlu and Özcan (2001), Cemaloğlu (2005), Günay (2004), Korkmaz (2005), Serin (2007), Silah (2001), Özmen and Kömürlü (2010), Taş and Önder (2010), Turan and Şişman (2000), Yeloğlu (2008), Demir and Pınar (2013). As a result of all these criticisms and discussions, the previous circulars and regulations have been revised by the Ministry of National Education and a new Regulation on the Appointment of Educational Institution Administrators affiliated with the Ministry of National Education has been published (Doğan, Demir and Pınar, 2014).

Researching whether the new regulation on the appointment of administrators which became effective as of 2014 has brought the required solutions to the observed discussion, deficiency and problems related to the regulations published previously, determining its influence, positive and negative reflections on the related people and its content and scoring criteria are the main aims of this study. It is regarded that analyzing the current state of the appointment of administrators based on the views of administrators and presenting suggestions is important. In this respect, the problem statement of the study is as follows: The Analysis of the Perceptions of Administrators in relation to the Regulation published on 10.06.2014 on the Appointment of Administrators of Educational Institutions Affiliated with the Ministry of National Education (MEB, 2014).

Purpose of the Study: In the study, it has been aimed at analyzing the perceptions of primary, middle and high-school administrators on the related regulation:

- What are the views of principals on the new regulation?
- Do the views differ in accordance with the demographic characteristics of the principals?

2. Methodology

The study is a qualitative study in which the views of the administrators have been obtained through semi-structured open-ended questions. The study sample which has been selected through the purposeful sampling method consists of 5 primary, 5 middle school and 2 high-school principals who are employed in official schools located in Polatlı district of Ankara city.

Study Design: This study has been designed as a phenomenological study with the qualitative approach. Taking the answers the school administrators have given to the interview questions as the starting point, the phenomenological design has been preferred in order to display the principals' views on the regulation in relation to their appointment in detail and to analyze in-depth the perception of the principals on the regulation based on the views they have stated.

Data Collection Tool: In the study, the Semi-Structured Interview form consisting of open-ended questions has been used in order to determine the views of administrators employed in institutions affiliated with the Ministry of National Education on the Regulation on the Assignment of Administrators published on 10.06.2014 in the Official Gazette in terms of its content, the scoring criteria and the appointment process of administrators. Prior to the preparation of the interview questions, the regulation has been analyzed in-depth and the sub-headings determined within the framework of the regulation and the studies in the body of literature have been compared in detail. The draft interview form questions prepared as a result of the comparison have been evaluated in line with the purpose of the study by an academic member who is an expert in his field. Data related to the study have been collected through interviews conducted in the schools of the participants within the scope of the study. The participants involved in the study have been informed about the privacy process of personal information, given explanations that personal information is to be kept private and guaranteed that obtained data will not be used outside of the purpose of the study.

Analysis of Data: In the qualitative study design, it is important to display the views and points of view of the administrators on the study subject which have been expressed both openly and indirectly without prejudice and the line-by-line analysis approach has been used to make this possible. As data analysis unit or body, word groups and sentences have been selected (Patton, 2002; Charmaz, 2006). When the words and concepts used by the participants of the study inadequate in the process of coding, other concepts which can best express the views of the participants have been used by the researchers as codes. In the interpretation of interview data, inductive descriptive analysis, content analysis and constant comparison technique has been used (Coffey and Atkinson, 1996; Marshall and Rossman, 1999; Miles and Huberman 1994). Data obtained from the participants through content analysis have been analyzed and the codes which evoke the same concepts have been united under the common categories. In the last stage, cohesion has been achieved from the themes emerging from data and these have been interpreted. In order to determine whether it has embodied the whole data under each theme which have emerged during the thematic coding process, the views of the field experts have been consulted frequently and the shortages and errors in the thematic coding process have been corrected in line with the feedback. In this study, the constant comparison data analysis method has been used along with content analysis. During the analysis process of the study data, the constantly repeated facts and events within the scope of the answers given by the participants have been determined, compared and it has been attempted to reach categories and themes through the induction method. According to Mills (2003), it is more appropriate to use the concepts of plausibility, transmissibility, consistency and approvability, rather than the concepts of validity and reliability in these cases in the study.

3. Findings and Interpretation

The school principals have been asked 23 questions on the regulation and the answers given to these questions have been analyzed one by one. With the results reached through the general evaluation, suggestions have been given place to. The findings obtained as a result of the questions directed to the educational administrators and the analysis of the answers given to these questions has been presented below.

What are your views on the modification of the Regulation on the Appointment and Dislocation of Administrators of Educational Institutions affiliated with the MNE as the Regulation on the Assignment of Educational Institutions affiliated with MNE and their Administrators?
Except for Participant-1, Participant -4, Participant -7, Participant -9 and Participant -10, all participants have stated negative views on the appointment of administrators. Participant-2 has expressed his views as follows: *"In fact, you can understand the different between the two from the title of the regulation. While one is a regulation on appointment, the other is a regulation on assignment. Unfortunately, today's assignments are political. The quality has been reduced to minimum and there is no respect for the authority. Democracy has been destroyed."*

What are your views about the modification made in the article "Having available lessons in order to able to be appointed to the educational institution to be applied to in the related fields or in return for a monthly salary" in the regulation published on 4 August, 2013 as "Having the qualification of being able to be appointed to the educational institution to be assigned to as a teacher in the related field as of the date of the assignment" in the regulation published on 10 June, 2014?
In terms of having the qualification of being able to be appointed to the educational institution to be assigned to as a teacher in the related field, all participants have expressed positive views except for Participant-5, Participant-6 and Participant-9. Participant-1 has expressed the following: *"The administrator to be assigned should not be unfamiliar with his institution"* and has argued in the favor of the related article.

What are your views on the modification made in the article "Not having been relieved of administrative duty or not having received forfeiture of allowance or not having been given a heavier disciplinary penalty in the last four years due to legal or administrative investigation" for people to be appointed as administrators in the regulation published on 4 August, 2013, as "Not having been relieved of administrative duty in the last four years due to legal or administrative investigation" in the regulation published on 10 June, 2014?
Except for Participant-2 and Participant-3, all participants have expressed that this article is fir and proper and that this should be the case in practice as well. Participant-2 has stated that this article should not be limited with only the last 4 years and should include the whole employment period as follows: *"In my opinion, if the last four years condition is removed and the person has received a severe penalty during his whole employment period, then he should be prevented from being assigned as an administrator."* Participant-3 has underlined his views as follows: *"A person who has been relieved of administrative duty due to legal or administrative investigation not only in the last four years should never be appointed as an administrator."*

The following qualifications are sought for in people to be assigned as administrators:
a) Being a higher-education graduate,
b) Working as a teacher in the Ministry's personnel as of the final application date,
c) Having the qualification of being able to be appointed as a teacher in the related field as of the assignment date to the educational institution to be assigned to,
d) Not having been relieved of administrative duty in the last for years due to legal or administrative investigation as of the assignment date.
If there are other qualifications you would like to add to this article, please state these.
While Participant-5 has stated the following in terms of the general qualifications to be sought for in those to be assigned as administrators *"Since the action here is assignment of duty and it is for a temporary period of time, there is no need to increase the qualifications and make them more difficult",* the other participants have suggested the addition of the following qualifications:
a. Determining whether the person has administrative skills by adding a period of internship (Participant-1, Participant-4)
b. Having a post-graduate degree in the area of administration (Participant-2, Participant -7, Participant 10, Participant -11)
c. Giving priority to people with doctorate degrees in Educational Sciences and administrative fields (Participant -2, Participant -7)
d. These general terms should be the preconditions for the written examination and receiving a score of 70 and above in the written examination should be the only condition (Participant-3)
e. Having been participated in at least 1 project (Participant -11, Participant -8)

f. Having worked as a teacher for 10 years

g. Administrators should be assigned from those who are not teachers. They should be selected for assignment among principals, graduates of Public Administration, Political Sciences, Economics or Business Administration and vice principals should be selected from civil servants who are high-school or university graduates (Participant-9).

"People to be assigned as principals should have at least one of the following qualifications:

a. Having worked as a principle,

b. Having worked as a head vice principal for at least two years,

c. Having worked as a founding principal, vice principal and teacher with the authority of a principal separately or including having worked as head vice principal for a total of at least three years,

d. Having worked as a unit head or higher positions other than the Ministry's education and teaching services class,

e. Having worked as a teacher in the Ministry's personnel for at least eight years acting as principal."

Do you think that the terms stated in this article of the regulation are sufficient?
Which one or ones in your opinion are the most necessary?
Are there other special conditions you would like to add to these qualifications?

While a majority of the participants viewed these conditions as sufficient in terms of the special qualifications sought for in people to be assigned as principals, Participant-2 has stated that the d paragraph of the related article should be removed as follows: "*The administrative position is earned through education and experience. Principals should be selected from people who have previously worked as vice principals and completed their post-graduate education in the area of administrative field."*

People to be assigned as head vice principals or vice principals should carry at least one of the following qualifications:

a. Having worked as a principle, founding principle, head vice principle, vice principle or teacher with the authority of a principal

b. Having worked as a unit head or higher positions other than the Ministry's education and teaching services class

c. Having worked as a teacher in the Ministry's personnel for at least four years acting as principal."

Do you think that the terms stated in this article of the regulation are sufficient?
Which one or ones in your opinion are the most necessary?
Are there other special conditions you would like to add to these qualifications?

While Participant-1, Participant-5, Participant-6, Participant-7, Participant-10 have found this article of the regulation sufficient, Participant-3, Participant-4, Participant-8, Participant-9 and participant-11 have underlined that the article has shortcomings. Almost all of the participants have regarded the c paragraph of the article as the most necessary qualification. Participant-4 has stated that an internship period should be added to the article, Participant-8 has stated that a written examination conditions should immediately be brought and Participant-11 has stated that a post-graduate degree conditions should be added for the vice principal position as well.

What are your views on the article "The administrators are assigned for 4 years"? In terms of administrators continuing their duties through assignment and not appointment, the administrators have stated different views. Participant-2, Participant-3, Participant-5, Participant-6, Participant-7, Participant-8, Participant-9 and Participant-10 have expressed that assignment is not a proper method. While Participant-6 has stated *"I do not find assignment appropriate at all. I believe that it will cause personnel to be totally politicized administrators to be tied to the higher position with a feeling of gratitude and not be able to carry out their duties in a fair manner"*, Participant-1 has stated that he has found this method appropriate and expressed *"The position not being permanent increases the loyalty of the administrators both towards the teachers and this occupation. This facilitates terminating the duties of unsuccessful administrators and evaluating their performance."*

What are your views about the article "At least one of the religious middle school vice principals is selected from teachers who have taken Religious Culture and Moral Knowledge or vocational lessons; at least one of the religious high-school and vocational and technical education institution vice principals is selected from teachers who have taken vocational lessons; at least one of the social sciences high-school vice principals is selected from teachers who have taken Turkish Language and Literature, History, Geography, philosophy or Psychology lessons; at least one of the fine arts vice principals is selected from teachers who have taken Visual Arts, Painting or Music lessons; at least one of the sports high-school vice principals is selected from teachers who have taken Physical Education lessons; and at least one of the special education institution vice principals is selected from teachers who have taken guidance or special education lessons"?
While 9 participants have stated that they found this article appropriate, 2 participants (Participant-6 and Participant-8) have stated that since administration and teachers' branches are not related, they are against such a positive discrimination. Participant-7 has expressed his views as follows: "*I think that it is an accurate decision. At least one of the administrators being experienced in a branch related to the school type is a perfectly appropriate practice in terms of the nature of this work."*

What are your views on the assignment of at least one vice principal from female candidates in all girls schools or educational institutions which have boarding female students or in coeducation schools which have three or more vice principals? While only Participant-8 has stated a negative view on this article, all of the other participants share the same view that this article is fit and proper. Participant-8 has expressed his views as follows: "I do not accept such a discrimination to be made; there should not be discrimination in terms of gender." Participant-1 who has found the article appropriate has stated "This article will cause the ratio of women and administration and facilitate communication; Participant-11 has stated "This is a quite accurate article, because I believe that female administrators will understand the needs of female students better; Participant-5 has stated "The priority should be given to women, but the article should be modified to state that in cases where there are no female candidates, male candidates should be assigned" and offered their suggestions.

What are your views on the article "The duties of people who are assigned as administrators to the same educational institution and have worked under the same title for more than four years and less than eight years at their educational institutions are terminated as indicated in this regulation as of the completion date of eight years"?
In terms of working under the same title at the same school for a maximum of eight years, all participants with the exception of Participant-2 and Participant-8 have stated positive views. Participant-2 has stated in terms of *successful candidates working at the same institution that a year condition should be required*, while Participant-8 has stated that *it would be more appropriate for administrators to work in an environment they like*. Participant-5, who is among the participants who agreed that administrators should work in different institutions after a certain amount of time, has stated "*They say that no authority and position is everlasting. 8 years is a sufficient period of time. The rotation of teachers is accurate from this perspective. Teachers or administrators should not be the regular fixtures of schools."*

What are your views on the article "Those, who request to be reassigned in case their administrative duties are not extended, cannot be assigned to the educational institutions they have last worked in, limited to the same assignment period"?
While Participant-2 Participant-3, Participant-6, Participant-7 and Participant-8 have stated negative views, the rest of the participants have underlined that this article is appropriate. Participant-2 has stated *"If the administrator is successful, then he/she should continue in the sane institution"* and suggested that this article should be kept a bit more flexible to take successful administrators into consideration.

What are your views and suggestions on the removal of the method of determining the assignment of head vice principals and vice principals on the basis of written examinations and determining their assignment on the basis of an appointment letter written by the newly assigned principals to educational institutions which have been assigned principals, the suggestion of the provincial director of national education and the approval of the governor?

All of the participants have underlined that it would be more fruitful if the school principle formed his own team and work with the people he gets along with, however in terms of the removal of the written examination, all of the participants with the exception of Participant-1 have stated negative views. Participant-11 has stated the following to explain his point of view: "*I do not find this appropriate, since oral examinations in our country are not objective.*"

What are your views on the removal of the written examination in the selection of people who are wished to be assigned as principals for the first time and again and taking the oral examination as the basis?

All of the participants with the exception of Participant-1 have stated that the written examination practice should continue. Participant-1 has stated that the oral examination is more appropriate and explained his point of view as follows: *"The written examination is based on memorization, whereas oral examinations are based on the power of expression, representation and communication. The principal of an institution should value communication, rather than knowledge. Therefore, I find this extremely useful."* Paticipant-7 has stated *"In my opinion, the most appropriate practice is the written examination, then in-service training and another examination after in-service training."*

If you have other suggestions you would like to add for the written examination to be more objective, please state your suggestions: The administrators have stated the following in terms of the written examination being more objective:

a. In the Evaluation Committee, there should be an educator from Education Faculties, who is an expert in the area of Education Management, a psychologist, a teacher who does not have a union membership and an inspector (Participant-3)

Questions, whose answers rely on accurate information should be asked (Participant-2)

b. Camera recording should be done (Participant -2, Participant -5)

If there are members in the commission indicated in the article you would like to add or remove, please state them: "Evaluation committee: Two provincial directors of national education and two unit heads employed in provincial and district national education directorates, under the chairmanship of a provincial director of national education or a vice provincial director of national education to be designated by him, who will be determined by the provincial director of national education.

While Participant -1, Participant -5 and Participant -10 have stated that the commission is sufficient, Participant-7 has stated *"What is important is the essence of the practice. People may always be arguable."* The other participants have expressed their suggestions as follows:

a. In the Evaluation Committee, there should be an educator from the Education Faculties, who is an expert in the area of Education Management, a teacher who is not a member of a union and an inspector (Participant-3)

b. There should be teachers who are knowledgeable about the legislation (Participant -4)

c. There should be 1 teacher, 1 principal, 1 vice principal, 1 attendant, 1 parent and 1 student. One person from each stakeholder should be determined through drawing lots.

What are your views on the union representatives not being in the examination evaluation committee? In terms of union representatives being in the committee, all of the participants have stated a common view and expressed that union members should not be in the committee. Participant-3 has stated "*Leave aside being in the commission, unions should not have any influence on the committee in any way. The administrators should not be selected from certain unions. The candidates' union information should definitely not be known by the committee.*" Only Participant-1 and Participant-10 have stated that they have found this article of the regulation appropriate. Participant-2 has stated *"This article is funny. While the school score should be more important, what is decisive is the score given by people outside the school."* Participant-7 has stated *"All of the people who give scores to the form in question* act emotionally or have a political approach. Therefore, I do not find it very healthy."

What are your views on the article "The duty term of principals who make an application for their duty term to be extended in other educational institutions are extended by taking their preferences

into consideration and determined in accordance with score superiority by the suggestion of the provincial director of national education and the approval of the governor" ? Participant-2, Participant-3, Participant-7, Participant-8 and Participant-9 have stated that this article of the regulation is not appropriate and Participant-3 has stated *"A principal's being sent to B school with a score (vote) received from A school is firstly not appropriate. He may continue at a school which is satisfied with his work."* Participant-4 has stated that the practice is appropriate on the condition that it is performed by competent people in a just manner.

In the article "In case the scores of the candidates who request their duty term to be extended are equal, the successively the candidate with successively the highest service score, service duration in administration and service duration in teaching is assigned. If there is still a tie, then the candidate to be assigned is determined by drawing lots", should the priority be the candidate's service duration and service score, or carrying out scientific studies (such as having completed post-graduate education, writing books, articles)?
While Participant -1, Participant -2, Participant -3, Participant -4, Participant -7 and Participant -11 have stated that in case the scores of the candidates are equal, then carrying out scientific studies should be the priority before service duration and service score, the other participants stated in terms of equal scores that ordering the candidates in line with their service duration and service scores are more accurate. Participant-5 has stated *"Service duration in administration should be the first in the ordering of the candidates. Academic career and success do not show that the person will be a good administrator. However, the courses and seminar a candidate has attended in relation to administration can be taken into consideration."*

In the oral examination for candidates to be assigned as principals for the first time and again are evaluated in terms of the following:
a) Legislation (Constitution of the Republic of Turkey, Civil Servants Law no: 657, National Education Basic Law no: 1739, Primary Education and Training Law no: 222, Public Finance Management and Control Law no: 5018, Private Schools Law no: 5580, Decree Law on the Ministry of National Education's Organization and Duties no: 652 and other relevant legislation),
b) Analytical thinking and analysis skill,
c) Representation skill and competence level,
d) Reasoning power and comprehension level,
e) Communication skills, self-esteem and persuasion ability,
f) General culture.

If there are other issues which you think should be added to the oral examination, please state them:
While Participant-1, Participant-3, Participant-4 and Participant-10 have found these subjects in the oral examination sufficient, Participant-11has stated that academic success should be added to these subjects as well. Participant-2 and Participant-8 have stated that there should not be an oral examination at all. Participant-7 has found the subjects indicated in the related article sufficient, however has stated that it is not possible to evaluate these subjects with a 30 minute interview and that it would be much more appropriate to evaluate candidates in a 102 month seminar after the written examination in every aspect. Participant-5 has stated *"I do not believe that legislation is necessary in the oral examination for the reassigning of principals. This may not be necessary in even the first assignment, because there is no need to know all this by heart. It is easier to reach the legislation. If it must be asked, then the legislation knowledge which is case method centered can be tested. While analyzing this, analytical thinking, representation skill, reasoning power etc. will emerge."*

What are your views on the article "The final assignment scores of candidates who are successful in the oral examination are determined by adding the half of the score they receive on the Form in Attachment-2 which contains the Education, Rewards, Penalties and Service heading and the half of the score they receive from the oral examination"?
Participant-1, Participant-4 and Participant-7 have found the scoring ratios indicated in this article appropriate. Since Participant-9 has considered that it would be appropriate to select the candidates from people who are graduates of departments such as Political Sciences, Economics or Business Administration, he has stated that the criteria should completely be changed. Participant-2, Participant3, Participant-5 and Participant-10 have stated that the criteria are reasonable, however the ratios should be rearranged.

What are your views on the assignment of candidates as principals who receive 80 and over in the oral examination with the suggestion of the provincial director national education and the approval of the governor, taking their preferences into consideration as well in accordance with their score superiority?
While Participant-1, Participant-4, Participant-7 and Participant-10 have stated that the practice is appropriate, Participant-3, Participant-8 and Participant-11 shave stated that a written examination would be more appropriate in place of an oral examination.

What do you think about determining the candidate by drawing lots in cases where there is still a tie in the article "In case the scores of the candidates are equal, the candidate with successively the highest evaluation score, oral examination score, service duration in administration, service duration in teaching is assigned? In case where there is still a tie, the candidate to be assigned is determined by drawing lots."
Participant-2, Participant-6, Participant-7 and Participant-11 have stated that they find the idea of determining the administrators by drawing lots in case there is still a tie reasonable. Participant-2 has stated *"The possibility of a tie is quite low. Firstly, whether the candidates are carrying out scientific studies can be a criterion. If there is a tie in all subjects, then drawing lots is reasonable."* Participant-1 has stated that the oral examination needs to be repeated in case there is still a tie. Participant-4 has suggested that criteria which measures skills should be added to this criteria. Participant-3 and Participant-8 has stated that it would be more appropriate if only written examinations were valid instead of oral examinations. Participant-8 has stated "In order for a more democratic Turkey and to prevent favoritism, the most appropriate system is the written system. It should be possible to appoint administrative managers in accordance with the result of the written examinations. All actions, methods, etc., work and operations other than this will be in vain and will not be beneficial. People will lose their determination and the strength to work, even their love of work besides being enemies."

4. Discussion

According to the findings of the study, a majority of the participants are against the modification of the regulation on the appointment and dislocation of administrators as a regulation on the assignment of administrators with the idea that *"Today's assignments are unfortunately being done politically."* The participants' underlining that selection of administrators should be removed from politics has also been expressed in literature and it has been stated that the assignment of candidates of education management to education management and all of the processes to be carried out while they are on duty should be removed from arbitrary and personal appreciation and the interferences of political parties and that they should be subject to objective practices in line with the requirements of the qualifications in their service only (Tortop, 1994, p.47). A majority of the participants have found teaching experience necessary in relation to the article in the regulation "Having the qualification of being able to be appointed to the educational institution to be assigned to as a teacher." The participants who have found teaching experience necessary have argued that since school administration is different in comparison to other institutions, the school administrators' having teaching experience will be helpful in giving a direction to education and teaching. Participant-9 has stated that it would be more helpful if a part of the administrators at schools have teaching experience and the other part are graduates of areas such as public administration and business administration. Participant-9's idea that two pools in the process of selecting administrators for school administration displays parallelisms with the model Cemaloğlu (2005) suggests which is about Selection of School Administrator Candidates.

All of the participants have found the article "Not having been relieved of administrative duty in the last four years due to legal or administrative investigation" for people to be appointed as administrators appropriate, however Participant-2 and Participant-3 have found it more appropriate that this duration should include the whole employment period, stating *"A person who has been relieved of administrative duty due to legal or administrative investigation not only in the last four years should never be appointed as an administrator."* In terms of the qualifications to be sought for in administrators to be assigned to educational institutions, one of the common views of the administrators is having at least a post-graduate degree in the area of education management. Parallel to the findings of the study, while Arıkan (2007), Günay (2004), Cemaloğlu (2005),

Özmen and Kömürlü (2010) and Yeloğlu (2008) state that they support taking post-graduate studies in the area of management during the selection of administrators into consideration, in the studies of Graczyk (1991) and Ishida (1997), it has been concluded that post-graduate education in the area of management creates positive results on school management. This should be taken into consideration by the MNE and universities and firstly school principals, then their assistants should be given the change to do post-graduate studies. This view is successively followed by having at least three years of experience in administrative levels, being successful in the levels a person works as an administrator, receiving a valid score in the written examination which has validity and reliability prior to the oral examination, possessing top level leadership and communication skills and taking place in at least one scientific project.

According to the findings of the study, all participants with the exception of Participant-6 and Participant-8 have stated that they regard giving priority of teachers who have vocational knowledge and wish to be administrators to middle schools which aspire to have an occupation within the scope of the regulation. The participants have underlined that vocational schools such as sports, industrial vocational. Trade vocational, fine arts and religious high-schools have unique terms of their own and that they agree about giving priority to teachers of these branches. In the study, in terms of the presence of union representatives in the provincial evaluation commission, all participants have agreed on a common point and have stated that union members should not be in the commission. In relation to this subject, Participant-3 has stated "*Leave aside being in the commission, unions should not have any influence on the committee in any way. The administrators should not be selected from certain unions. The candidates' union information should definitely not be known by the committee.*"

In terms of the extension of duty term of administrators with the approval of the governor, all of the participants with the exception of Participant-1 and participant-10 agreed that the governorship should not be a part of this process, on the grounds that governorships will be left under pressure and the administrators of governorships will not have sufficient chance to get to know administrators. As a recommendation, it can be emphasized that firstly the competencies for education administration need to be determined and in this respect, the required training prior to the service should be given and thus, comprehensive and continuous in-service seminars in which administrators can develop themselves during their services can be organized. In addition, completing post-graduate education in the education sciences departments of universities in the selection process of administrators can be a prerequisite and awards received in terms of successively service duration, success during service duration and performance can be sought for. In the selection of administrators, the standards of the criteria to be applied should be predetermined and subjective evaluations should be prevented. In order for the selection to be objective, reliable and to have certain standards, evaluations should be done by experts and a neutral commission.

References

Arıkan, G. (2007). Analysis of Policies and Applications at School Administrators' Attaintment Process in Ministry of National Education (Unpublished Thesis). Beykent University, İstanbul.

Bakioğlu, A. & Özcan, K. (2001). The Carrier Developments of Primary School Principals. Educational Sciences: Theory and Practices, 1, 39-57.

Balyer, A. & Gündüz, Y. (2011). Training School Principals in Different Countries: A New Model Proposal for the Turkish Educational System. The Journal of Theoretical Education Science, 4(2), 182-197.

Cemaloğlu, N. (2005). The Training of School Principals and Their Employment inTurkey: Current Situation, Possible Developments in the Future and Problems. Gazi University Journal of Faculty of Education, 25(2), 249-274.

Charmaz, K. (2006). Constructing Grounded Theory: A Practical Guide through Qualitative Analysis. London: Sage Publications.

Coffey, A. & Atkinson, P. (1996). Narratives and Stories. In Making Sense of Qualitative Data: Complementary Research Strategies, 54-82, Thousan Oaks, CA: Sage Publications.

Demir, S. B. & Pınar, M. A. (2013). Investigation of Manager Opinions on the Content and Scoring Criteria of the 2011 Manager Appointment and Rotation RegulationTurkish Studies, 8(6), 123-143.

Dogan, S., Demir, S. B. & Pınar, M. A. (2014). MONE 2013 Regulation for Administrator Assignment and Relocation Based on the Opinions of Administrators. Kuramsal Eğitimbilim Dergisi, 7(2), 224-245.

Graczyk, S. L. (1991). A Model for Planning Graduate Programs in School Business Administration. Planning and Changing, 22(2), 108-120.

Günay, E. (2004). Assessment of Ideas of Administrators and Teachers Related to Chosing, Traning and Appointing of Administrators for Educational Institutions: Sample of Ankara Province. (Unpublished Thesis). Ankara University, Ankara.

Ishida, H. (1997). MBA Education in Japan. The Experience of Management Education at the Graduate School of Business Administration, Keio University, Japan. Journal of Management Development, 16(3), 185-196.

Korkmaz, M. (2005). Training of School Administrators: Problems-Conclusions and Suggestions. Gazi University Journal of Faculty of Education, 25(3), 237-252.

Marshall, C. & Rossman, G. B. (1999). Designing Qualitative Research. London: Sage.

MONE (2014). Ministry of National Education. Regulation for Attainment and Rotation of Administrators at Educational Institutions. http://mevzuat.meb.gov.tr/html/egikuryon_1/egikuryon_1.html. (28/03/2015).

Miles, M. B. & Huberman, A. M. (1994). Qualitative Data Analysis: An Expanded Sourcebook. London: Sage Publications.

Mills, G. E. (2003). Action Research a Guide for the Teacher Researcher. Boston: Pearson Education.

Özmen, F. & Kömürlü, F. (2010). Ideas of Educators About Application of National Education Ministry on Selection and Appointing Administrators. Sosyal ve Beşeri Bilimler Dergisi, 2(1), 25-32.

Patton, Q. M. (2002). Qualitative Evaluation and Research Methods. London: Sage Publications.

Serin, S. (2007). Assessment of Primary School Administrators' Success by Classroom and Branch Teachers (Sample of Siirt Province). (Unpublished Thesis). Beykent University, İstanbul.

Silah, M. (2001). Personel Motivation for Improving the Quality of Work at Educational Organizations. C.U. Journal of Economics and Administrative Sciences, 2(1), 95-109.

Silverman, D. (2005). Doing Qualitative Research: A Practical Handbook. London: Sage Publicatations.

Süngü, H. (2012). Appointment and Training of School Administrators in Turkey, Germany and England. Sakarya University Journal of Education. 1(3), 33-48.

Taş, A. & Önder, E. (2010). Comparison of Regulations Published in 2004 and After 2004 Related to Appointment and Rotation of Administrators at Educational Institutions. Süleyman Demirel University, Journal of Institute of Social Sciences, 2(12), 171-185.

Tortop, N. (1994). Personel Management. Ankara: Yargı Publishing.

Turan, S. & Şişman, M. (2000). Standards for School Administrators: Thoughts on Knowledge Bases of Educational Administrators. Balıkesir University Journal of Institute of Social Sciences, 3(4), 68-87.

Yeloğlu, D. (2008). Assessment of School Administrators' Ideas Related to Choosing and Appointment of Educational Institutions' Administrators. (Unpublished thesis). Yeditepe University, İstanbul.

Yıldırım, A. & Şimşek, H. (2005). Qualitative Research Methods in Social Sciences, (5th Ed.). Ankara: Seçkin Publishing.

Journal of Economics and Behavioral Studies (JEBS)
Vol. 8, No. 2, April 2016 (ISSN 2220-6140)

Effect of Leadership on Employee's Performance Mediated by Cultural Organization, Work Commitment and Motivation

Syahruddin Sappe, Yohanis Rante, Ruben Tuhumena, Bonifasia Elita Bharanti
University of Cendrawasih, Indonesia
ebonifasia@yahoo.com

Abstract: Main mission of regional autonomy is intended to improve the quality of public services and the welfare of the community, creating efficiency and effectiveness of human resource management, as well as empowering and creating a space for people to participate actively in the development process. Therefore, it needs a leader who act can generate commitment, motivation and optimism in carrying out the work, foster an atmosphere of cooperation, and can affect the behavior of subordinates who have an impact on improving the performance of employees. This study aims to identify and assess the relevance of leadership on employee performance mediated by organizational culture, work commitment and work motivation as determinants of employee performance improvement. The sample used in this study was 160 respondents to the analysis unit employees in Food Security Council Keerom Papua Province. Data was collected by questionnaires followed by in-depth interviews. Quantitative Data Analysis using Structural Equation Modeling (SEM) with the help of the program Analysis Moment Structures (AMOS). The results of this study indicate that, good leadership can improve employee performance, when considering the factors that come into play that organizational culture, work commitment and motivation work to DKP in Keerom Papua Province. Furthermore, the results of this study that the strengthening of organizational culture and high employee commitment can lead to increased motivation.

Keywords: *Leadership, organizational culture, job commitment, work motivation and performance of employees*

1. Introduction

Regional Autonomy policy implemented based on the Law of the Republic of Indonesia Number 22 of 1999 and No. 32 of 2004 on Regional Government which resulted in a fundamental shift in the role of State positions are centralized to decentralize. Observing this that the main mission of regional autonomy for the purpose of increasing the quality of public services and social welfare, create efficiency and effectiveness of human resource management, as well as empowering and creating a space for people to participate actively in the development process. The carrying capacity of the benefit when the wheels of government are managed and executed by a leader who can be the inspiration to encourage employee motivation through organizational culture and employee commitment, so as to improve performance (Alisyahbana, 2008). Lusiana and Abdullah (2009) states that the level of commitment and loyalty of employees Indonesia is still relatively low, even 22% lower than 10 other countries of Asian countries, and the results of a study of 8,000 respondents from 46 public sector organizations in Indonesia, the leadership is still low because employees assess do not receive adequate career development direction of its leader (Sutikno, 2007).

Some phenomena in the era of regional autonomy; *first:* lack of competency of the leader, it cannot be separated from the pattern of the campaign did not consider the competence of leaders to be lifted; *second:* the leader in running the organization has not been driven by the vision and mission of the organization; *third:* leaders rely on authority its formal, power used force in moving the employees, leaders do not understand the differences in the characteristics that belongs to the employees; and *fourth:* the policy over the task that is too often done great potential to give birth to leaders (officers) that are based on orders that are not professional career. Regional development is carried out through the development of regional autonomy and control of resources that provide opportunities for the realization of good governance, so as to create an environment that allows people to enjoy the quality of life better, progressive, peaceful, and simultaneously expand the choice that can be made public for increased dignity, dignity, and self-esteem, as prioritized in regional development in Papua. Observing this, the one issue that needs serious handling of decentralization is the issue of food security because it involves the sustainability of a region or country for

the life of the next generation. The vulnerability of food security conditions lately, have slowed the development process in the region in particular and in general national.

In line with the Law Decree No. 32 of 2004 in the regional autonomy era has brought changes in the handling of national food security in Papua. The role of government in an effort to promote food security carried out by the Food Security Council (DKP) Papua in various ways such as strengthening the economic structure of society-based agribusiness and increase the role as well as local NGOs, a policy diversification that can strengthen food security, and the protection of agricultural land sustainable food, Through the handling of food security programs in the regional autonomy era where the role of the leader plays an important role. Handling of food security on an ongoing basis and continually driven by government Keerom Regency Papua Province through the Food Security Council in accordance Regent Decree Keerom Number 130 of 2014 concerning DKP as an institution that embodies technical SKPD in this area, namely: (1) the Department of Agriculture, Animal Husbandry and Fisheries Keerom, (2) Department of Forestry Plantations Keerom, (3) Education Executive Agency of Agriculture, Fisheries and Forestry Keerom, and (4) the Department of Cooperatives, Industry and Trade Keerom. Based on the phenomenon exists on Food Security Council in this area, obtained by the fact that it still encountered some kind of commodity food security is still imported from outside the region, one of which is rice which is the staple food. This phenomenon is contrary to the existing situation in which the vast and fertile landscape; on the other hand, rice is still imported from outside the region. It needs to be examined in depth of pengelolah areas that help local leaders in food availability. In connection with the fact that we can observe, that the civil servants who exist in this Food Security Council in carrying out a duty not optimal.

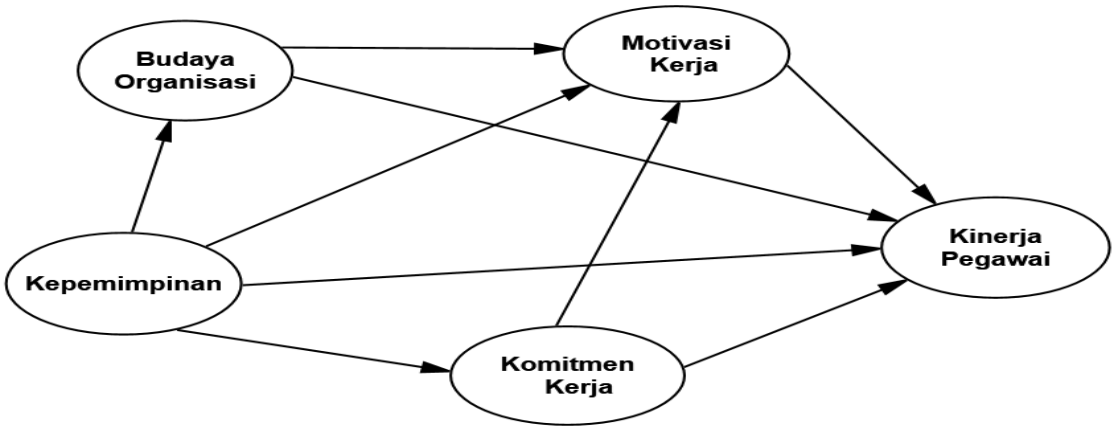
Not optimal performance of employees in the work unit, so that the quality of human resources is important to be studied, it has an impact on the need for efforts to develop human resources as one of the essential competencies of the organization to face the current era of globalization which confronted us of the challenges that are complex, including how the food security policy of regional or national in meeting the food needs of people at any time in the right quantity and quality. The importance of leadership problems, make the leader has always been a focus of the evaluation of the causes of success or failure of an organization. The same thing also supported the opinion Schein (1992) states that the leader has a great influence on the success of the organization in the face of emerging challenges. Among the management theories that exist, one of which is a model *Primal Leadership,* which builds upon the leadership model to do with neurology, research on the brain, indicate why the mood and actions have a major impact on the employees they lead. This discovery provides a new framework that an intelligent leader in terms of emotion to inspire, excite and antutisme and keep people motivated and committed in carrying out the work and foster an atmosphere of cooperation, passion and can affect the behavior of subordinates based on values which are owned to an end organization (Goleman et al., 2004).

Intelligent leadership in terms of emotion will bring authority and consequently bring in a good performance. Leaders have the power to toying with the emotions of each employee. If employees are encouraged towards *atusiasme* emotion, the performance will increase and vice versa if the employee emotionally driven towards hatred and anxiety will decrease performance (Goleman et al., 2004). From the results of previous research found that, a leadership role in improving the performance of the role of organizational culture, work commitment and work motivation. Leadership is an important variable in strengthening the organizational culture in an organization. From the research found that the leadership's positive effect on organizational culture (Xenikou and Simosi, 2006; Kuchinke, 2004). Similarly, leadership and organizational culture have a synergy effect on performance (Amran and Kusbramayanti, 2007; Tsang, 2007). Besides, there is a significant positive relationship between leadership and performance (Goleman et al., 2004; Carmeli, 2006).

Gibson (1996) further explores the relationship between leadership and work commitments which concluded that employees who are empowered by the leader will be committed to the organization. Leadership and work commitments have a synergy effect on employee performance. Carmeli (2006) states that the leaders who have a high responsibility and attention will impact the high commitment. Similarly Gilder (2003) concluded that a high work commitment to be a positive influence on employee performance. Herzberg in Siagian (2004), the inventor of the two-factor theory of motivation, that job satisfaction is derived from the existence of intrinsic motivators (such as progress, knowledge, work, and responsibility). Explained further,

that job dissatisfaction is derived from the absence of extrinsic factors (such as working conditions, wages, personal relationships, supervision, and organizational policies). Strategies to motivate employees should still be considered as a determining factor of success of the organization. Leaders who can motivate their employees will result in improved performance. This is in line with the findings of Porter et al. (1974) that the leadership with a high degree of maturity will have a positive impact on work motivation. Furthermore, leadership and high employee motivation have a synergy effect on employee performance. Based on the interrelationship between variables research, research conceptual framework can be built as in the picture below.

Figure: 1 Concept Framework Research



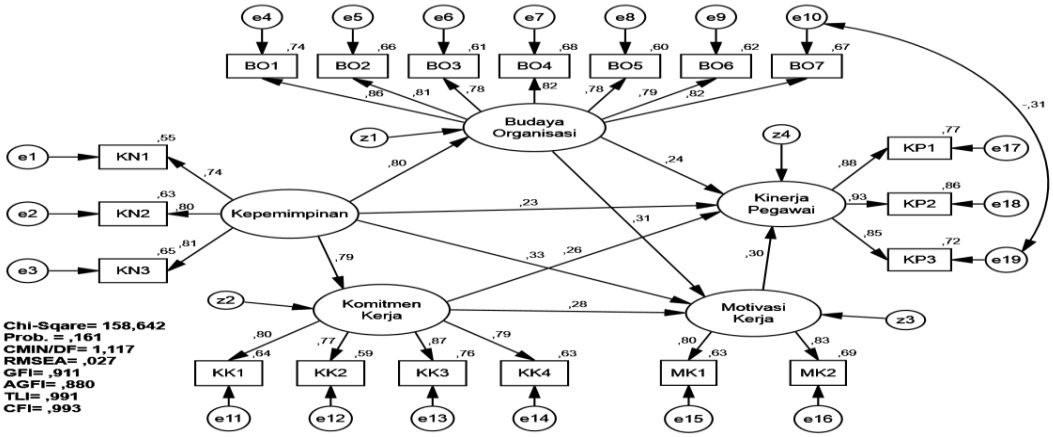
2. Methodology

The approach of this research is a quantitative approach *(positivism).*This quantitative approach, is to conduct a survey technique is a study that takes a sample of a population to rely on a questionnaire as data collection instruments, to obtain information and facts in a factual and generally the unit of analysis is the individual (Singarimbun and Effendi, 1995). This study proposed to examine and analyze the influence of leadership on employee performance mediated by organizational culture, work commitment and work motivation. This research is explanatory, which is a study that aims to find an explanation for the causal relationship or influence the relationship between variables with other variables, and test hypotheses (Singarimbun and Effendi, 1995). Research was conducted on Food Security Council Keerom Regency Papua province. The population in this research is the overall government employees on Food Security Council Keerom as many as 267 people. Determination of the number of samples is done by using the formula Slovin (Umar, 2001). Collecting data in this study done in two ways: (a) the deployment of a list of questions (questionnaire), and (b) in-depth interviews. The method of measurement used is *Likert Scale,* to measure attitudes to agree or disagree on the subject, object or certain events. The data analysis used in this research is *Structural Equation Modeling* (SEM). SEM methods used to analyze the causal relationship between variables defined in this study either directly *(direct effects)* or indirectly *(indirect effects)* Ferdinand (2005).

3. Results and Discussion

Results of SEM analysis of the relationship between the constructs (latent variables) overall in the final stages of the model *indices modification,* as in the picture below.

Figure 2: Results Model



The test results construct the research model presented in Figure 2 were evaluated based on *goodness of fit indices,* as in the following table.

Table 1: Evaluation *Goodness of Fit Indices* Model

Goodness of fit Indexes	Cut-off Value	Result	Description
Chi Square (X^2)	Expected to be small	158,642	Good
Sign. Probability	≥ 0,05	0,161	Good
CMIN/DF	≤ 2,00	1,117	Good
GFI	≥ 0,90	0,911	Good
AGFI	≥ 0,90	0,880	Marginal
TLI	≥ 0,90	0,991	Good
CFI	≥ 0,90	0,993	Good
RMSEA	≤ 0,08	0,027	Good

Table 1 show that the model can be accepted evidenced by the value of the model that has been required of *the cut-of value,* so that the data can be further tested to determine how much the estimated value of each of the variables. Next, test the influence of the constructs that influence directly *(direct effects)* and the influence indirectly *(indirect effects).* The direct effect and indirect effect can be seen in the following table.

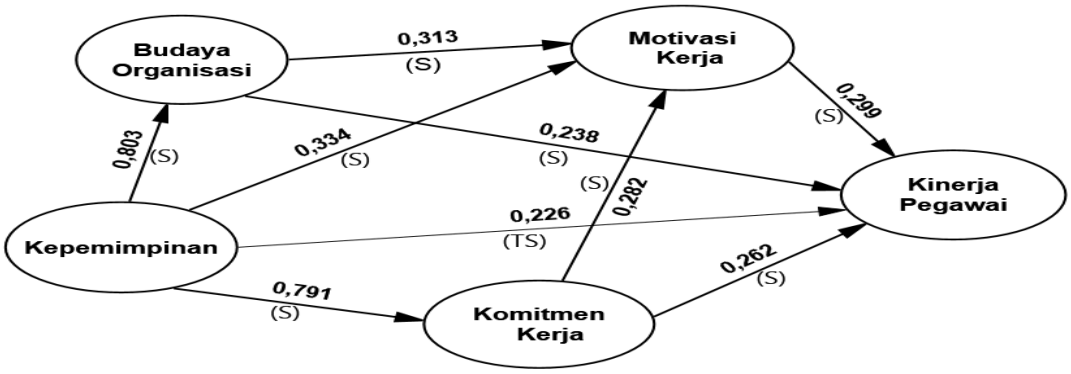
Table 2: Path Coefficient Testing

Independent variable	Dependent variables	Influence			CR	P-Value	Decision
		Direct	Indirect	Total			
Leadership	Organizational culture	0,803	0,000	0,803	9,154	0,000	Accepted
Leadership	Work Commitment	0,791	0,000	0,791	8,485	0,000	Accepted
Leadership	Work motivation	0,334	0,475	0,809	2,014	0,044	Accepted
Leadership	Employee Performance	0,226	0,640	0866	1,807	0,071	Rejected
Organizational culture	Work motivation	0,313	0,000	0,313	2,474	0,013	Accepted
Organizational culture	Employee Performance	0,238	0,093	0,331	2,540	0,011	Accepted
Work Commitment	Work motivation	0,282	0,000	0,282	2,141	0,032	Accepted

Work Commitment	Employee Performance	0,262	0,084	0,346	2,765	0,006	Accepted
Work motivation	Employee Performance	0,299	0,000	0,299	2,553	0,011	Accepted

Table 2 shows that leadership have direct positive effect on the organizational culture of 0.803 or 80.30%, direct positive influence on work commitment 0.791 or 79.10%, direct positive influence on work motivation of 0.334 or 33.40%, and indirectly through organizational culture and work commitments have positive influence on work motivation of 0.475 or 47.50%, direct influence on the performance of employees amounted to 0.226 or 22.60% not significant, and indirectly through organizational culture, work commitments and work motivation positive effect on the performance of employees amounted to 0.640 or 64.00%. Furthermore, the organizational culture is directly positive effect on work motivation at 0,313 or 31.30%, direct positive effect on the performance of employees amounted to 0.238 or 23.80%, and indirectly through work motivation positive effect on the performance of employees amounted to 0.093 or 9, 30%. While the commitment to work directly positive effect on employee motivation by 0,282 or 28.20%, direct positive effect on the performance of employees amounted to 0.262 or 26.20%, and indirectly through work motivation positive effect on the performance of employees amounted to 0,084, or 8, 40%. Motivation to work directly positive effect on the performance of employees amounted to 0,299, or 29.90%. Based on the statistical analysis of the results obtained by the model end of the study as follows:

Figure 3: Model Final Research Findings



Description: (S) significantly, (TS) not significant

Model final findings above imply the following. Leadership effect on employee performance through organizational culture, work commitment and work motivation. Therefore it can be explained that the leadership has a value of self-awareness, social awareness and self-management, can improve employee performance in the form of quantity, quality d's time, if the notice of organizational culture, work commitment and work motivation. So the influence of leadership on employee performance through organizational culture, work commitment and work motivation effect meaningful and full of character as an intervening variable. Thus the organizational culture, work commitment and work motivation capable of mediating leadership with employee performance. This reinforces the opinion of Goleman *et al*., (2004) that a leader is able to generate the commitment, motivation, optimism in carrying out the work as well as foster an atmosphere of cooperation, a passion that can affect the behavior of subordinates to achieve organizational goals.

Leadership effect on work motivation, either directly or indirectly through organizational culture and work commitments. Therefore it can be explained that the leadership has a value of self-awareness, social awareness and self-management, can improve employee motivation that is the impetus arising from the employees themselves. Therefore, the influence of leadership on work motivation through organizational culture and commitment to effect meaningful work and are *fully intervening.* This reinforces the theory which states that a leader must know the character (traits, behaviors, skills and knowledge) every employee; every

employee is different character with the character of other employees. By knowing the character of each employee, then the leader can determine the motivation for each employee (Siagian, 2004). The same is stated by Herzberg that only challenging work that motivates employees. Organizational culture influence on employee performance directly and indirectly through work motivation. Therefore it can be explained that a strong organizational culture that will trigger a high motivation to work, so it will improve the performance of employees. Strong organizational culture can be interpreted that the employees who work with innovation and risk-taking as well as attention to detail things that would be able to trigger the intrinsic motivation which is the driving force arising from within the employees of the organization will result in better quality work. This reinforces the opinion of Schein (1992) that organizational culture will motivate employees to cooperate productively managed to achieve and realize the goals set.

Commitment affects the work performance of employees, either directly or indirectly through work motivation. Therefore it can be explained that the improvement in the high work commitment will trigger a high motivation to work anyway, so it will improve the performance of employees. High work commitment characterized by high confidence and loyalty, will be able to trigger the intrinsic motivation which is the driving force arising from within the employees of the organization will result in better quality work. This reinforces the idea Luthans (1996), that the individual commitments are demonstrated through her involvement in the organization, in particular believing or trusting the goals and values of the organization, assist businesses in achieving organizational goals. Strengthen two-factor theory of Herzberg *in* Siagian (2004) that an individual's relationship with his work is fundamental and therefore a person's attitude towards work is very likely determine the success and failure.

Implications Research: Results of this study could build a theoretical model on the influence of leadership on employee performance mediated by organizational culture, work commitment and work motivation. This model is also able to explain that the influence of leadership directly to employee performance is not significant, but the leadership is indirectly influence on employee performance through organizational culture, work commitment and work motivation effect meaningful and full of character as an intervening variable *(fully intervening).*Thus the organizational culture, work commitment and work motivation capable of mediating leadership with employee performance. It gives the sense that the leader is not necessarily directly affect the performance of employees but there needs to be strengthening the organizational culture and work commitment and work motivation is high because there is a predictor in improving employee performance.

Limitations Research: The object of research is limited to Food Security Council Keerom Regency Papua Province, so that these results can not necessarily be generalized to other regions that have different characteristics. In this study, observations were made using the time coverage is *cross section* which means that the data derived from a certain time, while the behavior of leaders and impact the performance of employees at other times *(time series)* are not included in this study.

4. Conclusion

Leadership role improving employee performance through cultural organizational, work commitment and work motivation. This indicates that the leadership has a high self-management which is capable of forming a strong organizational culture, and can improve work commitment and work motivation. Strong organizational culture is reflected by working in an innovative and willing to take risks with their attention to matters of detail. High work commitment is reflected by having high confidence and loyalty to the organization. While the high motivation reflected by intrinsic motivation is able to mediate a leadership role in improving employee performance. Strengthening the organizational culture a culture of innovation and risk-taking with an attention to detail matters, the role increases the motivation and performance of employees. High work commitment which has high confidence and loyalty to the organization served to increase motivation and performance of employees. High motivation that is intrinsic motivation because of the impetus arising from within the employee plays a role in improving employee performance that is improving the quality of work.

Suggestions: The leader should have a sense of empathy, that is able to understand what is wanted and needed by the employee in this case a leader is able to meet the expectations of employees. Leaders must re-evaluate the competence of employees based on their level of education and skills possessed because not all employees have the same ability. Further research could develop this research to reexamine the consistency of the results of this research to develop models and other variables, such as the nature or leadership style associated with the local culture in increased motivation and performance.

References

Alisyahbana. (2008). Makalah disampaikan pada: Seminar Nasional solusi dan Evaluasi Krisis Masa Depan Ekonomi Nasional. Yang diselenggarakan Jurusan Ekonomi dan Studi Pembangunan Fakultas Ekonomi Universitas Pasundan Bandung 20 Juli 2008.

Amran, T. G. & Kusbramayanti, P. (2007). Leadership and Organizational Culture Relationship Analysis on Job Performance and Satisfaction Using SEM at Carita Boat Indonesia. Proceeding, International Seminar on Industrial Engineering and Management. Menara Peninsula, Jakarta. August 29-30.

Carmeli, A. (2006). The Relationship between Emotional Intelligence and work attitude, Behavior and Outcomes. An Examination among Senior Manager. *Journal of Managerial Psychology*, 18(8), 788-813.

Ferdinand, A. (2005). Structural Equation Modeling dalam Penelitian Manajemen. Edisi Ketiga. Semarang: BP Undip.

Gibson. (1996). Organisasi Edisi ke-8. Jakarta: Jembatan.

Gilder, D. (2003). Commitment, Trust and Work Behavior. The Cases of Contingent Workers. *Personnel Review*, 32(5), 588-604.

Goleman, D., Boyatzis, R. & Mckee, A. (2004). Primal Leadership (Kepemimpinan Berdasarkan Kecerdasan Emosi). Jakarta: PT Gramedia Pustaka Umum.

Kuchinke, K. P. (2004). Leadership and culture: Work-Related Values and Leadership style's Among One Company's US and German Telecommunication Employees. *Human Resources Development Quarterly,* 10(2), 135-152.

Lusiana. & Abdullah. (2009). Pengaruh Komitmen Terhadap Kepuasan Kerja: Motivasi sebagai Variable Intervening. Bandung: Fakultas Ekonomi UNIB.

Luthans, F. (1996). Organizational Behavior. Singapore: McGraw Hill Book Company.

Porter, L. W., Steers, R. M., Mowday, R. T. & Boulian, P. V. (1974). Organizational Commitment, Job Satisfaction, and Turnover among Psychiatric Technicians. *Journal of Applied Psychology*, 59, 603-609.

Schein, E. H. (1992). Organizational Culture and Leadership. San Fransisco: Jossey-Bass Publisher.

Siagian, S. P. (2004). Teori Motivasi dan Aplikasinya. Jakarta: PT. Rineka Cipta.

Singarimbun, M. & Effendi, S. (1995). Metode Penelitian Survey. Jakarta: LP3ES

Sutikno, R. B. (2007). The Power of Empathy in Leadership (Mengoptimalkan Performan Karyawan dengan Prinsip Empati). Jakarta: PT Gramedia Pustaka Umum.

Tsang, D. (2007). Leadership, National Culture and Performance Management in the Chinese Software Industry. *International Journal of Productivity and Performance Management,* 56(4), 270-284.

Umar, H. (2001). Riset Sumber Daya Manusia. Jakarta: Gramedia Pustaka.

Xenikou, A. & Simosi, M. (2006). Organizational Culture and Transformational Leadership as Predictor of Business Unit Performance. *Journal of management Psychology,* 21(26), 566-579.

Journal of Economics and Behavioral Studies (JEBS)
Vol. 8, No. 2, April 2016 (ISSN 2220-6140)

Joint Modeling of Poverty of Households and Malnutrition of Children Under Five Years from Demographic and Health Survey Data: Case of Rwanda

Faustin Habyarimana*, Temesgen Zewotir, Shaun Ramroop
University of KwaZulu-Natal, South Africa
singizwabb@gmail.com

Abstract: The main objective of this study was to identify the risk factors associated to malnutrition of children under five years and poverty and assess the correlation between them. We created a composite index from three anthropometric indictors (stunting, underweight and wasting).A multivariate joint model using the generalized linear mixed model was utilized for the analyses of the data. Child age, birth order of the children, the gender of children, birth weights of the children, multiple birth of the child, fever, anemia of the mother, body mass index of the mother, mother's education level, mother's knowledge on nutrition, age of household head, source of drinking water, toilet facilities, place of residence of household, source of drinking water and province were found to be significantly related to poverty and malnutrition. The study revealed a positive correlation between poverty of household and malnutrition of children less than five years

Keywords: *Asset index, composite index, DHS, correlation*

1. Introduction

Malnutrition of children under five years and poverty of households are among the main problems faced mostly by developing countries(Demissie & Worku, 2013). Malnutrition is the main cause of morbidity and mortality of children under five years. Malnutrition is responsible for at least half of all childhood death worldwide (Kavosi et al., 2014; Demissie & Worku, 2013; Heinkens et al., 2008; Nandy et al., 2005).The nutritional status of the children can be used as an indicator of health problem in developing countries (Masibo & Makoka, 2012). Malnutrition of children under five years is commonly measured based on three anthropometric indicators known as stunting or insufficient height-for-age which indicates chronic or long-term malnutrition, wasting or insufficient weight-for-height which represents a failure to receive adequate food intake or a recent period of illness causing the loss of weight, and underweight or insufficient weight-for-age which is the composite index of wasting and stunting (WHO, 1995). If anthropometric measurements are taken regularly over time, they can offer information on how the health status of the population, especially of children, is changing and provide a timely warning on the food supply and poverty status. When the objective of the study is to obtain a quick picture of a community or large body of population to understand the extent of the problem, the measurement of wasting alone would provide sufficient information. However, if the purpose is to obtain information to decide what types of programs are needed in the specific region, the study can involve all three indexes of anthropometric measurements (Setboonsarng, 2005) or the joint model of all three anthropometric indices. But if the need is to identify the risk factors associated to malnutrition and poverty of households, a composite index of malnutrition is needed. These three anthropometric variables are measured through z-scores for height-for-age (stunting), weight-for-height (wasting) and weight-for-age (underweight) and are defined as

$$Z_i = \frac{AI_i - \mu}{\sigma} \qquad (1)$$

WhereAI_i is the individual (child) anthropometric indicator, μ and σ refer respectively to median and standard deviation of the reference population. The higher the value of z-score the better the nutrition status of the child. Usually, these anthropometric indicators are used separately (Justice et al., 2015; Habyarimana et al., 2014; Matanda et al., 2014; Islam et al., 2013; Kandala et al., 2011; Das & Rahman, 2011) to identify the factors associated to the malnutrition of children or jointly (Habyarimana et al., 2015d; 2015e). In many researches poverty index is used as an explanatory variable for malnutrition (Kandala et al., 2011; Habyarimana et al., 2015d) among others.

After rigorous reading, we found no study in literature using DHS data to find a single composite index of three anthropometric indices and thereafter jointly identify the correlation between malnutrition of children

less than five years and poverty of household as well as the factors associated with them. Therefore, the current study focuses on creating a single composite index from the classical anthropometric indices. Thereafter the study jointly identifies the risk factors associated with poverty and malnutrition of children less than five years and it finally assess the possible correlation between them.

Source of data: The Rwanda Demographic and Health Survey data (2010) was used in the current research where the sampling technique was done in two-stage stratified sampling. In the first stage 492 villages also known as clusters were selected with probability proportional to the number of households residing in that village, 12540 households, where 2009 and 10531 households were urban and rural respectively. Secondly, systematic sampling was used to all households existing in the selected villages(NISR et al., 2012). RDHS (2010) collected information on men and women aged 15-49 and 4,356 children under five years old. We have used the household characteristics, demographic characteristics, child's characteristics, mother's characteristics, environmental characteristics and health characteristics.

2. Methodology

Principal component analysis: Principal component analysis (PCA) is a multivariate statistical technique that linearly transforms an original data set of variables into a substantially smaller set of uncorrelated variables that represent most of the information in the original set of variables (Jackson, 2005; Manly, 2004; Jolliffe, 2002; Lewis-Beck, 1994). Let us consider $X_1, X_2, \dots, X_k$, as malnutrition indicators, the main objective of the PCA is to take these k malnutrition indicator variables and find their combination to produce indices $Z_1, Z_2, \dots, Z_k$ that are not correlated and whose variances decrease from first to last (Chatfield & Collins, 1980); the Z_k indices produced are then the principal components given by

$$Z_k = a_{k1}X_1 + a_{k2}X_2 + \cdots + a_{kk}X_k = a_k^T X \quad (2)$$

Where $a_k^T = [a_{1k}, a_{2k}, \dots, a_{kk}]$ are vectors of the scoring factors or weights. The coefficients of principal components are chosen such that the first component Z_1accounts for as much of the variation in the original data as possible subjected to the constraint that the sum of the squares of the scoring factors (or weights) is equal to 1. The second component is completely uncorrelated with the first component, and explains additional but less variation than the first component, subject to the same constraint of the sum of the squares of the scoring factors equal to 1. The subsequent components are uncorrelated with the previous components; therefore each component captures an additional dimension in the data, while explaining smaller and smaller proportions of the variation of original variables in the data. The remaining components are computed in a similar fashion. Kaiser's rule (Kaiser-Guttman rule) is the commonly most used criterion for deciding the number of components to be retained. This criterion retains only those components whose eigenvalues are greater than 1.00; the graphical method called a scree diagram is also used when deciding the number of component to be retained; Kaiser-Meyer-Olkin (KMO) is also the most used criterion for measuring sampling adequacy. This criterion compares the magnitude of the observed correlation to the magnitude of the partial correlation coefficient. The Bartlett's test criterion is also used to test if there is a certain redundancy between the variables. We have used SPSS 22 in the computation of the composite index and the results are presented in Figure 1, Table 1 and Table 2.

Figure 1: Scree plot test

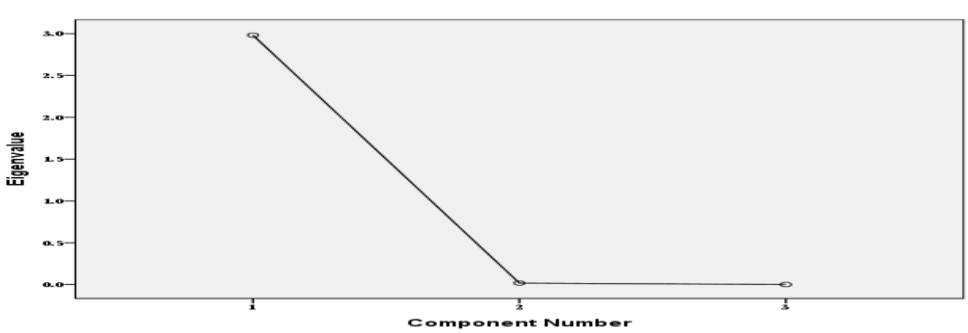


Table1: Total variance explained

component	Total	% variance	Cumulative %
1	2.983	99.386	99.386
2	0.989	0.598	99.984
3	0.000	0.160	100.00

Table 2: KMO and Bartlett's test

KMO measure of sampling adequacy	.534
Bartlett's test of approximate chi-square	43459.952
Df	3
Significance	<.0001

It is observed from Table 1 that the first component alone explains 99.386% of the total variation of all anthropometric indices and this is excellent. Table 2 presents Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity which is significant. It is observed from the scree plot test Figure 1 that the first component suffices to explain the total variation of the original data. Therefore, based on these tests and the results from Table1, we used first component as the new composite index of malnutrition. Further it was classified as nutrition status (malnourished if z-score <-2.0 and nourished if z-score ≥ -2.0) and transformed and re-coded into binary outcome. In this study, in the case of poverty, we used the results from Habyarimana et al. (2015a), Habyarimana et al. (2015b) and Habyarimana et al. (2015c) where they created an asset index based on principal component analysis and classified each household included in the survey as poor or not poor; and this classification made the outcome variable to be binary .

Model overview: Let us considery_{i1} to be child nutrition status (1 malnourished case or 0 nourished cases) and y_{i2} to be the socio-economic status of the household (1 if the household is poor and 0 otherwise). Let us consider that the observed outcomes arise from a bivariate Bernoulli distribution, with p_{i1} as the probability of malnutrition occurring in child i and p_{i2} as probability of poverty of household i. Therefore, the binary generalized linear model can be formulated as follows

$$g_1(\mu_{i1}) = X_{i1}\beta_1 + Z_{i1}u_1 \quad (3)$$
$$g_2(\mu_{i2}) = X_{i2}\beta_2 + Z_{i2}u_2 \quad (4)$$

Where $\beta_1$and $\beta_2$are vectors of fixed effects and $u_1$and $u_2$are the vectors of the random effects,X_{i1}, X_{i2}, Z_{i1} and $Z_{i2}$are the designs matrices for fixed effects and random effects respectively.

$$u = \begin{pmatrix} u_1 \\ u_2 \end{pmatrix} \sim \text{i.i.d. MVN}\,(0, \Sigma) = \text{MVN}\left(\begin{bmatrix} 0 \\ 0 \end{bmatrix}, \begin{bmatrix} \Sigma_{11} & \Sigma_{12} \\ \Sigma_{21} & \Sigma_{22} \end{bmatrix}\right) (5)$$

Where equation (5) is the variance-covariance matrices of the joint model, Σ_{11}, Σ_{22}, are the variance components of malnutrition of children under five years and poverty of households respectively. $\Sigma_{12} = \Sigma_{21}$Are the correlation components between malnutrition and poverty. If $\Sigma_{12} = \Sigma_{21} = 0$, then the above model is equivalent to separate generalized linear mixed models for two outcome variables. The multivariate joint model under generalized linear mixed model has advantages over the separate models such as better control of type I error rates in multiple test, the possible gain in efficiency in the parameter estimate and also the ability to answer intrinsically multivariate questions (Gueorguieva, 2001; Molenberghs & Verbeke, 2005).

Analysis: Data analysis was done using SAS 9.3 PROC GLIMMIX procedure. It allows to jointly modeling two outcomes with the same distributions or the same link functions or different link functions. In this study same distributions and same link functions are considered for both outcome variables. We have considered various covariance structures, but based on the convergence criteria Unstructured (UN) covariance structure was found to be suitable to the analysis. Also due to a lower AIC, we have also checked for possible interaction effect but none was significant.

3. Results and Interpretations

The findings of this study revealed a significant positive correlation between poverty of household and malnutrition of children less than five years Table 4. This means that poverty and malnutrition change in the same direction; when the poverty of household increases malnutrition of children less than five years in that household also increases, or in contrast, when the poverty of household reduces, in general malnutrition also reduces. The results of factors associated to malnutrition are presented in Table 3. From the same table, it is observed that mother's level of education significantly affects nutrition status of the child as well as the socio-economic of the household. The malnutrition of children under five years and poverty of household reduce with increasing the mother's level of education. The age of the child significantly affects the child's nutrition status. A child aged between 12 and 23 months is 0.5689 (p-value=0.0049) times less likely to be malnourished than infant (0-11 months). The birth order of the child positively affects malnutrition of the child. A first born child is 0.4742 (p-value<.0001) times less likely to be malnourished than a sixth born child or those born thereafter. The gender of the child is found to significantly affect the nutrition status of the child. A male child is 1.6242 (p-value<.0001) times more likely to be malnourished than a female child. Birth weight significantly affects the child's nutrition status. A child born with a higher weight (weight ≥ 2500g) is 0.3128 (p-value <.0001) times less likely to be malnourished than a child born with lower weight (weight< 2500g).

The mother's knowledge on nutrition also significantly affects the child's nutrition status. A child born to mother with some knowledge of nutrition is 0.6880 (p-value=0.0036) times less likely to be malnourished than a child born to mother without knowledge on nutrition. Multiple births significantly affect the children's nutrition status. A child born singleton is 0.3712 (p-value=0.0317) times less likely to be malnourished than a child born second multiple or more. The incidence of anemia of the mother significantly affects the nutrition status of the child. A child born to anemic mother is 1.3661 (p-value=0.0088) times more likely to be malnourished than a child born to a non-anemic mother. The incidence of fever is also seen to significantly affect the nutrition status of the child. A child who did not have fever during the two weeks before the survey is 0.6623 (p-value=0.0043) times less likely to be malnourished as compared to a child who was reported to have had a fever in the two weeks prior to the survey. The place of residence of household significantly affects socio-economic status of household. An urban household is 0.7718 (p-value <.0001) times less likely to be poor than a rural household. The province significantly affects the socio-economic status of the household. It was found that a household from Western, Northern and Eastern province is 15.7053 (p-value <.0001), 7.8853 (p-value <.0001) and 3.5715 (p-value <.0001) respectively poorer as compared to a household from Kigali city. A child born to normal or obese mother (BMI ≥ 18.5) is 0.3723 (p-value <.0001) times less likely to be malnourished than a child born to underweight mother. This result shows that there is a strong association between weight of the mother and nutrition status of the child.

Table 3: Parameter estimates for a joint model of malnutrition and poverty

	Malnutrition				**Poverty of households**			
Indicator variable	Estimate	SE	p-value	OR	Estimate	SE	p-value	OR
Intercept	2.878	1.420	0.043	17.7787	-0.564	0.200	0.0049	0.5689
Child's age (ref=0-11 months)								
12-23 months	-0.564	0.200	0.0049	0.5689	0.344	0.215	0.1097	1.4106
24+ months	-0.167	0.129	0.1928	0.8462	0.002	0.148	0.9818	1.0020
Birth order (ref=6 and more)								
4-5orders	-0.108	0.160	0.5007	0.8976	-0.085	0.199	0.6702	0.9185
2-3 orders	-0.213	0.171	0.2122	0.8081	-0.188	0.204	0.3588	0.8286
1st order	-0.746	0.187	<.0001	0.4743	-0.139	0.212	0.5105	0.8702
Mother's education (ref=secondary school and higher)								
Primary	1.678	0.400	<.0001	5.3548	1.479	0.357	<.0001	4.3885
No education	1.788	0.413	<.0001	5.9775	1.612	0.383	<.0001	5.0128
Gender of the child (ref=Female)								
Male	0.485	0.116	<.0001	1.6242	-0.029	0.128	0.8219	0.9714
Birth weight (ref=≥2500g)								

	Malnutrition				Poverty of households			
<2500g	1.400	0.448	0.0018	4.0552	1.151	0.2095	<.0001	3.1613
Province (ref=Kigali)								
South	0.036	0.313	0.9073	1.0366	-0.264	0.667	0.6929	0.7680
West	0.060	0.170	0.7198	1.0618	2.754	0.301	<.0001	15.784
North	-0.225	0.180	0.2132	0.7985	2.065	0.300	<.0001	7.8853
East	-0.343	0.209	0.0997	0.7096	1.273	0.328	<.0001	3.5715
Knowledge of nutrition (ref=no)								
Yes	-0.374	0.129	0.0036	0.6880	-0.246	0.148	0.0969	0.7819
Multiple birth (ref=2nd and more)								
First multiple	-0.350	0.609	0.5657	0.7047	-0.655	0.839	0.4355	0.5194
Singleton	-0.991	0.461	0.0317	0.3712	-0.815	0.691	0.2386	0.4426
Incidence of anemia (ref=non-anemic)								
Anemic	0.312	0.119	0.0088	0.312	0.260	0.138	0.0596	1.2969
Place of residence (ref=rural)								
Urban	-0.259	0.278	0.352	0.7718	-2.530	0.503	<.0001	0.0796
Age of household head	0.016	0.005	0.0027	1.0161	0.007	0.006	0.2271	1.0070
BMI (ref=BMI< 18.5)								
BMI ≥18.5	-0.988	0.221	<.0001	0.3723	0.374	0.303	0.217	1.4535
Incidence of Fever (ref=had fever last two weeks)								
Had fever	-0.412	0.144	0.0043	0.6623	0.132	0.171	0.4401	1.1411
Source of drinking water (ref=other source)								
Piped into dwelling	-0.318	0.419	0.446	0.7276	0.531	0.624	0.3951	1.7006
Public tap	1.531	0.807	0.1384	4.6228	-5.282	0.2.682	0.049	0.0051
Protected spring	0.865	0.584	0.1384	2.3750	-0.051	0.850	0.9518	0.9503
Toilet facilities (ref=other toilets)								
Latrine	-0.318	0.419	0.4482	0.7276	0.59	0.620	0.3416	1.8040
Ventilated	1.541	0.807	0.0561	4.6692	-5.268	2.612	0.0438	0.0051
Flushed	0.870	0.584	0.1364	2.3869	0.093	0.849	0.9131	1.0975

Table 4: Variance Components

Label	Estimate	SE	P-value
Variance (Malnutrition)	0.223	0.124	0.0362
Variance (Poverty)	2.403	0.395	<.0001
Correlation between malnutrition and poverty of household	0.417	0.191	0.0293

Discussion: This study, based on principal component analysis technique created a composite index of malnutrition. Thereafter, a multivariate joint model under the generalized linear mixed model was used for the analyses of the data. This model has a number of advantages over the separate models; these are, among others, better control of type I error rates in multiple tests, the possible gain in efficiency in the parameter estimate and also the ability to answer intrinsically multivariate questions (Gueorguieva, 2001; Molenberghs & Verbeke, 2005). The new composite index has advantages as well as limitations. This index can produce almost a similar subset of factors associated with malnutrition as the joint modeling of three anthropometric indices; it is not time consuming for convergence and it can help to simultaneously identify the factors associated with malnutrition and poverty of households as well as the correlation between them. However, if the need is to identify the risk factors associated to a specific type and level of malnutrition, a separate model of three anthropometric indices may be more helpful.

4. Conclusion

Based on composite index of classical anthropometric indicators and joint modeling of poverty and malnutrition of children under five years of age, this study revealed a positive correlation between poverty of household and malnutrition of children less than five years. This means that malnutrition of children less than five years of age and poverty of household increase or decrease in the same direction. This suggests that any policy change made to poverty also affects malnutrition. The study also identified the risk factors

associated to malnutrition of children under five years and poverty of households in Rwanda. The results showed that child's age, birth order of the child, gender of the child, birth weight of the child, multiple birth of the child, the incidence of fever, incidence of anemia of the mother, body mass index of the mother, province, place of residence, source of drinking water, toilet facilities, age of the household head, mother's education level and mother's knowledge on nutrition are the key determinants of malnutrition of children under five years of age and poverty of household. These findings are consistent with other researchers such as Kandala et al. (2011), Habyarimana et al. (2014), Habyarimana et al. (2015d), Justice et al. (2015) and Laghari et al. (2015).

Recommendations: To the policy makers and NGOs: in order to fight malnutrition of children under five years it should be worthwhile to also fight poverty of households. Improving nutrition status of the mother and her knowledge on nutrition can also help to reduce malnutrition of children less than five years. Improving the level of education of the mother can at the same time help to reduce poverty of households and malnutrition of children less than five years.

Acknowledgements: The authors acknowledge National Institute of Statistics of Rwanda (NISR) [Rwanda], Ministry of Health (MOH) [Rwanda], ICF International for data, Rwanda Education Board (REB) and University of Rwanda-College of Education (UR-CE) for financial support.

References

Chatfield, C. & Collins, A. (1980). Introduction to multivariate analysis. London: Chapman and Hall.

Das, S. & Rahman, R. M. (2011). Application of ordinal logistic regression analysis in determining risk factors of child malnutrition in Bangladesh. *Nutrition journal,* 10(1), 124.

Demissie, S. & Worku, A. (2013). Magnitude and factors associated with malnutrition in children 6-59 months of age in pastoral community of Dollo Ado district, Somali region, Ethiopia. *Scince Journal of Public Health*,1(4), 175-183.

Gueorguieva, R. (2001). A multivariate generalized linear mixed model for joint modelling of clustered outcomes in the exponential family. *Statistical Modelling,* 1(3), 177-193.

Habyarimana, F., Zewotir, T. & Ramroop, S. (2015e). Spatial distribution of key determinants of malnutrition of children under five years in Rwanda: Simultaneous measurements of three anthropometric indices. Under review.

Habyarimana, F., Zewotir, T. & Ramroop, S. (2015d). Key determinants of malnutrition of children under five years in Rwanda: Simultaneous measurement of three anthropometric indices. Under review.

Habyarimana, F., Zewotir, T. & Ramroop, S. (2015c). Determinants of poverty of households: Semiparametric analysis of demographic and health survey data from Rwanda. *Journal of Economics and behavioural Studies,* 7(3), 47-55.

Habyarimana, F., Zewotir, T. & Ramroop, S. (2015b). Determinants of poverty of households in Rwanda: An application of quantile regression. *Journal of Human Ecology,* 50(1), 19-30.

Habyarimana, F., Zewotir, T. & Ramroop, S. (2015a). Analysis of demographic and health survey data to measure poverty of household in Rwanda. *African Population Studies,* 29(1), 1472-1482.

Habyarimana, F., Zewotir, T. & Ramroop, S. (2014). A Proportional Odds Model with Complex Sampling Design to Identify Key Determinants of Malnutrition of Children under Five Years in Rwanda. *Mediterranean Journal of Social Sciences,* 5(23), 1642-1648.

Heinkens, G. T., Bunn, B. J., Amadi, B., Manary, M., Chhagan, M., Brkley, J. A., Rollins, N., Kelly, P., Adamczick, C., Maitland, K. & Tomkins, A. (2008). Case management of HIV-infected severely malnourished children: challenges in the area of highest prevalence. *The Lancet,* 371(2),1305-1307.

Islam, M. M., Alam, M., Tariquzaman, M., Kabir, M. A., Pervin, R., Begum, M. & Khan, M. M. H. (2013). Predictors of the number of under-five malnourished children in Bangladesh: application of the generalized poisson regression model. *BMC public health,* 13(1), 11.

Jackson, J. E. (2005). A user's guide to principal components. John Wiley & Sons.

Jolliffe, I. T. (2002). Principal component analysis. Springer-Verlag.

Justice, M. K. A., Thomas, J. K., Benjamin, M. T. & Petter, J. D. (2015). Childhood malnutrition and its determinants among uner-five children in Ghana. *Paediatric and Perinatal Epidemiology,* 29(6),552-561.

Kandala, N. B., Madungu, T. P., Emina, J. B., Nzita, K. P. & Cappuccio, F. P. (2011). Malnutrition among children under the age of five in the Democratic Republic of Congo (DRC): does geographic location matter? *BMC public health,* 11(1), 261-266.

Kavosi, E., Hassanzadeh, R. Z., Kavosi, Z., Nasihatkon, A., Moghadam, M. & Heidari, M. (2014). Prevalence and determinants of under-nutrition among children under six: a cross-sectional survey in Fars province, Iran. *Int J Health Policy Manag,* 3(2), 71-76.

Laghari, Z. A., Soomro, A. M., Tunio, S. A., Lashari, K., Baloach, F. G., Baig, N. M. & Bano, S. (2015). Malnutrition among children under five years in district Sanghar, Sindh, Pakistan. *Gomal Journal of Medical Sciences*, 13(1), 54-57.

Lewis-Beck, M. S. (1994). Factor analysis and related techniques. New London: Sage publication.

Manly, B. F. (2004). Multivariate statistical methods: a primer: CRC Press.

Masibo, P. K. & Makoka, D. (2012). Trends and determinants of undernutrition among young Kenyan children: Kenya Demographic and Health survey: 1993, 1998, 2003 and 2008-2009. *Public health nutrition,* 15(9), 1715-1722.

Matanda, D. J., Mittelmark, M. B. & Kigaru, D. M. D. (2014). Child undernutrition in Kenya: trend analyses from 1993 to 2008–2009. *BMC pediatrics,* 14(1), 5.

Molenberghs, G. & Vebeke, G. (2005). Models for discrete longitudinal data. New York: Springer-Verlag.

Nandy, S., Irving, M., Gordon, D., Subramanian, S. V. & Smith, G. D. (2005). Poverty and morbidity: new evidence from India. *Bulletin of the World Health Organisation*, 83(3),210-216.

NISR, ICF & MoH (2012). Rwanda Demographic and Health Survey 2010, NISR.

Setboonsarng, S. (2005). Child malnutrition as a poverty indicator: An evaluation in the context of different development interventions in Indonesia: ADB Institute Discussion Papers.

WHO. (1995). Physical Status: the Use and Interpretation of Anthropometry:Report of a WHO Expert Committe.