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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 Thailand, Uganda, South Africa, Nigeria, Ethiopia, Turkey and Zimbabwe. Empirical analysis of sovereign credit risk, SMEs, wealth creation and poverty alleviation, fertility status of married women & its determinants, does liquidity management affect profitability, academic mobility & immigration trends, service quality failure & recovery imperatives, analysis of the oil price-exchange rate nexus, factors influencing fashion adoption among the youth, relationship between inflation & public sector deficit, foreign exchange exposure management practices, management's commitment, education & ethics on organisational entrepreneurship, the dinaledi intervention program and tourist activity & destination brand perception 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

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PAPERS

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An Empirical Analysis of Sovereign Credit Risk Co-movement between Japan and ASEAN Countries

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Abstract: Japan is the most developed economy in Asia. However, it has been on record for being the most heavily indebted country among OECD countries. In many circumstances, the high sovereign debt level indicates a high possibility of sovereign credit risks associated with investment in government bond. The high sovereign credit risk may also generate a number of negative externalities for private businesses operating in the host country. This paper investigates whether sovereign credit risk of Japan as measured by its sovereign credit default swap (SCDS) can better predict and commove with sovereign credit risk of selected ASEAN countries. The bivariate VAR model was used to test for Granger Causalities among these countries SCDS premiums and correlation analysis to investigate co-movements between SCDS of these countries. The results indicate that Japan's sovereign credit risks do not co-move with those of ASEAN countries, Furthermore, Sovereign credit risks of ASEAN countries tend to lead those of Japan as evidenced by unidirectional causalities from these countries to Japan. The overall suggestion is that sovereign credit risk of Japan is not likely to influence those of ASEAN. The paper concludes with some implications for businesses.

Keywords: *Sovereign credit risk, Credit Default Swap, Public debt sustainability, Co-movement, ASEAN, Japan*

1. Introduction

The current fiscal situation of Japan characterized by a very high debt-to-GDP ratio which is currently about 229.2% of GDP, coupled with a slowdown in economic growth and with increasing ageing problem hindering the productivity of Japan's labor force has attracted a lot of attention in literature. Being the third largest economy in the world with its currency in the basket of Special Drawing Rights, Japan's sovereign debt problems may culminate into a global crisis. International Monetary Fund (IMF 2011) expressed concerns about this scenario and a lot of academic papers including Doi and Okimoto (2011), Sakuragawa and Hosono (2011), suggest that drastic fiscal measures should be taken to stabilize Japan's public debts. The high public debt burdens with a slowdown in economic growth raises a lot of questions about Japan's sovereign credit worthiness. Nevertheless Hoshi and Ito (2014) argue that investors in Japan's government bonds perceive less sovereign credit risk as evidenced by low and stable yields on Japan's government bonds. The low and stable yields on Japan's government bonds are very significant in ensuring that public debt does not explode given the current growth slowdown. According to ECONOTE (2013), the low and stable yields on Japan's government bonds are due to the fact that a very high proportion of Japan's government bonds are held by domestic investors. As foreigners increase their holdings of Japans government bonds, the yields will definitely go up due to increased risks such as currency risks. Although there is little possibility for the outbreak of sovereign debt crises in Japan due to her heavy debt burden as argued by many commentators, there are growing concerns about sovereign credit risk associated with investment in Japan's government bonds. The sovereign rating downgrade of Japan by one notch to "A+" in September 2015 by S&P is an indicator of increased perceived sovereign credit risks of Japanese government bonds.

Sovereign credit risk arises in a situation where government is not either able or willing to honor its debt obligations or the debts it guarantees. On the other hand, the ability of the government to service its debts depends on among other factors the macro-economic fundamentals such as growth rate, interest rates on its bond, fiscal deficit, current account balance, performance of financial sector, level of international reserves etc. While Japanese economy currently faces deterioration in growth rates and fiscal balance, its safety nets against sovereign credit risks comes from the strong financial system and international reserves that it holds. International reserve can make the servicing of foreign currency denominated debts easier. The analysis of sovereign credit risk of Japan especially now when it is struggling to accommodate its debt burdens is very significant to international businesses which always invest in Japanese government bonds. Moreover, there are many negative externalities that sovereign credit risks can generate to Multinational Corporations

resident in the host country like Japan. The literature on Japan–ASEAN economic and financial interdependence is very rich and has a long history. The forum for synthetic rubber held in 1973 involving Japan and the original ASEAN countries and the subsequent promulgation of Fukuda doctrine in 1977 by the then prime minister of Japan Takeo Fukuda seems to be the foundation of Japan–ASEAN economic, financial and political corporation. According to Kawai, Thuzar and Hayton (2016), Japan is the oldest and the second largest trade partner of ASEAN. In 2014 the bilateral trade between Japan and ASEAN countries amounted to $220 billion and a total of $180 billion FDI stock inflows into ASEAN came from Japan. Moreover as indicated by Kawai et al. (2016), Japanese Multinational Corporations have many production bases in ASEAN with extensive supply chain networks of Japanese auto companies in ASEAN countries of Malaysia, Indonesia, and Thailand. The trade synchronization between ASEAN and Japan makes it easy for any deterioration in Japan's sovereign balance sheet to gear into ASEAN countries' sovereign balance sheets through the trade channels. It is important to investigate if Japan's sovereign credit risk can better predict the sovereign credit risks of some selected ASEAN countries and if they co move.

While many papers have concentrated on analyzing Japan's debt sustainability and its sovereign credit risks, very few papers have investigated the transmission and spillover of financial shocks between Japan and ASEAN countries. The few related papers worthy to mention includes Guimaraes and Hong (2016) which uses the return and volatility (equity market) spillover index of Diebold and Yilmaz (2009) and reveals that spillovers from advanced economies like Japan to other countries are on decline as compared to emerging Asian economies like China and South Korea which generate much transmissions to other countries. The paper further indicates that the increasing financial connectedness of emerging markets with other countries is being driven by among other factors the increasing weight of emerging markets in global portfolio. Cho, Choi and Chung (2014) which identify a stronger contagion effect among six Asian countries of Thailand, Indonesia, Philippines, China, Korea and Malaysia and weaker contagion effects between Japan and other six countries. Finally, Yoshizaki et al. (2013) which provides some evidence of mean spillover effects from European countries on Japan while Japan on the other hand had no mean transmission effects on European Union countries before the crisis. The paper thus contributes to existing literature by extending Cho et al. (2014) to provide some empirical evidence on the direction of causality for sovereign credit risks of Japan and those of selected ASEAN countries. As pointed out by Longstaff et al. (2011) and Cho et al. (2014), the knowledge of sovereign credit risk co-movement is very important to an MNC which invests in bonds of different countries as it will enable this MNC to properly manage its portfolio sovereign credit risks. Furthermore, as noted by Gunduz and Kaya (2013), such co-movements across countries indicate the possibility of other countries to be affected by the crises from one or some countries. Thus this study will provide some light on the likelihood of ASEAN countries being affected by the crises in Japan and vice-versa.

2. Literature Review

It is a traditional practice in literature to appreciate what other authors have contributed in the study of a particular subject. This section thus presents a brief review of literature on SCDS co-movement, sovereign credit risk and credit default swap. On the part of SCDS co-movement, existing literature have always shown a strong evidence of SCDS co-movement across countries. Stolbov (2014) studies the interconnectedness of SCDS spreads for the BRICS countries and selected Major European economies and finds that in both causality dimensions, the BRICS countries SCDS tend to lead those of major European economies except for Germany. The study of SCDS co-movement of 17 European countries (11 from Eurozone and 6 outside Eurozone) was conducted by Bucholz and Tonzer (2013). The finding of this study indicates a strong evidence of co-movement among SCDS of these countries despite divergence in the nature of SCDS spreads. However, higher co-movement was noted among countries having the same macro-economic fundamentals. Kregzde and Murauskas (2015) study the SCDS spreads of Baltic countries (Estonia, Latvia and Lithuania) and find that SCDS spreads of these countries are highly interdependent. For Asian countries, the recent study by Cho et al. (2014) that investigates the spillover and contagion effects within Asian countries SCDS market and noted a high SCDS co-movement among emerging Asian countries. However, this study finds that Japan's SCDS co-movement with other emerging Asian countries remains very weak evidenced by the average correlation coefficients of only about 0.35.

Some studies investigate the co-movement of SCDS market in relation to other financial markets. Nordern and Weber (2009) use VAR model to examine the lead-lag relationship among the CDS, stock and bond market and concludes that the stock market leads the CDS and bond changes and there were co-movement between CDS spreads and bond spreads for many firms. Coronado et al. (2012) study the causal linkage between SCDS, and stock markets index in Europe using VAR model and finds a strong connection between SCDS and stock markets. Specifically, stock market led the SCDS market for most countries in the sample. Longstaff et al. (2011) is one of the most cited papers in this respect. The paper investigates the determinants of sovereign default swap spreads for 26 countries and concludes that global factors are the main determinant of sovereign default swap spread. Consistent with Longstaff et al. (2011), other studies that had earlier empirically shown the significance of impacts of global factors on sovereign risks include Fontana and Scheicher (2010). Similarly, Wang et al. (2013) note that the sovereign CDS spread for emerging markets like Mexico, Brazil and some Latin America countries are linked to global indicators more strongly. However, Ang and Longstaff (2013) find that EU core economies are not significantly influenced by the global non EU factors but CDS prices for these economies were rather more sensitive to changes in the intra EU financial market variables. Some studies example Afonso et al. (2007), Canter and Packer (1996) emphasize the roles of country's macro-economic and fiscal variables as major determinant of sovereign credit rating. In fact Robinson (2015) confirms the significance of fiscal policy decision making and fiscal balance as very important issues in determining sovereign risks for South Africa. Heinz and Sun (2014) investigate the sovereign CDS spreads in Central Eastern and South Eastern Europe (CESEE) countries and found that the spreads were driven by factors falling broadly under three different categories of global investor sentiment proxied by the VIX index, Liquidity condition in the market proxied by the bid- ask spreads of SCDS prices and macro- economic fundamentals. The study finds that macroeconomic fundamentals especially government fiscal position matters a lot in determination of SCDS spreads.

Finally another controversial issue in this subject is whether SCDS spreads clearly represents the sovereign credit risks of a country. Shino and Takahashi (2010) analyze the sovereign credit default swap spreads of Japan and conclude that the SCDS spreads changes are due to other factors rather than the fiscal situation of Japan. The impact of global factors as pointed by Longstaff et al. (2011) and Wang et al. (2013) and the speculative motive of some market participants as pointed by Shino and Takahashi (2010) are the major limitations of SCDS spreads as a measure of sovereign credit risks. Conversely, supporters of SCDS spreads as a measure of sovereign credit risks have also presented interesting arguments. SCDS spreads is credited for capturing new information about the reference entity in a very timely manner as compared to other alternative measures such as sovereign bond spread. Moreover, as indicated by Buchholz and Tonzer (2013), the high liquidity of the SCDS contracts makes it free from liquidity risks and inflation risks as opposed to sovereign bond spreads therefore making the SCDS a pure measure of sovereign credit risks. Other papers further show that SCDS spreads is a better substitute for sovereign ratings assigned by rating agencies as a proxy for sovereign credit risks. The strength of CDS as compared to rating by rating agencies was revealed during the great financial crises of 2008 - 2009. According to Flannery et al. (2010) the rating agencies did not revise the ratings of some U.S. corporations such as Lehman Brothers even up to September 15, 2008 when it filed for bankruptcy, it was still in an investment grade A but the CDS had changed drastically over the period of about one year from 25 basis points in January 2006 to 703 basis points in September 15, 2008. The paper concludes that CDS is a better alternative measure of sovereign credit risks as compared to ratings issued by rating agencies.

3. Data Description and Methodology

The analysis is based on sovereign credit default swap premiums data obtained from Reuters. A CDS is a financial derivative instrument that was invented by JP Morgan and was first traded in 1994. At a very basic level it is a contract between two parties usually a buyer and a seller where a buyer makes some regular payment called premiums to a seller in exchange of a contingent payment by the seller in the event that the reference entity defaults on its obligation. In principle, according to many literatures on credit derivative, the CDS contract is similar to an insurance contract in the sense that the buyer is in reality buying protection cover against the risk of default by the reference entity. Since the buyer of a CDS is transferring the risks of default to the CDS seller, the buyer has to make some payment called premium to the seller for taking the risk. Hence the price of a CDS contract is called premium. However, if the reference entity does not default up to

the time of the expiry of the contract, the protection seller shall not make any payment to the buyer. The seller of the CDS contract will therefore charge the buyer a premium which takes into account the likelihood that the reference entity is going to default (probability of default) and the loss that will be suffered in the event of default (Loss Given Default). For this matter, CDS premium is therefore a good measure of credit risk of a reference entity. If the reference entity is a country, it is called sovereign credit default swap premium. The empirical analysis in this paper are based on daily SCDS premiums obtained from Reuters ranging from January 1, 2013 to November 3, 2015 for the following countries Japan, Malaysia, Indonesia, Thailand, Vietnam and Philippines. These countries are chosen based on SCDS spreads data availability on Reuter's data stream as on April 2016. The sovereign CDS premiums for 5 years contracts denominated in U.S. dollars are considered appropriate for its liquidity. The following methodological analysis now follows:

The Model: The paper used the VAR model for granger causality test and it is assumed that the SCDS premiums for these countries will not attain a long run equilibrium that is, they will not co integrate and hence the paper does not apply error correction mechanisms but instead used a simple VAR model. The bivariate VAR model for granger causality tests on a pair-wise basis for first differenced SCDS premiums of any two countries X and Y is specified as below;

$$\Delta Ycds_t = \lambda_1 + \sum_{i=1}^{5} \alpha_{1i} \Delta Ycds_{t-i} + \sum_{i=1}^{5} \beta_{1i} \Delta Xcds_{t-i} + \varepsilon_{1t} \quad (1)$$

$$\Delta Xcds_t = \lambda_2 + \sum_{i=1}^{5} \alpha_{2i} \Delta Ycds_{t-i} + \sum_{i=1}^{5} \beta_{2i} \Delta Xcds_{t-i} + \varepsilon_{2t} \quad (2)$$

$$\Delta Ycds_t = Ycds_t - Ycds_{t-1} \quad (3)$$

$$\Delta Xcds_t = Xcds_t - Xcds_{t-1} \quad (4)$$

First differences were taken as shown in equation 3 and 4 above to induce stationarity of the SCDS premiums. Wald test was then performed on coefficients of X and Y in equations 1 and 2 to ascertain if X can cause Y or Y can cause X. Example if X cannot granger cause Y, it implies that coefficients β_{1i} (i= 1,2,3,4,5) are zero. Hence the null hypothesis of X not granger- causing Y is set as follows:

$$H_0 : \beta_{11} = \beta_{12} = \beta_{13} = \beta_{14} = \beta_{15} = 0 \quad (5)$$

If the null hypothesis above is true it implies that equation 1 will just be restricted to lagged values of Y alone as independent variables and can just be expressed as below:

$$\Delta Ycds_t = \lambda_1 + \sum_{i=1}^{5} \alpha_{1i} \Delta Ycds_{t-i} + \varepsilon_{1t} \quad (6)$$

F statistics is then computed by comparing the error generated by the restricted model in 6 and the error generated by unrestricted model in 1 in order decide if Y can be better predicted by the past value of Y and X rather than the past values of Y alone.

Descriptive Statistics, Trend Analysis and Correlation Analysis: After specifying the modal, important summary statistics such as mean, mode, median, skewness, standard deviation maximum and minimum values were obtained to give the general picture about the status and distribution of SCDS spreads of the countries. The time dynamics of the series were also analyzed in order to identify some interesting patterns of the spreads over time. The so called trend analysis allows for visual inspection of changes in the series overtime and also facilitates comparisons among series. After descriptive analysis, by following Levisauskaite at al. (2014), Pearson's correlation coefficients were computed as a measure of co-movement between SCDS of any two countries. This coefficient is computed as below:

$$Corr_{XY} = \frac{COV_{XY}}{VAR_X \, VAR_Y} \quad (7)$$

Hence correlation between X and Y is expressed as the ratio of covariance between X and Y to the product of variances of X and Y. The Pearson's correlation coefficient r, ranges from 0 to 1 and by convention if $r \leq 0.3$, the correlation (co-movement) is weak, for $0.4 \leq r \leq 0.6$, the correlation is moderate and $0.7 \leq r \leq 1$

Stationarity Test: Before proceeding to parametric test of granger causality, the data was tested for Stationarity in order to avoid the consequences of spurious regression. By definition a time series variable is said to be weakly stationary if its expected value and population variance are independent over time and if population covariance between its values at time t and t + s depends on s but not on time. The formal test used here is Augmented Dickey Fuller (ADF) test. It is based on the investigation of the presence of a unit root. Using a lag length of 5 in the ADF model in equation 8 below, the hypothesis about stationarity of the series was tested.

$$\Delta Y_t = \mu + \Psi Y_{t-1} + \sum_{i=1}^{5} \alpha_i Y_{t-i} + \gamma_t + e_t \quad (8)$$

The ADF test was used to test the following hypothesis about the parameter Ψ in the above ADF model where both trend and intercept are included;

$H_0 : \Psi = 0$ (The data is not stationary, it has a unit root)

$H_1 : \Psi < 0$ (The data is stationary, it has no unit root)

When the test was conducted at level, the ADF test failed to reject the null hypothesis but at first difference, the data was tested to be stationary and was therefore fit for use in the VAR model for granger causality test.

Lag Length Selection: The next step was to decide on the lag length to be used for testing Granger Causality test within the framework of the VAR model. Parameters in the VAR model are very sensitive to the number of lags chosen and as a general guideline; the optimal lag length is always chosen by minimizing certain criteria such as AIC, SIC, BIC etc. This paper however, follows Nordern and Weber (2007) that suggests the use of five lags for daily CDS data.

Granger Causality Tests: Toda and Phillips (1994) propose that for any two given variables X and Y, if Y can be better predicted using the past values of X and Y than it can be predicted using the past values of Y alone, or if X is the possible cause of Y, then X is said to granger cause Y and vice versa. The logic behind this test is that the past can predict the future but the future cannot predict the past and the present. Hence if X granger causes Y we would expect X to occur first and then followed by Y. Granger causality test was conducted on time series SCDS spreads in a bivariate setting to identify whether series X (for a given country) can be a better predictor of Y (for another country) and vice versa. The test can also provide evidence if X precedes Y or if movements are contemporaneous. Specifically, this test was conducted to establish the sources and direction of causalities of SCDS spreads. The notion of granger causality does not imply true causality but rather identifies the precedence relationship between time series variables.

4. Empirical Results

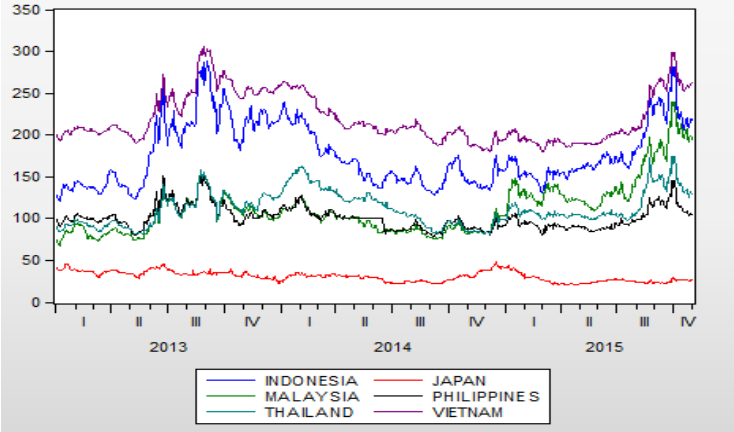
Descriptive Statistics: As seen in table 1 below, on average, Vietnam SCDS spread of 220.141 basis points was the highest among all countries while that of Japan at 30.667 basis points remains the lowest in the sample. The spreads for Indonesia seems to be the most volatile as indicated by the highest standard deviation of 37.698 while Japans SCDS spreads is the most stable one having the standard deviation of only 5.993. For all countries there is evidence that the spreads are not symmetrically distributed given the fact that the coefficients of skewness are not approximately equal to zero. However, the spreads for Japan with 0.336 nearly approaches symmetry. The absence of symmetry indicates the presence extreme values in the data. These extreme values may be attributed to rare events that a country may experience at a given time.

Table 1: Descriptive Statistics for SCDS spreads in Basis Points

	IND	JAP	MAL	PHIL	THAI	VT
Mean	176.536	30.667	112.022	100.785	112.129	220.141
Max	288.919	48.429	239.860	153.95	174.61	305.589
Min	121.004	20.679	67.092	79.469	81.789	179.670
Std Dev	37.698	5.993	31.732	13.631	20.453	29.418
Skewness	0.749	0.336	1.452	1.090	0.627	0.815

As seen in figure 1 below, trend analysis of the behaviors of SCDS of these countries further reveals that the SCDS of Vietnam has always been the highest since 2013 followed by that of Indonesia. Towards the third quarter of 2013, the SCDS spreads of all countries rose up dramatically with that of Vietnam reaching a high of about 305 basis points. The dramatic rise in SCDS spreads might have been due to the effects of sovereign debt crises in Eurozone countries especially the GIIPS countries. Towards the end of 2015, all the SCDS spreads again rose to almost their levels in 2013. The trend in figure 1 further provides evidence that SCDS of ASEAN countries co-move with each other. It can also be seen that Japan's SCDS does not only remains low but is also very stable. The low and stable Japan's SCDS spreads is consistent with the low and stable Japan's government bond yield as noted by Hoshi and Ito (2014).

Figure 1: Dynamics of SCDS spreads over the sample period



Results of Pearson's Correlation Analysis: As seen in table 2, the high positive correlations are noted among ASEAN countries. Example correlation between Indonesia and other ASEAN countries remains relatively high with the highest being that of Indonesia and Vietnam at 0.9322. Other strong positively correlated SCDS are that of Philippines and Vietnam at 0.8638, Indonesia and Philippines at 0.8518. In the sense of Barberis et al. (2002), these high correlations suggest that the SCDS of ASEAN countries strongly co-move with each other's. Consistent with Cho et al. (2014), correlation analysis reveals that Japan's SCDS does not co-move with those of ASEAN countries as shown by very weak positive correlations and in fact negative correlations are noted between Japan vs. Malaysia and Japan vs. Thailand.

Table 2: Results of Pearson's Correlation Analysis

	IND	JAP	MAL	PHIL	THAI	VT
IND	1.0000					
JAP	0.0236	1.0000				
MAL	0.6602	-0.2689	1.0000			
PHIL	0.8518	0.2924	0.5268	1.0000		
THAI	0.8047	-0.1196	0.6500	0.7437	1.0000	
VT	0.9322	0.1145	0.5158	0.8638	0.7847	1.0000

Results of Stationarity test at level: As seen in table 3 below, the series were not stationary for all countries given the high p values for all countries except that of Philippines that was significant at 10% level. The total number of observations in the sample was 735 for each country. All series including that of Philippines were differenced to ensure they are all stable at 1% level of significance (p value = 0.0000) as shown in table 4. The stationary series permits granger causality tests

Table 3: Results of Stationarity test at level

Series	P value	Lag	N
Indonesia	0.3783	5	735
Japan	0.1984	5	735
Malaysia	0.6449	5	735
Philippines	0.0960	5	735
Thailand	0.3205	5	735
Vietnam	0.7376	5	735

N = the number of observations in the sample

Table 4: Results of Stationarity test after first difference

Series	P value	Lag	N
Indonesia	0.0000	5	734
Japan	0.0000	5	734
Malaysia	0.0000	5	734
Philippines	0.0000	5	734
Thailand	0.0000	5	734
Vietnam	0.0000	5	734

Results of Granger Causality Tests: As seen in table 5 and figure 2 below, unidirectional causalities from ASEAN countries to Japan are detected, in other words, the sovereign credit default swap spreads of ASEAN countries granger-cause Japan's SCDS spreads. This indicates that the SCDS spreads of ASEAN countries lead those of Japan. This situation means that ASEAN countries SCDS cannot be better predicted by past values of Japan's SCDS. All ASEAN countries granger caused Japan either at 1% level (*), or at 5% level (**) of significance. Within ASEAN countries unidirectional causalities have been seen originating especially from Indonesia to all ASEAN countries. In the same way, this provides some evidence that the SCDS spreads of Indonesia lead those of ASEAN countries. However, no causality is detected between Malaysia and Philippines, Malaysia and Vietnam and finally between Philippines and Thailand. Only one bidirectional causality between Philippines and Vietnam is detected at 5% level. The findings of this paper is related to the findings of Guimaraes and Hong (2016) which reveals that developed economies like Japan are no longer giver of shocks to other countries but instead emerging economies in Asia example China and Korea are the major propellers of shocks to other countries. Furthermore, it is consistent with Cho, Choi and Chung (2014) which concludes that the SCDS of Japan does not co-move with those of other Asian countries. Finally it is similar to Yoshizaki et al. (2013) which studies the SCDS of Japan and other European countries and found no transmission effects from Japan to European countries especially before the crises. The implication of these results is that whenever we see changes in sovereign credit risks of Japan measured by its SCDS spreads, we should not expect the sovereign credit risk of ASEAN countries to change. Figure 2 below shows directions of causalities among SCDS of ASEAN countries and Japan at 1% and 5% levels respectively

Figure 2: Illustration of Results of Granger Causality Tests

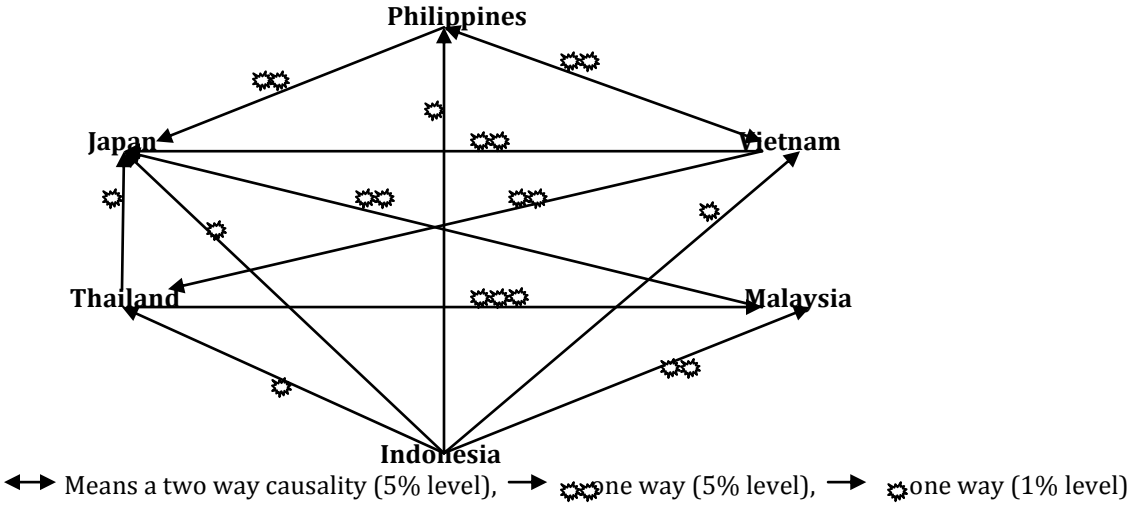


Table 5: Results of Granger Causality test

NO	Pairs of Countries	Chi Square	P value	Direction of Causality
1	D(Indonesia)	16.106	0.0065	Unidirectional*
	D(Japan)	6.556	0.2556	Indonesia → Japan
2	D(Malaysia)	14.306	0.0138	Unidirectional **
	D(Japan)	7.659	0.1760	Malaysia → Japan
3	D(Philippines)	14.391	0.0133	Unidirectional**
	D(Japan)	2.257	0.8125	Philippines → Japan
4	D(Thailand)	14.116	0.0149	Unidirectional*
	D(Japan)	7.604	0.1794	Thailand → Japan
5	D(Vietnam)	11.170	0.0481	Unidirectional **
	D(Japan)	6.864	0.2309	Vietnam → Japan
6	D(Malaysia)	4.295	0.5077	Unidirectional**
	D(Indonesia)	13.476	0.0193	Indonesia → Malaysia
7	D(Indonesia)	45.201	0.0000	Unidirectional*
	D(Philippines)	7.452	0.1891	Indonesia → Philippines
8	D(Indonesia)	22.877	0.0004	Unidirectional*
	D(Thailand)	8.225	0.1442	Indonesia → Thailand
9	D(Indonesia)	27.612	0.0000	Unidirectional*
	D(Vietnam)	1.599	0.9013	Indonesia → Vietnam
10	D(Malaysia)	4.516	0.4777	No Causality
	D(Philippines)	2.995	0.7007	
11	D(Malaysia)	4.675	0.4567	Unidirectional***
	D(Thailand)	10.380	0.0651	Thailand → Malaysia
12	D(Malaysia)	1.422	0.9218	No Causality
	D(Vietnam)	4.419	0.4908	
13	D(Philippines)	7.950	0.1590	No Causality
	D(Thailand)	2.900	0.7154	
14	D(Philippines)	11.728	0.0380	Bidirectional**
	D(Vietnam)	22.333	0.0005	Vietnam ↔ Philippines
15	D(Thailand)	4.152	0.5272	Unidirectional**
	D(Vietnam)	11.397	0.0441	Vietnam → Thailand

* Means 1% significance level, **Means 5% significance *** Means 10% level
→ Direction of one- way causality, ↔ Shows causality with feedback

Business and Policy Implications: The general results of granger causality tests and correlation analysis indicates that there is little evidence of co-movements between Japan's sovereign credit risks with those of ASEAN countries as indicated by the weak positive correlation coefficients and at some points negative correlation coefficients between Japan and these countries are noted. Granger causality tests further reveal

that Japan's SCDS spreads are not a better predictor of ASEAN countries spreads. Since Japan's sovereign credit risks and ASEAN countries sovereign credit risks are uncorrelated (do not commove), from investors perspective this can be a good opportunity to minimize portfolio risk of investment by diversifying investment in the sovereign bonds of Japan and ASEAN countries since the credit risks of these bonds do not move in the same direction. It may also suggest that when evaluating the performance of ASEAN countries sovereign bond market, the macroeconomic and financial situations of Japan may not be considered a major factor because the sovereign credit risk situation in Japan cannot better predict the sovereign credit risks of ASEAN countries. Conversely, ASEAN sovereign credit risks can better predict the sovereign credit risk of Japan as indicated by unidirectional casualties from these countries. Investors in Japanese bonds should be concern about the fiscal and the overall macro-economic situations in ASEAN countries as they invest in Japanese government bonds. Japan's policy makers should also take into consideration the macroeconomic situation in ASEAN as they make forecasts for the performance of Japanese economy.

On the other hand, it appears that the sovereign credit risks within ASEAN countries are highly synchronized and move together as indicated by results of correlation analysis, unidirectional granger causalities and bidirectional granger causality between Philippines and Vietnam. From investment point of view this situation makes portfolio investment in ASEAN sovereign bonds appears like putting all the eggs in one basket. Policy makers for these countries should try to identify areas of commonalities in their sovereign balance sheet and try to coordinate their policies accordingly. The high sovereign credit risk co-movement among these ASEAN countries may also render government guarantee schemes for loans to SMEs ineffective. These schemes are used in Thailand and many Asian countries to enable SMEs access finance from banks since they do not have collaterals needed by banks. The high sovereign credit risk co-movement in the region implies that banks may start evaluating the sovereign credit worthiness of individual countries basing on the regional outlook not individual country's sovereign credit worthiness. Unfortunately, other countries like Vietnam and Indonesia already appear to be risky sovereigns and in fact Vietnam sovereign bond is already rated in the speculative grade by rating agencies. The high sovereign credit risk co-movement example between Vietnam to Thailand may induce banks in Thailand not to honor Thailand's guarantee scheme for SMEs in Thailand. It is advisable for banks not to honor such schemes in sovereigns which appear to be more risky like Vietnam and Indonesia because through those guarantee schemes, sovereign credit risk can find its ways into banks' balance sheets and may culminate into banking crises with more devastating effects on the economy.

5. Conclusion

This paper studies the causal linkages between the sovereign credit risks of Japan and selected ASEAN countries and used different analysis such as descriptive statistics, correlation analysis, trend analysis and granger causality tests using bivariate VAR model. It also examines the causal linkages of sovereign credit risks among these ASEAN countries themselves. By visual inspection and analysis of descriptive statistics, Japanese spread has been the most stable and the lowest indicating the low and stable sovereign credit risks level of Japan compared to other countries under study. Conversely, Vietnamese spread has always been the highest over the study period and Indonesia's spreads the most volatile. This point out that Vietnam is the most risky sovereign bond among the sampled countries. The paper follows the theory which is well established in literature that sovereign credit default swap spreads is a good proxy for sovereign credit risk, and sovereign credit risks on the other hand can generate a number of negative externalities for private businesses in the host country. The paper finds that while co-movement among ASEAN countries SCDS spreads is very strong, The SCDS of Japan on the other hand do not co-move with those of ASEAN. Results of granger causality test indicate all ASEAN countries granger cause Japan at different levels of significance while Japan fails to granger cause all these countries. This thus implies that Japan's sovereign credit risks is not a better predictor of the ASEAN countries sovereign credit risks while on the other hand, the sovereign credit risks of ASEAN countries are better predictor of the sovereign credit risks of Japan.

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SMEs, Wealth Creation and Poverty Alleviation in Nigeria

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Abstract: Most developing countries see small and medium-scale enterprises (SMEs) as engines of development, and as such formulate policies that could encourage their establishment and survival. However, in spite of the enormous number of such firms established and operating, the Nigerian economy is still far from being buoyant. This article reports on research testing the wealth creation model applicable to SMEs and investigated the contribution of SMEs to poverty alleviation in Nigeria. A survey of 581 SMEs was conducted and the findings revealed that only 15% of wealth created that contributed to alleviating poverty was traceable to SMEs. This increased to 24% when moderated with wealth distribution, but by only one percent when moderated by wealth motivation. This implies that although most SME operators in Nigeria have personal motivations to acquire wealth, they are not distributing it, hence the low percentage of wealth that SMEs contribute to poverty alleviation. Policy implications and recommendations were made.

Keywords: *Wealth creation model, wealth distribution, wealth motivation*

1. Introduction

Small and medium-scale enterprises (SMEs) have been established as the driver of most economic growth in many nations of the world (Kapurubandara & Lawson, 2006). It is also established that about 56% of employment was generated by new SMEs across Organisation for Economic Co-operation and Development (OECD) countries. Nearly all the jobs created in the United States of America between 1977 and 2005 were created by new SMEs (OECD, 2006). Ten percent of growing SMEs in France, Italy, the Netherlands, Greece and Spain created about 60 to 90 percent of gross employment gains over a period of five to ten years (OECD, 2002). Data from India's SMEs Resource Centre (2012) shows that there are about 30 million SMEs and those 12 million persons are expected to join the workforce by 2015. Flowing from the enormous relevance of SMEs to nations' growth and development, it is expected that Nigerian firms employ over 31 million people with SMEs, accounting for over 80% of enterprises that employ about 75 % of the Nigeria's total workforce (UNIDO, 2012), should effect a considerable reduction in the country's poverty incidence. Instead, a recent World Bank report rated the Nigerian economy as the largest in Africa, yet is the first among the tenth poorest nations in the world (World Bank, 2014). Literature has shown that poverty is on the increase in Nigeria; 15% of the Nigerian population were poor before 1965. This increased to 28% by 1965 and about thirty years later it rose to 66%. A recent World Bank index places it at 71.5 per cent (World Bank, 2014).

This paper hopes to determine the relationship between SME wealth creation and poverty reduction in Nigeria, to identify the major determinants of such wealth creation and to relate living conditions to wealth created. The translation of wealth created by SMEs into general poverty reduction follows the theoretical pathway of the need achievement theory by McClelland (1961). The theory stipulates that people are motivated by the need to make something out of nothing (Johnson, 1990). Furthermore, achievement motivation is a psychological concept related to venture creation and operations (Shaver & Scott, 1991). In addition, Enderle (2006) suggests that it is important to know what motivates an individual or firm to create wealth, because the distributive dimension is affected by individual's/firm's motivation for creating wealth. Atkinson and Brandolini (2010), Fosu (2010), Santos-Pautino (2012) and Asikhia (2013) note that it is only when wealth created is distributed that it could alleviate poverty. It is thus important to establish the moderating effects of motivation and distribution on the wealth creation model apart from finding out its relationship with poverty alleviation. This study contributes to the literature on SMEs in the following areas: it evaluates the determinants of the wealth creation model applicable to SMEs in order to show how organisational factors and entrepreneurial factors determine the wealth created by SMEs. Secondly, it establishes the effects of SME wealth creation on poverty alleviation in Nigeria. Thirdly, it measures the moderating effects of wealth motivation and distribution on the relationship between SME wealth creation

and poverty alleviation. Finally, there is an extension of knowledge about entrepreneurship generally and SME wealth creation in developing countries in particular.

2. Theoretical framework

The early theories that explained SME wealth creation and its link with poverty alleviation are the resource-based view theory (Penrose, 1959), need achievement theory (McClelland, 1961), theory of proportionate growth (Gibrat, 1931) and the "trickle-down" theory of Anderson (1964). Relevant also to the theoretical framework is the concept of need for achievement. Penrose's (1959) resource-based view theory suggests that firms' wealth creation is dependent on the amount of resources available to the firm. A firm with resources will create wealth more rapidly than one with limited access. The availability of resources and the capability to put them to use determine the extent of wealth created by SMEs. The theory of proportionate growth relates the size of a firm to its growth rate, and postulates that these two aspects are independent (Gibrat, 1931). It emphasises that proportionate growth leads to a distribution that is log-normal, that causes it to be motivated by shocks (Sutton, 1990). One such shock could be an injection of new ideas or resources. The more an SME witnesses such shocks, the more it grows in sustainable income with which the wealth is created (Ireland et al., 2003). The law of proportionate growth thus emphasises that as the growth of SMEs increases, the poverty level decreases.

This phenomenon was better explained by the "trickle-down" theory of Anderson (1964), predicated on the fact that growth initially benefits the higher income groups and later trickles downward to the lower income groups over time. In the case of an entrepreneur whose business creates wealth, the effect of such wealth tends to trickle down to other family members and the community through wealth distribution. Need for achievement (N-Ach) refers to the desire for accomplishment which requires setting and meeting high standards of achievement. N-Ach enables an individual to succeed, and such an individual always seeks improvements and ways of doing things better. This means entrepreneurs with a high N-Ach will not only create wealth, but also translate such wealth into alleviating poverty. Research into the growth of SMEs has been reported on by a number of authors (Adekunle, 2011; Almus, 2002; Anderson & Tell, 2009; Barkham, Gudgin & Hart, 1990; Biesebroeck, 2005; Brown, Earle & Lup, 2005; Hamilton, 2012; Hansen & Hamilton, 2011; Keeble, 2003; Kotey, 2005), yet there is dearth of literature concerning SME wealth creation and its effects on poverty alleviation. However, Asikhia and Jansen van Rensburg (2015) reviewed large volumes of literature on SMEs and developed a conceptual model of the variables that determine SME wealth creation. This research tests their model empirically while relating the wealth created by SMEs to poverty alleviation.

Hypotheses development: SME wealth creation was operationalised by using the analytical categories of human resources, technology, innovation and creativity, unit cost economies, organisational infrastructure and strategy, while poverty alleviation was measured by the living conditions of entrepreneurs previously and at present. The moderating variables of wealth distribution and wealth motivation were drawn from Anderson's (1964) "trickle-down" theory and McClelland's (1961) need for achievement theory.

Human resources: Data were gathered on knowledge (measured by relevant educational level and experience) and skills (measured by cognate abilities and special skills). Past research on the relevance of human resources to the performance of SMEs revealed a positive relationship (Bharadwaj & Menon, 2000; Hambrick & Mason, 1984; Muller & Gangl, 2003; Piva & Vivarelli, 2009; Rosli & Mahmood, 2013). Storey's (2004) study found that it is the first major resource in competition and it plays the decisive role in the allocation and use of resources for enterprise production and business operation that guarantee growth. Hambrick and Mason's (1984) study revealed that the knowledge and abilities of employees are directly related to education, which is critical in making vital decisions (Muller and Gangl, 2003). It is thus hypothesised that:
H1a: CEOs' expertise of SMEs is positively associated with wealth creation.
H1b: CEOs' level of education and previous experience associate positively with wealth creation.
H1c: CEOs' cognate abilities and special skills associate positively with wealth creation.

Technology adoption: Technology has the ability to create competitive advantage by satisfying the customers better (Walton, Akselsen & Pitt, 1998). This was measured by information acquisition and

information use. The firm's technological capability is the ability to exploit modern technology, and Pietrobelli (2006) sees it as the skill – technical, managerial, or organisational – that enables firms to efficiently use equipment and information, and to improve on the technology. However, technology infrastructure may not be sufficient to sustain competitive advantage; as competitors get knowledgeable about the technology, the initial advantage of the firm is evened out (Bakos, 1991). Rather, the key asset is the technological skills possessed by the managers and their ability to see information (its acquisition and use), which leads to the fourth, fifth and sixth hypotheses:
H2a: Technology adoption is positively associated with SME wealth creation.
H2b: Acquisition of knowledge is positively associated with SME wealth creation.
H2c: Use of knowledge acquired is positively associated with SME wealth creation.

Innovation and creativity: Innovation and creativity interrupt the existing market structure through creative destruction to produce new products and services (Schumpeter, 1934). Researchers have also pointed out that a company can only beat its rivals if it does things differently (Chang, Chen, Lin & Gao, 2012; Newbert, 2007; Porter, 1996; Teece & Pisano, 1994). Innovativeness has been found to relate positively with firm performance (Chang et al., 2012; Casillas and Moreno, 2009; Lumpkin & Dess, 1996) Organisations tend to enhance innovation and creativity through licensed intellectual property, degree of customer and employees' involvement in decision making as well as networking and collaboration (Thaennin, Visuthismajam & Sutheravut, 2012; Chesbrough, 2006, 2003; EIRMA, 2004), which leads to our seventh, eighth, ninth and tenth hypotheses:
H3a: Innovation and creativity associate positively with SME wealth creation.
H3b: Licensed intellectual property associates positively with SME wealth creation.
H3c: Degree of customer and employee involvement in decision making associate positively with SME wealth creation.
H3d: Network and collaboration associate positively with SME wealth creation.

Unit cost economies: The unit cost economies are comprised of the economies of scope and scale. Economies of scale result when an increase in output leads to a decrease in average cost. At a constant capacity, the managerial cost of increasing output can be expected to be low. Economies of scope may arise from either cost complementarities that may be generated between different output categories or the spreading of common costs over an expanded product mix (Tovar and Wall, 2012). SMEs may not be able to immediately take advantage of economies of scope because most of them start small, it will have a positive effect on performance later on. The degree to which they can utilise economies of scale depends on the number of the target customers and the feasibility study. This leads to our eleventh, twelfth and thirteenth hypotheses:
H4a: Unit cost economies associate positively with SME wealth creation.
H4b: Economies of scale associate positively with SME wealth creation.
H4c: Economies of scope associate positively with SME wealth creation.

Organisational infrastructure: Organisational infrastructure is comprised of organisational structure (measured by span of control, level of hierarchy and spread of activities), routine and processes (measured by flexibility, agility and degree of integration). Organisations succeed when they are isomorphic with the institutional environment in which they operate (Meyer and Rowan, 1977). Organisations' survival has been found to also depend on the fit between their structures and activities. Organisations built around efficiency need to ensure a fit between structures and activities, and enforce compliance through inspection, monitoring and evaluation of various units' efficiency and unification, and coordination of goals (Kraus, Kauranen & Reschke, 2011; Analoni & Karami, 2003). In assessing the determinants for choice of an organisational structure, Kraus et al. (2011) affirm that the structure an organisation adopts depends on its size. Hence the size of SMEs could be said to enhance their agility and flexibility, which in turn aid performance (Cassell, Nadin, Gray & Clegg, 2002; Kraus et al., 2011; Robbins, 2000). Organisational processes and routines also affect organisational flexibility (Makadok, 2001). It is thus hypothesised that:
H5a: Organisational infrastructure associates positively with SME wealth creation.
H5b: Organisational structure associates positively with SME wealth creation.
H5c: Organisational processes and routines associate positively with SME wealth creation.
H5d: Flexibility associates positively with SME wealth creation.
H5e: Agility associates positively with SME wealth creation

H5f: Level of integration associates positively with SME wealth creation.

Strategy: The literature reveals that four major strategies are linked with SMEs: product differentiation (Kraus et al., 2011; Minarik, 2007; Barney & Hesterley, 2006; Cravens & Piercy, 2006; Jaquier, 2003; Calori & Ardisson, 1988), strategic entrepreneurship (Hitt, Ireland, Sirmon & Trahms, 2011; Kuratko & Audretsch , 2009; Wickham, 2006; Ireland, Hitt & Sirmon, 2003), niche strategy (Cassell et al., 2002; Lee, Lim, Tan & Wee, 2001; Bamford, Dean & McDougall, 1997) and cost parity (Garfamy, 2012; Furubotn & Richter, 2000; Uzzi, 1997; Nooteboom, 1993; Powell, 1990; Willamson,1975, 1979). Borch, Huse & Senneseth (1979) and Kraus et al. (2011) recommend that SMEs follow differentiation strategy by providing a special advantage (e.g. quality leadership) that is highly valued by the customers. The major measuring items or indicators for product differentiation are the level of creativity, basic research skills, the firm's product features relative to industry, product complexity and consumer marketing (Asikhia & Jansen van Rensburg, 2015). The critical components of strategic entrepreneurship are the ability to seek opportunities, the ability to seek advantage, risk acceptance, growth orientation and vision (Hitt et al., 2011; Kraus et al., 2011). Lee et al. (2001) and Bamford et al. (1997) recommend a niche strategy for SMEs, particularly in those segments that are neglected by the larger competitors because of the size of the SMEs and resource capability compared to the larger companies. The use of niche strategy by the SMEs facilitates optimum resource allocation and the establishment of market position (Bello & Ivanov, 2014). The degree of an SME's niche marketing strategy is measured by product/service features relative to industry leaders and percentage of market share relative to that of large firms. Flowing from the concept of resource poverty, Kraus et al. (2011) assert that SMEs hardly ever achieve cost advantages because they lack some unit cost economies. As a result cost parity is suggested for SMEs, and the major components are the transaction and production costs (Garfamy, 2012; Furubotn & Richter, 2000; Willamson, 1981, 1979). Hypotheses were thus generated to assess the contribution of each of these strategies to SME wealth creation:
H6a: Strategy associates positively with SME wealth creation.
H6b: Product differentiation associates positively with SME wealth creation.
H6c: Strategic entrepreneurship associates positively with SME wealth creation.
H6d: Niche strategy associates positively with SME wealth creation.
H6e: Cost parity associates positively with SME wealth creation.
H6f: Opportunity-seeking abilities associate positively with SME wealth creation.
H6g: Advantage-seeking abilities associate positively with SME wealth creation.

Poverty alleviation: Data were gathered on the living conditions of entrepreneurs previously and at present to determine the degree of poverty alleviation. Previous research made use of this method to evaluate poverty alleviation (e.g. Roodman & Morduch, 2009; Bhuiyan, Siwar & Talib, 2012 and Bhuiyan, Siwar, Islam & Rashid, 2012). Flowing from McClelland's (1961) need for achievement theory, the entrepreneur's living condition changes as the business makes profit, and this is sustained. It is thus hypothesised that:
H7: Poverty alleviation associates positively with SME wealth creation.

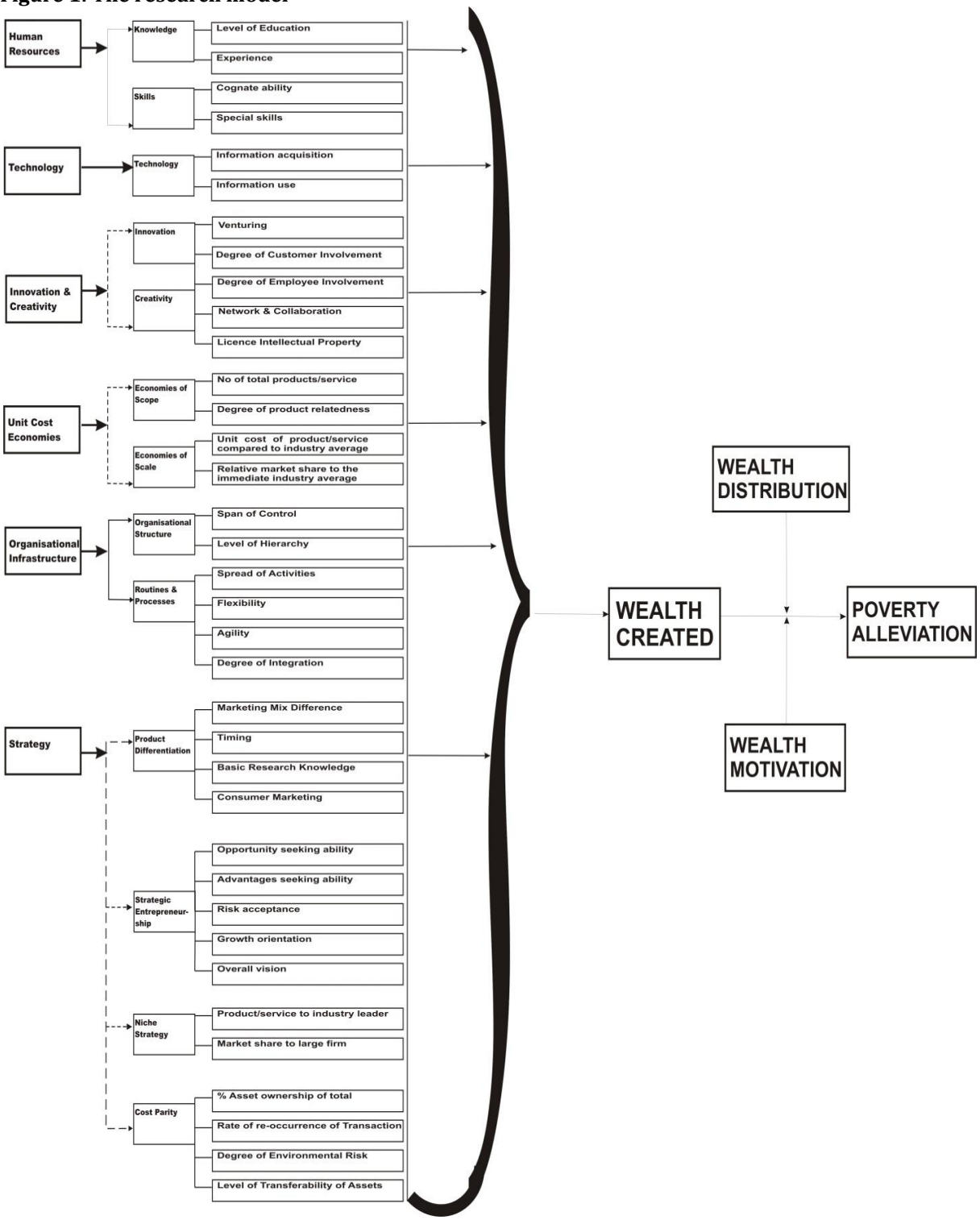
Wealth distribution: Anderson's (1964) "trickle-down" theory explains that as entrepreneurs create wealth; its effect tends to trickle down to less fortunate members of the community. This was corroborated by Enderle (2006), who asserts that wealth alleviates poverty more when it is distributed. It is hypothesised that:
H8: The relationship of poverty alleviation with SME wealth creation is positively moderated by wealth distribution.

***Wealth motivation*:** McClelland (1961) was selective about characteristics and attitudes of achievement-motivated people. This creates the impression that not all motivated people could achieve or accomplish certain objectives, particularly when it does not align with their source of motivation. It is hypothesised that:
H9: The relationship of poverty alleviation with SME wealth creation is positively moderated by wealth motivation.

Enderle (2006) suggests that it is important to know what motivates an individual or firm to create wealth, because the distributive dimension is affected by individual's/firm's motivation for creating wealth. Atkinson

and Brandolini (2010), Fosu (2010), Santos-Pautino (2012) and Asikhia (2013) note that it is only when wealth created is distributed that it could alleviate poverty. It is hypothesised that:
H10: Wealth distribution is positively associated wealth motivation.

Figure 1: The research model



3. Methodology

Research context: The Nigerian authorities are not oblivious of the poverty situation of the nation, nor of the operating environment of SMEs. In the light of the poor performance of the Nigerian economy and the inability of various policies to provide visible changes in both micro and macro-economic variables of the economy, policy makers are still hopeful that SMEs' performance should be able to drive the economy. Studies by UNIDO-Nigeria (2012) show that SMEs have the propensity to drive the Nigerian economy, and reveals that currently Nigerian firms employ over 31 million Nigerians and SMEs account for over 80% of enterprises. The present study thus evaluated the wealth creation capacity of these SMEs and the contribution to poverty alleviation in Nigeria. The Central Bank of Nigeria (2012) defines SMEs as firms of 100 employees or less with an annual turnover of not less than N500, 000.

Sample and data collection: A survey research design was adopted with responses from the CEOs of 581 Nigerian SMEs. The CEOs completed a questionnaire between March and May 2, 2015. Due to the lack of a single public register of SMEs in Nigeria (Asikhia, 2010; Dugguh, 2013) the survey population was drawn from multiple sources of business listings (the Small and Medium Scale Development Agency of Nigeria [SMEDAN], the Nigerian Small and Medium Scale Association [NASMA], and the CAC Business Directory). The survey response rate was 58.1 percent. The CEOs who completed the questionnaire were located in the three main regions of Nigeria, with two states purposely selected from each of the regions based on the poverty level and degree of commercial activities; in the north, Sokoto and Niger, in the east, Ebonyi and Abia, and in the west, Ogun and Lagos.

Data analysis: The data were analysed using the linear regression to test the hypotheses and structural equation modelling for the path dependencies.

Variables: Variables and their measures were drawn from the SME wealth creation model of Asikhia and Jansen van Rensburg (2015). Wealth created by firms was measured by increase in income, increase in physical assets, investments, product line expansion, increase in working capital and enhancement of intellectual capability. Other variables and their measures were human resources (knowledge, level of relevant education, experience, skills, cognate ability and special skill), technology (information acquisition and use), innovation and creativity (venturing, licensed intellectual property, degree of customer involvement, degree of employee involvement, and network and collaboration), unit cost economies (economies of scale, unit cost of product/service compared to the industry average, market share relative to the immediate industry average), organisational infrastructure (organisational structure: span of control, level of hierarchy and spread of activities), routines and process (flexibility, agility and degree of integration), strategy (product differentiation, marketing mix difference, timing, basic research knowledge), consumer marketing, strategic, entrepreneurship (opportunity-seeking abilities, advantage-seeking abilities, risk acceptance, growth orientation and overall vision), niche strategy (product/service features compared to industry leader, market share to large firms), and cost parity (percentage of asset ownership of total, rate of re-occurrence of transaction, degree of environmental risk and level of transferability of assets). Poverty alleviation was measured by the degree to which entrepreneurs are able to meet their personal, family and community obligations. Wealth distribution was measured with indices like payment of staff salaries, rendering help to members of immediate and extended families, helping members of the community, and contributing to community development based on the Anderson's (1964) "trickle-down" theory. The wealth motivation was measured by different indices developed along the line of thoughts of McClelland (1961). The indices providing employment, building a business to pass on, securing a future for family members and the proven ability to do so, personal growth, enjoying excitement, meeting the challenge, gaining public recognition, controlling own employment destiny, being one's own boss, self-employment and maintaining personal freedom were positively scored, while personal security, increasing income opportunities, increasing personal income and acquiring personal wealth were negatively scored. All constructs were measured on a Likert-type scale of five points. All constructs are presented in Table I. The Cronbach's alphas were all above 0.70.

Controls: It has been pointed out that value creation may vary with firm size and age (Pender, Alexander & Reeder, 2012; Pitelis & Vasilaros, 2009). We thus controlled the wealth creation capacity of the firms

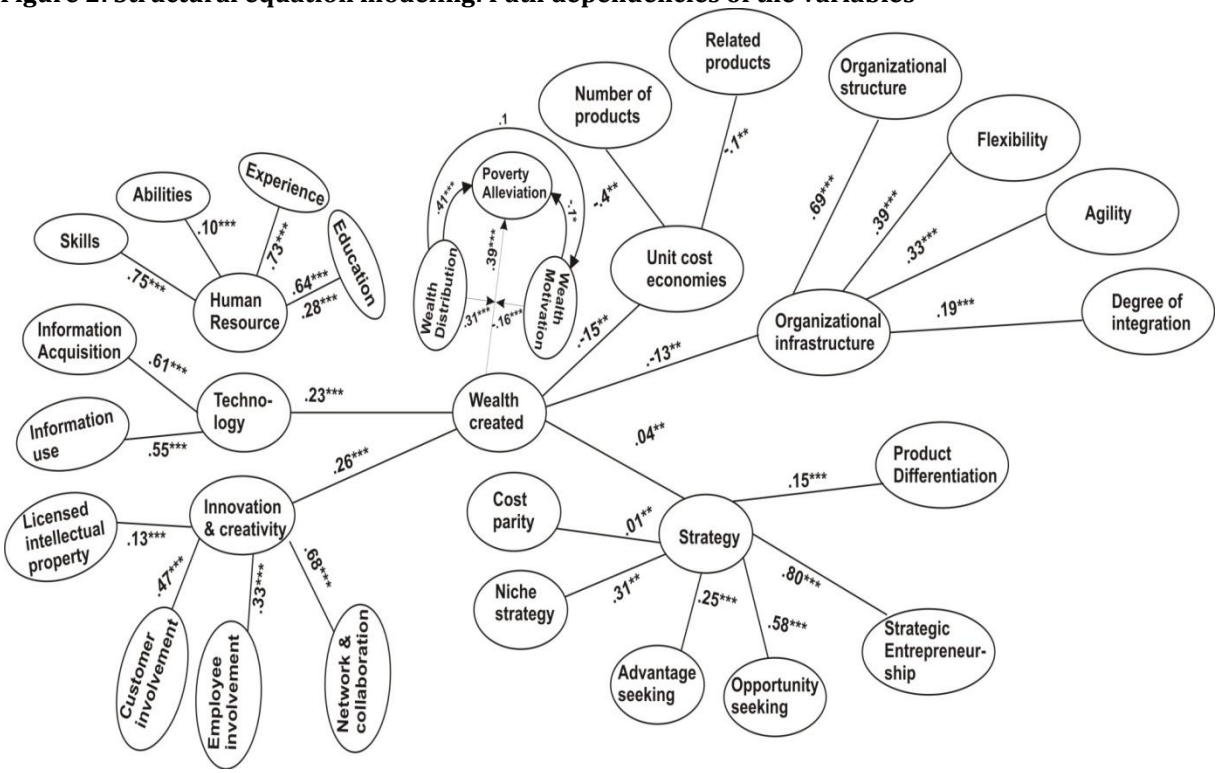
with firm size and age.

Measurement model and validity: The validity of the constructs was tested using confirmatory factor analysis (CFA). All items of human resource components, technology, innovation & creativity, unit cost economies, organisational infrastructure, firm strategy and poverty alleviation converge well on their latent construct. With good fit indices of chi square (minimum discrepancy)/degrees of freedom (CMIN/DF) = 1.54; Comparative Fit Index (CFI) = 0.90; Root Mean Square Error of Approximation (RMSEA) =0.60. The model was then compared with other constrained models and it was established that a six-factor model is the best fit for the study.

Table 1: Factor loadings of the construct

S/N	Major variables	Sub-variables	Internal consistency	Composite reliability
	Human resources	Education	0.83	0.84
		Experience	0.80	0.83
		Abilities	0.81	0.83
		Skills	0.82	0.84
	Technology	Information acquisition	0.80	0.83
			0.81	0.83
		Information use	0.81	0.83
			0.79	0.82
	Innovation & creativity	Licensed intellectual property	0.80	0.83
		Customer involvement	0.81	0.83
		Employee involvement	0.80	0.83
		Network & collaboration	0.78	0.82
	Unit cost economies	Economies of scale	0.79	0.82
		Economies of scope	0.80	0.83
	Organisation infrastructure	Organisation	0.79	0.81
		Flexibility	0.80	0.82
		Agility	0.81	0.83
		Degree of integration	0.80	0.81
	Strategy	Product differentiation	0.78	0.80
		Strategic entrepreneurship	0.79	0.83
		Opportunity seeking	0.79	0.82
		Advantage seeking	0.78	0.81
		Niche strategy	0.80	0.82
		Cost parity	0.79	0.81
7.	Poverty alleviation		0.77	0.79
8.	Wealth distribution		0.75	0.78
9.	Wealth motivation		0.76	0.79

Figure 2: Structural equation modeling: Path dependencies of the variables



Notes: * = P<0.05 ** = P<0.01 ***= p<0.001

Potential sources of bias: Some major actions taken to reduce the biases in the research design adopted are, firstly, that the CEOs or the most senior executive were requested to complete the questionnaire. Secondly, non-response bias was tested by comparing the early respondents with the late respondents. No significant difference was found because none of the correlations was more than 0.7. Thirdly, multicollinearity was tested for, using the Durbin-Watson test, and 2.28 was obtained, which further indicated that there was no multicollinearity. Lastly, Harman's single-factor test was conducted to test for common method variance. The loading of items on their constructs revealed Eigen values above 1 and the loading of items on their latent factors revealed no significant change in the model fit (CMIN/DF=1.51; CFI=0.91, RMSEA=0.05).

4. Results and discussion

Table 2 displays the descriptive statistics and correlation analysis result.

Table 2: Descriptive statistics and correlation analysis result

S/N	CONSTRUCT	MEAN	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
1	Firm Age	12	7	1																															
2	Firm Size	105	72	0.15*	1																														
3	Human Resources	33.6	13.4	0.26	0.34	1																													
4	Educational & Previous Experience	12.4	7.5	0.14**	0.18*	0.35**	1																												
5	Cognate Abilities & Special Skills	6.1	5.2	0.12	0.16	.52**	.11*	1																											
6	Technology	26.1	6.9	0.21**	.30*	.25**	0.03	.18**	6																										
7	Acquisition Of Knowledge	13.1	4.2	0.020*	.31**	.18**	-0.05	.15**	.88**	1																									
8	Use Of Knowledge	13	3.9	0.21**	.34**	.27**	0.01	.18**	.84**	.49**	1																								
9	Innovation And Creativity	54.9	18.5	.019*	.31**	.12**	0.05	0.04	.57**	.49**	.51**	1																							
10	Intellectual	2.6	2.5	0.03	0.2	-0.3	0.25	.26**	-0.04	-0.05	-0.01	-0.01	1																						
11	Customer + Employee Involvement	21.2	6.6	0.18	0.43	.20**	.09*	-.05*	.39**	.43**	.49**	.66**	.17**	1																					
12	Network And Collaboration	10	12.9	0.26	0.4	30**	.09*	.36**	.47**	40**	.42**	.72**	-.30**	0.7	1																				
13	Unit Economies	39.5	12	0.31	.51**	-0.28	.14**	.40**	.20*	.00	.18*	0.15	.12**	.44**	-.13**	1																			
14	Economies Of Scale	12.1	5.7	0.38	.50*	.30**	0.01	.31**	.19**	.136**	.20**	.17**	0.01	-0.08	.26**	0.04	1																		
15	Economies Of Scope	1.4	1.3	0.32	.42*	0.057	.13**	.15**	.10**	0.07	.11**	.12**	.11**	-0.05	20**	.22**	0.02	1																	
16	Organizational Infrastructure	115.4	31.6	.31**	.36**	-.20**	.16**	-.39**	.15**	.11*	.17**	.30**	0.01	.48*	-0.05	.47**	-.13**	.20**	1																
17	Organizational Structure	22.3	10	.10*	.29*	-.17**	.12**	-.33**	10*	.10*	.10*	.25**	.15*	.52**	-.13**	.39**	-.17**	0.01	.37**	1															
18	Organizational Processes + Routin	21.2	9.4	0.21	.32*	-.10**	.11**	-.20**	.08*	.05*	.08*	.20*	.10**	.32**	-.10**	.36**	-.10**	.00	.39**	.82**	1														
19	Flexibility	33.2	10.4	.33*	.21**	-.14**	.20**	-.32**	.13**	.09*	.12**	.25**	-0.07	.36**	-0.01	.40**	-.15**	0.06	.38**	.71**	.80**	1													
20	Agility	28.2	9.1	.36*	.24**	.20**	0.02	.38**	.17**	0.02	.14**	.05*	-0.16	-.15**	.19**	.17**	-.14**	.96**	-.22**	.20**	.40**	0.02	1												
21	Level Of Integration	12.5	5.5	.28*	.23*	0.06	-11*	.13**	.13**	.10*	.14*	.19**	-.13**	-0.01	.27**	.22*	0.05	.09*	-.13**	.67**	.18**	.00	0.04	1											
22	Strategy	168.4	37.3	.35*	.42**	.12**	.18**	.32**	.22**	.16**	.25**	.39*	0.3	.50**	0.04	.62**	-0.01	.96**	.56**	.21**	.03*	.64**	0.06	.11**	1									
23	Product Differentiation	12.5	5.5	0.22	.41*	0.06	-.11**	.13**	.13**	.10*	.14**	.19**	-.13**	-0.9	.26**	.22**	0.04	-0.06	-.13**	.63**	.48**	-.00	0.04	.99**	.12**	1								
24	Strategic Entrepreneurship	118.5	29.9	.37*	.31**	-.14**	.19**	-.33**	.20**	.15**	.23**	.35**	0.03	.51**	-0.01	.61**	-0.01	-0.02	.58**	.42**	.28**	.58**	0.06	0.04	.95**	-0.04	1							
25	Niche Strategy	38.2	10.5	.38**	.20*	-0.02	.14**	-.24**	.14**	.12**	.19**	.32**	0.07	.33**	.09*	.34**	-0.01	.14**	.34**	-.13**	-.18**	.54**	0.02	-0.01	.71**	-0.01	.50**	1						
26	Cost Parity	50.1	17.5	.26*	.35**	-.27**	0.07	-.34**	.16**	0.043	.05*	.20**	.09*	.44**	-.18**	.89**	-0.6	-.14**	-.12**	-.10**	.39**	.38**	-.22**	-.13**	.56**	-.13**	.58**	.34**	1					
27	Opportunity Selling Abilities	89.1	19.8	.46**	.40*	.12*	.13**	-.22**	.12**	.10**	.14**	.26**	0.02	.30**	-0.01	.46**	-0.01	.46**	-0.01	-0.01	.33**	.20**	.26**	0.04	0.03	.60**	0.03	.63**	.42**	1				
28	Advantage Selling Abilities	29.2	10	.25*	.50*	-03*	.06**	-.11**	.09**	.07**	.12**	.17**	0.11	.23**	-0.01	.26**	.00	.00	.26**	.23**	.20**	.29**	0.03	0.01	.28**	0.01	.39**	.17**	.20**	.48*	1			
29	Wealth Created	29.1	10.9	.52**	.51**	.31**	.11**	.35**	.27**	21**	.28**	.27**	.16**	-.13**	0.45	-.15**	.26**	.10*	.13**	-.15**	.17**	.16**	.13**	.11*	.47**	.11**	-01*	-00	.38**	.30*	.29*	1		
30	Wealth Distribution	17.16	10.7	.43*	.38**	.32**	0.05	.46**	.24**	.20**	.21**	.25**	-.17**	.17**	.48**	-.22**	.26**	.26*	.09*	-.14**	-.27**	-.18**	.31**	.09*	0.03	.09*	-0.07	0.04	-.17**	-0.07	.36**	.41**	1	
31	Wealth Motivation	43.98	12.47	.16*	.12**	.21**	.12**	.36**	0.06	-.00**	.10*	.19**	0.04	.39**	.28**	-.14**	.40**	-.15**	-0.07	.40**	.38**	.42**	-0.03	-0.07	.39**	-007	.36**	.35**	.36**	-0.07	-09*	-.20**	0.07	1
32	Poverty Alleviation	25.13	9.3	.35*	.39**	.41**	.31**	.41**	.30**	.25**	.27**	.36**	-0.02	.17**	.55**	-.26**	.15**	.09*	-.14**	-.21**	-.14**	.13**	.09*	-0.07	.08*	-09*	0.04	0.07	-22**	.41**	-.20**	.39**	.36**	.41**	1

Linear regression was used to test our hypotheses and the standardised coefficients were used to determine the path dependencies in Table III and Figure II respectively.

Human resources: The first model pertained to human resources, with the human resource factors being statistically significant with the wealth created by the firms (R1a= 0.31). The sub-variables of operators' level of education, previous experience, cognate abilities and special skills associated well with wealth creation, hence hypotheses 1a, 1b and 1c are supported (R1b=0.11 and R1c= 0.35), as shown in Table II. The findings of the previous studies of Muller and Gangl (2003), Piva and Vivarelli (2009), and Rosli and Mahmood (2013) were consistent with these findings, in linking educational qualification and skills to different organisational performance indices. This contradicts the findings of Rauch, Frese and Utsch (2005), who believe that organisational performance has little to do with the educational level of the operators. Studies found that association between academic qualification and performance indices did not consider cognate skills and special abilities; hence this study makes a meaningful contribution to the body of knowledge

Table 3: Regression analysis (Dependent variable: Wealth created)

Model	1	2	3	4	5	6	7
Firm age	0.01	0.01	0.01	0.00	.00	.00	.00
Firm size	-.04	.03	.02	.02	.03	.02	.02
Human resources	.58**						
Education	.64*						
Experience	.73**						
Abilities & skills	.75**						
Technology		.23**					
Information acquisition		.61**					
Information use		.55**					
Innovation & creativity			.18**				
Licensed intellectual property			.02**				
Customer& employee involvement			.09**				
Network & collaboration			.16**				
Unit cost economies				.08**			
Number of products				.06**			
Product related				.01**			
Organisational infrastructure					.05**		
Organisational structure					.03**		
Flexibility					.02**		
Agility					.01**		
Degree of integration					.01*		
Strategy						.03**	
Product differentiation						.01*	
Strategic entrepreneurship						.01*	
Opportunity seeking						.01*	
Advantage seeking						.01^	
Niche strategy						-.01	
Cost parity						.01**	
Poverty alleviation							.15***
Wealth distribution							.24***
Wealth motivation							.16***
Adjusted R-square	.28**	-13**	.14**	.16**	.14*	.13**	.26***
Model f	47.47	31.99	40.37	11.62	17.09	13.77	68.14

The results are discussed in line with the models in the regression analysis.

Technology adoption: The second model pertained to technology, comprising information acquisition and use. They all have positive and statistical association and path dependencies with wealth creation as depicted in Table II and III as well as Figure II, thus supporting hypotheses 2a, 2b and 2c (R2a= 0.27, R2b=0.21, R2C= 0.28). The findings of this study corroborate the outcome of the work of Bako (1991), and Rayport and Sviokia (1990), as well as the philosophical underpinnings of resource based theory of Penrose (1959) who sees knowledge as an intangible resource from which organisation can build competitive advantage.

Innovation and creativity: The next model pertained to innovation and creativity. The results show positive and significant association between the licensed intellectual property and wealth creation as well as customer and employee involvement and wealth creation. As shown in Figure II the associations between these variables and innovation and creativity are high (r = 0.13, 0.47, 0.33, 0.68), which suggest that these variables are good measures of innovation and creativity. However, innovation and creativity have positive and significant associations with wealth creation (R3a= 0.27). This result adds credence to the findings in previous research that innovativeness relates positively with firm performance (Chang et al., 2012; Casillas & Moreno, 2009; Lumpkin & Dess, 1996). Hypotheses 3a to 3d were therefore supported.

Unit cost economies: There was a statistically negative association between unit cost economies and wealth creation (R4a=- 0.15) which shows that lower cost economies produces higher wealth, so hypothesis 4a was not supported. However, hypotheses H4b and H4c were supported (R4b= 0.26 significant at both 0.05 and 0.01 levels of significant and R4c= 0.10 significant at only 5% level of significance). The findings may be premised on the fact that SMEs rarely take full advantage of economies of scale and scope because of the degree of availability of resources. The unit cost economies as an aggregate of economies of scale and economies of scope also show that economy of scale has a stronger relationship with wealth creation than does economy of scope (R4b > R4c). This may be due to frequency of use of the method by the operators because of the level of operation. This was found to affect their level of adoption of cost parity as strategy for competition. This result is supported by Kraus et al. (2011), who observed that SMEs hardly ever achieve cost advantage because they lack some unit cost economies.

Organisational infrastructure: The fifth model revealed a statistically positive association between organisational infrastructure and wealth creation (R5a= 0.13). However, organisational structure related negatively with wealth created (R5b= -0.15), which implied that the more sophisticated the structure, the smaller the wealth created by SMEs because of the cost of maintaining such a structure, thus adding credence to simplicity of structure. Flexibility, agility and degree of integration associated positively with wealth creation (R5c= 0.13, R5d= 0.16, R5e= 0. 13, R5f=0.11) so hypotheses H5a, and H5c to H5f were supported. 14% of the variations in wealth creation of the SMEs were traceable to the organisational structure (see Table III). This is consistent with the view of Ray et al. (2004) and Clark (1996) that intangible resources that are capable of achieving competitive advantage in operations are premised on the organisational infrastructure.

Strategy: The last model identified the association of the different strategies adopted with wealth created by the SMEs. There was a positive association that was statistically significant between strategy and wealth created (R6a= 0.47). This is the strongest of all the associations, thus revealing the importance of strategy to SMEs' survival. Specifically, the product differentiation, strategic entrepreneurship, cost parity, opportunity seeking and advantage seeking were statistically significant (R6b= 0.11, R6c= 0.01, R6e= 0.38, R6f= 0.30, R6g= 0.29), while the niche strategy was not statistically significant (R6d=0.01). So hypothesis 6d was the only hypothesis that was not supported. This contradicts the view of Lee & Tsang (2001) and Bamford et al. (1997) that niche strategy is the special strategy recommended for targeting narrow market by SMEs.

Poverty alleviation: Wealth created by SMEs was responsible for only 15% variation in poverty alleviation in Nigeria as shown in Table III. Also, poverty alleviation associates well with wealth creation (R7= 0.39) and the association was highly moderated by wealth distribution (R-square change= .09; former R-square= 0.15, the new R-square= 0.24). This supports Anderson's (1964) "trickle-down" theory, while wealth motivation slightly moderated the association (R-square change=0.01). Hypotheses 7 to 9 were supported (R8= 0.36, R9= 0.41) while hypothesis 10 was not supported because a non-statistical relationship exists between wealth distribution and motivation (R10= 0.07). This implies that people who have a personal motivation to acquire wealth may not be ready to distribute it (Enderle, 2006).

5. Conclusion

The study involving 581 CEOs of SMEs in selected states of Nigeria examined a range of determinants of wealth creation and its impact on poverty alleviation. An empirical test of the six domains of SME wealth creation was carried out. The results revealed some significant relationships between the variables of each domain, wealth created as well as poverty alleviation. The data of this study support policy makers by raising contradictions that SME wealth creation could not be explained from firm-level theory. We found that the most important factor that determines SME wealth creation is human resource and strategy. Each of the variables of measure scored high in contributing to the wealth created by firms. These are education, cognate experience, abilities, special skills, product differentiation, cost parity and components of strategic entrepreneurship. This could also explain why firm age was an important moderator in the wealth creation model. Our study thus contradicts past studies that established a negative relationship between experience and firm growth; hence the results of the study are consistent with some leading theories of firm growth. An idea emanating from the findings of the research suggests policy formulation that takes cognisance of the fact that wealth is more likely to be created by firms with highly educated CEOs who have special skills and

strategic tendencies. The government may need to encourage more graduate apprenticeship schemes. This could birth new firms that would have high propensity of creating wealth.

Firm size is found to relate positively with wealth creation, thus supporting the resource-based view theory. It also suggests a positive relationship between firm size and wealth creation. Technology, innovation and creativity are associated with wealth creation amongst SMEs in Nigeria. The adoption of new technology as well as innovation and creativity help SMEs to face competition and achieve a competitive advantage. This finding was consistent with earlier studies (Bakos, 1991; Casillas & Moreno, 2009; Lumpkin & Dess, 1996; Rayport & Sviokla, 1990). Unit cost economies associate negatively with wealth creation and the path dependencies were negative. It showed that more wealth was created at a lower cost of operations. In a similar trend, cost parity associated positively with wealth creation. In terms of policy implication, government may need to resuscitate the agency in charge of SME development to help the SMEs in an international environmental scanning exercise that would facilitate the acquisition of relevant and effective information that could enhance cost-effective global positioning and material sourcing.

Organisational infrastructure and strategy are important variables to wealth creation. Organisational infrastructure associated positively with wealth creation, but the path dependencies showed a negative trend which inferred that simplicity rather than complex structure is needed for effective wealth creation by SMEs. However, strategy had a much stronger association with wealth created by the firms. Product differentiation and cost parity associate significantly with wealth creation. Poverty alleviation relates well with wealth creation, and the relationship was highly moderated by wealth distribution and lowly by wealth motivation. However, wealth created by the SMEs was only responsible for 15% variations in poverty alleviation, suggesting a low contribution of SMEs to reducing poverty in Nigeria. The findings also show that the sources of operators' motivation for wealth creation influence the degree of distribution. This finding is the special contribution of this study to the field of SMEs and has great implications for policy makers because poverty can only be alleviated when wealth created is distributed. Such sources of motivation into businesses by entrepreneurs could be used as one of the indicators for qualification for government support.

The key contributions of the study to the body of knowledge are; firstly, it tested the SMEs' Wealth Creation model empirically, secondly; the model was related to poverty alleviation, thirdly; the roles of wealth distribution and motivation were established, fourthly, the model established a positive relationship between experience and firm growth, which is a deviation from the existing knowledge and finally, the study showed the contribution of SMEs to poverty alleviation in Nigeria. In conclusion, this article reported the drivers of SME wealth creation in Nigeria and the relationship with poverty alleviation with 32 variables assessed in structural equation modelling. It was revealed that size and age of firms were significantly related with wealth creation. The study tested empirically the wealth creation model of human resources, technology, innovation and creativity, unit cost economies, organisational infrastructure and strategy domains. All the domains were found to be relevant as determinants of wealth creation. Poverty alleviation related well with wealth creation and the relationship was moderated by wealth distribution and motivation

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Fertility Status of Married Women and Its Determinants in Ethiopia

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Abstract: This study investigates determinant factors of fertility among married women in Ethiopia, the second most populous country in Africa with rapid population growth. The data used for the analysis was obtained from the 2014 Ethiopia Mini Demographic and Health Survey which was carried out by the Central Statistical Agency. A generalized linear model (GLM) analysis was carried out to investigate the effect of socioeconomic and demographic factors on the number of children ever born by a married woman of age 15-49 years. High fertility was independently associated with residing in urban areas, increased household economic status, younger age at first birth and not using contraceptives. Current age and media exposure, household head gender and media exposure, household head gender and regional state, mother's education and, regional state and media exposure and regional state were found to jointly affect fertility level.

Keywords: *Fertility status; children ever born; generalized linear model; Poisson regression; negative binomial regression; rate ratios*

1. Introduction

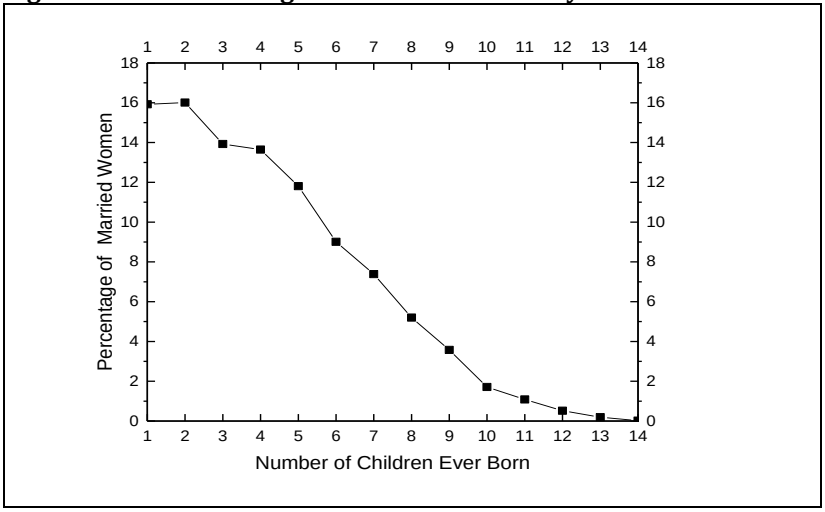
Ethiopia is the second most populous country in Africa with a total population of 98.1 million by mid-2015 and projected population of 130.5 million and 165.1 million by mid-2030 and mid-2050 respectively (Population Reference Bureau, 2015). This rapid population growth is partly due to a relatively high fertility rate. The 2014 Ethiopia Mini Demographic and Health Survey reported that in Ethiopia total fertility rate (TFR) for the three years preceding the survey was 4.1 children per women. The report also showed that fertility declined between 2005 and 2011, from 5.4 children per woman to 4.8, and then decreased further to 4.1 children in 2014 (CSA, 2014). Even though the total fertility rate of Ethiopia is less than that for the Sub-Saharan region (=5.0), it still high like many of African countries as compared to the world average of 2.5 (Population Reference Bureau 2015). The 2005 report of the Department of Economic and Social Affairs of the United Nations (UN, 2005) also rated the fertility rate of the country as one of the top nine countries in terms of population increase from 2000-2050. The social, economic and cultural setups in rural parts of Ethiopia are still in favor of having large number of children. This partly results from the value the society gives to children, preferences relating to the sex of a child, economic needs and old age security. High fertility however has adverse effects on the health of the child and the mother and child schooling. In countries like Ethiopia where the livelihood of about eighty five percent of the population depends on agricultural practices on small individual holdings, continuous population growth may result in environmental degradation which ultimately contributes to global warming.

Identifying factors that determine household's ideal or preferred number of children and designing strategies that affect fertility choices requires comprehensive studies. A number of descriptive and informative studies on the households' ideal or preferred number of children were conducted in Ethiopia (Hailemariam, 1992; Falls, 2007; Teklu, Sebhatu and Gebreselassie, 2013; Alemayehu, Haider and Habte, 2010; Jara, Dejene and Taha, 2013; Gebremedhin and Betre, 2009). These studies have greatly contributed to our understanding of many aspects of determinants of fertility in Ethiopia. However, these studies are either limited to urban population or focused more on descriptive statistical analyses. But advanced statistical analysis is useful to measure the intrinsic and explicit effects of the socio-economic, demographic and environmental factors. Accordingly this study is aimed to identify socio economic and demographic determinant factors of fertility among married women in Ethiopia. The study employed generalized linear model for in-depth investigation of the joint effect of two or more risk factors.

The Data: The data used for the analysis was obtained from the 2014 Ethiopia Mini Demographic and Health Survey EDHS which was carried out by Central Statistical Agency (CSA). The main objective of the survey was to collect population-based data on key demographic, socio-economic and health indicators that support the monitoring and evaluation health sector development program. The survey questionnaire were used; one for the household and one for women. A total of 8475 households were interviewed. The age and gender of household members obtained in the household questionnaire were used to identify women who were eligible for the individual interview. The women's questionnaire was used to collect information from 4617 married women in the childbearing age 15-49. These women were asked on the number of children ever born. The respondents were asked questions with regards to their current age, education, age at first birth, birth history, contraceptive use and media exposure. Besides these characteristics, the wealth index based on the household assets and sanitation facilities was automated in the survey database.

Ethiopia is constitutionally formed as a federation of nine ethnically-based regional states and two chartered cities. These eleven administrative regions have basic roles of managing public health services and coordinating the operation of health system under their jurisdiction. Regional states therefore account such cultural and administrative diversity. Likewise the difference in rural and urban mindsets is assessed by including rural-urban classification of the respondents. The frequency distribution of the number of children ever born is presented Figure 1. As can be seen, the distribution is highly skewed with the low number of children ever born as the modal and median responses. The median and mean number of children ever born per married woman is 4.0 and 4.2 respectively.

Figure 1: The Percentage of Married Women by the Number of Children Ever Born



2. Methodology

A generalized linear model (GLM) analysis was carried out to investigate the demographic, socio-economic and geographic factors affecting respondents' number of living children ever born. Since the response variable of interest, which is the total number of children ever born, is a count data, it may not be reasonable to assume that the data were normally distributed. As a result the traditional linear regression model is not applicable. A GLM extends the traditional linear model to a wider range of data analysis problems (log normal, inverse Gaussian, gamma, Poisson, binomial, negative binomial) and a function can be used to link the expected value (mean) of the response and a linear function of the explanatory variables. In short, a GLM can be constructed by choosing an appropriate link function and response probability distribution (Agresti, 2002).

The best known GLMs for count responses assume a Poisson or a negative binomial distribution. The Poisson regression restricts the response variable to have mean-variance equality. If this assumption is violated, the resulting estimates are consistent, but, estimates of the variance are not. This can result in spuriously small standard errors of the estimates (Barron, 1992). In such over or under dispersion scenario, from statistical

viewpoint, Poisson distribution might not be acceptable. A common way to deal with overcomes the problem of over and under-dispersion for counts are to use the use of "quasi-likelihood" in a generalized linear model framework (McCullagh and Nelder, 1989). The quasi-Poisson regression provides valid inference, guarding against drawing of incorrect conclusions (see Allison, 2001; Ver Hoef and Boveng, 2007 and Zewotir and North, 2015). The interpretation of the parameter estimates in the quasi-likelihood approach remains as ordinary Poisson regression. Indeed we are aware that the alternative over-dispersion remedy is the negative binomial regression (Zewotir and Ramroop, 2009 and Lindén and Mäntyniemi, 2011). For any given data set, information theoretic approaches such as Akaike information or Bayesian information criteria might be considered to choose between a quasi-Poisson model and a negative binomial. However, a good understanding of the theoretical differences between them can form the basis for an a priori decision based on scientific purposes, which the quasi model formulation has the advantage of leaving parameters in a natural, interpretable state and allows standard model diagnostics without a loss of efficient fitting algorithms (Ver Hoef and Boveng, 2007). In other words, the quasi Poisson strategy leads to the same coefficient estimates as the standard Poisson model but inference is adjusted for over-dispersion. If over-dispersion is not the issue the Poisson distribution is the natural distribution of the count data.

A generalized linear model (GLM) analysis was carried out to investigate the effect of current age, education, and age at first birth, birth history, and contraceptive use, and media exposure, gender of household head, household wealth, regional state and residential area on the number of children ever born by a married woman. It is reasonable to assess the magnitude of the effect of several factors acting jointly over and above their effects considered separately. In other words, the extent to which the effect of one factor changes for different values of one or more other factors needs to be measured, this is called the interactions effect. The significance of the interaction effects were looked at by adding them into the main effects model one at a time and retaining the significant interactions. All the three-way and higher-level interactions effects were obtained non-significant. Accordingly, the final model was found to be the main effects and five two-way interactions. Media exposure interacted with three variables current age of the mother, gender of the household head and regional state; the other two interactions were the household head gender and regional state, and regional state and educational level of the mother. For this model we first examined the Pearson Chi-square or deviance divided by the degrees of freedom for over/under dispersion. Values greater than 1 indicate over-dispersion, that is, the true variance of the number of children ever born by married woman is greater than the expected number of children ever born per woman, under the given model. From Table 1, the values are sufficiently close to 1 and indicated no evidence of over-dispersion and the adequacy of the Poisson regression fit.

Table 1: Assessment of Over/Under Dispersion in the Poisson Regression

	Log Link		
Criterion	**DF**	**Value**	**Value/DF**
Deviance		4800.74	1.06
Pearson Chi-Square	4544	4766.91	1.05

We further compared the goodness of fit of Poisson regression with the quasi Poisson and negative binomial regressions (refer Table 2). The AIC and corrected AIC (AICC) slightly favor the goodness of negative binomial and BIC favors Poisson regression by the same margin. Notably these approaches depend on a distributional form and a likelihood and the comparison between Poisson and negative binomial distributions was valid; however, quasi models are only characterized by their mean and variance, and do not necessarily have a distributional form. Quasi-AIC (QAIC) might be appropriate, but QAIC is useful within the quasi class of models and not between quasi models and models with distributional forms. Since the variance to mean ratio is roughly 1, (in fact 1.06 or 1.05, refer Table 1) the quasi-Poisson adjustment fitness is the same as the Poisson regression and that result was demonstrated in Table 2. All the avenues indicated that the impact of using negative binomial and/or quasi-Poisson to overcome over dispersion in this Poisson regression would be worthless.

Table 2: Model Selection among Poisson, Quasi-Poisson and Negative Binomial Regressions

Criteria: Smaller is better	Regression		
	Poisson	Quasi-Poisson	Negative Binomial
AIC	19349.50	19349.50	19346.13
AICC	19351.88	19351.88	19348.57
BIC	19819.44	19819.44	19822.50

3. Results

A set of model diagnostics was performed before any inference from the model. The index plots for the residuals and the deviance residuals of the selected model showed that there were no observations that were poorly accounted for by the model. The index plot of the diagonal elements of the hat matrix suggests that there are no extreme points in the design space that one needs to consider. Furthermore, an index plot of Cook's distance indicated that there are no observations that may have a large impact on the estimated coefficients and thus on the goodness of fit of the model. The diagnostics results in Figure 2 allow us to make statistical tests and inferences.

Figure 2: Model diagnostics plots

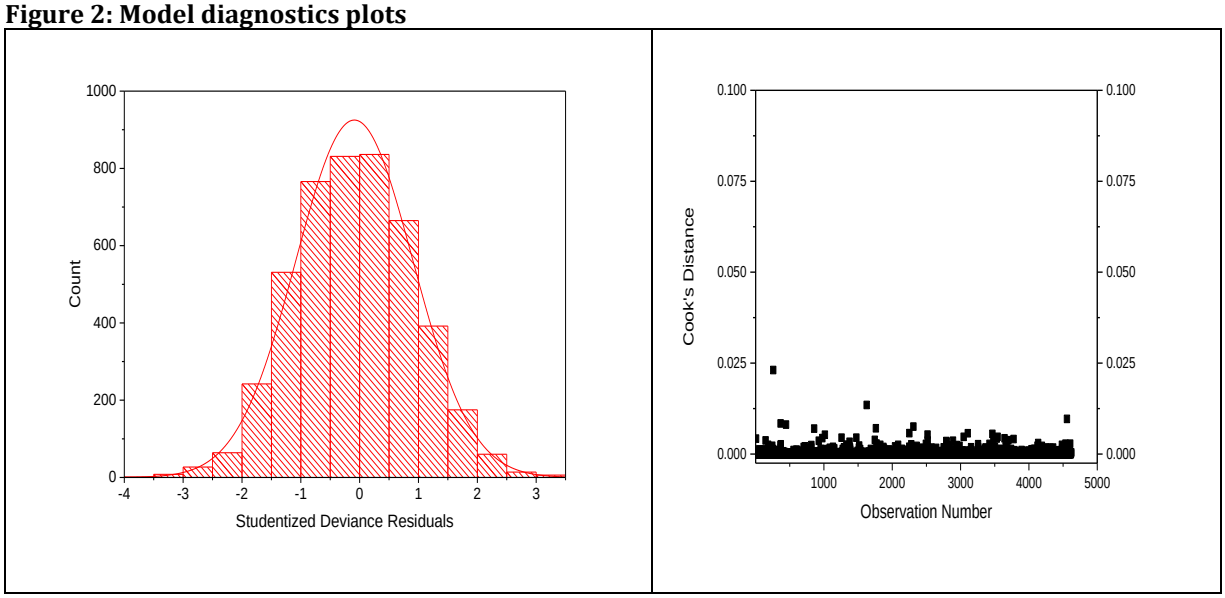


Table 3 shows the effect of the factors on the number of children born by married woman. The results indicate that all the main effects and the five 2-way interactions are significant. The interpretation of the significant main effects which were not involved in the interaction can be interpreted using the rate ratios (RR). All the other main effect variables which are involved in the interaction should be interpreted with special care. For example, because there is a significant interaction effect between media exposure and regional state, the number of children ever born will be influenced by the mother's exposure or non-exposure to mass media but this influence on the number of children ever born will vary from one regional state to another (because of the interaction effect between media exposure and regional state). The interaction plots are useful to assess the effect a pair of factors has on the number of children ever born. An interaction effect is indicated when the lines for different levels of the first factor have unequal slopes.

Table 3: Analysis of Main and Interaction Effects on the Number of Children Ever Born

Effect	Num DF	Den DF	F Value	Pr > F	Chi-Square	Pr > ChiSq
Mother's current age	1	4544	44.84	<.0001	44.84	<.0001
Residence	1	4544	23.45	<.0001	23.45	<.0001
Mother's education level	3	4544	99.38	<.0001	298.14	<.0001
Household head gender	1	4544	10.98	0.0009	10.98	0.0009
Household economic status	2	4544	9.11	0.0001	18.21	0.0001
Mother's age group at first birth	2	4544	94.29	<.0001	188.57	<.0001
Media Exposure	1	4544	83.30	<.0001	83.30	<.0001
Regional State	10	4544	2.31	0.0105	23.11	0.0104
Contraceptive	1	4544	16.15	<.0001	16.15	<.0001
Current age*media exposure	1	4544	23.01	<.0001	23.01	<.0001
Household head gender *media	1	4544	28.78	<.0001	28.78	<.0001
Household head gender *Regional	10	4544	4.15	<.0001	41.46	<.0001
Mother's education*Regional state	28	4544	1.70	0.0118	47.72	0.0115
Media exposure *Regional State	10	4544	2.92	0.0012	29.15	0.0012

Four factors were not involved in the interaction. Therefore we can interpret the relative ratios of each factor. Table 4 presents the relative ratios and the 95% confidence intervals of the main effects. If the confidence interval (CI) includes 1, then the result is non-significant and can be interpreted as the mean number of children ever born at the given category equals the mean number of children ever born from the reference category. The rural mother's average number of children ever born is 1.142 times the average number of children ever born from otherwise identical mother who reside in urban. In other words a rural resident mother has 14.2% more children ever born than otherwise identical urban resident mother. With regard to socio-economic status, the difference in the average number children ever born between the middle and high class mothers' is insignificant. But the difference between the high economic class household mother and the low economic class mothers expected number of children ever born was significant. The low economic class mother has 7.3% less than the expected number of children of otherwise identical characteristic mother of high economic class. The average number of children ever born from middle class mother is significantly different from that of the low class mother (RR=1.072, 95% CI (1.032, 1.123). On the average a mother who gave live birth before the age of 16 years old has 30.7% more children ever born than otherwise identical mother who started to give live birth in twenties or later age. Likewise, the teenage group member mother at first birth, 16-19, has 24.6 % more children ever born than the mother who gave birth at twenties and above. A non contraceptive user mother has 7.2% more children ever born than otherwise identical mother who is using contraceptive.

Table 4: The Poisson Regression Relative Ratios Extracted for Main Effects which are not involved in the interaction

Factor	Relative Ratios	95% CI	
		Lower	Upper
Residence (Reference= Urban)			
Rural	1.142	1.082	1.206
Household Economic Status (Reference=High)			
Middle	0.999	0.952	1.046
Low	0.927	0.890	0.97
Mother's age at first birth (reference >=20)			
16-19	1.246	1.203	1.290
<=15	1.307	1.244	1.373
Contraceptive (Reference=yes)			
No	1.072	1.036	1.108

BIC	19815.37	18772.31	19530.01	18639.08
Degree of freedom	11	19	22	30

The effect of household head gender on the number of children ever born varies with their media exposure and region (refer Table 3 and Figure3). For the household who has media exposure the headship gender has no significant effect. For the household who has no media access the mother from male household head has significantly more children ever born than that of the mother who head the household. On the other viewpoints, media exposure creates a significant difference for male household heads' effect on the number children ever born, but not for female household heads'. In terms of regions, in Addis Ababa, Dire Dawa, Gambella, SNNP and Somalia regions the difference in the average number of children ever born from female and male household heads is insignificant ($p>0.065$). In Afar, Amhara, Harari, Oromiya and Tigray regions female headed household mother, on the average, has significantly lower number of children ever born than a male headed counterpart ($p<0.0214$). Unlike all other regions, in Beneshangul Gumz, female household head mother has more children ever born than otherwise identical mother whose household head is a male ($p=0.0032$).

Figure 3: The average number of children ever born by household head gender, media exposure and region

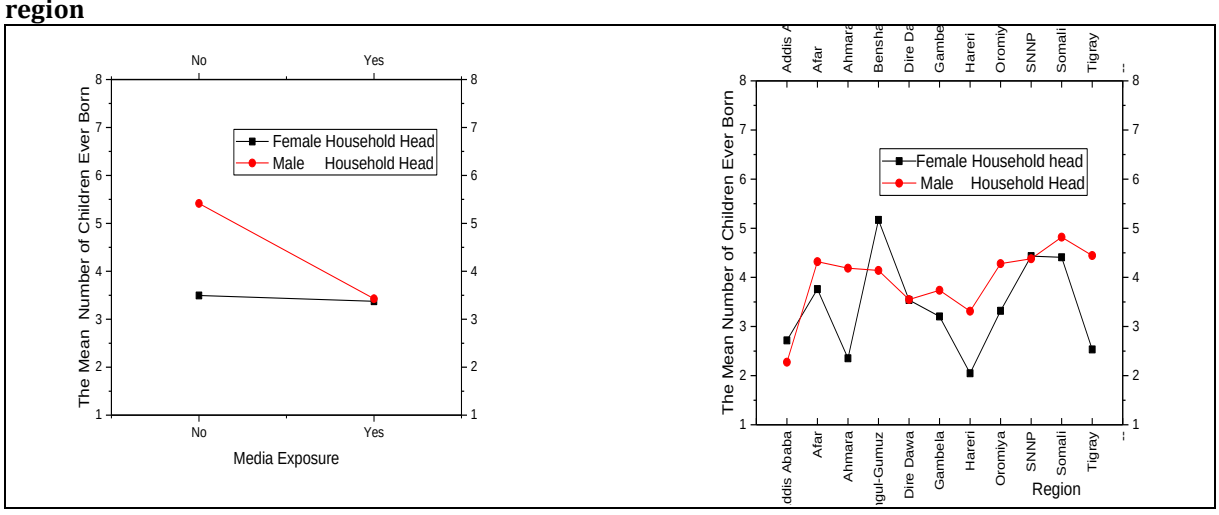
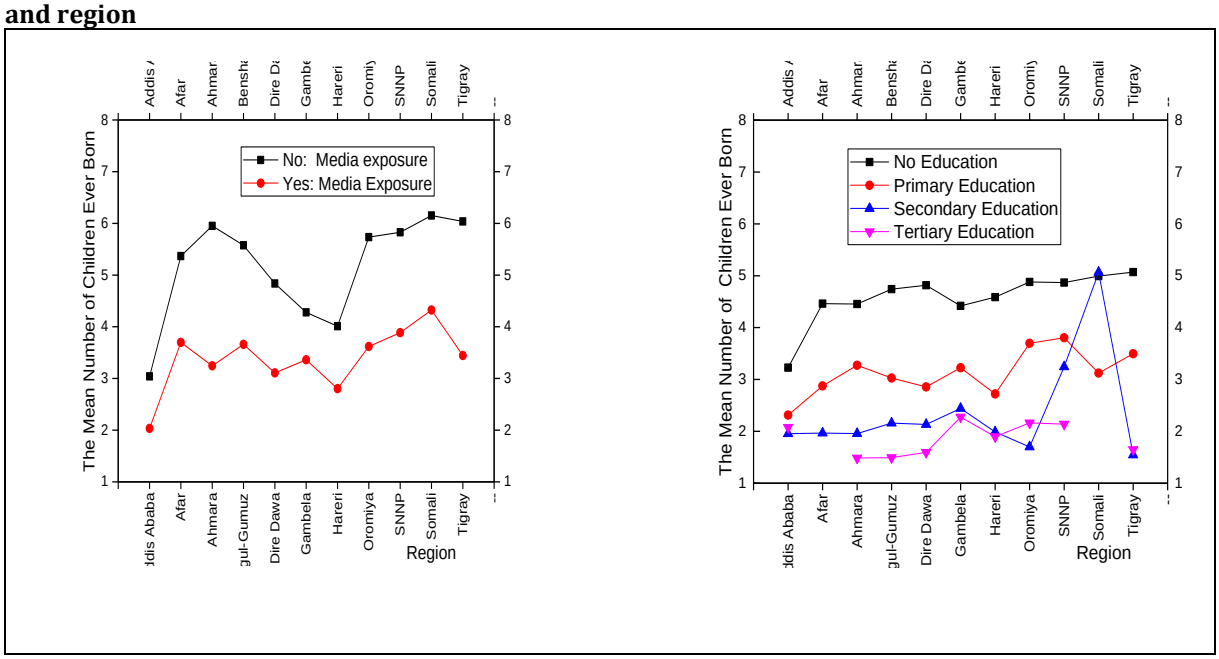


Figure 4 displays the interrelationships between region with media exposure and level of education of mothers. It is noted that the difference between the average number of children ever born for women

exposed to media and those non-exposed is significant in all regions ($p<0.001$). In fact in all regions the average number of children ever born from a woman who has no media exposure is more than from those women who have exposure to media. It can also be noted that generally, the average number of children ever born from a woman decreases as the level of education of mothers gets higher. Exceptional figures belong to Afar and Somali regions where there is no woman with tertiary education. Another exception is Somali mothers with no education have the same average number of children with women having secondary education.

Figure 4: The average number of children ever born by media exposure, education level of the mother and region



Discussion: In this study we intended to assess the contribution of socioeconomic and demographic determinant factors of fertility among married women in Ethiopia using generalized linear model.The findings of this study showed that place of residence, age at first birth, household economic status and contraceptive use were significant factors affecting the fertility of a woman. Women who live in rural areas give birth to more children than those in urban areas. This is consistent with previous reports from Ethiopia and other developing countries like Nigeria, Ghana, Namibia and Nepal (See for example Hailemariam, 1992; Teklu, Sebhatu, and Gebreselassie, 2013; Gebremedhin and Betre, 2009; Alene and Worku, 2008; Olatoregun et al., 2014; Adhikari, 2010; Indongo and Pazvakawambwa, 2012; Johnson et al., 2011; and Tessema, Zeleke and Ayele, 2013). With respect to contraceptive use, the results showed that women who use contraceptives to control birth had on average less number of children than those who were not using. With regard to the household economic status, the average number of children ever born from a mother of with high economic status is more than from mothers with lower or middle economic status. This is mainly explained by the role children play in the production of crops, and herding cattle and the fact that social capital is measured by the number of children (See also Jara, Dejene and Taha, 2013). It was also found in this study that women who got their first child at earlier ages were more likely to have more children than those women who got at later ages. This may be because the delay in age at first birth has the potential to reduce fertility period. Other studies in Ethiopia by Teklu, Sebhatu and Gebreselassie (2013) and in Namibia by Indongo and Pazvakawambwa (2012) reported findings similar to this study.

The household head gender remains a significant factor on the number of children ever born if the household has no mass media exposure. The result shows women exposed to media are likely to be powerful in making decisions regarding the no of children she should have. For the household who has no media access the male dominance in such decisions was evident. In fact, the deep rooted Ethiopian cultural landscape of gender-role definitions and the modern women empowerment put Addis Ababa, Dire Dawa, Gambella, SNNP and Somalia

regions which have fair gender equality in household headship. Other regions' result reflects the cultural males' or females' dominance in the household leadership and important decision makings in the family. In most of the regions, the mother's education was a significant factor on fertility and human capital formation. The variation in the regional development imbedded with cultural setups towards girls education some degree of difference is observed among the regions. Nevertheless, in all the regions the less educated the mother the more she tends to have many children.

4. Conclusion

Unless Ethiopian population growth is controlled or accompanied by a rapid economic growth it could be a problem to the society. This article was aimed to make a contribution to the study of determinant factors of high fertility using generalized linear model. The capability and novelty of the proposed model was well demonstrated. High fertility was independently associated with residing in urban areas, increased household economic status, younger age at first birth and not using contraceptives. The inclusion of interaction terms to the model greatly expands our understanding of the relationships among the risk factors in the model and drastically changes the interpretation of the main effects. Current age and media exposure, household head gender and media exposure, household head gender and regional state, mother's education and, regional state and media exposure and regional state are jointly associated with fertility status. Government should focus on improving access to media, contraceptives and universal education to young girls and enforcing laws prohibiting early marriage.

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Author's contribution: EKM and TMY conceived the study. TMY collected the data. TZ designed and analyzed the data. TZ and EKM wrote and revised the manuscript. All authors read and approved the manuscript.

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Does Liquidity Management Affect Profitability in Selected Nigerian-Quoted Manufacturing Firms?

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Abstract: This study examined the nexus between liquidity management and profitability in selected Nigerian-quoted manufacturing firms. Many business failures have been recorded over the years due to inability to balance the link between liquidity and profitability. Descriptive research design was employed to analyze the data gathered from 2004 to 2014. The study found a positive relationship between credit policy, return on equity and return on capital employed. It equally found that operating cash flow and cash conversion cycle are negatively related to all the metrics of profitability. The study therefore recommends among others, that managers should strive to achieve a reasonable level of profit to optimize shareholders' wealth and keep the firms in business. Also, managers should effectively manage account receivables and inventory at optimal level to avoid tie down liquid assets unnecessarily. Investors should pay close attention to firms' operational cash flow in order to access their true state before committing their funds.

Keywords: *Liquidity, Profitability, Credit policy, Cash conversion cycle and Return on assets*

1. Introduction

A firm's financial manager should be able to take effective financial management decisions otherwise illiquidity becomes inevitable. Such decisions include investment, financing and dividend policy decisions (Barclay and Smith, 1988; Preston and Post, 1981). Liquidity connotes the firm's ability to meet its short-term obligations which are within one accounting year. The short- term equally reflects the operating cycle: buying, manufacturing, selling, and collecting. The firm that cannot service its creditors as at when due and continue to dishonor its obligations to the suppliers of goods, services, and credits can be declared insolvent. Liquidity management involves planning and controlling current assets and liabilities in such a manner that eliminates the risks of inabilities to meet due short term obligations, on the one hand, and avoidance of excessive investment in these assets, on the other hand (Priya & Nimalathasan, 2013). Liquidity management is significant to both internal and external analysts because of its relationship with day-to-day operations of businesses(Bhunia, 2011). Technically, it means the firm's continuous ability to meet maturing obligations. Profitability is the ability of a firm to generate revenue that exceeds its liabilities. The main goal of a business is making profit which is the reward for risk-taking. Business may have other goals but if they are not profitable then they will be declared bankrupt. The significance of profit in a business is without question. Profit is essential for business survival and growth, providing a platform for future contingencies, is a yardstick to test business efficiency, provide internal sources of funding for expansion and development and is an inducement to investment that is conducive for employment creation.

Every user of financial information is interested in these two items. Although the ultimate goal of any firm is to maximize profit, the preservation of firm's liquidity is a key objective as well. The challenge is that any profit increase at the expense of liquidity can pose serious challenges to the firm. Therefore, there must be a trade-off between these two goals. One goal should not be pursued at the expense of the other because both are necessary. If one does not care about profit, one cannot survive indefinitely. On the other hand, if one does not care about liquidity, one may face the problem of insolvency or bankruptcy. For these reasons management of liquid assets should be given appropriate consideration since it will ultimately affect the profitability of the firm. In the light of the above, it must be mentioned that there is no standard norm for liquidity levels to be maintained at a particular time. It depends on the nature of the business, scale of operations, location of the business and numerous other factors. Every user of financial statement has interest in the liquidity position of the firm. Suppliers will check the liquidity position of the company before selling goods on credit to be sure of payment. Workers are also interested in the liquidity to know whether the firm can meet its employee-related obligations while shareholders are interested in understanding liquidity position due to its impact on the profitability of the firm (CEBS, 2009). From the above it can be

inferred that managers can generate profits for their companies by appropriately managing the cash conversion cycle and by keeping accounts receivables at an optimal level (Gill, Biger & Mathur,2010).

Few prior studies have been conducted in Nigeria that address liquidity management and its impact on firm's profitability (Agbada & Osuji, 2013; Egbide, Uwuigbe & Uwalomwa, 2013; Owolabi, Obiakor & Okwu, 2011; Ezejiofor, Adigun & John-Akamelu, 2015 and Umobong, 2015) but no prior studies have addressed this nexus between liquidity and profitability in these five oldest and highest employers of labour manufacturing firms in Nigerian capital market. Owolabi, Obiakor and Okwu (2011) studied the liquidity-profitability relationship in business organization and found liquidity and profitability positively related and reinforcing each other. Agbada and Osuji (2013) examined the efficacy of liquidity management and bank performance in Nigeria using survey design on 300 bank employees in Asaba and Lagos only. Egbide, Uwuigbe and Uwalomwa (2013) investigated liquidity management and profitability in some manufacturing firms in Nigeria and found current ratio and profitability insignificantly positively related while cash conversion period and profitability insignificantly related. Ezejiofor, Adigwe and john-Akamelu (2015) investigated the credit management on liquidity and profitability position of 2 manufacturing firms. He established liquidity management and profitability association and a significant association between liquidity position and debtor's turnover. They equally claimed that credit policy can affect corporate profitability. Umobong (2015) analyzed the impact of liquidity and profitability ratios on growth of profits in Pharmaceutical firms in Nigeria and found significant contributions of all the variables to profit growth.

The relevance of this study stemmed from the fact that Nigeria has adopted the International Financial Reporting Standard (IFRS) at both public and private sectors. This makes all reported financial statement open to the world and firms that performed below expectation will be unable to borrow in time of need neither will they be able to raise fund from the capital market. Secondly, the findings from this study is expected to have positive implications in terms of coming up corporate policies and reforms that will enhance close monitoring of operational activities in quoted firms. Besides, financial analysts, shareholders and management of Nigerian manufacturing firms stand to benefit immeasurably through the application of the recommendations from this study. According to Ilori (2013) one major component of indigenous and foreign business failures in Nigeria is the absence of best corporate governance practices manifested principally in the management of liquid assets and profit. For instance, Nigeria Airways, Kaduna Textiles, Concord group, Lion of Africa Insurance, Oceanic Bank, Societe Generale Bank Nigeria among others failed in business due to low cash reserves and poor management of funds (Nwaigbene, 2015). Despite such failures, numerous corporate organizations have not realized the need to balance the nexus between liquidity management and corporate profitability. This negligence has led to the closure of many manufacturing companies in Nigeria. Many corporate managers till date still placed undue priority on profit maximization without adequately managing the liquid assets that will enhance the profit. This study therefore intends to bridge this gap by establishing the extent of the relationship existing between the companies' credit policy and the firms' profitability and also analyze the significant level of the relationship between cash flow management and the firms' profitability.

2. Literature Review

Conceptual: This study drew its conceptual foundation from the Moulton (1918) Shift ability liquidity and Schumpter (1943) profitability theories. Eljelly (2004) define liquidity management as the conversion of assets into cash during the business normal course and to have regular and consistent flow of cash to meet external current liabilities as and when due and also to ensure availability of money for the day to day business operations. Moulton (1918) claimed that the problem of liquidity is not usually a problem but it is shifting of assets without material loss. To maintain minimum reserves does not warrant relying on maturing bills but maintaining the quantity of assets which can be shifted to other establishments whenever necessary. Schumpeter (1939) postulated the theory of innovative profits. He stated that profits depend upon creating new fields of productive endeavors to add to and restructure the established circular flow of income. It held that market power is the cause of innovation by providing resources and safeguarding against the potential downside of risk-taking activities. Schumpeter (2008) distinguished between the profits which are as a result of the market power of monopolistic or oligopolistic firms and the profits they earn from their capacity to innovate, and insisted on the priority of the latter over the former. The theory equally accommodated the

significance of inter-company technological cooperation as well as competition. In the face of growing technological complexities, innovation always incorporates element of imitation.

Numerous authors have analyzed the nexus between liquidity management and corporate profitability by using different statistical tools as linear and multiple regressions. Mixed results have been found across the globe. While some found them to be positively related, other found them to be negatively related at different significant levels. However, most of the empirical studies established liquidity and profitability as essential for corporate survival and have found them to be universally associated with each other (Abuzarand, 2004; Matheva, 2010; Owolabi & Obida, 2012 and Ajathan, 2013). Empirical studies are presented to identify the different research gaps. Oladipupo and Okafor (2013) investigated the relationship between a firm's working capital management practice on its profitability and dividend payout ratio using Ordinary least square and Pearson product correlation technique. Twelve Nigerian-quoted manufacturing companies were sampled from 2002 to 2006 resulting in a negative relationship between profitability and working capital with debt ratio as most significant at 5 % confidence level. A positive relationship was found between profitability and dividend payout on one hand and a positive relationship between dividend payout and working capital on the other hand. Uremadu, Egbide, and Enyi (2012)) studied the link among working capital management, liquidity and corporate profitability in 25 quoted firms in the manufacturing companies in Nigeria from 2005 to 2006. Using the descriptive and an Ordinary Least square method, a positive link was found between inventory conversion period and debtors collection period on one hand but a negative effect between cash conversion period, creditors' payment period and return on assets (profitability) on the other hand.

Abuzarand (2004) examines liquidity–profitability tradeoff using 29 manufacturing and agricultural firms in the Saudi stock exchange from 1996 to 2000. Using Pearson correlation coefficients, he found a positive relationship between size of the firm and profitability, a significant negative relationship between current ratios and net operating income, as well as negative effect between profitability and liquidity. Using regression analysis, a positive and significant relationship was found between cash gap and size (LOGS) while current ratios coefficients are not significant. Working capital management components influence on profitability was examined by Mathuva (2010). A sample of 30 listed firms on the Nairobi Stock Exchange (NSE) was investigated from 1993 to2008. A highly significant negative relationship between the debtor's collection period and profitability was found. This means that it takes the more profitable firms the shortest time to collect cash from their customers. Findings showed the existence of a highly significant positive link between the inventory conversion period and profitability. Also, a significant positive relationship exists between the creditors' average payment period and profitability. In Ghana, Akoto, Awunyo-Vitor, and Angmor (2013)) investigated the nexus between working capital management practices and profitability of 13 listed manufacturing firms for a period 2005 to 2009 using regression analysis. A significant negative relationship was found between Profitability and Accounts Receivable Days. They equally found a significant positive relationship between cash conversion Cycle, Current Asset Ratio, Size, and Current Asset Turnover and profitability.

In Kenya, Makori and Jagongo (2013) investigated the link between working capital management and firm profitability in the listed manufacturing and construction firms using regression analysis. They found a negative relationship between ROA and ACP, CCC and leverage on one hand and a positive relationship between ROA and ICP, APP, GROWTH and size. Owolabi and Obida (2012) studied the nexus between liquidity management and corporate profitability in 12 listed manufacturing firms in Nigeria from 2005 to 2009 using descriptive analysis. They found that liquidity management measured in term of credit policies, cash flow management and cash conversion cycle have a significant impact on corporate profitability. A causative relationship was found between ROA, ROE ROI and the corporate DCP, CPP and OCR. Abuzarand (2004) evaluated the relationship between profitability and liquidity on a sample of listed companies in Saudi Arabia. Significant negative relation was found between the firm's profitability and its liquidity level, as measured by current ratio. However, at the industry level, however, it was found that the cash conversion cycle is of more important than the current ratio that affects profitability as a measure of liquidity. In America, Gill, Bier and Mathur (2010) examined the relationship between working capital management and profitability on a sample of 88 listed firms on the New York Stock Exchange for a period of 2005 to 2007. A statistically significant link was found between the cash conversion cycle and profitability (gross operating profit).

In Sri Lanka, Ajanthan (2013) investigated the link between dividend payout and profitability of 16 listed Hotels and Restaurant from 2008 to 2012. He employed Regression and Correlation analyses and established a positive relationship between dividend payout and profitability. It was established that a significant relationship between revenue and profitability exist among the listed hotels and restaurant companies. In Saudi Arabia, Almazari (2013) analyzed the relationship between firms' working capital management (WCM) and their profitability for 13 companies including 8 listed Saudi cement manufacturing companies between 2008-2012. Employing Pearson correlation and linear regression analyses, findings showed that the current ratio was the key liquidity measure which affected profitability in Saudi Cement industry. The study equally found a negative relationship between debt financing and profitability. On the firm size and its profitability, a positive relationship was found while a high degree of association was found between the working capital management and profitability. From Nestle Nigeria Plc and Cadbury Nigeria Plc., IKpefan and Owolabi (2014) examined the relationship between working capital management and profitability. A negative relationship was found between the Debtors collection period and Return on equity (ROE), while a positive relationship between current ratio and Return on capital employed (ROCE) and a negative relationship between liquidity and profitability.

3. Methodology

Operational Definitions of variables

Variables	Operational Definitions
Dependent Variables :	
Return on Assets	Net Income/Average Total Asset * 100
Return on Equity	Profit after tax/ Equity * 100
Returns on Capital Employed	Profit before Interest and Tax/Capital Employed* 100
Independent Variables:	
Credit policy	Debtors Collection Period Minus Creditors Payment Period
Cash Conversion Cycles	Debtors Collection Period Plus Stock Holding Period Minus Creditors Payment Period
Operating Cash Flow	Natural Logarithm of Operating Cash Flow
Control Variable:	
Size	Natural Logarithm of Total Assets

The models below were developed to test the formulated hypothesis:

Model I

$ROA = \beta_0 + \beta_1 (CP) + \beta_2 (CCC) + \beta_3(NLOCF) + \beta_4 (SIZE) + \mu$

Model II

$ROE = \beta_0 + \beta_1 (CP) + \beta_2 (CCC) + \beta_3 (NLOCF) + \beta_4 (SIZE) + \mu$

Model III

$ROCE = \lambda_0 + \lambda_1 (CP) + \lambda_2 (CCC) + \lambda_3 (NLOCF) + \lambda_4 (SIZE) + \mu$

Where: y is β_0, β_0 and λ_0 are the intercepts

β_1, β_1 and λ_1 are the slopes

μ is stochastic error term

ROA represent Return on Asset

ROCE represent Return on Capital Employed

ROE represent Return on Equity

CP represents Credit Policy

OCR represents Natural Logarithm of Operating Cash flow Ratio

CCC represents Cash Conversion Cycle

An explanatory research design was adopted to guide in the collection and analysis of data. Five (5) manufacturing companies were selected. High industry standing coupled with impressive historical track records of performance underpinned the rationale for the selection. These companies are: PZ Nigeria Plc,

Guinness Nigeria Plc, Nigeria Breweries Plc, Lafarge Wapco Nigeria Plc and Dangote Sugar Nigeria Plc. Secondary data were collected from the annual reports of these companies. The data gathered spanned 2004 to 2014, a period of eleven (11) years. The data were pooled into a panel that facilitated robust analyses. Key properties of the data were described with the aid of descriptive statistical techniques of mean and standard deviation. Jarque-Bera statistics were used to test the normality or otherwise of the data. While correlation analysis was also employed to determine the relationships between the variables of interest, multiple regression analysis was used to test the formulated hypotheses at 5% level of confidence. All these analyses were aided by E-views version 9. The independent variable is liquidity management while the dependent variable is profitability. In line with cognate studies, liquidity management is proxied by a cash conversion cycle. Credit policy and operating cash flows were employed as additional indices of liquidity. Profitability is measured using returns on assets, returns on equity, return on capital employed and return on investments. The use of these four measures of profitability was geared at determining the stability or instability of the impact of liquidity across different parameters of profitability. It is worthy of note that Control variable of size was also employed.

4. Results

Descriptive Statistics: The results in table one (1) revealed that the average credit policy for the five manufacturing companies during the period of review is 39.89 days, with a standard deviation of 49.83 days. This suggests that creditors' payment periods for all the selected companies, on average, was higher than the debtors' collection period by a period of one month and nine days. The implication of this finding is that these manufacturing companies received more favorable credit terms from their suppliers than what they advanced to their customers. Also, the average cash collection period is 12 days, meaning that it takes an average of 12 days for the companies to convert their sales into cash. The companies recorded a higher return on equity than other metrics of profit. The Jarque-Bera coefficients and their probabilities indicated that the distribution of the data is normal.

Table 1: Descriptive Statistics on Variables

	CP	CCC	LNOCF	ROA	ROE	ROCE	SIZE
Mean	(39.89)	11.68	16.27	32.71	57.32	31.87	17.97
Median	(33.17)	8.13	16.47	25.85	28.79	31.20	18.09
Maximum	72.51	107.94	18.63	228.19	532.32	108.32	19.67
Minimum	(224.24)	(182.10)	11.45	7.49	5.89	(0.69)	13.53
Std. Dev.	49.83	47.69	1.40	32.13	86.31	21.09	1.01
Jarque-Bera	262.46	401.66	445.18	1,410.65	716.69	627.16	315.34
Probability	0.20	0.35	0.42	1.26	0.52	0.48	0.26
Sum	(2,193.85)	642.53	894.97	1,798.85	3,152.82	1,752.93	988.10
Sum Sq. Dev.	134,102.80	122,797.10	105.11	55,751.40	402,296.40	24,014.72	55.41
Observations	55.00	55.00	55.00	55.00	55.00	55.00	55.00

(Source: Author's Computation Aided by E-views Version 9)

Correlation Analysis: From table 2, it can be inferred that credit policy is positively related to cash conversion cycle and return on assets. However, there exists a negative relationship between credit policy and size, return on capital employed, natural logarithm of operating cash flow as well as returns on equity. Cash conversion cycle is inversely related to all the proxies of profitability, including size of firms.

Table 2: Results of Correlation Analysis

	CP	CCC	ROA	ROCE	ROE	SIZE	LNOCF
CP	1.000	0.892	0.004	(0.022)	(0.484)	(0.115)	(0.333)
CCC	0.892	1.000	(0.097)	(0.171)	(0.536)	(0.216)	(0.402)
ROA	0.004	(0.097)	1.000	0.497	0.409	0.083	0.214
ROCE	(0.022)	(0.171)	0.497	1.000	0.291	0.315	0.405
ROE	(0.484)	(0.536)	0.409	0.291	1.000	(0.017)	0.045
SIZE	(0.115)	(0.216)	0.083	0.315	(0.017)	1.000	0.351
LNOCF	(0.333)	(0.402)	0.214	0.405	0.045	0.351	1.000

(Source: Author's Computation Aided by E-views Version 9)

Hypothesis One

H_0: Credit policy has no significant effect on profitability of manufacturing companies in Nigeria.
H_1: Credit policy has a significant effect on profitability of manufacturing companies in Nigeria.

Interpretation: Results in table 3 revealed that credit policy is positively related to return on assets. As indicated in the table, the fixed effect results are appropriate based on the coefficient and p-value shown by the Hausman test. The coefficient of 0.1625 is however not statistically significant at 5% level of significance. As shown in table 4, the random effect is appropriate as the p-value of 0.4764 is higher than 0.05. There is a positive relationship between credit policy and return on equity. The coefficient of 0.042205 is also not statistically significant at the same level of confidence as used in table 4. As revealed in table 5, the fixed effect is appropriate considering the fact that the p-value of the Hausman test is less than 0.05. The nature of the relationship between credit policy and return on capital employed is equally positive. However, the coefficient of 0.162567 is also not statistically significant. In summary, the above findings have demonstrated that credit policy is positively related to all the metrics of profitability. It however does not have significant effect on profitability, unless when its impact is combined with other variables such as cash conversion cycles, size of firms and operating cash flows. The finding here is consistent with the conclusions of Owolabi & Obida (2012) who investigated liquidity and profitability relationships in selected manufacturing companies and found liquidity management significantly impacting on profitability.

Pandey and Jaiswal (2011) examined the link between profitability and liquidity using NALCO as a case study and the various working capital ratios were found that have statistically insignificant impacts on the ROCE of the company. Afeef (2011) analyzing the Impact of Working Capital Management components on the Profitability of SME's in Pakistan, established that working capital management measures had a perceptible impact on profitability measured by return on assets of firms. In Nigeria, Egbide & Enyi (2009)) studied the correlation between the components of working capital and profitability measured by Return on assets using a sample of 25Nigerian non-financial firms for the 2005 and 2006 period and discovered that only debtors collection periods have a significant negative association with profitability while others were positively correlated. Also, in agreement with Samiloglu and Demirgunes (2008)) who investigated the relationship among Istanbul firms and established that growth in sales affects firm profitability positively. This result support the view that liquidity and profitability are directly associated since liquidity is enhanced by sale's growth.

Hypothesis Two

H_0: Cash flow management has no significant effect on profitability of manufacturing companies in Nigeria.
H_1: Cash flow management has significant effect on profitability of manufacturing companies in Nigeria.

Cash flow management is proxied by operating cash flow and cash conversion cycles. Cash conversion cycles are negatively related to all the metrics of profitability employed by the study (such as returns on assets, return on equity and returns on capital employed.). While the coefficient of -1.172402 in table 4 is statistically significant under random effect, the coefficients of -0.083317 and -0.005915 are not statistically significant, all at 5% level of significance. Operating cash flow is negatively related to returns on assets and returns on equity, while it is positively related to returns on capital employed. All the coefficients of -0.0505253, -10.80033 and 2.436309 in table 3, 4 & 5 are not statistically significant. However, when combined with the

other variables, they are statistically significant at 5% in relation to their impact on return on equity, returns on capital employed by at significant at 10% in relation to return on asset. These are evidenced by the F-Statistics (p-values) of 1.930955 (0.07789) for return on assets, 6.126573 (0.0000431) for return on equity and 6.067481 (0.0000025) for returns on capital employed. This finding is equally consistent with Makori and Jagongo (2013) who found a negative relationship between cash conversion cycles and profitability. This finding is equally consistent with the findings of Kania and Bacon (2005)) and Lazaridis & Dimitrois (2006) who studied the impact of profitability, growth, risk, liquidity and expansion on the dividend decision/policy of a corporation. This finding can be linked to the study of Eljelly (2004), Shin & Seonen (1998), (Eljelly, 2004) examines a sample of 29 joint stock companies in Saudi Arabia and found a negative relationship between liquidity and profitability.

Falope & Ajilore (2009) also found a negative correlation between working capital and profitability among Nigerian firms. Manohar and Ashokkumar (2010)did a case study of Cement Industry in Tamilnadu and established a significant negative relation between the firm's profitability and its liquidity level. Also, Bhunia and Brahma (2011) studied the significance of liquidity management on profitability and found a substancial negative relationship between the profitability measured by ROCE and all the independent variables (CR, LR, ALR, DER, AOI, AOD, and AOC) except for CR which indicated a positive influence on profitability. Shin and Seonen (1998) investigated a sample of 58,985 listed companies in America for a period of twenty years and established a negative relationship between the net trade cycle (cash conversion cycle) and corporate profitability. Gill, Biger and Mathur (2010) found a positive relationship between cash conversion cycle and profitability amongst firms in the United States. Lazaridis and Dimitrios (2006) studied a sample of 131 listed firms for the period 2001-2004. They found a strong negative relationship between profitability and CCC. Deloof (2003)) found a positive relationship between cash conversion cycle and ROA and ROE. He asserted that a longer cash conversion cycle might increase profitability because it leads to higher sales. This argument is in tandem with the findings of Lazaridis & Lyroudi (2000) who investigated the link among the food industry in Greece and established a positive and significant relationship between the CCC and profitability (measured by ROI and NPM). From the findings it can be deduced that a longer cash conversion cycle can improve a company's profits. This was followed by KPMG (2005) which asserted that shortening the CCC releases liquidity and impacts directly on the company's financial position as well as the company's returns.

Table 3: Results of Regression Analysis with Return on Assets (ROA) as Dependent Variable

	Fixed Effects			Random Effects			Hausman Test	
Variables :	**Coefficients**	**T-Statistics**	**P-Value**	**Coefficients**	**T-Statistics**	**P-Value**	**Statistic**	**P-Value**
Constant	190.4169	1.541142	0.1301	-14.91249	-0.176418	0.8607		
CP	0.162567	0.694765	0.4907	0.275204	1.492203	0.1419		
LNOCF	-0.505253	-0.127387	0.8992	4.694962	1.397716	0.1684		
CCC	-0.083317	-0.362792	0.7184	-0.270245	-1.356366	0.1811	10.39556	0.0343
SIZE	-7.905813	-1.471257	0.148	-0.815103	-0.185382	0.8537		
OTHERS :								
F-Statistics	1.930955		0.07789	1.119786		0.357739		
R-Square	0.251395			0.082218				

(Source: Author's Computation Aided by E-views Version 9)

Table 4: Results of Regression Analysis with Return on Equity (ROE) as Dependent Variable

	Fixed Effects			Random Effects			Hausman Test	
Variables :	**Coefficients**	**T-Statistics**	**P-Value**	**Coefficients**	**T-Statistics**	**P-Value**	**Statistic**	**P-Value**
Constant	471.6173	1.556986	0.1263	390.656	1.885143	0.0652		
CP	-0.464084	-0.80902	0.4227	0.042205	0.093345	0.926		
LNOCF	-12.06761	-1.241068	0.2209	-10.80033	-1.31154	0.1957		
CCC	-0.678276	-1.204729	0.2345	-1.172402	-2.400235	0.0201	3.509445	0.4764
SIZE	-12.71974	-0.965557	0.3393	-7.915643	-0.734344	0.4662		
OTHERS :								
F-Statistics	3.471913		0.003279	6.126573		0.000431		
R-Square	0.376485			0.328916				

(Source: Author's Computation Aided by E-views Version 9)

Table 5: Results of Regression Analysis with Return on Capital Employed (ROCE) as Dependent Variable

	Fixed Effects			Random Effects			Hausman Test	
Variables :	Coefficients	T-Statistics	P-Value	Coefficients	T-Statistics	P-Value	Statistic	P-Value
Constant	-5.311946	-0.081252	0.9356	-97.68579	-2.184075	0.0337		
CP	0.03034	0.245053	0.8075	0.225816	2.31404	0.0248		
LNOCF	2.436309	1.160895	0.2517	5.087546	2.862459	0.0061		
CCC	-0.005915	-0.048676	0.9614	-0.211093	-2.00234	0.0507	24.41228	0.0001
SIZE	-0.065756	-0.023127	0.9816	3.242086	1.393555	0.1696		
Others :								
F-Statistics	6.067481		0.000025	4.283266		0.004666		
R-Square	0.513433			0.255211				

(Source: Author's Computation Aided by E-views Version 9)

5. Conclusion and Recommendations

This study investigated the impact of liquidity management on profitability of selected Nigerian listed manufacturing firms. Liquidity management and profitability are key for organizational survival, because excessive or insufficient liquidity may be harmful to the smooth running of the organization so the absence of profit can lead to bankruptcy. An organization with a well-established proper set of liquidity management policies and procedures will increase profits as well as dividend, reduce the risk of corporate failure and significantly improve its chances of survival. Effective liquidity management will enable an organization to derive maximum benefits at minimal cost. Effective liquidity management has a significant relationship with dividend payout ratios. The implications of the above are that liquidity has a low degree of influence on the profitability of manufacturing companies in Nigeria. This confirms inefficiency and incompetence in the management of liquid assets (Egbide, Uwuigbe & Uwalomwa, 2013; Kaur & Silky, 2013). It should be noted here that the inverse directional relationship between liquidity management ratios and profitability ratios established the theoretical foundation which posit that profitability and liquidity are inversely related. This study has shown that both illiquidity and excess liquidity are "financial diseases" that can erode the profit base of a manufacturing company as they affect company's attempt to attain high profitability levels.

It is recommended that firms should not only concentrate on the profit maximization concept alone but also employ measures that will ensure effective and efficient management of their liquid assets. Such measures will help to reduce cases of excessive and deficient liquidity and their effects. Managers should strive to achieve a reasonable level of profitability in order to maximize their shareholders wealth. Management of firms should review and oversee credit policy periodically considering their business nature and the credit

worthiness of customers should be appraised continually without sentiment to know their ability. This will drastically reduce the incidence of bad debts. The operating activities of listed manufacturing companies should be modified so as to be able to finance a greater part of their current liability. Generally, a higher operating cash flow ratio is a better option, but business peculiarities should be taken into consideration. The impact of cash flow analysis is optimized when results are compared to the industrial averages from time to time. Management should strive to keep a low cash conversion cycle. A longer cash conversion cycle may impact negatively on the liquidity of the companies because cash will be tied unnecessarily in inventory or account receivables. Managers should reduce the number of days of accounts receivable and stocks to the minimum level in order to create value for the firms. Companies are capable of gaining a sustainable competitive advantage by means of effective and efficient utilization of the resources of the organization through a careful reduction of the cash conversion cycle to its minimum.

In doing this, the firm's profitability is expected to rise. As a result, managers are advised to generate profits for their companies by handling rightly the cash conversion cycle and maintaining each different component (accounts receivables, accounts payables and inventory) at optimum level (Owolabi & Obida, 2012). This study equally recommended an effective and efficient management of the component of current assets, especially the accounts receivable and inventory, as this will positively impact on the liquidity level of manufacturing companies in Nigeria. Debt factoring should be encouraged to recover debts receivables that are overdue from customers. Investors on their part should always pay close attention to firms' cash flow statement in order to access the true financial and operational status before committing funds.

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Academic Mobility and Immigration Trends in South African Higher Education Institutions

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Abstract: This paper seeks to offer an insighton the subject of academic mobility into South African Higher Education Institutions (HEI's). This is done by examining the current academic landscape in South Africavia a comparisonbetween the profile of South African (SA) academics andexpatriate academics. Currently, SA is facing major skills and staffing shortages locally in terms of Science, Engineering and Agriculture. The Departmentof Higher Education and Training as well as SA universities have advocated to run programmes in scarce skills disciplines through the recruitment of expatriate academics. The research reported in this paper adopted a non-experimental research design of ex post facto type, using a correlational approach. The data used are the statistical records of all academics in South African higher education for the 2005/2010/2014 academic years as provided by the Higher Education Management Information Systems (HEMIS) of SA. Descriptive statistics as well as inferential statistics were also used to analyze the data. The results revealed that there were no significant differences in age between SA and expatriate academics nationally over the three years. A comparison of the academic qualifications of SA and expatriate academics over the three years indicates that expatriate academics are more highly qualified than their SA colleagues, as the majority of the former hold a doctoral degree. The majority of expatriate academics are recruited from SADC countries as well as other African countries. Interestingly enough, the next most frequent major supply region of expatriate academics to South Africa is Europe. WITS and UCT were consistently ranked first and second in terms of the number of expatriate academics employed over the three years. Both are among the leading five higher education institutions in South Africa in terms of their research outputs as well as the number of PhDs per member of staff.

Keywords: *Skills Shortages; Academic mobility; Expatriate Academics*

1. Introduction

This paper seeks to explore the staffing trends in South African higher education, to identify the staff and skills shortages currently experienced. One of the ways to solve the problem in SA is to recruit expatriate academics to staff so-called scarce skills disciplines. This presents a growing opportunity for international mobility of expatriate academics into SA. In fact, recently more people are spending time away from their home countries for work purposes than ever before (Inkson and Myers, 2003; Dickmann and Baruch, 2011). This paper identifies the need for expatriate academics in SA higher education. Secondly, it identifies the disciplines and universities that recruit expatriate academics in SA. Furthermore, it compares the age, gender and qualifications of SA and expatriate academics in SA higher education in order to shed light on the critical need these valuable human resources are filling. Globalisation has seen an increase in the need for organizations to remain competitive, be it through the services and products they provide or the human resources they possess. In a bid to gain competitive advantage over their competitors, organizations are increasing seeking to move their operations internationally to take advantage of cheaper or better quality resources. This has pre-empted the use of expatriates to staff these international operations. A 2011 report by the United Nations Department of Economic and Social Affairs estimated that "there were approximately 214 million people engaged in international mobility; this represented 3.1% of the total global population" (Dickmann and Baruch, 2011:139) and this number is expected to rise exponentially over the next decade.

Academia is another field of work that uses expatriates to achieve its organizational objectives. Increasingly, universities are seeking to attract highly skilled academics to their institutions to maintain or boost their competitive advantage in the global marketplace. Academics tend to be highly skilled individuals who know the value of their own employability and hence are able to make their own choices when it comes to international mobility. Globalisation and, to a lesser degree, regionalization have led to intricate patterns of academic mobility. Within the northern hemisphere, many academics migrate to the United States of America (USA) and Canada from the United Kingdom (UK) due to deteriorating working conditions (Welch, 2003;

MORE 2, 2013). Many African countries, like those in the Southern African Development Community (SADC) region, find that they are losing their highly skilled individuals, including academics, to South Africa (brain gain), while South Africa suffers a brain drain to the UK, the USA, Canada, Australia and Dubai (Jansen, 2013). "SA is losing artisans, technicians, doctors, nurses, teachers and accountants in increasing numbers" (Rasool, 2010:34). A recent study has found that 40% of skilled South Africans across all race groups are considering emigrating (Rasool, 2010). In comparison, in 2000, the number was a mere 18% (Bissekar and Paton, 2005:20). According to the Centre for Enterprise Development (CDE, 2007a:17), population pyramids reveal that there is large-scale emigration of whites between the ages of 25 and 34 years, the most economically active and skilled group. This is supported by figures from host countries such as the UK and Australia endorsing significant emigration from South Africa for the period 1995-2005 (CDE, 2007a:17). This phenomenon is referred to as 'brain drain' and describes the migration of highly educated, highly skilled workers from their countries of origin to countries that are more attractive in terms of salary, working conditions and living conditions (Nerdrum and Sarpebakken, 2006; Lewis, 2011; Rasool, Botha and Bisschoff, 2012). This phenomenon, together with the prevailing skills shortages and HIV/AIDS, has led to the current crisis in South Africa.

Higher Education South Africa (HESA) has recognized that academia is not "a particularly attractive career option because of relatively low salaries, expanding student numbers and heavy workloads" (Jansen, 2013:1). Sehoole (2012) has argued that the conditions of service at South African universities are unfortunately not uniform across all institutions and in any event, salaries in academia could not compete with those in the private sector. A contributing factor to this dichotomous situation is the deterioration of the academic quality of life due to less than ideal staff to student ratios (Jansen, 2013). These are some of the complexities of the dynamic situation in South African higher education today. Other regions like the Middle East have witnessed an influx of Egyptian, Jordanian and Palestinian academics into Arabian Gulf universities as they are attracted by the superior salaries and more suitable working conditions than those in their home countries (Altbach, 2004: 67). Indian and Pakistani academics are enticed by similar 'pull' factors to countries in the Arabian Gulf, South-East Asia, the USA and Canada. Singapore and Hong Kong have drawn in academics from all parts of the world. Mexico and Brazil entice academics from other South American countries (Altbach and Knight, 2007; Altbach; Reisburg and Pacheo, 2012:7). Academic migration takes place at all levels of the academic system, especially in the sciences, engineering, information technology and some management areas. Such migration may occur more at the top of the systems with some world famous academics being attracted abroad by high salaries at top universities and at the bottom where modest salaries are able to lure foreigners but are unappealing to local applicants (Maharaj, 2011).

To the extent that the overseas sabbatical has been a longstanding feature of many academic careers; Baruch and Hall (2004:254) suggest that faculty have "led the way on the now-popular business trend towards international assignment." However, many academics are now engaging in international mobility beyond an overseas sabbatical. This trend can be related to certain broader social movements. In particular, the rapid expansion of education after the Second World War led to a dramatic increase in the number of universities in many countries (Welch, 2003). Of particular significance was the move from "elite" to "mass" higher education in for example, Canada, UK, USA, and Australia. In addition, the more recent expansion of education throughout Asia, the Middle East and South America, has given rise to an international demand for more faculty to fill the growing number of positions available. In supporting this expansion, successive governments have sought to make tertiary education accessible to an increasing student body. Yet, they have paid less attention to ensuring an appropriately qualified and experienced supply of faculty to fill the newly created positions. Consequently, many institutions are recruiting internationally – a move which is also supported by the putative 'internationalization' of higher education. Indeed, where business education is concerned, institutions are challenged to manage and retain international faculty in order to enhance their status. A study by the Carnegie Foundation for Education of academics in 14 different countries (Altbach et al., 2012) has also linked increasing international mobility with deteriorating working conditions in some countries. This is particularly the case where opportunities for tenure and promotion are concerned. Abolition of tenure in British universities, for example, has brought major changes. Some authors (e.g. Trembly, 2004; Altbach et al., 2012) assert that these changes have meant greater flexibility, individual independence and freedom. However, other changes such as the growing number of academics on part-time

and/or short term contracts has also meant uncertainty, which some studies suggest has had a detrimental effect on morale (e.g. Kisshun, 2007; Trembly, 2004) and greater willingness to take on overseas positions.

As previously stated, South Africa is facing major skills and staffing shortages in terms of science, engineering and agriculture. The government has created a Scarce Skills List (Kotecha, Lotz-Sisitka and Urquhart, 2014) that identifies key areas in industry that are facing critical staff and skills shortages; this applies to higher education as well. The SA government has put into place policies such as "The Joint Initiative on Priority Skills Acquisition (JIPSA) and the National Development Plan (NDP) 2030" (The Presidency, 2006) to overcome the challenges that together with HIV/AIDS have detracted from South Africa's achieving its post-apartheid economic and social goals. The Department of Higher Education and Training (DOHET) has put into place a number of initiatives to help alleviate the problem of staff and skills shortages. In the short term, DOHET has encouraged the recruitment of international talent to allow SA universities to run programmes in scarce skills disciplines to create 'home grown' talent to overcome the staff and skills shortages. SA universities have also sourced international talent to create a 'cosmopolitan feel' to the university in order to become truly international institutions of higher learning (Rasool, Botha and Bisschoff, 2012).

In order to establish the staffing trends in South African Higher Education Institutions over a three year period 2005/2010/2014, the study investigated the profile (qualification/country of origin) of expatriate academics in South African higher education institutions. Furthermore, thestudy establishes the ranking of South African higher education institutions in terms of the number of expatriate academics employed and their countries of origin over the same period.The study also sought to compare and contrast South African academics with expatriate academics in terms of qualifications, age and gender. This was done in order to establish if indeed expatriate academics are coming to South Africa as 'highly skilled talent' in order to fill the current skills gap South Africa faces in terms of its so-called scarce-skills disciplines. This was also done with the intention to identify the top recipient universities of expatriate academics in South Africa to investigate why these institutions were able to attract highly skilled talent over other institutions of higher learning. Finally, the supply regions of expatriate academics to South Africa was investigated in order to determine if the migration of highly skilled labour actually follows the traditional migration trends that is, movement fromSouthern African Development Community (SADC) countries as well as other African countries to South Africa.

2. Literature Review

Existing literature on academic mobility in a Higher Education context, provides the background to this study, in terms of global mobility patterns and the challenges facing tertiary learning institutions in the SADC region. By providing a synopsis of the present tertiary education landscape in South Africa, as well as an insight into the skills shortages in South Africa, the discourse shows how this impacts on service delivery in higher education. This study will serve to examine the role played by expatriate academics in servicing the current staff shortages in scarce skills disciplines as well as to provide an accurate reflection of the current higher education landscape by identifying the countries of origin as well as the recipient universities of expatriate academics. Currently, there is a dearth of studies that have examined the academic mobility patterns in South African higher education (Altbach, 2004; Maharaj, 2011; Kotecha, Wilson-Strydom and Fongwas, 2012a). International mobility has long been a feature of academia, with many academics embarking on international mobility in order to develop their careers and to improve their marketability and employability. Often the decision to undertake international mobility rests with the individual. This implies that academics fall into a special category of expatriates called Self-Initiated Expatriates (SIE'S). Traditionally, studies of highly skilled individuals who choose to undertake international mobility have done so based on their perceptions of what is best for themselves and their families in terms of lifestyle and career choices (Bhorat, Meyer and Mlatsheni, 2002; Trembly, 2004; Altbach and Knight, 2007). This study examines the international mobility of the highly skilled from a management perspective, focusing on challenges that they face and the benefits they bring to the organization.

Academic mobility has not been limited to any particular academic level or qualification, neither is it limited to migration from south to north, nor to developing countries (Altbach and Knight, 2007). Recent studies have shown that academics will take on various forms of academic mobility, that is, as a visiting academic,

spending a sabbatical or even undertaking a permanent relocation, depending on the attractiveness of the opportunities in the host country in terms of salary, lifestyle and working conditions (Nerdrum and Sarpebakken, 2006; Lewis, 2011; Rasool, Botha and Bisschoff, 2012). Traditionally, the view that academic mobility is advantageous to students and staff is commonplace in the higher education literature and has become a universal view adopted by higher education leaders, who see it as an important tool for increasing the capability of higher education systems in developing countries (Altbach, 1996, Altbach and Knight, 2007; Richardson and Zikic, 2007, Kisshun, 2007). More recently, SARUA (2011:11) suggests that: Academic mobility provides faculty and students with personal growth opportunities, improves their prospects of employment, generally improves the quality of teaching and research, and provides access to networks across countries; institutions are able to recruit from elsewhere to strengthen their human resource base and in the case of students, earn valuable income in the contexts of shrinking budgets; and countries are able to strengthen their competiveness and address skills supply constraints. The literature is presented as follows:

- Global academic mobility patterns
- A profile of the Higher Education landscape in South Africa
- Skills shortages in South African Higher Education

Global academic mobility patterns: Globalisation and, to a lesser degree, regionalization have led to intricate patterns of academic mobility. Within the northern hemisphere, many academics migrate to the United States of America (USA) and Canada from the United Kingdom (UK) due to deteriorating working conditions (Welch, 2003; MORE 2, 2013). Many African countries, like those in the SADC region, find that they are losing their highly skilled individuals, including academics, to South Africa (brain gain), while South Africa suffers a brain drain to the UK, the USA, Canada, Australia and Dubai (Jansen, 2013). "SA is losing artisans, technicians, doctors, nurses, teachers and accountants in increasing numbers" (Rasool, 2010:34). A recent study has found that 40% of skilled South Africans across all race groups are considering emigrating (Rasool, 2010). In comparison, in 2000, the number was a mere 18% (Bissekar and Paton, 2005:20). According to the Centre for Enterprise Development (CDE, 2007a:17), population pyramids reveal that there is large-scale emigration of whites between the ages of 25 and 34 years, the most economically active and skilled group. This is supported by figures from host countries such as the UK and Australia endorsing significant emigration from South Africa for the period 1995-2005 (CDE, 2007a:17). This phenomenon is referred to as 'brain drain' and describes the migration of highly educated, highly skilled workers from their countries of origin to countries that are more attractive in terms of salary, working conditions and living conditions (Nerdrum and Sarpebakken, 2006; Lewis, 2011; Rasool, Botha and Bisschoff, 2012). This phenomenon, together with the prevailing skills shortages and HIV/AIDS, has led to the current crisis in South Africa.

Higher Education South Africa (HESA) has recognized that academia was still not "a particularly attractive career option because of relatively low salaries, expanding student numbers and heavy workloads" (Jansen, 2013:1). Sehoole (2012) has argued that the conditions of service at South African universities are unfortunately not uniform across all institutions; in any event, salaries in academia could not compete with those in the private sector. A contributing factor to this dichotomous situation is the deterioration of the academic quality of life due to less than ideal staff to student ratios (Jansen, 2013). These are some of the complexities of the dynamic situation in South African higher education today. The most noteworthy challenges academics in African higher education have to contend with are political and legislative challenges, inadequate emphasis on science and technology, admission into and need for higher education, financial constraints, quality control issues, inadequate adoption of ICT's (information communication technology) and poor infrastructure as well as regionalization (Kotecha et al., 2012a:23).

Profiling the higher education landscape in South Africa: There has been a dearth of studies that have sought to profile the higher education landscape in South Africa. The majority of existing studies have focused on the demographics of the student population, with very little attention being paid to the demographics of the academic staff population. The section below presents an overview of the South African higher education landscape commissioned by SARUA in 2012, in terms of the number of public tertiary institutions in the country, staff profile in terms of gender, country of origin, major fields of study, highest qualifications and staff shortages. According to the report commissioned by SARUA and completed by

Kotecha et al. (2012a:18), there are "17 publically funded universities and six publically funded technical universities and colleges. The report goes further to indicate that there are 118 privately funded, accredited universities and colleges operating in the higher education sector in South Africa. There are also 50 Further Education and Training (FET) colleges operating in the higher education environment in South Africa". For the purposes of this study, only those institutions that are publically funded, that is, that receive government funding, will be examined; therefore a total of 23 institutions of higher learning will be examined in terms of their staff profile. According to the South African Regional Universities Association (SARUA) report, South African higher education academic staff consists of more male than female staff; this is consistent for both permanent and temporary staff members. This report states that 55.97% of permanent staff are male, with 44.02% being female, and 52.17% of temporary staff are male, with 47.82% being female. This is consistent with the findings from studies of "other countries in Africa, like Angola, Botswana, Tanzania and Zimbabwe" (Kotecha et al., 2012a:26).

The majority of staff employed by South African higher education institutions are "South African citizens (91.21%), with 3.06% of academics from SADC countries (that is, Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Swaziland, Tanzania, Zambia and Zimbabwe) and 5.64% of academics being from other international countries" (Kotecha et al., 2012a:79). Maharaj (2011) undertook a study that specifically examined the profile of expatriate academic staff at South African higher education institutions. The purpose of this study were to identify if there was an increasing number of expatriate academics entering South African higher education institutions for 2000-2008, as well as to ascertain the main contributing regions of the expatriate academics. The results indicated that there was an 8% increase over a 9 year period from 2000-2008 in the number of expatriate academics coming into South African institutions of higher learning (Maharaj, 2011:91). In terms of supply regions African countries contributed almost 50% of expatriate academics, and Zimbabwe made up the majority of this supply with 20% of expatriate academics.Europe was the second highest single supplier of expatriate academics to South African Higher Education Institutions (HEI's) with almost 42%. Asian countries contributed 6% of the total inflow of expatriate academics, while Australia contributed 2% in 2008 (Maharaj, 2011:91). Maharaj's (2011) results support the findings of the study commissioned by Carnegie completed by Altbach (1996) as well as of the SARUA study where it was found that South African institutions were recruiting mainly from other African countries.

In the study commissioned by SARUA (Kotecha et al., 2012a: 28), it is demonstrated that the biggest number of academic staff are found in the science, engineering and technology disciplines (27%), followed by the humanities and social sciences (21%) and business, management and law (18%) (Table 2). The study conducted an investigation of staff deficiencies in tertiary education in SA. This revealed that there were staff deficiencies in the science, engineering and technology disciplines, followed by the health sciences, business management and law and agriculture disciplines (Kotecha et al., 2012a:28). This is a manifestation of the situation in South Africa at the moment, with skills shortages in the science, engineering and technology fields. These fields are found on the 2012-2013 Scarce Skills List published by the Department of Labour (DOL) (Kotecha et al., 2014).

The findings of the SARUA study conducted by Kotecha et al. (2012a) show that the number of staff members according to level of qualification has remained consistent when comparing the 2006 and 2010 data. The proportion of academic staff holding a doctoral qualification ranged from 28 to 30% for 2006 and 2010. Those academics with a Masters qualification ranged from 30 to 31% when comparing the 2006 and 2010 data. Academics with a post-graduate qualification lower than that of a Masters degree remained the same at 9%, with those academics holding an undergraduate qualification remaining consistent at 18% for 2006 and 2010 (Kotecha et al., 2012a:30). This is slightly better than the statistics for Africa in general, where only 25% of all academics hold a doctoral qualification (Cloete, Bailey, Pillay, Bunting and Maassen, 2011:12). This situation would seem to indicate that there is a shortage of highly skilled academics (that is, those with doctoral qualifications) in the South African higher education system. The South African government and university management across higher education institutions are cognisant of the issue and have developed innovative policies to improve the problem by 2015 such as increased funding opportunities and the increased availability of post-graduate student support on campuses across South Africa, such as the South African PhD Project (funded by the NRF), and the NDP 2030 (Govender, 2014a:1). Reflecting an annual

increase of almost 7%, the International Education Association of South African (IEASA) reported that there were just under 900 000 students registered at higher education institutions in South Africa in 2010 (IEASA, 2011:13). There were 64 000 international students at South African higher education institutions in 2010 (IEASA, 2011). This trend means that there will be an increasing demand for appropriately qualified and experienced staff. According to the chairperson of the Education, Training and Development (ETDP) SETA, there is shortage of suitably qualified staff in higher education institutions" (IEASA, 2011:13). In South Africa, academics with doctoral qualifications constitute only 40% of the staff in public higher education facilities. Even in the most popular research institutions in the country, University of Cape Town and WITS, just under two thirds of the staff have PhDs (IEASA, 2011).

Thus, the implication is that South African higher education institutions are suffering from a skills shortage, as only 40% of the total number of academics has a doctoral qualification; this seriously impacts on the institutions ability to design, implement and deliver high quality academic programmes (Kotecha et al, 2012a; Govender, 2014a). The profile of the higher education landscape of South Africa provided in this section has served to illustrate the staffing situation at publically-funded universities, universities of technology and technical colleges. This was done with the aim of highlighting the disciplines where staff shortages exist in order to assess whether these disciplines can be categorized on the South African Scarce Skills List 2013-2014 (Kotecha et al., 2014). In addition, the identification of the proportion of academic staff holding different levels of qualifications illustrated the need to recruit highly skilled academics (those holding a doctoral qualification) in order to fill high level academic posts such as professors and senior lecturers. Furthermore, the aim was to examine the number of expatriate academics at South African higher education institutions in comparison to their South African colleagues and to identify their countries of origin. This served as the foundation upon which to build this study in order to identify where South Africa is currently recruiting its academic human capital from. The next section focuses on the current skills shortages faced by South Africa at large and in particular the higher education context.

Skills shortages in South African higher education: With global higher education facing ever increasingly complex challenges, higher education in South Africa has tried to keep up, while also attempting to improve both its size and quality. Since 2012, there have been many changes to South Africa's higher education landscape. Including the announcement of the construction of two new universities in Mpumalanga and Limpopo provinces and also the introduction of an additional R850 million to develop university infrastructure (Govender, 2014a:1). Moreover, benefactor funding of almost R60 million was made available for the 2012/2013 and 2013/2014 academic year through general budget support (Govender, 2014a:1). A key issue in the South African higher education debate has been producing sufficient skills that are relevant to an economy trying to change itself into a knowledge-based economy. The Minister of Higher Education and Training stated on the 24 May 2012 in *The Sowetan newspaper (2012:1)* that "we are engaging with higher education South Africa, and deans of relevant faculties to accelerate especially black and women graduate output in these areas to provide the relevant and needed skills for a knowledge economy". Plans included the introduction of a six year scholarship programme to increase the number of black potential academics and provide support for postgraduate qualifications (Govender, 2014a:1). In a survey reportedly done by the *Sunday Times newspaper (2014:1)* on the 14 September 2014, the pace of transformation at 13 higher education institutions was found to be slow, especially in terms of equity for those holding professor and associate professor posts. The results also indicated that some universities employed large numbers of expatriate academics. This recruitment drive was a consequence of 4000 academics whom were eligible to retire over the next six years thus creating a substantial brain drain on the higher education sector (Govender, 2014a). According to an article by Govender (2014b:1) in the *Sunday Timesnewspaper* on the 5 October 2014, huge amounts of money was being spent on recruitment of foreign academics countrywide as these institutions try to deal with the growing deficit of suitably qualified academics.

Govender (2014b; 1) states that almost 29 % of the teaching staff at WITS and one out of every four academics at UCT are foreign academics. In the article, WITS vice chancellor, Adam Habib argues that the skills shortages are not only in terms of equity but also due to the rapidly aging professoriate. He further argues that even if did not have a shortage of academics, it was important to have an international professoriate as it lends a global vibe to the institution (Govender, 2014b:1). Due to ongoing skills shortages in South Africa, the government had realized that there would be a need to bring in foreign workers to help

overcome the shortage and to assist in assimilating South Africa into the global marketplace as well as to make changes to the South African higher education landscape. This need was to be addressed by the South African's government's economic policy known as JIPSA (The Presidency, 2006). The role of the skilled immigrant was seen as having a dual purpose (Rasool et al., 2012:404):

- "firstly, to enhance the economy
- Secondly, to transfer the skills and experience to the local workforce".

This is true in the higher education environment, as experts are needed to train students in scarce skills disciplines to take up positions in areas directly affected by the skills shortages in the country (Govender, 2014a:1). Thus many higher education institutions are now recruiting expatriate academics in an attempt to staff their scarce skills disciplines and to ensure in this way that teaching and learning continues uninterrupted.

3. Methodology

This study followed a secondary data review and analysis process that involved collecting information, and statistics at various levels of accumulation in order to allow the researcher to create a situational analysis of the current trends in SA higher education. Secondary data regarding SA academics and expatriate academics was collected from the HEMIS system run by the Department of Higher Education and Training for the three year period, 2005/2010/2014. These statistics were independently verified as reliable and accurate by auditors of HEMIS.

4. Results

Country of origin: The countries of origin for expatriate academics in South African (SA) higher education institutions were categorized into the following countries and regions: ZIM (Zimbabwe), ZAM (Zambia), TAN (Tanzania), SWA (Swaziland), SOU (South America), OTH (other African countries), NOR (North America), NAM (Namibia), MOZ (Mozambique), MAU (Mauritius), MAL (Malawi), MAD (Madagascar), LES (Lesotho), EUR (Europe), DEM (Democratic Republic of Congo), BOT (Botswana), AUS (Australia), ANG (Angola) and AIS (Asian countries). In 2005, the highest number of expatriate academics in SA higher education institutions came from Europe (34.1%). These were then followed by those from other African countries (24.1%) and then those from Zimbabwe (16.4%). In terms of SADC countries, the majority of expatriate academics came from Zimbabwe (16.4%), followed by those from Zambia (4.6%) and then Malawi (2.3%). Asian countries contributed 4.4% of the total number of expatriate academics for 2005. Australia contributed 1.7% of academics for 2005, while North and South America together made up 7.6% of the total number of academics coming into SA higher education institutions.

In 2010, the highest number of expatriate academics in SA higher education institutions came from Europe (27.1%). The next highest group was from other African countries (23.4%) followed by those from Zimbabwe (23.3%). In terms of SADC countries, once again Zimbabwean academics make up the majority (23.3%), followed by those from Zambia (2.4%) and then those from Botswana, Lesotho and Malawi each with 2.1%. Asian countries made up 6.4% of the total number of expatriate academics coming into SA higher education institutions. Australia contributed 1.4% of the total number of academics coming in for 2010, while North and South America together made up 6.3% of the total number of expatriate academics for 2010. A change in this trend can be seen in 2014 when highest number of expatriate academics came from Zimbabwe (26.6%). They were followed by academics from Europe (23.5%) and then by those from other African countries (22.7%). In terms of SADC countries, Zambia once again was the second largest supplier of academics to South Africa (3.2%), with the Democratic Republic of Congo (2.2%) next. Australian academics made up 1% of the total number of academics coming into South Africa, while Asian countries make up 4.6%, with North and South America together making up 6.9% of the total number of expatriate academics entering SA higher education institutions.

Over the period 2005/2010/2014, European academics made up (84.7%) (2005-23.5%+2010-27.1+2014-34.1%), other African academics made up (69.5%) (2005-22.7%+2010-22.7%+2014-24.1%) and

Zimbabwean academics (66.3%) (2005-16.4%+2010-23.3% +2014-26.6%). Findings indicate that South African higher education institutions are mainly recruiting from African countries, especially from SADC countries (Tanzania, Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Swaziland, Zambia and Zimbabwe), while European academics make up the second largest recruitment pool after African academics. The statistical analysis (Chi-square test of independence) shows that there is a significant relationship between the year (2005/2010/2014) and country of origin of the foreign academics (χ^2 (36, n=3632) = 109.69, p<.0005). Specifically, in 2005, more than expected came from Europe, Mozambique and Zambia; in 2010, more than expected came from Asia and Botswana; and in 2014 more than expected came from the Democratic Republic of Congo, Lesotho and Zimbabwe. This indicates that more expatriate academics coming to SA are from the SADC region than in previous years. In the next section, the higher education institutions in SA have been ranked in terms of the number of expatriate academics employed for 2005/2010/2014.

Ranking of higher education institutions in terms of the number of expatriate academics employed: Results indicate that the University of the Witwatersrand (WITS) was ranked first across all three years, with 192 expatriate academics in 2005, with 235 expatriate academics in 2010 and 296 expatriate academics in 2014. Second, again for all three years, was the University of Cape Town (UCT) with 80 expatriate academics for 2005, 234 for 2010 and 262 for 2014. Rhodes University (RU) was ranked third in 2005 with 74 expatriate academics, but then slipped to twenty-first out of 23 institutions in 2010 with 8 expatriate academics. Then in 2014, RU was ranked ninth with 48 expatriate academics. The University of Limpopo (UL) was ranked fourth in 2005 with 45 expatriate academics; they then slipped to twelfth place in 2010 with 34 expatriate academics and in 2014 they were ranked eleventh with 44 expatriate academics. In 2005, the University of Pretoria (UP) was ranked fifth with 44 expatriate academics; they remained in fifth position in 2010 with 106 expatriate academics and in 2014 with 90 expatriate academics. University of KwaZulu-Natal (UKZN) was ranked sixth in 2005 with 40 expatriate academics; they then increased the number of expatriate academics in 2010 to 191 and were ranked third, a position they maintained in 2014 with 194 expatriate academics. The University of South Africa (UNISA) was ranked seventh in 2005 with 37 expatriate academics; they then recruited more expatriate academics in 2010 with a total of 111 and moved to fourth position, where they remained in 2014 with 102 expatriate academics. These results illustrate that the two universities that recruited the most expatriate academics over the eight year period remained unchanged, namely, WITS and UCT. The majority of institutions of higher learning in SA show an increase in the number of expatriate academics employed over the eight year cycle, with the exception of RU (Rhodes University), University of Johannesburg (UJ), University of the Western Cape (UWC), University of Fort Hare (UFH), Nelson Mandela Metropolitan University (NMMU) and Walter Sisulu University (WSU). In the next section, a comparison of the number of SA academics versus the number of expatriate academics is made.

Table 1: Proportion of South African versus expatriate academics across 2005/2010/2014

			year			
			2005	**2010**	**2012**	**Total**
SA or other	Other	Count	701	1362	1569	3632
		Expected Count	1118.5	1244.4	1269.0	3632.0
		Std. Residual	-12.5	3.3	8.4	
	SA	Count	14180	15194	15314	44688
		Expected Count	13762.5	15311.6	15614.0	44688.0
		Std. Residual	3.6	-1.0	-2.4	
Total		Count	14881	16556	16883	48320
		Expected Count	14881.0	16556.0	16883.0	48320.0

Comparison of SA academics to expatriate academics for 2005/2010/2014: Firstly, a description of the proportion of SA versus expatriate academics across 2005/2010/2014 is presented. Secondly, a comparison of qualifications between SA and expatriate academics has been done. Thirdly, a comparison of the age and gender between SA and expatriate academics has been done.

Proportion of SA versus expatriate academics: Table 1 compares the number of SA academics to expatriate academics across the three years 2005/2010/2014. Over the period represented, the number of expatriate academics has steadily increased from 4.6% in 2005, to 8.2% in 2010 and finally to 9% in 2014. However, when compared to the number of SA nationals in higher education institutions across the three years, it can be seen that the latter make up the majority of academic staff. However, the number of South African academics has dropped from 92.6% in 2005 to 87.8% in 2014, indicating a staff turnover of more than 1134 over an eight-year period.

Table 2: Pearson Chi-Square

	Value	df	Asymp. Sig (2-sided)
Pearson Chi-Square	257.213[a]	2	.000
Likelihood Ratio	275.886	2	.000
Linear-by-Linear Association	256.327	1	.000
N of Valid Cases	48320		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 1118.54.

Chi-square analysis on records of staff of known nationality shows that significantly more than expected are expatriate academics in 2010 and 2014, while more than expected were SA in 2005 ($\chi^2(2, n=48328) = 257.21$, $p<.0005$). This trend would signify that more expatriate academics are coming into South Africa than in previous years. In the next section, the qualifications held by SA and expatriate academics is compared.

Comparison of qualifications: SA vs expatriate academics: In order to simplify the analysis, qualifications have been grouped as follows:

- Undergraduate (Undergraduate diploma/certificate; General academic Bachelor's degree; Professional First bachelor's Degree)
- Postgraduate (Postgraduate Diploma/Certificate; Postgraduate Bachelor's degree)
- Honours
- Masters
- Doctorate
- National Diploma/Certificate (Undergraduate Diploma/certificate; National Certificate; National Higher Certificate; National Diploma; Post-diploma Diploma; National Higher Diploma)
- Academic Technical (Baccalaureus Technologiae (B.Tech); Masters Diploma in Technology; Magister Technologiae (M.Tech); Doctor Technologaie (DTech).
- Other qualifications.

Results indicate that in 2005, expatriate academics held more doctoral degrees (54.5%) than their SA counterparts (28.4%), although SA academics held more Honours (9.2%) and Masters degrees (30.5%) than their expatriate academic counterparts. A similar situation to the previous one exists for technical qualifications such as B.Tech, M.Tech and D.Tech qualifications (5.1%) where SA academics hold more of these qualifications than their expatriate colleagues. In 2010, more expatriate academics held doctoral degrees (57.1%) than their SA counterparts (32.9%). SA academics held more Masters (32.7%) and Honours degrees (8.3%) than their expatriate counterparts. In terms of technical qualifications, SA academics held more qualifications (6.7%) than their expatriate counterparts (2.2%). In 2014 once again expatriate academics held the most doctoral degrees (60.3%) in comparison to their SA counterparts (35.2%), while SA academics still held more Masters (32.3%) and Honours qualifications (9.8%). With regard to technical qualifications, SA academics accounted for 6.7% and expatriate academics only 2.9%. These results establish that expatriate academics in SA higher education institutions are highly qualified, mostly with doctoral degrees, and that they have steadily increased in proportion from 2005 (54.5%) to 2014(60.3%). Chi-square test of independence (or Fisher's exact, where conditions are not met) was applied to see if there is a

significant relationship between SA/expatriate academics and qualifications for each of the three years. The results show that in 2005 significantly more than expected expatriate academics had a doctoral degree (χ^2 (19, n=14679) = 290.00, p<.0005). In 2010, significantly more expatriate academics had a doctoral degree or another qualification, while more than expected of the SA academics had a national higher diploma, a B.Tech., Honours, Masters or Professional first bachelor's degree (χ^2 (22, n=16556) = 417.27, p<.0005. In 2014, significantly more expatriate academics had doctoral degrees, undergraduate diplomas or certificates or Bachelor's degrees (3 years), while local academics were qualified with more national higher diplomas or B.Tech., Honours, postgraduate Bachelor's or Bachelor's degrees (χ^2(27, n=16883) = 491.21, p<.0005). This trend would serve as evidence that expatriate academics are better qualified in terms of skills and qualifications than their South African counterparts. In the next section a comparison of the age and gender of SA versus expatriate academics over the three years 2005/2010/2014 is presented.

Comparison of age and gender: SA vs non-SA: In Table 3 below a comparison of the age of SA versus expatriate academics for 2005/2010/2014 is made. Firstly, for 2005, the average age of SA academics was 43.44, while the average age of expatriate academics was 44.03. This shows that South African academics were slightly younger than expatriate academics on average for 2005. Secondly, in 2010, the average age for expatriate academics was 42.90 while the average age for SA academics was 44.56. Finally, for 2014, the average age for expatriate academics was once again 42.9 while the average age for SA academics was 44.74.

Table 3: comparison of the age of South African and expatriate academics for 2005/2010/2014

Year		SA or other	n	Mean	Std. deviation
20	Age	Other	701	44.03	9.26
05		SA	14180	43.44	9.90
20	Age	Other	1362	42.90	9.43
10		SA	15194	44.56	10.36
20	Age	Other	1569	42.90	9.19
14		SA	15314	44.74	10.43

Chi-square tests illustrate that while the average age is not significantly different in 2005 for the two groups, that is SA and expatriate academics, there is a significant difference in 2010 (Z(n=16556) = -6.13, p<.0005) and 2014 (Z(n=16883) = -7.25, p<.0005). Over the three years, results indicate that the average age for SA academics is higher than for non-SA academics. Also, expatriate academics are coming into SA at a younger age than in previous years. A comparison of the distribution of gender for SA academics versus expatriate academics for the three years 2005/2010/2014. The analysis also shows that for 2005 there are significantly more males than females amongst SA academics (58% male) and more males than females amongst expatriate academics, 2005 - (χ^2 (1, n=14881) = 92.21, p<.0005). In 2010, there are significantly more males that females among SA academics (54%) and more males than females amongst expatriate academics (χ^2 (1, n=16556) = 248.93, p<.0005). In 2014, there are significantly more males (53%) than females amongst SA academics and more males than females amongst expatriate academics too (χ^2(1, n=16883) = 306.35, p<.0005). The gender patterns over the three years amongst expatriate academics and SA academics points towards more male academics than female academics for both groups. The context in which this study takes place is UKZN therefore in the next section, the staff profile of the university was investigated to compare SA to expatriate academic staff in terms of age, gender, qualifications, field of study and level of academic post for 2005/2010/2014. This was done in order to establish how the profile of academic staff at UKZN compares to that of that of the SA higher education landscape.

Discussion of Results: A comparison of the ages of SA and expatriate academics in 2005 there were no significant age differences between these two groups. However, for 2010 and 2014 there were significant age differences, where the average age of SA academics was higher than that of expatriate academics. Expatriate academics' average age over the three years ranges from 44.03 to 42.90. The youngest expatriate academics over the three years were 24 years old and the oldest range from 65 to 70 years old. This finding corresponds to the characteristics of highly skilled talent identified by Suutari and Brewster (2000) where highly skilled talent were generally slightly younger than their local colleagues. When comparing the gender of SA academics versus expatriate academics, results showed that there have been significantly more males than females among SA and expatriate academics for 2005/2010/2014 across all SA higher education institutions.

In the SA context, amongst SA academics these findings bear testimony to the fact that, twenty years into democracy, SA was still struggling to address the gender imbalances of its past, where women were not part of the traditional economically active population and where their social roles as wives and mothers defined their social identities and they did not have access to education. The trend amongst expatriates was indicative of the gender bias pointed out in migrant and expatriate management literature (Selmer and Lauring, 2013; Altman and Baruch, 2012; Aycan and Eskin, 2005) where it was shown that individuals who move to another country are traditionally male due to pre-existing social differences between genders. These findings were in contrast to the findings of Suutari and Brewster (2000) who found that highly skilled talent are mainly females. It is important to note the context of Suutari and Brewster's (2000) study as their sample was from European countries, unlike the current study.

A comparison of the academic qualifications of SA academics and expatriate academics in SA higher education institutions revealed that the majority of expatriate academics held doctoral degrees: 54.5% in 2005, 57.1% in 2010 and 60.3% in 2014.The results of the study show that the expatriate academics at SA higher education institutions were highly qualified, highly skilled and were experts in their fields. When compared to the qualifications of SA academics over the same period, with only 28.4% in 2005 holding doctoral degrees, only 32.9% in 2010 and only 35.2% in 2014. A chi-square test of independence was applied to the findings to see if there was a significant relationship between SA and expatriate academics and their qualifications over the three years. The results indicate that in 2005, significantly more expatriate academics held doctoral degrees (x^2 (19, n= 14679) = 290.00, $p<0.05$). In 2010, more expatriate academics held doctoral degrees and/or other qualification, while SA academics held more Masters, Honours, Professional first degrees and/or B.Techs (x^2 (22, n= 16556) = 417.27, $p<0.05$). In 2014, significantly more expatriate academics held more doctoral degrees, undergraduate diplomas or certificates or Bachelors' degrees (3 years) than SA academics (x^2(n=16883)= 491.21, $p<0.05$). This situation supports the premise that there was a shortage of highly qualified and highly skilled local academics in SA higher education. This finding provides empirical evidence of the ongoing plans by the Department of Education to spend more than R30 million a year to hire academics from developing countries on fixed term contracts to solve the current skills and staff shortages in higher education in SA (Govender, 2014a). It also supported the findings of previous studies commissioned by SARUA (Kotecha et al., 2012a).

However, the SA situation remained better than that in most African countries, where only 25% of all academics held a doctoral degree (Cloete et al., 2011). Due to the skills shortage in SA higher education, there has been a need to bring in the necessary skills and expertise in order to deliver the appropriate teaching and learning programmes at higher education institutions in order to grow and develop the new generation of SA workers. This priority was part of JIPSA (The Presidency, 2006), where the highly skilled expatriate serves two purposes. According to Rasool et al. (2012:404), they firstly enhanced the economy by bringing in much needed skills and expertise and, secondly, they were able to transfer their skills and knowledge to the local workforce, which in this context are the students and staff at institutions of higher education. Results also indicate the number of SA citizens in higher education had dropped significantly from 2005 to 2014, provided empirical evidence to support the views of the ETDP and Cloete et al. (2011). The figures have dropped from 92.6% in 2005 to 87.8% in 2014. This trend indicated a staff turnover of SA academics of more than 1134 over the eight year period. This finding was supported by Kotecha et al. (2012a) whose survey found that SA higher education is currently facing staff shortages in the science, engineering and technology fields, followed by the health sciences, business management and law and agriculture fields. During the same period, there was a steady increase in the numbers of expatriate academics being recruited in SA higher education. Thus, it becomes evident that expatriate academics were being recruited to solve the current staff shortages in SA higher education, especially in the scarce skills disciplines.

The countries/regions of origin of the expatriate academics in SA higher education for 2005/2010/2014 were examined in order to determine the source of SA's highly skilled foreign talent. Zimbabwe has been the largest single country to contribute to academics to South Africa over the three years. SADC countries, including Zimbabwe, contributed 34% of the total number of expatriate academics in South Africa in 2005, 35.5% in 2010 and 41.4% in 2014. A chi-square test showed that there was a significant relationship between the year (2005/2010/2014) and the country of origin (x^2(36, n=3632) = 109.69, $p<0.0005$). Specifically in 2005, more than expected academics came from Europe, Mozambique and Zambia. In 2010, more than

expected came from Asia and in 2014, more than expected came from the Democratic Republic of Congo, Lesotho and Zimbabwe. The other major suppliers of expatriate academics to SA from SADC countries are Zambia and Malawi. This was consistent with the findings of Altbach (1996), Maharaj (2011) and Kotecha et al. (2012a), who also found that SA universities were primarily recruiting from African, especially SADC, countries. The results of the study also showed that Europe was a major contributor of academics to SA higher education over the three years, with 23.5% of the total number of expatriate academics in SA for 2005, 27.1% in 2010 and 34.1% in 2014. These findings support previous studies by Maharaj (2011). These findings contrast with traditional migration patterns of European academics, who normally travel either to the United Kingdom or the Americas. This could be the result of them seeking a relatively untapped research context, in South Africa.

The results show that Asian countries have contributed between 4-6% of the total number of expatriate academics over the period under investigation. The results were consistent with the literature that showed that individuals relocate to destinations where there is less cultural distance between the home country and the host country so that there is minimal "culture shock" (Hofstede and Hofstede, 2005). Relocating to SA that has been called the 'rainbow nation' implies that there is a melting pot of diversity and culture present in SA society. African, European and Asian cultures are present in SA society today as these groups make up the diversity that makes up SA today. Unfortunately, in as much this could be why many expatriate academics come to SA, current feelings of xenophobia taint this perception. This is because of the high employment rates amongst local citizens who feel that foreigners are here to take their jobs (MacFarlane, 2012; Ngcobo, 2013). These findings were consistent with the findings by Jansen, (2013), who found that many African countries, like those in the SADC region are losing their highly skilled academics to South Africa because of the deterioration of working conditions and political and socio-economic instability. MORE 2 (2013) also found that many European academics were choosing to relocate to other regions around the world for the same reasons. Altbach and Knight (2007) and Altbach et al. (2012:12) found that "Indian and Pakistani academics also were motivated by similar reasons and were attracted by the better working conditions and higher salaries in regions such as the Arabian Gulf, South-East Asia, the Americas and South Africa". These types of reasons are called 'push and pull factors'. Above, the possible 'push factors' that attracted expatriate academics to SA have been probed. In the next section, the possible 'pull factors' that attracted academics to SA are discussed.

The recipient universities of expatriate academics in SA were ranked according to the number of expatriate academics employed over the three years and indicated that WITS was the number one ranked institution in SA in terms of the number of expatriate academics employed over the three years. UCT was ranked second over the three years. Previous studies have indicated that international academic migration is focused on 'magnet' institutions (Knight, 2006; Regenesys Business School, 2013). These two institutions have been recognized as the most popular research institutions in the country, where just under two thirds of the staff have PhDs (IEASA, 2011). In fact Govender (2014b) claims that at least 29% of teaching staff (academics) at WITS and one out of every four academics at UCT are expatriates. WITS based in Johannesburg was the country's second highest ranked institution and improved by a huge 50 positions to 313 on the *Quacquarelli Symonds* (QS) World University rankings for 2013. The world-wide ranking scale known as the **Quacquarelli Symonds**(QS) ranking for 2013/2014 ranked UCT at 145, making it the highest ranked African and SA university on the world rankings (MacFarlane, 2013;**Quacquarelli Symonds** Limited, 2014). In the three years examined, UP, UKZN and UNISA remained in the top ten ranked higher education institutions employing expatriate academics. Of these universities, UZKN and UP together with Stellenbosch University also appear in this list. They also appear on the Top 100 Emerging Economies university rankings list developed by the Times Higher Education group in an effort to rank the universities in Brazil, Russia, India, China and South Africa (BRICS). Best Global Universities (2014) ranked UCT at 151 for 2014, once again making it the highest ranked SA university, followed by WITS at 270, Stellenbosch at (371) and UKZN at 417.

UCT was placed third, followed by WITS, which was placed fifteenth; next was US in twenty-first position, then UKZN in forty-fifth position and finally UP in seventy-eighth position. The World QS rankings listed UP at 471-480 and UKZN at 501-550 (MacFarlane, 2013; **Quacquarelli Symonds** Limited, 2014). According

to Gerda Kruger, executive director of Communication and Marketing at UCT, "a good performance in international rankings does assist in sending out the message that world-class education is available in South Africa. Both prospective students and academics around the world use the rankings to decide where they want to study and advance their academic careers" (cited in MacFarlane, 2013). WITS vice chancellor, Adam Habib argues that "even if we had the right number of academics [SA], it is important to have an international professoriate because it brings a cosmopolitan feel to the institution" (Govender, 2014b). These results reflected the desire of the top five universities in South Africa's policies to internationalize their programme offerings in order to attract more students and academics, both internationally and locally. For example, UCT has in its mission statement, "UCT aspires to become a premier academic meeting point between South Africa, the rest of Africa and the world. UCT will promote diversity and transformation within our institution and beyond, including growing the next generation of academics" (UCT, 2014). Another example of an institution striving to become a destination of choice for international academics is the mission of UKZN to become the '"Premier University of African scholarship" and a "center for academic excellence" (UKZN, 2014).

5. Conclusion

Results of the study found that expatriate academics in SA fit the profile of highly skilled talent, in that they are younger than their local colleagues and are highly qualified, the majority of expatriate academics in SA higher education holding doctoral degrees. WITS was ranked in pole position and UCT was ranked second, over the three years examined in terms of recipient universities of expatriate academics. In 2014, UKZN was ranked third amongst all the public universities in terms of the number of expatriate academics employed. The reasons for this include the attractiveness of the host institution in terms of reputation (research and teaching) and location. Both these universities are ranked amongst the Top 500 in the world according to international rankings scales. Zimbabwe has been the largest single country supplier of expatriate academics to SA institutions of higher learning over the three years. Other major suppliers were Europe, Asia and the Americas. However, expatriates were found to be slightly younger than their local colleagues. Both the majority of SA academics and expatriate academics are males. Expatriate academics hold more doctoral degrees than their local colleagues over the three years examined. SA academics hold more Masters, Honours and post-graduate degrees than their expatriate colleagues.

Limitations and directions for future research: This study is exploratory and involves a single professional group in South Africa and hence only apply to academia in South Africa, therefore these findings would not be generalizable to other fields. Due to the fact that this study used secondary data collected from both HEMIS no further insight could be gathered regarding the context within which the recruitment of these academics could have taken place, thus the methodology employed in this study is in itself a limitation. Finally, the data available from both HEMIS are captured in the year after the academic year is over, therefore a time lag results in data available for analysis being already a year old. The study has attempted to create knowledge not previously researched in the South African context. Therefore these findings will be useful to other researchers in order to indicate the areas of focus such as patterns of inflows of the highly skilled, motivations of those that immigrate to South Africa and their experiences here in South Africa. Further research is required in terms of the challenges and opportunities these expatriates face in South Africa and how best organizations can manage this experiences to truly harness the true potential of these highly skilled individuals.

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Service Quality Failure and Recovery Imperatives: Implications for Airlines Owned by South Africa

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Abstract: This article reports on a study that examined service quality and recovery among South African airlines. Service quality is pivotal in the airline industry as service failures could negatively affect operations. The authors created the acronym "AOSA" which stands for "airlines owned by South Africa" for the purposes of anonymity and confidentiality in order to protect the airlines' identity. A quantitative research approach was used with a cross-sectional analysis (sample survey) conducted with passengers of South African-owned airlines. The questionnaire was designed using a Likert scale tool, adapted to the SERVQUAL model. A non-probability convenient sampling method was used to collect primary data from 684 passengers at O.R.Tambo International Airport in Johannesburg and King Shaka International Airport in Durban. The key findings were that: (1) significant statistical gaps exist between passengers' expectations and perceptions of AOSA's service quality and that unsatisfactory service quality is antecedent to service failure. (2) Unsatisfactory service quality is tantamount to service failure in the provision of services by AOSA. (3) A significant positive correlation exists between service quality and the dimensional variables of tangibility, reliability, responsiveness, assurance, and empathy of AOSA. In conclusion, AOSA service quality is unsatisfactory, and management should take steps to empower and train staff in service recovery techniques in other to avoid service failures.

Keywords: *Intangibility, SERVQUAL, service failure, service quality, recovery*

1. Introduction

Airline passengers have high expectations of quality service and valued customer-service performance prior to embarking on a journey. However, it is not uncommon for airlines to renege on promises to passengers. Passengers' expectations are sometimes not fulfilled because of service failure experiences. As the literature review in this article shows, many scholars have examined airline passengers' expectations of quality service in recent years. Such interest is a consequence of the important role of air travel, which pervades every sector of society. The airline mode of transport has transformed human movement in terms of travelling and connecting people. However, underlying air travel is the passenger's desire to receive top service quality, regardless of the price. The study investigated service quality failure and its implications for AOSA. It examined the subject from four perspectives: the imperatives of service quality failure and recovery for airlines based on the existing literature; the implications of services failure for AOSA; the implications for managers in the South African airline industry; and the extent to which this study provides insight from a managerial point of view and its contribution to knowledge.

Theoretical Models: The main theoretical models underpinning the study were the SERVQUAL and Gaps models (Parasuraman et al., 1985: 41-50; 1988: 12-40; Lovelock & Wirtz, 2011:406). These models posit that service quality to customers is centred on five dimensional service(s) areas, tangibility, reliability, responsiveness, assurance, and empathy which the service firm should deliver at an exceptional level (Parasuraman et al., 1988; Chikwendu et al., 2012:118; Aydin & Yildirim, 2012: 219 –230).Thirty-six service-attribute statements were used, classified under these dimensions (Table 1). All the attribute statements were plotted on a 5-point Likert-type scale to determine the gaps. An extensive literature review was conducted and three hypotheses were posed and tested in respect of the service quality of AOSA.

H1: The gaps between passengers' expectations and perceptions of service quality are antecedent to service failure.

H2: Unsatisfactory service quality delivery to AOSA passengers is tantamount to service failure, which warrants the implementation of service recovery strategies.

H3: There is a positive correlation between service quality and the dimensional variables, tangibility, reliability, responsiveness, assurance, and empathy.

2. Literature Review

Service failure and recovery is becoming a topical issue among academics, as customers are demanding value for money and excellent service from service providers across all service sectors, including airlines. The service imperatives of customers and the need to ensure quality in the market place are compelling airlines to find means to recover from the inevitable reality of service failure (Weber & Sparks, 2010: 547-564).

Imperatives of service quality failure and recovery: Airline passengers occasionally experience undesirable service(s) encounters or transactions with airline companies. In service marketing, this can be considered as service failure – a situation in which the airline failed to render the promised service(s) to the passenger. The service encounter, referred to in the literature as "the moment of truth" (Fitzsimmons & Fitzsimmons, 2011:214; Coye, 2004:54; Vargo & Lusch, 2004:3) is the first contact between the passenger and the airline. The airline mode of transport involves several procedures and multiple processes (Tolpa, 2012: 62). This creates further challenges in providing quality services because the passenger evaluates each process at its respective level. The processes include cover seat reservations, ground service, flight operation, cabin facilities, meal service, cabin service, baggage delivery and appropriate responses to complaints (Tolpa, 2012: 62). According to Namukasa (2013:520), the passenger's quest for service quality commences the moments they decide to embark on a journey. Demands for quality service may include arranging to purchase the ticket, demanding pre-flight services, going through check-in and departure procedures (Namukasa, 2013:520). Onboard, passengers would continue to demand in-flight services until the end of the journey when they expect post-arrival services including luggage handling (Tolpa, 2012: 62).

Each of these activities offers an opportunity for the passenger to evaluate the airline's services. Passengers are able to compare their expectations with perceptions of the services received. Failure to provide satisfactory quality service during each of these encounters will cause passengers to deem the service encounter as a failure and trigger complaints (Chikwendu, Ejem & Ezenwa, 2012; Tolpa, 2012: 62). Consequently, service failure in general can be considered as under performance of service(s) by the service provider or firm (Bennett, 2002:311). From an airline service delivery perspective the determinants of what constitute excellent services are complicated as the passenger judges services based on a range of service encounters/processes (Coye, 2004:54). A single bad experience could overshadow positive services received, resulting in the passenger labeling the encounter service a failure (Ro & Mattlila, 2015:95). For example, should the airline perform well in every aspect of the travelling processes/procedures but fail to deliver the passenger's baggage at the destination, the passenger may consider the entire travelling experience as service failure on the part of the airline.

Thus, while it is acknowledged that what constitutes excellent service quality in the airline industry is hard to define and debatable, passengers' complaints should be perceived as failure of service delivery standards (Timm, 2008: 126). Moreover, complaints should be regarded as an opportunity to gain valuable feedback from passengers, which could prompt the airline to upgrade its service quality standards (Ro & Mattlila, 2015:95; Timm, 2008: 126). In view of the intangible characteristics of services, difficulties arise in precisely defining service quality. The divergence between service expectations and perceptions of the services delivered by the airline might result in satisfaction or dissatisfaction (Coye, 2004:54; Gilbert & Wong, 2003:519). When perceptions of the services received exceed expectations, the passenger will be satisfied (Naidoo, 2015: 43). In contrast, when the service falls short of expectations, the customer will be disappointed and the service quality can be considered as a failure. The firm will then need to make a conscious effort to recover from service failure to avoid reputational risks, and negative word-of-mouth publicity. A negative corporate reputation because of service failure may harm the firm's image. Service quality is centered on principles defined in previous studies by Parasuraman et al. (1985: 41-50; 1988: 12-40); and Lovelock and Wirtz (2011:406). Using the constructs of a well-known evaluation tool such as the SERVQUAL (Parasuraman et al., 1985: 41-50; 1988: 12-40) (which was used in this study), one is able to measure gaps in service and determine if there were differences between expectations and perceptions in the service offering.

The implication of services failure- AOSA: In light of the competitive environment in which AOSA operate, it is crucial for these companies to avoid service failure. The manner in which airlines render services may

positively or negative impact future relations with their customers (Siu, Zhang & Yau, and 2013:675). Services failure would result in dissatisfaction. For example, lost or damaged baggage, discourteous flight attendants, overbooking, and other poor services from staff may affect passengers' perceptions of the airline company. These situations demand that the airline and its personnel adopt a service-recovery strategy in order to satisfy the passenger (Grönroos, 2007:125; Nikbin, Marimuthu, Hyun, & Ismail, 2015:240; Weber & Sparks, 2010: 548).

Service failure and recovery: Extremely unhappy customers may express their dissatisfaction by switching airlines or spreading negative word-of-mouth (Mittal, Huppertz, & Khare, 2008:195; Terblanche, 2015:200). However, many simply remain silent (Ro & Mattila, 2015:95). Ro and Mattila's (2015:95) study revealed that customers who tend to be silent about service failure either allow the firm another opportunity to improve the quality of its service, or simply decide not to take any action. The complex nature of managing customers' responses has heightened scholarly interest in the causes of service failure, as well as recovery strategies (Nikbin et al., 2015:240; Weber & Sparks, 2010:548-564). In the field of organizational research, scholars have investigated these issues using the justice and fairness theory (Weber and Sparks, 2010:548) (see Bradley & Sparks, 2009:129; Nikbin et al., 2015:240; Namkung & Jang, 2009:397; Ro & Mattila, 2015:95; Sparks & Fredline, 2007: 242; Wang, Matilla, & Bartlett, 2009:796, to name but a few). Ideally, service firms should make a conscious effort to satisfy their customers' service expectations, especially in the first encounter. This would increase customers' confidence in the competence of the firm in subsequent encounters (Siu et al., 2013:675). Serving the customer appropriately the first time round is important for the survival of a service firm (Grönroos, 2007:125). Accordingly, Arif, Gupta, and Williams (2013: 1) are of the opinion that service firms that avoid failure perform better than those recovering from service failures. Studies identify three possible scenarios for service failure: services that are unavailable, those performed too slowly and deplorable services (Grönroos, 2007:125). All three scenarios, which represent the pessimistic aspect of service failure, could negatively affect the relationship between a service firm and its customers (Siu et al., 2013:675).

However, some scholars have noted that service failure also offers reason to be optimistic (Sengupta, Balaji, & Krishnan, 2014:2), as front-line staff can adopt creative measures to turn service failure into success. The creativity, experience, and professionalism of front-line staff are vital in transforming potentially damaging service failure into recovery and success to satisfy the customer (Sengupta et al., 2014:2; Luk & Layton, 2004:54; Murphy, Bilgihan, Kubiskova, & Boseo, 2015:304). Thus, adopting successful recovery strategies might convert service failure into increased customer loyalty (Murphy et al., 2015:304). Nonetheless, some scholars maintain that service failure is preventable if certain recovery strategies and procedures are implemented (Chang & Chang, 2010:340; Chou, 2015: 119; Hu, Lu, Tu, & Jen, 2013: 2255). In the airline industry in which the AOSA operate, recovery from service failure is crucial. The reputational image of an airline will be compromised if it is unable to deliver valued and excellent services to passengers. Service failure and a lack of recovery strategies might cause passengers to switch to rival airlines (Namukasa, 2013:530; Luk & Layton, 2004:54). Passengers' complaints should therefore be regarded as the failure of service-delivery standards, or service failure (Ro & Mattila, 2015:95); and should be viewed as appropriate feedback and an opportunity to respond to complaints (Timm, 2008:126).

Avoiding Service failure: The literature identifies measures that service firms , including airlines could adopt to avoid service failure for the benefit of all concerned –the firm , frontline staff, and customers (air passengers in this case). This section reviews the parties' responsibilities under the service-encounter triad. The service failure recovery strategy should commence at the beginning of the transaction and last until its completion. Service failure recovery strategies should cover three main areas: deal with services that are unavailable, address slow performance, and deal with unacceptable service (Grönroos, 2007:125; Mantey, 2015: 57). Strategies to minimize service failure and recover from such occurrences include improving the firm's organizational culture; staff empowerment, control systems, selection and training of frontline staff; and customer involvement in the service encounter (Andersson-Cederholm & Gyimothy, 2010:266; Craig, 2014: 299; Levine, 2015: 840; Ro & Mattila (2015:95). These are discussed in more detail below.

Organizational culture: A service failure recovery strategy is centered on the organizational culture and values where a conscious effort is made to deliver excellent service to customers at all times. Responsibility

for this endervour starts with management (Andersson-Cederholm & Gyimothy, 2010:266).The literature notes that the organizational or corporate culture is established by the founders or top management based on certain cultural values (Blythe & Zimmerman, 2005:160) that dictate how things are done in the organization (Levine, 2015: 840; Craig, 2014:299). Frontline staff's responsibility to deliver service quality to customers should flow from management (Blythe & Zimmerman, 2005:160) which should initiate service quality strategies. Service personnel are therefore empowered by management to make sound decisions on behalf of the organization (Craig, 2014: 299).

Empowerment: Empowerment aims to equip frontline staff to perform the responsibilities entrusted to them by the organization and is different from delegating authority. From a service quality perspective, empowerment entails entrusting frontline staff with the responsibility of making certain decisions that enhance the efficiency of the organization and enable it to deliver top class services to customers. On the other hand, delegation means acting on behalf of another person to perform a particular task. The person who delegated the task is not exonerated from his/her responsibility should something go wrong (Webb, 2002: 35; Craig, 2014:299). Frontline staff is not delegated to perform a task, but rather empowered by the service firm to make responsible decisions and service the customer in line with the organization's philosophy (Webb, 2002: 35). The extent of empowerment of frontline staff will determine their professional ability to successfully recover from possible service failure (Mantey, 2015:57; Ro & Mattila, 2015:95).

Control systems: Control systems are mechanisms employed by firms to further empower and build the confidence of frontline staff, based on shared values and the organizational culture. Control systems serve as a boundary or set the confines within which frontline staff can take responsibility in offering services to the customer. They can also be deployed as a mechanism to appraise measurable goals and analyze performance targets (Fitzsimmons & Fitzsimmons, 2011:217; Webb, 2002: 38). Service firms use control systems to measure both the performance of frontline staff and feedback from customers.

Frontline staff: Frontline staff is the first point of contact between the customer and the service provider. As representatives of the firm, frontline staff is usually authorized to conduct business with the customer. The relationship between the service provider and the customer generally commences at this stage (Janawade, Bertrand, Léo & Philippe, 2015:278). Customers evaluate a firm's service during the service encounter process and form opinions; consequently front office personnel should not only have appropriate knowledge of the service on offer, but should be competent in managing customer relations (Janawade et al., 2015:278). Moreover, they are expected to perform their tasks efficiently based on standard procedures, and apply creative judgment, bearing in mind customer satisfaction (Terblanche, 2015:203). Frontline staff should thus have the following qualities: versatility, patience when customers are vague about their needs, the ability to analyze behavioral changes in customers, and empathy. Janawade et al. (2015:278) emphasized that the selection process for frontline staff is of paramount importance. Service firms should ensure that personnel are only employed after rigorous background checks and psychometric testing.

Selection and Training of Frontline staff: It is imperative to train frontline staff to identify possible service failures and techniques to recover from such situations. Wilson, Zeithaml, Bitner, and Gremler (2008: 208) note that, "To build a customer-oriented, service-minded workforce, companies must (1) hire the right people, (2) develop people to deliver service quality, (3) provide the needed support systems, and (4) retain the best people". These could be achieved by using the best human resources practices measure to select customer-oriented staff to comply with the firm's organizational culture and ethos to deliver quality service (Fitzsimmons & Fitzsimmons, 2011:218; Wilson et al., 2008: 208). Furthermore, "A complex combination of strategies is needed to ensure that service employees are willing and able to deliver quality services and that they stay motivated to perform in customer-oriented, service-minded ways" (Wilson *et al*. 2008: 208). Staff in all sections of the firm should be trained and empowered so as to satisfy customers' service delivery expectations and to ensure recovery in the event of service failure (Karatepe & Vatankhah, 2014: 115; Yavas, Karatepe, & Babakus, 2011:304). All airline employees should undergo regular training in order to avoid or reduce service failure (Nikbin, Hyun, Iranmanesh, Maghsoudi & Jeong (2015:14b). Moreover, the demands of globalization, exacerbated by liberalization and deregulation in the airline industry, have exerted severe pressure on airlines to provide superior service, while retaining personnel (Amankwah-Amoah, 2015:2).

Therefore firms should ensure effective human resources management and adopt human capital strategies to recruit, train, and retain staff (Amankwah-Amoah, 2015:2; Gardner, Stansbury, & Hart, 2010: 341).

The Customer and service-encounter: The relationship between the customer and the passenger is critical in the service-encounter triad. Frontline staff should therefore handle customers with the utmost care. Perceptions are formed from the start of each transaction and the customer gauges whether or not expectations are met during each stage of the encounter. Thus, it is critically important for service firms to train their frontline staff in communication so that they are able to address possible service failure and take steps to recover from such situations. Frontline staff should also be trained to deal with difficult and unreasonable customers who have the potential to cause service failure, and to recover quickly (Fitzsimmons & Fitzsimmons, 2011:221. However, despite all efforts, sporadic service failures may occur. In such situations, frontline staff must be able to recover as quickly as possible so as to satisfy passengers' expectations (Mantey, 2015: 58).

3. Methodology

The study sourced rich and extensive data from the literature, which was the core of the secondary data for this research. The secondary data were obtained primarily from textbooks, journal articles, statements from scholars in the subject area, and the opinions of academics and experts from the airline and allied industries. A Likert-scale type instrument adapted from the SERVQUAL model (Parasuraman, Zeithaml, & Berry, 1985:41-50) was used to collect the primary data using the direct survey approach. The primary data was collected from 684 passengers at O.R.Tambo International Airport in Johannesburg and King Shaka International Airport in Durban. Non-probability convenient sampling was employed. The Cronbach alpha scores for the study were 0.810, indicating good reliability. A pilot study was used to test the validity of the questionnaire. The ideal level of reliability is achieved if Cronbach alpha scores are over 0.70 (Raut & Veer, 2014:68; Sekaran & Bougie, 2013:228).

4. Results

The first hypothesis centred on the gaps between expectations and perceptions in delivering service quality to AOSA passengers (Table 1). The service quality gap was analysed by comparing the mean scores between perceptions and expectations (Table 1).

Mean scores of perceptions and expectations: Based on the SERVQUAL and Gaps models (Parasuraman et al., 1985: 41-50; 1988: 12-40; Lovelock & Wirtz, 2011:406, the first hypothesis tested was:

H1: The gaps between passengers' expectations and perceptions of service quality are antecedent to service failure.

Table 1: Summary of AOSA Quality Gaps scores- Expectations and Perceptions

	Attributes	Expectations Mean(M)	Perceptions Mean(M)	SQ=P-E) M(P-E)
Tangibility	AS1	4.525	3.594	-0.931
	AS2	4.497	3.506	-0.991
	AS3	4.615	3.538	-1.077
	AS4	4.67	3.617	-1.053
	AS5	4.572	3.396	-1.176
	AS6	4.667	3.48	-1.187
	AS7	4.662	3.174	-1.488
	AS8	4.575	3.341	-1.234
	AS9	4.525	3.034	-1.491

	Attributes	Expectations Mean(M)	Perceptions Mean(M)	SQ=P-E) M(P-E)
	AS10	4.564	3.127	-1.437
	AS11	4.392	3.069	-1.323
	AS12	4.626	3.263	-1.363
	AS13	4.703	3.314	-1.389
		59.593	**43.453**	**-16.14**
Reliability	AS14	4.636	3.184	-1.452
	AS15	4.621	3.216	-1.405
	AS16	4.615	3.32	-1.295
	AS17	4.671	3.711	-0.96
	AS18	4.675	3.357	-1.318
	AS19	4.663	3.184	-1.479
	AS20	4.668	3.073	-1.595
	AS21	4.668	3.148	-1.52
	AS22	4.596	2.871	-1.725
		41.813	**29.064**	**-12.749**
Responsiveness	AS23	4.652	3.095	-1.557
	AS24	4.674	3.148	-1.526
	AS25	4.675	3.161	-1.514
	AS26	4.702	3.094	-1.608
	AS27	4.677	2.987	-1.69
	AS28	4.661	3.015	-1.646
		28.041	**18.5**	**-9.541**
Assurance	AS29	4.665	3.111	-1.554
	AS30	4.683	3.044	-1.639
	AS31	4.604	3.007	-1.597
	AS32	4.64	2.868	-1.772
	AS33	4.683	2.991	-1.692
		23.275	**15.021**	**-8.254**
Empathy	AS34	4.678	3.006	-1.672
	AS35	4.702	2.993	-1.709
	AS36	4.646	2.658	-1.988
		14.026	**8.657**	**-5.369**

Source: Mantey & Naidoo (2016)

A close examination of the expectations mean scores for all the respective attributes and the service quality dimensions, namely, tangibility, reliability, responsiveness, assurance, and empathy indicated that the mean scores were (M= >4). Conversely, the perceptions mean scores for all the respective attributes and the service quality dimensions mean scores were (M= >3). Thus, there were significant gaps between passengers' perceptions of AOSA's services and their expectations. Previous studies on the airline industry that used the SERVQUAL and Gaps models produced similar results (Chikwendu et al., 2012:117-125; Aydin & Yildirim, 2012:219-20; Shanka, 2012:173-180). Studies conducted in different parts of the world detected similar levels of expectations and perceptions of service quality (Mantey, 2015:230). These studies confirmed that air passengers expect high service quality and any provision that falls short of service excellent will be regarded

as service failure. Hypothesis *H1* is in line with statistical evidence in this study and previous studies, and is therefore accepted. Numerous studies have found that passengers have extremely high expectations of service quality in the airline industry (Shanka, 2012:173; Wang et al., 2011:419; Wattanacharoensil & Yoopetch, 2012:286) and that low- standard services that do not fit with what was promised may be regarded as service failure (Luk & Layton, 2002: 109-128). Therefore, airline companies should endeavor to avoid service failure in rendering services to their passengers (Wattanacharoensil & Yoopetch, 2012:280-320; Nikbin et al., 2015:14b).

Service quality gaps and service failure: Using the dataset in Table 1 the second hypothesis was tested:
H2: Unsatisfactory service quality delivery to AOSA passengers is tantamount to service failure, which warrants the implementation of service recovery strategies.

Table 2: Pearson's Correlation test on the dimensional variables

Correlations

		Tangibility Score 1	Reliability Score 1	Responsiveness Score 1	Assurance Score 1	Empathy Score 1
Tangibility Score 1	Pearson Correlation	1	.788**	.743**	.734**	.653**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	684	684	684	684	684
Reliability Score 1	Pearson Correlation	.788**	1	.812**	.760**	.707**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	684	684	684	684	684
Responsiveness Score 1	Pearson Correlation	.743**	.812**	1	.853**	.751**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	684	684	684	684	684
Assurance Score 1	Pearson Correlation	.734**	.760**	.853**	1	.805**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	684	684	684	684	684
Empathy Score 1	Pearson Correlation	.653**	.707**	.751**	.805**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	684	684	684	684	684

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

Source: Mantey & Naidoo 2016

Table 1 shows that gaps exist in quality service delivery to AOSA passengers in relation to the degree of service quality failure for the dimensions tangibility, reliability, responsiveness, assurance, and empathy. Using the SERVQUAL and Gaps models (Parasuraman et al., 1985:41-50; 1988:12-40; Lovelock & Wirtz, 2011:406; Naidoo & Mutinta, 2014:219-229) the five dimensional variables were evaluated, categorised under 36 attributes for expectations and another 36 for perceptions (Table 1). The computation in Table 1 was done using the formula: Service quality (SQ) = Perceptions (P)-Expectations (E) (Fitzsimmons & Fitzsimmons, 2011: 116; Lovelock & Wirtz, 2011:406; Naidoo, 2015: 43).The results (Table 1) show that significant variance emerged among all 36 attribute statements used in this study. For the sake of brevity, the analysis summarizes the dimensions focusing on the totals of tangibility, reliability, responsiveness, assurance, and empathy. It was found that the average gap score for tangibility, reliability, responsiveness, assurance, and empathy was (M=-16(SD=11.63); (M=-12.74(SD=7.94); (M=-9.54(SD=6.03); (M=-8.23 (SD=5.08) and (M = -5.38(SD = 3.44), respectively. In service quality gap evaluations where the perceptions values are higher than expectations, the quality of service rendered to the customer is unacceptable and tantamount to service failure on the part of the airlines. In other words, service provision by AOSA to passengers was below acceptable level, and passengers were displeased or unfulfilled. The data analysis also

shows that service failure is reflected in all 36 attributes for the service quality dimensions tangibility, reliability, responsiveness, assurance, and empathy. Previous studies have revealed similar gaps in airlines' service quality (Namukasa, 2013:529; Arif et al., 2013:2; Baker, 2013:68; Erdil & Yıldız, 2011:1232; Chen, 2008: 709; Wu & Cheng, 2013:13; Aydin & Yildirim, 2012:220; Chikwendu et al., 2012:119). The data analysis for the current study revealed gaps in AOSA's service quality in all the service dimensional areas. Therefore, AOSA should revisit their service offerings and improve the quality of their services. Based on the empirical evidence from Table 1, and the literature, hypnosis *H2* is accepted.

Inferential statistics-Correlation on dimensional variables*:* Further tests were conducted using inferential statistics to determine the correlation between service quality and the dimensional variables tangibility, reliability, responsiveness, assurance, and empathy (Tables 2 & 3). The hypothesis tested was:
H3: There is a positive correlation between service quality and the dimensional variables tangibility, reliability, responsiveness, assurance, and empathy

Table 3: Further Pearson's Correlation test on the dimensional variables

Correlations

		Tangibility Score 2	Reliability Score 2	Responsiveness Score 2	Assurance Score 2	Empathy Score 2
Tangibility Score 2	Pearson Correlation	1	.669**	.600**	.580**	.564**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	684	684	684	684	684
Reliability Score 2	Pearson Correlation	.669**	1	.667**	.625**	.609**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	684	684	684	684	684
Responsiveness Score 2	Pearson Correlation	.600**	.667**	1	.811**	.725**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	684	684	684	684	684
Assurance Score 2	Pearson Correlation	.580**	.625**	.811**	1	.779**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	684	684	684	684	684
Empathy Score 2	Pearson Correlation	.564**	.609**	.725**	.779**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	684	684	684	684	684

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

Source: Researchers

The results of the Pearson's correlation test showed that all the sub-sections were significantly correlated ($p<0.01$). Thus, as per this test, there was significant correlation in the service quality gaps and the dimensional variables tangibility, reliability, responsiveness, assurance, and empathy, since the gaps in the dimensional variables were ($P= 0.000$), indicating significant values for all the valuables. The correlation ($p<0.01$) in the variables further confirms service failure or gaps in the delivery of services to AOSA passengers. Studies conducted by Namukasa (2013:520-532) and Okeudo and Chikwendu (2013:19-28) confirm the existence of this correlation. Therefore based on the empirical evidence as per Tables 2and 3, and supported by the literature, hypothesis *H3* is accepted.

Managerial implications for AOSA: The managerial implication of the study's findings is that there is a need for airlines to review deficiencies in service quality and improve their services. South African owned airlines need to adapt to change to ward off their competitors. They must move ahead, proactively adopting service quality strategies to meet passengers' expectations and demands. While AOSA make a significant contribution

to the country's economy, some may confront challenges in providing excellent services to their passengers. Nevertheless, excellent service quality should be embraced as a strategic tool for competitive advantage. The challenges should be confronted and heed should be taken of passengers' views in order to provide exceptional, valued-services at all times (Mantey, 2015: 1-433).The study's recommendations could be used as a guide to design measures to avoid service failure.

Contribution to Knowledge: This study contributes to knowledge by providing cognitive information to major stakeholders (academics, practitioners, and management) in the global airline industry and in particular to the South Africa airline market. It offers empirical insight into service quality failure and recovery in the South African airline industry. The study thus helps to fill the gap in empirical research in this field. The recommendations set out below could assist airline companies to avoid or reduce service failure and implement recovery measures. While service failure and recovery might be considered inconsequential by some people in the airline industry, these issues could severely affect airlines' brand image and reputation, profitability, and passenger loyalty, and patronage. The study found that the South Africa airline industry confronts challenges in terms of service quality, and service failure and recovery. It offers an overview of the status of the service offering to the air passenger in South Africa. Few studies have been conducted on these issues in South Africa and future researchers could build on its findings.

5. Conclusion and Recommendations

The service quality gaps in all the dimensional service quality variables, tangibility, reliability, responsive, assurance and empathy, indicate problems with the service offerings of AOSA. It is thus recommended that services should be improved at all dimensional levels. In order to minimize or eliminate future service failure and promote rapid service recovery, it is recommended that airlines should proactively anticipate potential areas of service failure. This would enable their staff to speedily respond to such challenges. Staff training in service quality failure and recovery is recommended as well as interventions to improve service delivery. Staff training and empowerment is essential in addressing passengers' complaints, making it possible for the airline to meet or exceed expectations. However, inadequate staff reward packages may cancel out the benefits of staff training and empowerment (Yavas et al., 2011:304). Furthermore, airlines should encourage passengers to voice their complaints when they are dissatisfied with the services rendered. The airline's social media platforms could be used to make it easier for passengers to provide feedback. This would require AOSA to re-engineer their systems for social media configuration. Modern Information Communication and Technology (ICT) tools, integrated with social media via the Internet could improve service provision to airline passengers (Mantey, 2015: 1-433). Furthermore, it is recommended that airlines debrief staff after a service recovery experience. Staff should be encouraged to discuss the lessons learnt during the service failure encounter with passengers and to make suggestions that could avert service failure in the future.

Other corrective programs or interventions, which airlines might consider to improve service quality, include International Standard Organizations (ISO) techniques, Total Quality Management (TQM) principles, the Six Sigma, and benchmarking tools. The study on which this article is based examined, services quality failure and recovery imperatives and implications among AOSA. It is concluded that poor service quality can lead to unhappy passengers. The study's key finding was that significant gaps exist in the services rendered by AOSA to passengers. The study's contribution to academic research is that it has brought to the fore deficiencies in service delivery among AOSA and recommended strategies to recover from service quality failures. While service quality may not be eliminated, adoption of these recommendations could drastically reduce service quality failures in the future.

Limitations and Future research: The first limitation of the study was that the instrument used for the data collection was generic and was not specifically tailored for airline companies. Airline services are unique and focus more on intangible than tangible services. An airline-centred instrument would have provided broader analysis. However, given the lack of such an instrument, the SERVQUAL was customized for the study, as recommended by its original designers (Parasuraman et al., 1985:41-50). The second limitation was that the study used non-probability sampling and its results can thus not be generalized. Thirdly, the study was restricted to South African owned airlines and did not include perceptions of foreign airlines operating in the country. Once again, this means that the study's findings cannot be generalized. Further research should be

conducted on the approaches adapted to service failure and recovery among all airlines that fly to and from South Africa. The service quality offered by South African and foreign owned airlines should be explored. The extent to which airline management in South Africa factors service failure and service recovery into their strategic planning would also be worth investigating.

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A Non-Linear Analysis of the Oil Price-Exchange Rate Nexus in Nigeria

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Abstract: This paper studies the effect of oil price shocks on the Nigerian exchange rate on the basis of monthly data over the period January, 2008 to October, 2015. In order to explore the effects of oil prices on the competitiveness of the Nigerian currency, which had hitherto attracted little attention in literature, the paper adopts the real effective exchange rate measure within a five-variable VAR model, analysed using both linear and non-linear approaches. We find evidence of a non-linear impact of oil prices on real effective exchange rate. Specifically, decreases in oil price are found to have an appreciating impact on real effective exchange rate, implying a loss of competitiveness of the Naira, while increases in oil price are found to be irrelevant for movements in the real effective exchange rate. Our study also suggests a link between Naira depreciation and the real effective exchange rate appreciation through a pass-through effect on rising domestic prices.

Keywords: *Oil price shocks; real effective exchange rate; Non-linear specification; Vector autoregressive model; Granger causality*

1. Introduction

Crude oil exports account for a large proportion of the Nigerian government revenue. Consequently, the variability in prices of oil is expected to have a significant impact on the country's exchange rate, given the (managed) float exchange rate system adopted in the country. Theoretically, increases in oil price should cause an increase in the oil exporting country's foreign reserves, the effect of which is an appreciation in nominal exchange rate. Conversely, reduction in oil prices should result in a nominal depreciation of the currency.[1] However, the nominal exchange rate might not adequately capture the terms of trade given the reaction of other macroeconomic variables to falling output. For instance, countries which are largely dependent on imports for consumption of goods and services are prone to exchange rate transmission effects on local prices (An and Wang, 2011; Aliyu et al., 2009).[2] Particularly, despite the status of Nigeria as a net-exporter of crude oil, the country's heavy dependence on imports of refined petroleum to meet her energy needs, coupled with the inflationary effect of the scarcity experienced in the domestic energy markets, could reverse the trends observed in the nominal depreciation of the exchange rate as evidenced by the appreciation of the real effective exchange rate (REER).

Figure 1 showcases the loss of competitiveness in the Nigerian exchange rate as evidenced by the plummeting (appreciation) of the real effective exchange rate[3] despite the consistent rise (depreciation) in the nominal exchange rate. While the official and parallel market rates have increased from NGN118/USD and NGN121/USD in January 2008 to NGN197/USD and NGN225/USD, respectively in October 2015, the real effective exchange rate has taken a steady fall from NGN99.45/USD to NGN61/USD over the same period. The widening disparities between the official and parallel exchange rates, particularly since January 2015, should have appreciable implications for domestic prices. The exchange rate dynamics in the face of falling oil prices therefore raise curiosity as to the association between oil prices and movements in exchange rate. Oil prices have fallen dramatically by as much as 70 percent since June 2014 and hitting a low of $26 per barrel in February 2016. The status of Nigeria both as a net exporter of crude oil as well as net importer of refined oil products posits a puzzle as to the significance of oil price changes. On one hand, dwindling revenues have enforced currency depreciation in the interbank market and, especially, in the parallel market; while

[1] Krugman (1983) and Corden (1984) have contributed to the theoretical literature on this relationship.
[2] An and Wang (2011) and Aliyu *et al.* (2009) find evidence of pass-through in exchange rate for import and consumer prices.
[3] This is a trade-weighted index of the average value of the country's currency computed in real terms (Appleyard and Field (2001). Our definition is such that a decrease (increase) translates to a real appreciation (depreciation) of the Nigerian currency (NGN). A real appreciation of the effective exchange rate is expected to negatively affect the competitiveness of the nation's currency.

contrariwise, trends in the real effective exchange rate reveal the appreciating effect probably resulting from rising domestic prices. Thus, this study seeks to analyze the relationship between oil price shocks and real effective exchange rate in the period 2008(M1) and 2015(M10). The study period is instructive given the preponderance of financial crises experienced globally since 2008. This scope allows us to further determine the effect of oil price changes on the Nigerian exchange rate in view of previous studies such as Olomola and Adejumo (2006); Aliyu (2009); and Adeniyi et al. (2012). Ultimately, the competitiveness of the Naira against trading partners' currencies is exploited in our study, given the adoption of the real effective exchange rate as against previous studies that have explored the discussion in the Nigerian context based on the real exchange rate.

Figure 1: The Nigerian exchange rate - 2008M1-2015M10

Source: Central Bank of Nigeria Statistics Database

In accordance with contemporary literature, we adopt a non-linear approach to our study, given previous observations that effects of increases in oil price are more significant than the effects of decrease in the same on the macro economy, and as such, linear oil price data may not adequately capture the oil price dynamics (Mork, 1989; Lee & Ratti, 1995; Hamilton, 1996; Jiménez-Rodríguez and Sánchez, 2005). A theoretical basis of the non-linear modelling of oil price changes is hinged upon the *dispersion hypothesis* formulated by Lilien (1982).[4] This paper extends the empirical literature by providing evidence on the exchange rate dynamics on a crude oil net-exporting but import dependent (especially in the area of refined oil products) country, given the pass-through effects of falling foreign reserves and escalating domestic prices. Our findings support previous empirical literature relating to the significance of oil prices for the exchange rate movements but deviate from theoretical and empirical literature as regards the nature of asymmetric effects of shocks in oil price. Specifically, increases in oil price have no significant effects on the real effective exchange rate while decreases in oil price have significant appreciation effects on the real effective exchange rate in Nigeria. Our findings identify the inflationary tendencies in the economy as a link through which oil prices cause the observed real effective exchange rate appreciation effects. This is particularly in view of the high import dependency of Nigeria, especially for scarce petroleum products and the potential pass-through effects of

[4] Summarily, the hypothesis holds that as a result of the high cost involved in the reallocation of resources in the short run, oil shocks which bring about readjustment between energy-intensive and energy-efficient sectors will lead to an overall decline in output.

rising nominal exchange rates on local prices. The rest of the paper is structured as follows. We review the empirical literature in Section 2; In Section 3, we present the data and methodology; In Section 4, we present the empirical results of the study; and finally, we make concluding remarks and recommendations in Section 5.

2. Empirical Literature Review

The empirical literature on the oil price-exchange rate nexus is classified into four groups. The first group includes studies that find causality running strictly from oil prices to real exchange rate such as Amano and van Norden for the U.S. (1998a), and Germany and Japan (1998b); Akram (2004) for Norway; Jiménez-Rodríguez and Sánchez (2005) for a group of OECD countries; Olomola and Adejumo for Nigeria (2006); and Volkov and Yuhn (2013) for a selection of oil exporting countries. The second group consists of studies that find causality running strictly from real exchange rate to oil prices such as Sadorsky (2000) for crude oil future prices in the U.S.; Yousefi and Wirjanto (2004) for Iran, Indonesia, Saudi Arabia and Nigeria. The third group are those that find evidence of bi-directional causality between oil prices and real exchange rates. These include Jahan-Parvar, 2008 for Indonesia, Gabon, Saudi Arabia and Nigeria; and Yanagisawa, 2010 which previously finds two-way causal relationship for U.S.A. but implies lack of causality between exchange rate and oil price in the last year of study. Finally, the fourth group indicate neutrality, i.e., that there is no causality between the variables, suggesting that oil prices and exchange rates have no predictive ability toward other. Examples of such include studies by Bjornland and Hungnes (2008) and Habib and Kalamova (2007) for Norway; Habib and Kalamova 2007 for Saudi Arabia; and Şahbaz, Adıgüzel, Bayat and Kayhan for a non-linear relationship in the case of Romania. Specific to the Nigerian context, Olomola and Adejumo (2006) investigate the nexus between oil price changes and macroeconomic variables, including the real exchange rate, in Nigeria between 1970 and 2003 using quarterly data. They find that while oil price shocks have no effect on inflation and output, high increases in oil price may give rise to real exchange rate appreciation. Also, Aliyu (2009) considers the real exchange rate as a link through which oil price changes affect the GDP using the non-linear approach. He obtains the result that oil prices result in real exchange rate appreciation. Lastly, Adeniyi et al. (2012) find that a 100% increase in oil price returns leads to about 1.1% appreciation of the Naira in terms of the US dollar. They however, make use of the nominal exchange rate variable in conducting their analysis. The implication of changing oil prices for the competitiveness of the Naira via the real effective exchange rate is not yet well explored.

3. Data and Methodology

We make use of a monthly five-variable vector autoregressive (VAR) model for the study, consisting of real effective exchange rate (REER), the Bonny light crude oil price, all share index (ASI), interest rate, and inflation rate. REER, oil price and ASI are represented in logs, while the other two variables are expressed in levels. Oil prices and REER are included since our primary objective is to investigate the effects of the first on the second. The only variable capturing economic activity is the ASI of the Nigerian Stock Exchange (NSE). This is used as monthly data were not available for real GDP at the time of the study. Interest rate and inflation rate are included with a view to capturing important channels through which oil prices or policy might affect REER indirectly. For instance, REER could react to movements in interest rate and inflation rate. Interest rate is proxied by the 91-day Treasury-Bill rate as a measure of the monetary policy conditions while inflation rate is represented by the year-on-year rate. Apart from ASI which is obtained from the NSE, all the other data are obtained via the Central Bank of Nigeria (CBN) Statistics Database. The monthly data ranges from January, 2008 to October, 2015 – a total of 94 observations. Following Jiménez-Rodríguez and Sánchez (2005), we adopt the VAR model of order *p* (VAR (*p*)):

$$y_t = c + \sum_{i=1}^{p} \Phi_i y_{t-i} + \varepsilon_t \qquad (3.1)$$

where y_t is a $(n \times 1)$ vector of endogenous variables, $c = (c_1,...,c_5)'$ is the (5×1) intercept vector of the VAR, Φ_i is the ith (5×5) matrix of autoregressive coefficients for $i = 1,2,..., p$, and $(\varepsilon_{1t},...,\varepsilon_{5t})'$ is the $(5 \times 1$) representation of a white noise process.

Before we start with our empirical analysis, we investigate the stochastic properties of our variables by analysing their orders of integration through the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests.[5]The tests' results are discussed in the next section. Our VAR system is converted into its Moving Average (MA) form in order to analyse the response of the system to oil price shocks as follows:

$$y_t = \mu + \sum_{i=0}^{\infty} \Omega_i \varepsilon_{t-i} \qquad (3.2)$$

where Ω_i represents the identity matrix, and μ represents the mean of the process. The MA process is used to achieve both the impulse-response functions and the forecast error variance decompositions.

We examine the orthogonalised impulse-response functions, using Cholesky decomposition and accumulated responses to assess the impact of shocks on endogenous variables. To achieve this, it is essential to choose an ordering for the variables in the system, since the method of orthogonalisation entails the assignment of contemporaneous correlation to particular variables. Essentially, while shocks to the first variable affects the subsequent variables in the system, shocks to the subsequent variables do not contemporaneously affect the first variable; likewise, while the second variable contemporaneously affects the subsequent variables (except the first one), it is not contemporaneously affected by the subsequent variables; and so forth. Specifically, we assume the following ordering: REER, oil price, ASI, interest rate, and inflation rate. We operationalize (3.1) by estimating a linear specification as well as consider three non-linear transformations of oil price.[6] The non-linear transformations are as follows: 1) *asymmetric specification*, involving the separate consideration of oil price increases and decreases; 2) *scaled specification*, which captures oil price volatility; and 3) *net specification* in which the respective oil prices are defined as the net aggregate by which the prices in month t surpass the maximum amount attained in the preceding twelve months.[7] The linear oil price variable, which assumes symmetry, is defined as the monthly oil price returns thus:

$$O_t = \log\left(\frac{x_t}{x_{t-1}}\right) \qquad (3.3)$$

where x_t and x_{t-1} refer to the current and one period lag of the nominal oil price, respectively.

The asymmetric specification disaggregates the linear rates of change specification of oil price (3.3) into its positive (O_t^+) and negative (O_t^-) components as follows:

$$O_t^+ = \begin{cases} O_t & if\ O_t > 0 \\ 0 & otherwise \end{cases}$$

$$O_t^- = \begin{cases} O_t & if\ O_t > 0 \\ 0 & otherwise \end{cases} \qquad (3.4)$$

The model is based on the dispersion hypothesis advanced by Lilien (1982), which holds that both positive and negative changes in price may affect the marginal product of resource inputs and bring about sectoral allocation of productive factors on the supply side of the economy. Bernanke (1983) further suggests that the volatility created by oil price changes may create investment and consumption uncertainties which have consequences for economic growth. Based on this idea, other non-linear specifications such as the scaled and net models were advanced. The scaled specification was introduced in Lee & *Ratti* (1995) to take account of the idea that increases in oil price after an extended period of price stability have more intense macroeconomic effects than decreases in oil price during the preceding quarter. To operationalize this, the following AR (4)-GARCH (1, 1) formulation of oil prices was proposed:

$$O_t = \alpha_0 + \alpha_1 O_{t-1} + \alpha_2 O_{t-2} + \alpha_3 O_{t-3} + \alpha_4 O_{t-4} + e_t$$

[5]Details of the tests are provided in Dickey and Fuller (1979) and Phillips and Perron (1988).
[6] However, we use nominal oil price, following Hamilton (1996), unlike Jiménez-Rodríguez and Sánchez (2005) who use the real price of oil.
[7] This is an adaptation of Hamilton (1996) where the previous four quarters were used.

$$e_t \mid I_{t-1} \sim N(0, h_t)$$
$$h_t = \gamma_0 + \gamma_1 e_{t-1}^2 + \gamma_2 h_{t-1}$$
$$SOPI_t = \max(0, \hat{e}_t / \sqrt{\hat{h}_t})$$
$$SOPD_t = \min(0, \hat{e}_t / \sqrt{\hat{h}_t}) \quad (3.5)$$

where SOPI and SOPD represent scaled oil price increases and decreases, respectively. The scaled model is a modification of the asymmetric model. It involves a process of transforming the residual and ARCH effects derived from the oil price model. This transformation addresses the frequent fluctuations in oil prices, which consists of mostly small changes and occasional large shocks.

The net specification (NOPI) developed by Hamilton (1996) is defined as the amount by which (the logged) oil prices in quarter t, p_t surpass the maximum value over the preceding 4 quarters; and 0 otherwise. Given that we use monthly data in this study, we use the following modification of the proposed specification:

$$NOPI_t = \max\{0, p_t - \max\{p_{t-1}, p_{t-2}, ..., p_{t-12}\}\} \quad (3.6)$$

This definition is also asymmetric as it captures the increase-type shocks where as ignoring the effect of decreases in oil price. This follows previous evidence that oil price decreases had a less significant effect on the US macro economy.

4. Empirical Results

In this section, we evaluate the empirical findings from the linear and non-linear models discussed in the earlier section. First, we report the results of our unit root tests in subsection 4.1. In subsection 4.2, we test for the significance of the different oil price variables and perform multivariate and bivariate Granger-causality analysis. Subsequently, in subsection 4.3, we analyse the effects of oil price shocks on REER after comparing the performance of the different specifications considered, emphasizing the results of the most preferred model based on different criteria. Next, we present results on impulse-response functions and accumulated responses. This is followed by the results of the variance decompositions. In order to find the appropriate lag length, we consider different tests such as Hannan-Quinn information criterion (HQ), Final prediction error (FPE), Schwarz information criterion (SC), Akaike information criterion (AIC), and the sequential modified Likelihood Ratio (LR) test. We choose 4 lags in all our regressions based on the LR test, following Hatemi-J and Hacker (2009).[8]

Unit root tests: The optimal lag length adopted in the unit root test is based on the Schwarz Criterion (SC). Results show that all our 5 variables are nonstationary at level but stationary at first difference, and thus, are integrated of order one (I (1)). All the non-linear oil price specifications are I (0). We therefore define the vector y_t in equation (3.1) as the first log-differences of REER, the linear oil price,[9] and ASI, along with the first differences of interest rate and inflation.[10]

Tests for significance and Granger-causality: In this subsection, we investigate the nexus between oil price shocks and real effective exchange rate by carrying out different tests for both our linear and non-linear specifications for Nigeria. First, we assess the significance of the oil price variable in question for the VAR system in general, given the null hypothesis that all the coefficients of oil price are jointly zero in all equations of the system except its own equation. We achieve this by carrying out the Likelihood Ratio (LR) test, which could be useful in helping us to determine whether oil prices do not affect real effective exchange rate directly, but via third variables in the system. As displayed in Table 2, we find that oil price specification in the linear model (O_t), the decreases in the asymmetric model (O_t^-), and the scaled oil price decreases

[8] The paper suggests the choice of LR when there is disagreement among the different tests.
[9] This is as specified in equation 3.3. In practice, we transform the nominal oil price by first differencing its logged level. The non-linear oil price variables, which are derived from our linear oil price specification, are used in their level forms since they are already I(0).
[10] We do not follow the alternative approach of estimating a cointegrated VAR where nonstationary variables are specified in levels.

(SOPD) are the only significant oil price specifications. The non-linear increase models, that is, the increases in the asymmetric (O_t^+), scaled ($SOPI_t$) and net ($NOPI_t$) models are therefore eliminated from our final analysis as the LR test fails to detect their importance in our VAR system.

Table 1: Unit Root Tests

Test	**Augmented Dickey-Fuller (ADF)**						
	Levels			**First differences**			
Model	**Constant and trend**	**Constant**	**No constant**	**Constant and trend**	**Constant**	**No constant**	**Decision**
REER	-2.22	-0.61	-1.54	-9.10***	-9.14***	-8.97***	I(1)
OIL	-0.81	-0.84	-0.77	-6.26***	-6.26***	-6.26***	I(1)
ASI	-2.17	-2.09	-0.83	-9.32***	-9.10***	-9.05***	I(1)
INT	-1.66	-1.35	-0.46	-7.67***	-7.72***	-7.76***	I(1)
INF	-4.47***	-2.32	-0.29	-5.74***	-5.68***	-5.71***	I(1)
O_t^+	-8.06***	-7.75***	-3.23***				I(0)
O_t^-	-5.41***	-5.44***	-4.65***				I(0)
SOPI	-8.92***	-8.66***	-6.28***				I(0)
SOPD	-8.61***	-8.63***	-3.86***				I(0)
NOPI	-4.87***	-4.60***	-4.36***				I(0)
Test	Phillips-Perron (PP)						
	Levels			First differences			
Model	Constant and trend	Constant	No constant	Constant and trend	Constant	No constant	Decision
REER	-2.35	-0.63	-1.52	-9.10***	-9.14***	-8.97***	I(1)
OIL	-1.61	-1.65	-0.62	-6.35***	-6.34***	-6.35***	I(1)
ASI	-2.22	-2.18	-0.72	-9.34***	-9.20***	-9.18***	I(1)
INT	-1.92	-1.56	-0.51	-7.70***	-7.74***	-7.79***	I(1)
INF	-3.20*	-1.88	-0.30	10.51***	-10.46***	-10.51***	I(1)
O_t^+	-8.14***	-7.87***	-6.31***				I(0)
O_t^-	-5.44***	-5.47***	-4.68***				I(0)
SOPI	-8.92***	-8.65***	-6.48***				I(0)
SOPD	-8.70***	-8.72***	-7.18***				I(0)
NOPI	-4.82***	-4.51***	-4.18***				I(0)

***, ** and * denote rejection of nonstationarity at 1%, 5% and 10%, respectively.
See Dickey and Fuller (1979) and Phillips and Perron (1988) for critical values and other details on the tests.

Table 3presents the results of the multivariate and bivariate Granger causality tests. The results are very consistent with the results of our LR tests as the models for which the oil price variable Granger-causes REER are same as those which passed the LR tests. In the multivariate context, we first test the null hypothesis that a given oil price variable does not Granger-cause REER (see Table 3, line 1), obtaining the result that oil price variables in the linear model, the negative changes in the asymmetric model(O_t^-), and the scaled oil price decreases (SOPD) Granger-cause REER at a maximum significance level of 5%.[11] Second, we test the null hypothesis that the oil price variable in question is not Granger-caused by the remaining variables in the system (Table 3, line 2). We accept the null hypothesis in all the models. The bivariate Granger causality tests strongly support the results of the multivariate Granger causality tests. Specifically, O_t , O_t^- , and SOPD, Granger-cause REER (see line 3 of Table 3) at the 1% significance level. The existence of reverse causality

[11] The positive oil price changes in the asymmetric specification, the positive changes in the scaled specification (SOPI), and the positive changes in the net specification (NOPI) do not Granger-cause real effective exchange rate.

from REER to the different oil price specifications is totally rejected, thus confirming that the oil price variables are exogenous while REER is endogenous within the VAR system.

Table 2*:* Likelihood Ratio Test

We rewrite the *p*-th order VAR model as follows:

$$y_{1t} = k_1 + D_1' x_{1t} + D_2' x_{2t} + \varepsilon_{1t}$$

$$y_{2t} = k_2 + C_1' x_{1t} + C_2' x_{2t} + \varepsilon_{2t}$$

where y_{1t} represents the vector of variables other than y_{2t}, x_{1t} comprises lags of y_{1t}, y_{2t} denotes the respective real oil price change, and x_{2t} comprises lags of y_{2t}.

H_0: All coefficients of oil price are jointly zero in all equations of the system except its own equation, i.e. $D_2 = 0$.

The statistic is defined as:

$$2 \times [L(\theta_1) - L(\theta_2)] \sim^a \chi^2 (rows(y_t) \times p)$$

where $L(\theta_1)$ indicates the value of the log-likelihood function of the unrestricted model while $L(\theta_2)$ indicates that of the restricted model.

We report p-values of the asymptotic distributions for the different specifications as follows:

LINEAR	ASYMMETRIC		SCALED OIL PRICE		NET OIL PRICE
O_t	O_t^+	O_t^-	$SOPI_t$	$SOPD_t$	$NOPI_t$
0.005***	0.384	0.000***	0.288	0.001***	0.305

*** and ** denote rejection of the null hypothesis at 1% and 5% levels of significance, respectively.

Table 3: Multivariate (Block-Exogeneity) and Bivariate Granger Causality Tests

Notes: For the block exogeneity test within our VAR specification, we specify the *p*th-order equations of REER and the respective oil price variables as follows:

$$y_{1t} = c_1 + A_1' x_{1t} + A_2' x_{2t} + \varepsilon_{1t} \quad (1)$$

$$y_{2t} = c_2 + B_1' x_{1t} + B_2' x_{2t} + \varepsilon_{2t} \quad (2)$$

where y_{1t} is REER, y_{2t} represents the respective oil price variable, x_{1t} is the vector containing lags of y_{1t} and other explanatory variables, and x_{2t} is a vector containing lags of y_{2t}.

$y_1(y_2)$ is block-exogenousin relation to $y_2(y_1)$ when $A_2 = 0$ ($B_1 = 0$).

A_2 represents χ^2 (Wald) statistics for the joint significance of all of the lagged oil price variable, while B_1 represents χ^2 (Wald) statistics for all the other lagged endogenous variables.

TESTS	*LINEAR*	*ASYMMETRIC*	*SCALED OIL PRICE*
	O_t	O_t^-	$SOPD_t$
Granger causality/Block exogeneity tests ($A_2 = 0$)	12.332** (0.015)	20.803*** (0.000)	16.565*** (0.002)
Granger causality/Block exogeneity tests ($B_1 = 0$)	13.659 (0.624)	9.151 (0.907)	12.527 (0.707)
Bivariate Granger causality (H_0 :Oil price does not Granger-cause REER)	4.922*** (0.001)	6.947*** (0.000)	6.787*** (0.000)

Bivariate Granger causality (H_0: REER does not Granger-cause oil price)	1.108 (0.358)	0.397 (0.810)	0.410 (0.801)

*** and ** indicate rejection of the null hypothesis at 1% and 5% levels of significance, respectively.

The causality tests generally reflect a direct effect of oil prices on the exchange rate. Among the other variables, only inflation Granger-causes REER at less than 10% significance level. This is plausible, given the inflation-real exchange rate relationship. Summarily, the causal relationship between the oil price variables and REER goes in one direction between the former and the latter. Furthermore, the multivariate Granger causality and bivariate Granger causality tests reveal the interesting result that while the linear oil price variable Granger-causes real effective exchange rate, the causal effect is dominated by negative as against positive oil price shocks.

Oil price shocks and real effective exchange rate: Linear and non-linear effects: In this subsection, we scrutinize empirically the effects of oil price shocks on REER. The causality tests carried out in the earlier section have shown that oil prices have a direct causal impact on REER. We therefore, focus mainly on the impulse response functions relating to the oil price variables. We report the results only for the models that passed our LR test, which incidentally, are the models for which our Granger-causality tests find a one-way causal relation between oil price shocks and REER; namely, the linear oil price variable (O_t) and the non-linear negative changes in oil price, that is, the asymmetric decreases in oil price (O_t^-) and SOPD. We emphasize the results obtained for the asymmetric decreases in oil price, which is our preferred model. We arrive at our choice of preferred model in two different ways, following Jiménez-Rodríguez and Sánchez (2005). First, we gauge the precision of the impulse responses by observing the confidence bands as presented in Figures 2, 3 and 4. Second, we observe selection criteria such as the Schwarz Criterion (SC) and Akaike Information Criterion (AIC), for which the asymmetric decrease model has the lowest values in our VAR system as shown in Table 4.[12]

Table 4: Choice of Preferred Model

CRITERION	LINEAR (O_t)	ASYMMETRIC (O_t^-)	SCALED ($SOPD_t$)
Schwarz (SC)	-3.246	**-3.346**	-3.297
Akaike (AIC)	-3.833	**-3.933**	-3.884

Impulse response functions and accumulated responses: In this subsection, we study the effects of oil prices on REER looking at both the orthogonalised impulse response functions and the accumulated responses for the linear and non-linear models. Figures 2, 3 and 4 represent the orthogonalised impulse response functions of REER to the one standard deviation oil price shock variables bordered by their respective two standard error bands.[13] Table 5 reports the accumulated responses of REER to shocks in the respective oil price variables normalised to correspond to 1% increase and decrease in the linear and non-linear models, respectively. Regarding the orthogonalised impulse responses, we observe a general pattern in the reaction of REER to the shocks in oil price variables. Taking our preferred (asymmetric) model, there is a negative response within the first three months followed by a very brief positive response in the fourth month, which reverts to negative almost immediately. The negative response is sustained until the seventh month, after which there is a positive response until the effects of the shock disappear entirely by the thirteenth month. The largest negative impact on REER occurs in the fifth month.

[12] Jiménez-Rodríguez and Sánchez (2005) and Hamilton (2003), however, favoured the scaled specification. Nevertheless, our scaled specification also performs well, ranking next to the asymmetric specification ahead of the linear model based on SC and AIC.
[13] The two standard error bands bordering the impulse responses follow Lutkepohl (1990).

Table 5: Accumulated Response of the Rate of Change in REER to a 1% Oil Price Shock

MONTHS	LINEAR (O_t)	ASYMMETRIC (O_t^-)	SCALED ($SOPD_t$)
4	-0.01444	**-0.01700**	-0.00879
8	-0.02534	**-0.03036**	-0.02460
12	-0.01780	**-0.02419**	-0.01969
16	-0.01889	**-0.02434**	-0.02053
20	-0.01939	**-0.02426**	-0.01984
24	-0.01948	**-0.02469**	-0.02023

The negative impact of the oil price decreases on REER significantly exceeds the positive impact. Consequently, the accumulated effect of oil price decreases is negative as shown for O_t^- in Table 5. Following a 100% negative oil price shock, the negative impact, which reaches its maximum of 3%by the eighth month, shows an accumulated figure of 2.5% by the end of the second year. Moreover, the negative effect of oil price decreases is evident in the linear and scaled models as they also reveal accumulated negative impacts of oil price shocks on REER. Also, the accumulated impulse responses of REER to inflation are negative as shown by the asymmetric decrease model in Figure 5.

Variance decomposition analysis: Table 6 presents the results of the forecast error variance decomposition, which indicates the proportion of the unanticipated changes in the variables are accounted for by various shocks. The results suggest that oil price shocks constitute the most significant source of variability in REER of all the macroeconomic variables in the model. We also find that shocks to oil price variables seem to account for more of REER variability in non-linear specifications than in the linear specification. Specifically, asymmetric decreases in oil prices (within our preferred model in line 2 of Table 6) contribute the highest to the variability in REERby21.85% , followed by the scaled oil price variable and then, the linear oil price variable with 21.67% and 15.82% contributions to the variability in REER, respectively. Consistent with theory and as observed in our impulse response functions, inflation ranks next to oil price shocks among the contributors to the variability in REER with as high as 6.9%, 7.2% and 6.4% in the linear, asymmetric and scaled models, respectively.

Table 6: Estimated Variance Decomposition of Real Effective Exchange Rate at the 12-month horizon

MODEL	REER	OIL PRICE	ASI	INT	INFL
LINEAR (O_t)	73.06	15.82	1.80	2.41	6.91
ASYMMETRIC (O_t^-)	**66.10**	**21.85**	**1.90**	**2.97**	**7.17**
SCALED ($SOPD_t$)	67.01	21.67	2.62	2.29	6.40

It is also notable that oil price shocks also explain the highest amount of variability other than from the variable itself in economic performance as measured by the all share index. This is consistent with findings in previous works such as Jiménez-Rodríguez and Sánchez (2005).

Discussion of findings: The negative effects observed in the orthogonalised and accumulated impulse responses of REER to negative oil price shocks in our results indicate that decreases in oil price result in appreciation of the real effective exchange rate of the Naira. In other words, oil price decreases cause a reduction in the competitiveness of the Nigerian currency. This differs from the evidence for other oil exporting economies such as the UK and Norway where real appreciation of the real effective exchange rate is rather due to increases in oil prices (Jiménez-Rodríguez and Sánchez, 2005). Furthermore, the non-significance of our positive non-linear models reveal that periods of oil price hikes do not bring about significant responses in Nigeria's real effective exchange rate. Our findings are not surprising considering the fact that periods of high oil prices have not necessarily occasioned the expected effects on the Nigerian exchange rates(see Figure 1 in Section 1).

Our findings are reasonable in view of the escalating inflation rates occasioned by the country's high demand for import commodities in the presence of rising nominal exchange rates. Indeed, the theory on exchange rate

stipulates that the real exchange rate should fall (appreciate) in response to increases in domestic prices. This is evident in our results, as depicted in Figure 5 in which the accumulated impact of REER to positive shocks in inflation is negative by the end of the second year, and given the relatively large amount of variability in REER accounted for by inflation in our variance decomposition analysis. We may therefore suggest a link between Naira depreciation and the real effective exchange rate appreciation through a pass-through effect on domestic prices. This is in view of the fact that Nigeria's foreign reserves are largely dependent on proceeds from oil exports. Falling oil prices lead to gradual depletion of the foreign reserves with consequent nominal exchange rate depreciation. However, the behaviour of the real effective exchange rate is different from that of the nominal exchange rate given the escalation of domestic prices in the import-dependent economy. It is worth noting that the inflationary tendencies have been exacerbated by the scarcity and hence, high importation costs of refined crude oil products, mainly petrol.

5. Conclusion and Recommendations

Against the background that oil price increases should stimulate exchange rate appreciation in oil exporting countries, this paper examines the impact of oil price shocks on exchange rate movements in Nigeria. We focus mainly on the relationship between oil prices and real effective exchange rate so as to explore the competitiveness of the Nigerian currency. The study involves recent periods of financial and economic crises – 2008(M1) – 2015(M10), and is analysed in terms of a vector autoregressive approach based on a linear and three non-linear specifications widely adopted in the oil price literature. While the linear specification assumes that oil price shocks have symmetrical impacts, the non-linear specifications explore the differential effects of increases and decreases in oil price. Our results reveal the existence of non-linear effects of oil prices, with our Granger-causality tests showing that causality runs strictly in one direction from oil prices to real effective exchange rate. Our five-variable VAR reveals that oil prices shocks constitute the most significant proportion of the variability in real effective exchange rate. The significance of inflation in the oil price-real effective exchange rate relationship is also emphasized given the sustained impact of inflation on real effective exchange rate in the impulse response functions and the relatively high contribution of shocks in the former to variability in the latter as observed in the variance decomposition analysis.

Our findings are consistent with studies such as Jiménez-Rodríguez and Sánchez (2005); Olomola and Adejumo (2006); Aliyu (2009); and Adeniyi et al. (2012) vis-à-vis the significant impact of oil price shocks on the exchange rate. However, our findings differ in the sense that oil price decreases rather than increases are the significant cause of exchange rate movements. Also, our study reveals that oil price shocks, largely based on the decreasing component, bring about real effective exchange rate appreciation rather than depreciation as against the results obtained in the previous studies within the Nigerian context. This implies that decreases in crude oil price weaken the competitiveness of the Naira compared to the currencies of her trade partners. These results are instructive considering the multi-country information captured by the real effective exchange rate as against the real exchange rate. The results of this study underscore the heavy reliance of the Nigerian economy on crude oil exports and the need for policymakers to diversify the productive base and foreign exchange sources of the economy. Secondly, a more flexible exchange rate policy may be adopted in order to ease domestic inflationary tendencies and improve the competitiveness of the Naira.

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Appendix

Figure 2: Orthogonalised impulse-response function of real effective exchange rate to a one-standard-deviation oil price innovation Linear specification (O_t)

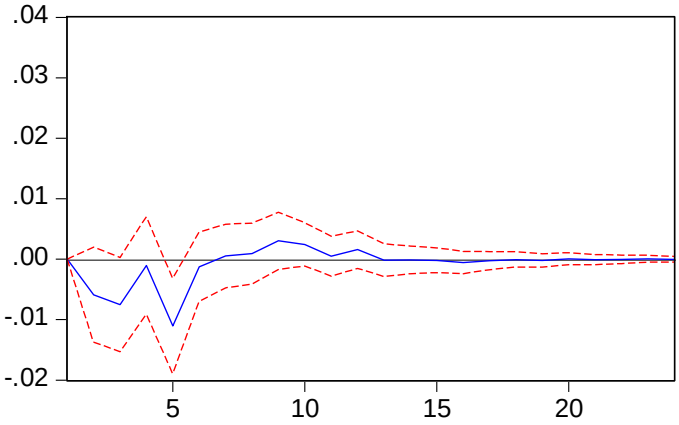


Figure 3: Orthogonalised impulse-response function of real effective exchange rate to a negative one-standard-deviation oil price innovation Asymmetric specification (O_t^-)

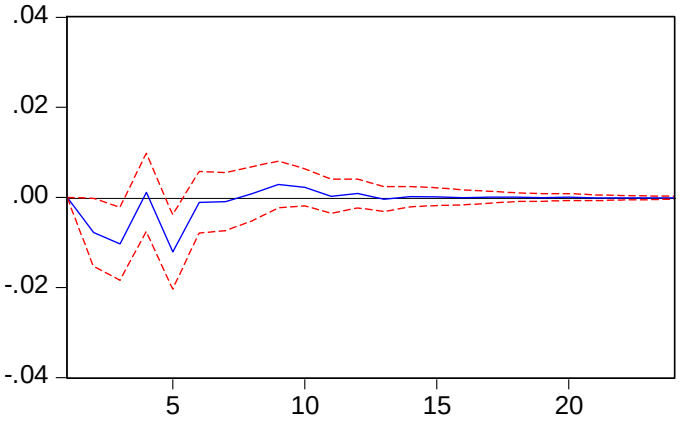


Figure 4: Orthogonalised impulse-response function of real effective exchange rate to a negative one-standard-deviation oil price innovation Scaled specification ($SOPD_t$)

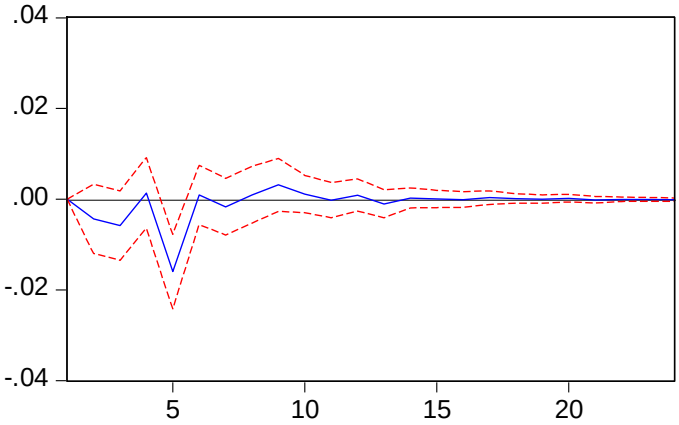
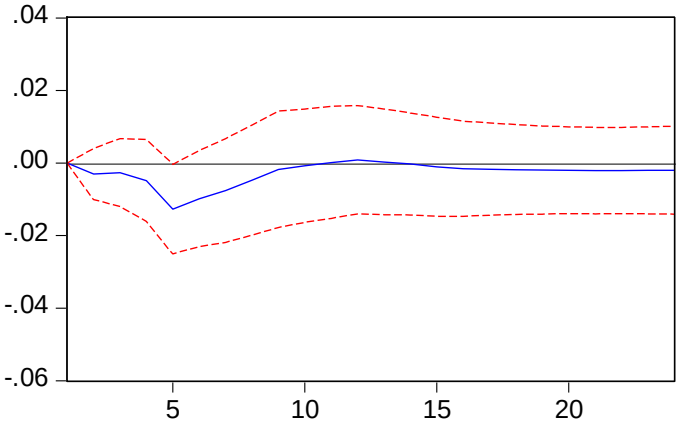


Figure 5: Accumulated impulse-response function of real effective exchange rate to a positive one-standard-deviation innovation in inflation Asymmetric specification (O_t^-)



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Factors Influencing Fashion Adoption among the Youth in Johannesburg, South Africa

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Abstract: Fashion in Africa has undergone a tremendous transformation process due to an increase in international trade. As a result, African consumerism has surfaced. Through being part of the global community, the youth in Africa capitalizes on the wide variety of fashions available, and they view fashion as a medium for expressing their identity. More specifically, in South Africa, fashion is used as the ideal vehicle for the youth to re-map previously fixed racial identities. Although a number of studies have explored this subject in an array of contexts, limited research has focused on factors that drive fashion adoption among the youth in Johannesburg. In view of this identified research gap, the present study aims to investigate the impact of fashion consciousness, the need for uniqueness, interpersonal influence, individualism/collectivism, and masculinity/femininity on fashion adoption. A Field study was conducted in Johannesburg and research data were collected from 400 respondents aged between 18 to 29 years. Linear regression analysis was performed to explore the relationship between the quantitative outcome variable and the predictor variables of the study by use of the SPSS 22 and the AMOS 22 software program. The results reveal that two of the five variables positively influence fashion adoption, while individualism/collectivism has an inverse relationship with fashion adoption. The significance of gaining insight into such factors, draw from the rich political history of South Africa and how the youth's conflicting identities may influence the modern concept of adopting global fashion trends.

Keywords: *Style, youth, fashion adoption, Generation Y, South Africa*

1. Introduction

Fashion adoption has been a major topic of discussion in fashion literature over the past few decades (Beaudoin, Moore & Goldsmith, 2000; Johnson, Lennon, Jasper, Damhorst & Lakner, 2003; Rahman, Saleem, Akhtar, Ali & Khan, 2014). This is largely due to the rapidly growing fashion industry. In fact, emerging markets account for almost 40% of the women's apparel today and it is expected to rise above 50% by 2025 (Keller, Magnus, Hedrich, Nava & Tochtermann, 2014). Furthermore, fashion is amongst the sectors that gains the most from global trade liberalization, and provides job opportunities for unskilled labour, especially in emerging markets (Nordas, 2003). In Africa, fashion has undergone a transformation process, following European colonization and an increase in international trade, and as a result African consumerism has surfaced (Jewsiewicki, 2008). Through fashion, the youth express their identity, and use style as a communication tool of individual identities (Singh, 2011). Fashion adoption is not a new phenomenon and as a result has been explored in several studies. A common theme that is often found in fashion adoption literature is studies on fashion innovativeness. For example, Jun and Rhee (2009) conducted a study that investigated the effects of fashion innovativeness and style-innovation attributes on fashion adoption among females in Korea. Another study that was conducted by Jun & Rhee (2009) investigated the effect of fashion innovativeness level on fashion adoption. Furthermore, Rahman et al. (2014) explored the impact of fashion innovativeness, consumer innovativeness, fashion involvement, opinion leadership, and status, on consumer's purchase intention in Pakistan. Other studies have examined fashion adoption using factors such as personal values, the need for uniqueness, and social recognition, in order to predict purchase intention (Knight & Kim, 2007).

Furthermore, there have been a selected number of studies on youth culture and fashion in Africa (DeBerry-Spence, 2008; Gondola, 1999; Louchran, 2009; Thomas, 2003), however, with little focus on fashion adoption but rather exploring style identities through fashion. As a result, there seems to be a lack of literature on a South African youth culture and factors that influence their decisions to adopt fashion. More specifically, there seems to be very few studies that provide a comprehensive conceptual model exploring personality factors, as well as culture and gender issues and how these impact on fashion adoption. The significance of gaining insight into the youth and their buying behaviour will provide fashion marketers with a rich

understanding of how to utilize their resources to accurately reach this profitable market segment. In view of this identified research gap, the present study provides a theoretical framework that explores the factors that influence fashion adoption among the youth in Johannesburg. The results would provide insights to marketing practitioners on how to target the youth in order to influence the rate at which they adopt new fashion trends. More specifically, factors such fashion consciousness; the need for uniqueness, interpersonal influence, individualism/collectivism and masculinity/femininity are explored. This study also contributes to existing literature in the field of fashion adoption and consumer behaviour, in the context of the South African youth. Additionally, issues such as culture and gender play a significant role and tend to have unique value to South Africa-based research. The purpose of this paper is therefore to investigate whether fashion consciousness, the need for uniqueness, interpersonal influence, individualism/collectivism and masculinity/femininity influence fashion adoption. The remainder of this paper provides background literature on the youth and fashion, the theoretical grounding of the study, and empirical literature on the research variables. This is followed by the conceptual model and hypotheses development, an overview of the research methodology, and the data analyses and presentation of the findings. Finally the results are discussed, implications provided and limitations and future research directions highlighted.

2. Literature Review

Youth culture and Fashion: The concept of youth culture spans several decades and across various disciplines (Bucholtz, 2002; Franzen, 2002). The development of youth culture is fueled by the growing sophistication of advertising and market segmentation strategies, and the dominant dimensions of youth ideology is identity, style and cultural innovation (Kjeldgaard & Askegaard, 2006). On both an individual and cultural level, the youth constitute an in-progress identity, and 'being young' is associated with the rebellious breaking of style rules (Bucholtz, 2002). Despite their reputation of rebelliousness and the disruption to the social order, youth culture is a lucrative market segment (Chambers, 1985; Hebdige, 1979; Morin, 1962). The post World War Two era marked the beginning of two conflicting interests - between the youth as an anti-establishment culture on the one hand, and the commercial consumer culture on the other hand (Chambers, 1985). The model of the teenager has received significant interest as a cultural category in the post-World War Two economy of growth and affluence (Bennett, 1999). This viewpoint has led to the marketing industry becoming preoccupied with the youth, and during this time teenage identity became linked to leisure and hedonic consumption, with young, middle-class consumers being free from wage-earner responsibilities (Kjeldgaard & Askegaard, 2006). As a result, the evidence of conspicuous consumption has marked the beginning of seeing the youth as a market with a diverse identity: a distinct market segment (Kjeldgaard & Askegaard, 2006). The youth uses fashion as the most prominent means of identity expression (Balet, 2006; Kjeldgaard, 2009; Kjeldgaard & Askegaard, 2006; Ziehe, 1992; Wilska, 2002). The theoretical legacy underlying the youth and their style emerged as a creative process through which subcultures differentiated themselves from mainstream marketplace orders (Goulding, Shanker & Elliott, 2002; Ostberg, 2007). Rather than using style in a semiotic context, the youth use it as a means of identity expression, with emphasis on the relationship they have with style (Ziehe, 1992). The youth's choice of style is largely driven by the degrees of freedom they seek from the restrictions of society, and their desire to be authentic (Kjeldgaard, 2009). Fashion and dress has proved to be the ideal vehicle for South African youth to remap previously fixed racial identities (Corrigall, 2011).

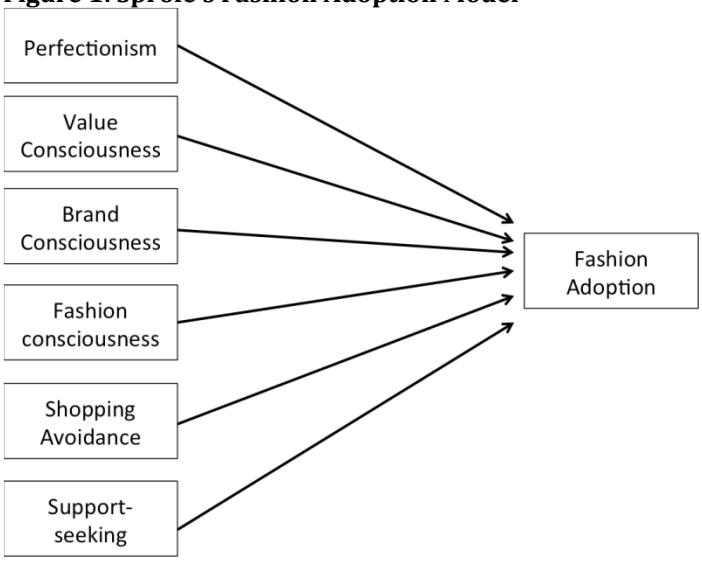
Theoretical Grounding: The present paper is grounded in Sprole's (1979) Fashion Adoption Model and Craik's (1994) theory of factors influencing fashion adoption.

Sprole's (1979) Fashion Adoption Model: Sprole's (1979) Fashion Adoption Model is primarily used to measure style adoption, and factors influencing an individual's decision to adopt or reject a new style. The underlying conceptual foundation of this theory is that an individual's decision to adopt a new style is influenced by six traits, namely perfectionism, value consciousness, brand consciousness, fashion consciousness, shopping avoidance and support-seeking.

The first trait, perfectionism, measures a consumer's desire for the best quality products. Those scoring high on this appear to be seekers of the very best whereas those who score low are less quality orientated. Individuals with high levels of perfectionism tend to be more careful with purchase decision and invest time

and effort into comparison shopping. The second trait, value consciousness, refers to shoppers who search for products that are 'value for money'. They tend to be more prices sensitive and are regarded as the archetype of the economically conscious consumer. Thirdly, brand consciousness measures an individual's orientation towards buying the most expensive, well-known brand. Consumers scoring high on this are likely to believe that the higher the price of the product, the better its' quality. They tend to have some degree of fashion consciousness and prefer better department stores and specialty stores. The fourth trait, fashion consciousness, refers to novelty seeking individuals with high levels of fashion consciousness. They are up to date with the latest fashion trends and being in style is important to them. These consumers also tend to be fewer prices sensitive. Fifthly, shopping avoidance suggests that some consumers dislike shopping and tend to make rapid shopping trips. They do not view shopping as exciting or fun and are willing to make shopping sacrifices in order to save time. The last trait identified by Sprole's is that of support-seeking behaviour. These individuals tend to be confused about the marketplace and they often seek the advice and approval from friends when making a purchase decision. The present study incorporates two traits from Sprole's model, namely fashion consciousness and support seeking (susceptibility to interpersonal influence) into the proposed conceptual model.

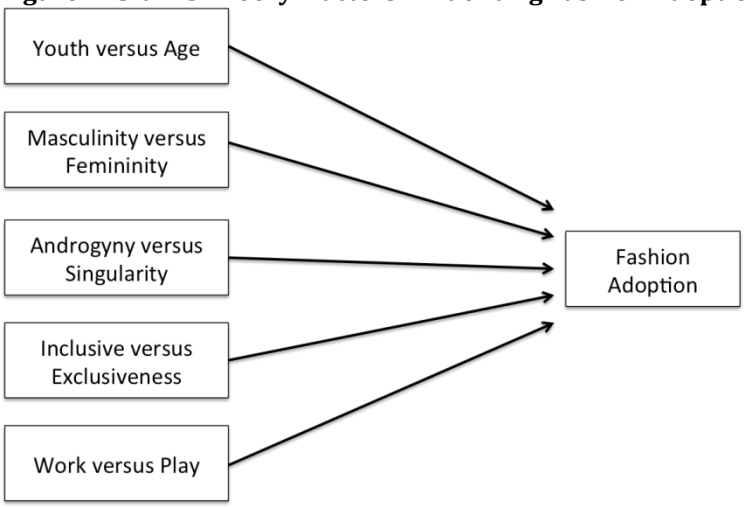
Figure 1: Sprole's Fashion Adoption Model



Source: Sprole's (1979)

Craik's (1994) Theory: Factors Influencing Fashion Adoption: The second theory underlying the present study is Craik's (1994) Theory of Factors influencing Fashion Adoption. This theory suggests that potential fashion instabilities influence an individual's decision to adopt a particular fashion: youth versus age, masculinity versus femininity, androgyny versus singularity, inclusiveness versus exclusiveness, and work versus play (Figure 2).

Figure 2: Craik's Theory: Factors Influencing Fashion Adoption



Source: Craik (1994)

According to Craik (1994), social change is believed to have a significant effect on fashion and reflects the specific time in history (Lehmann, 2000). The first factor, as described by Craik (1994), refers to the tension between youth versus age. This phenomenon is especially relevant in the twentieth century where separate fashion images are portrayed towards younger versus older consumers. Secondly, the role of gender and its' impact on fashion have received a widespread of attention over the last two centuries. Craik (1994) elaborated on the issue of gender by describing two categories, namely masculinity versus femininity, and androgyny versus singularity. In short, the tension between is regarded as typical male attire versus female attire, has undergone a radical shift over the last century, and more so over the last decade. Historically, the male ideal focused on strength, nobility and grace, whereas the female ideal focused on delicacy, femininity and shape (DeLong, 1998). However, the twentieth century witnessed the death of rigid male-centered values, and in both genders double identities have emerged, with woman being more assertive, and men more sensitive (Woodhill & Sameuls, 2004). This concept is commonly referred to as androgyny, which is the act by an individual to engage in both masculine and feminine tasks (Woodhill & Sameuls, 2004). As a result, while previous generations approached life with many unquestionable assumptions about gender, these prejudices are making way for blurred gender identities (Woodhill & Sameuls, 2004). The fourth factor, as identified by Craik (1994), is the concept of inclusive versus exclusiveness. Craik (1994) is of the opinion that clothes are fundamental to the modern consumer's sense of identity and people tend to buy products that identify them with a particular group or to express their individualism. Simmel (1904) expresses this dual tendency to both conform and refrain from confirming as a paradox in which individual's desire belonging yet wants to portray personal identities. The last influencing factor is work versus play, which has been a persistent trend of the twentieth century by highlighting the difference in work clothing versus leisurewear. This trend emerged during the 1950's when families moved to the suburbs and engaged in outdoor activities and sports. As a result, distinct differences are evident between clothing that is regarded as acceptable work wear and casual wear.

Fashion Adoption: Fashion adoption predominantly refers to the adoption of a fashion over time, via a series of different stages (Goldsmith & Reinecke, 1992). Within a broader framework, the classical model used to measure adoption, is Roger's (1985) innovation adoption model. Several adopter categories form part of the innovation adoption process, such as the innovators, the early adopters, the early majority, the late majority, and the laggards (Rogers, 2005).

Fashion Consciousness: Fashion consciousness is an important dimension that influences the decision-making of product adoption, especially with regards to fashion clothing (Belleau, Nowlin, Summers & Jiao Xu, 2001; Khare & Rakesh, 2010; King & Ring, 1980; Sproles & Kendall, 1986; Wells & Tigert, 1971). It is defined as an individual's involvement with styles or fashion (Nam, Hamlin, Gam, Kang, Kim, Kumphai, 2007; Sproles & Kendall, 1986; Wells & Tigert, 1971). Consumers with high levels of fashion consciousness are likely to be

younger and better educated, than non-fashion conscious individuals (Crask & Reynolds, 1978). These early adopters of new fashion styles - who are also referred to as fashion change agents - are more interested in and knowledgeable about fashion products (King & Ring, 1980). They have innovative style profiles, and although they are not completely up-to-date with all current styles, they are able to elicit interest among groups for future adoption (King & Ring, 1980). These fashion agents often establish group standards of dress behaviour, due to their ability to influence and stimulate fashion adoption (King & Ring, 1980).

Need for Uniqueness: One's desire for uniqueness is a motivational factor, and is theorized as a motivational drive that compels individuals to be different from others (Tian Bearden & Hunter, 2001). The desire for social distinction usually arises when an individual feels a threat to their identity, that occurs when they perceive to be similar to others, and thus they seek a sense of uniqueness (Tian et al., 2001). For example, the purchase of vintage goods or personalized items that are not typically available is often a way for consumers to display their resistance to conformity (Tian et al., 2001). Thus, consumers possessing a high requirement for uniqueness will seek to avoid popular product preferences, and therefore will familiarize themselves with unique offerings (Tian et al., 2001). The desire for social distinction influences new product adoption and variety-seeking behaviour, and this is reflected in one's choice of products (McAlister & Pessemier, 1982).

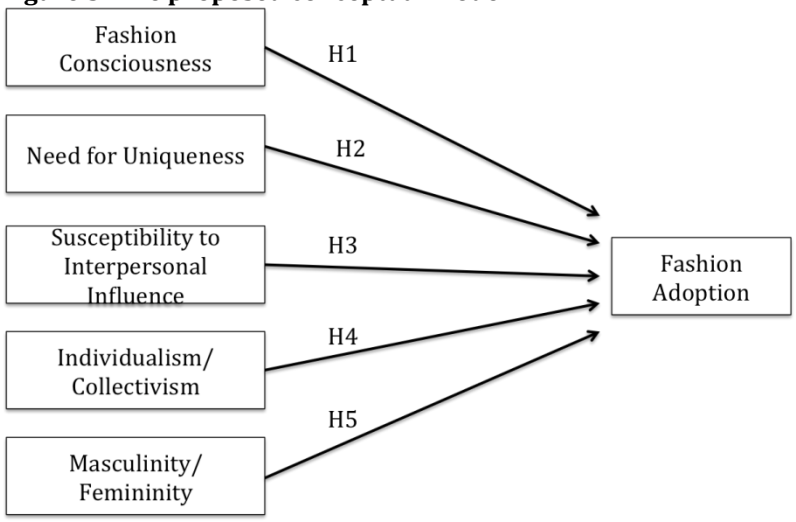
Susceptibility to Interpersonal Influence: Susceptibility to interpersonal influence is defined as an individual's need to identify with the opinions of others through the acquisition of products (Bearden et al., 1989). Such individuals often portray the tendency to learn about products by seeking information from others, and the willingness to conform to the expectations of others regarding purchase decisions (Bearden et al., 1989). Susceptibility to interpersonal influence is classified into two categories, namely normative influence and informational influence (Deutsch & Gerard, 1955). Normative influence is the tendency to conform to others' expectations, and informational influence refers to one's reliance on information obtained from others (Deutsch & Gerard, 1955). Normative influence further describes the adoption of and compliance with, others behaviour to satisfy a self-defining relationship with a group or individual (Clark & Goldsmith, 2006).

Individualism/Collectivism: The concept of individualism/collectivism is a dimension of Hofstede's (1983) cultural framework and refers to the strength of the ties between individuals in a community. Within individualistic communities, members tend to primarily focus on their own individuals needs and emotional independence, whereas collectivist communities value group decision-making and reflect emotional dependence on others (Hofstede, 1983). In the context of fashion, consumers in individualistic societies show stronger preference for clothing that expresses their unique self and they are more likely to indulge in self-gratification. On the other hand, individuals in collectivist cultures regard social approval or 'fitting in' is a key determinant when making purchasing decisions and therefore tend to buy clothing that is socially acceptable (Millan, De Pelsmacker & Wright, 2011). Therefore, in individualistic cultures, brand strategies that emphasize variety and novelty positively affect market share, whereas in collectivist cultures, brand strategies that reinforce group membership and affiliation enhance brand performance (Roth, 1995).

Masculinity/Femininity: Historically, the practice of consumption and more specifically fashion consumption has mainly been associated with being a woman's role. For example, in masculine dominated societies, where the emphasis is on wealth, success, achievement etc., individuals are more likely to be innovators and the first to adopt new products (Singh, 2006). Consequently, in cultures where feminine traits dominate, individuals are being more likely to conform to social norms, and therefore be fashion followers rather than fashion leaders (Singh, 2006). However, the way in which men views themselves as shoppers have changed and more androgynous styles has emerged in recent years (Bakewell, Mitchell & Rothwell, 2006). This gave way to the shifting nature of male identities in the 21st century as fashionable men found new ways to express their masculinity through fashion consumption (Bowstead, 2015).

Proposed Conceptual Model and Hypotheses Development: By means of a comprehensive conceptual model, the present study aims to fill the gap in literature on factors influencing fashion adoption among the youth in Johannesburg. The model proposes that fashion consciousness (Fash), the need for uniqueness (Need), susceptibility to interpersonal influence (Susc), collectivism/individualism (Coll) and masculinity/femininity (Masc) influence fashion adoption (Adop).

Figure 3: The proposed conceptual model



Source: Compiled by researcher (2015)

Hypotheses Development

The following section presents the hypotheses development for the present study.

Fashion Consciousness and Fashion Adoption (H1): Fashion consciousness and its influence on style adoption have been explored in several studies: for example, in a study conducted by Lertwannawit and Mandhachitara (2012), the findings indicate a strong relationship between fashion consciousness and status consumption. Furthermore, Goldsmith et al. (2015) found that fashion consciousness plays an important role in innovative purchasing behaviour among consumers when shopping for clothing products. Therefore, deducing from the literature and the empirical evidence mentioned above, the present study hypothesises that:

H1: Fashion consciousness positively influences fashion adoption

Need for Uniqueness and Fashion Adoption (H2): Cervellon, Carey & Harms, (2012) found that one's need for uniqueness is a dominant driver in shopping for vintage clothing. Similarly, in a study conducted by Tian et al. (2001), the results indicated that the purchase of vintage goods or personalized items is often a way for consumers to display their resistance to conformity. Thus, consumers possessing a high requirement for uniqueness will seek to avoid popular product preferences, and therefore will familiarize themselves with unique offerings (Tian et al., 2001). The desire for social distinction influences new product adoption and variety-seeking behaviour, and this is reflected in one's choice of products (McAlister & Pessemier, 1982). Therefore, inferring from the literature and the empirical evidence mentioned above, the present study hypothesises that:

H2: Need for uniqueness positively influences fashion adoption

Susceptibility to Interpersonal Influence and Fashion Adoption (H3): Another factor that influences fashion adoption is one's susceptibility to interpersonal influence (Belleau et al., 2001; Lertwannawit & Mandhachitara, 2012). For example, Khare & Rakesh, (2012) found that Indian woman's fashion involvement is influenced by normative values, especially among younger age groups. Furthermore, although having an indirect effect, susceptibility to interpersonal influence has an effect on status consumption among fashion conscious consumers (Lertwannawit & Mandhachitara, 2012). Upon examining the relationship between interpersonal influence and ecologically conscious buying behaviour, the findings reveal that normative influence is a predictor of green buying behaviour. Therefore, social conformity is one of the significant predictors of purchasing fashion goods (Park, Rabolt & Sook Jeon, 2006). Therefore, inferring from the literature and the empirical evidence mentioned above, the present study hypothesises that:

H3: Susceptibility to interpersonal influence positively influences fashion adoption

Individualism/Collectivism and Fashion Adoption (H4): Culture has a powerful force on consumer adoption (Arnould et al., 2005; Markus & Kitayama, 1991). In a global marketplace, individuals might acquire a fluid sense of identity between traditional cultural values and personal identities, as shaped by the conditions of modernity (Steenkamp, 2001). For example, in a study conducted by Al-Mutawa (2013), the results indicated that Muslim female consumers rework western fashion trends to suit their cultural beliefs and personal style. They therefore recreate the meaning of global luxury fashion to generate 'modestly sexy' representations of themselves (Al-Mutawa, 2013). Saad, Cleveland and Ho (2015) suggested that individualists are more likely to express higher levels of confidence as compared to collectivists. Furthermore, Goldsmith, Moore and Beaudoin (1999) profiled fashion innovators and found that using self-image to appeal to consumers was of paramount importance in fashion marketing. Therefore, inferring from the literature and the empirical evidence mentioned above, this study hypothesises that:
H4: Individualism/Collectivism positively influences fashion adoption

Masculinity/Femininity and Fashion Adoption (H5): Shephard, Kinley and Josiam (2014) found that males and females exhibit different behaviour with respect to the adoption stage of fashion related items. Through further empirical investigation, Shephard et al. (2014) established that female college students showed significant evidence of pleasure in shopping for fashion brands as compared to their male counterparts. Over the years there has been significant changes in the manner in which men view themselves as shoppers and the rise of men's fashion magazines has led to the redefining masculinity (Bakewell, Mitchell & Rothwell, 2006). Bakewell et al. (2006) further stated that masculinity was redefined by using men as fashion icons to promote appearance concerns and associate clothing and style with success thereby encouraging men to view their social value as being determined by what they look like. Therefore, deducing from the literature and the empirical evidence mentioned above, this study hypothesises that:
H5: Masculinity/Femininity positively influences fashion adoption

3. Methodology

The following section provides an overview of the respondent sample profile and data collection, the instrument design and questionnaire, followed by a presentation of the results. The study findings are then presented against the proposed hypotheses and the analysis was conducted using SPSS 22 and AMOS 22 statistical software.

Sample and Data Collection: The population of interest for the study was students in Johannesburg. By means of a quantitative study, 400 self-administered surveys were distributed amongst a sample of students from the University of the Witwatersrand. The students were all between the ages of 18 and 30. The sample of respondents was selected by means of simple random sampling.

Measurement Instrument and Questionnaire Design: Research scales were operationalized on the basis of previous work. Adequate modifications were made in order to fit the current research context and purpose. The first variable, fashion consciousness, was measured using a 7-item Likert scale that was adapted from Bruner and Hensel's (1998) 7-item fashion consciousness scale. The need for uniqueness was measured using a 7-point Likert scale adapted from Tian, Bearden and Hunter's (2001) 9-item need for uniqueness scale. Further, 7-point Likert scale was used to measure interpersonal influence. This scale was modified from the original 'susceptibility to interpersonal influence' scale by Bearden, Netemeyer and Teel (1989). Individualism/ collectivism were measured using a combination of Triandis (1991) INDCOL scale and Hui's individualism/collectivism scale. This comprised of a 7-point Likert scale. Finally, for masculinity and femininity, dimensions were derived from the BEM Sex-role Inventory (BSRI) and adopted to suit the context of the present study. The latter scale comprised of a 7-item Likert scale.

4. Results of the Study

Respondent Profile: The profile of the participants is presented in Table 1 below. Thereafter a discussion of the sample's demographic profile follows.

Table 1: Sample Demographic Profile

Gender	Frequency	Percentage	Race	Frequency	Percentage
Male	132	33%	Black	105	27%
Female	268	67%	White	204	52%
Total	400	100 %	Asian	7	2%
Age	Frequency	Percentage	Coloured	17	4%
18-19	88	22%	Indian	51	13%
20-25	301	75%	Other	7	2%
26+	11	3%	Total	391	100%
Total	400	100 %			

The sample comprised 67% females and 33% males, while 75% were between 20 and 25 years of age, 22% between the ages of 18 and 19, and 3% were older than 26 years. Whites accounted for more than half of the total sample of participants (52%), while 27% accounted for blacks. The remainder of the sample consisted of Indians (13%), Coloureds (4%) and Asians (2%).The following section provides an overview of the scale reliability (Table 2).

Scale Reliability: All the measurement scales were tested for reliability by means of analysing the Cronbach Alpha Coeeficient. Table 2 presents the findings.

Table 2: Reliability Test

Variable	Fash	Coll	Adop	Susc	Masc	Need
Cronbach's Alpha	0.86	0.66	0.88	0.92	0.77	0.96

Note: Fash, fashion; Adop, adoption;, Susc, susceptibility to interpersonal influence; Coll, collectivism; Masc, masculinity; Need, need for uniqueness.

As evident from the results in Table 2, the majority of the Cronbach's alpha coefficients were above 0.70, with the exception of individualism/collectivism (α=0.66) whilst the composite reliability indexes ranged from 0.66 to 0.96. Therefore confirming the scales met the recommended threshold of 0.7 as recommended by (Nunnally & Bernstein, 1994).

Regression Results: This section discusses the descriptive statistics, the linear regression model equation, correlations between the dependent and independent variables and lastly the standardised coefficients for each of the proposed hypotheses.

Fashion Consciousness and Fashion Adoption: For the first hypothesis, fashion consciousness and fashion adoption, the descriptive statistics are presented in Table 3, followed by a discussion thereof.

Table 3: Descriptive Statistics: Fashion consciousness and adoption

	Mean	Std. Deviation	N
Adop	4,2975	1,50281	400
Fash	4,6460	1,31454	400

As indicated in Table 3(above) the mean values for adoption and fashion consciousness are 4.29 and 4.64 respectively while the standard deviation values are 1.50 and 1.31 for these variables respectively. Since the standard deviation values were between the thresholds of (- 2 and +2) it means that the sample was fairly distributed and members of this particular group did not vary much from the mean value for the group. In other words, this implies that the data is skewed therefore low chances of respondents providing extremely biased views with regards to the relationship between fashion consciousness and fashion adoption.

Upon testing the linear regression model, the following equation was used:

$\mathbf{y = \beta_0 + \beta_1 X + \varepsilon}$

y = Dependent Variable: Adoption

x = Independent Variable: Fashion

Table 4: Fashion consciousness and adoption correlation

Correlations				ANOVA[a]					
		Adop	Fash	Model	Sum of Squares	df	Mean Square	F	Sig.
Pearson Correlation	Adop	1,000	0,270	1 Regression	65,905	1	65,905	31,405	0.000[b]
	Fash	0,270	1,000	Residual	835,213	398	2,099		
Sig. (1-tailed)	Adop		0,000	Total	901,118	399			
	Fash	0,000							
N	Adop	400	400						
	Fash	400	400						

Note: a. Dependent Variable: Adop; b. Predictor: Fash

As indicated in Table 4, the correlation between the predictor variable (fashion consciousness) and the dependent variable (adoption) is 0.270which is below the threshold of 1, therefore showing that a correlation between the two variables exists. Hypothesis 1 is therefore supported. The positive value also denotes evidence of a positive linear correlation; however the linear correlation is distant from 1 implying that the relationship between fashion consciousness and adoption is relatively weak. In the following section the coefficient for fashion consciousness is presented Table 5.

Table 5: Fashion consciousness coefficient

Coefficients[a]								
		Unstandardized Coefficients		Standardized Coefficients			95,0% Confidence Interval for B	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	2,861	0,266		10,742	0,000	2,337	3,385
	Fash	0,309	0,055	0,270	5,604	0,000	0,201	0,418

a. Dependent Variable: Adop

The Beta value for fashion consciousness and adoption is 0.270 ($\beta = 0.270$) and the p value is significant ($p< 0.005$). This relationship posits that the more fashion conscious an individual is, the more likely that they will adopt a new fashion style.

Need for Uniqueness and Fashion Adoption: For the second hypothesis, the need for uniqueness and fashion adoption, the descriptive statistics are presented in Table 6, followed by a discussion thereof.

Table 6: Descriptive statistics: Need for uniqueness and adoption

	Mean	Std. Deviation	N
Adop	4,2975	1,50281	400
Need	4,4857	1,55113	400

Note: Adop= Adoption; Need= Need for uniqueness

As indicated in Table 6, the mean values for adoption and need for uniqueness are 4.29 and 4.64 respectively. While the standard deviation values are 1.50 and 1.55 for adoption and fashion consciousness respectively. This implies that that the sample was evenly distributed and the respondents provided views that were not too different from the mean responses of the group in terms of their views regarding the influence of the need for uniqueness on fashion adoption.

Upon testing the linear regression model, the following equation was used:

$$\mathbf{y = \beta_0 + \beta_1 X + \varepsilon}$$

y = Dependent Variable: Adoption
x = Independent Variable: Fashion

Table 7: Need for uniqueness and adoption correlation

Correlations					ANOVA Model	Sum of Squares	df	Mean Square	F	Sig.
		Adop	Need							
Pearson Correlation	Adop	1,000	0,356	1	Regression	114,505	1	114,505	57,936	0.000[b]
	Need	0,356	1,000		Residual	786,612	398	1,976		
Sig. (1-tailed)	Adop		0,000		Total	901,118	399			
	Need	,000			a. Dependent Variable: Adop					
N	Adop	400	400		b. Predictors: (Constant), Need					
	Need	400	400							

Note: a. Dependent Variable: Adop; b. Predictor: Need

As indicated in Table 7, the correlation between the predictor variable (Need for uniqueness) and the dependent variable (Adoption) is 0.356 which is below the threshold of 1, therefore showing that a correlation between the two variables exists. Hypothesis 2 is therefore supported. The positive value also denotes evidence of a positive linear correlation however the linear correlation is distant from 1 implying that the relationship between fashion consciousness and adoption is relatively weak. In other words, the higher the need for uniqueness, the more likely that an individual will adopt a new fashion style. In the section that follows the need for uniqueness coefficient is presented (Table 8).

Table 8: Need for uniqueness coefficient

Coefficients[a]							
	Unstandardized Coefficients		Standardized Coefficients			95,0% Confidence Interval for B	
Model	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1 (Constant)	2,748	0,215		12,763	0,000	2,325	3,172
Need	0,345	0,045	0,356	7,612	0,000	0,256	0,435
a. Dependent Variable: Adop							

The results in Table 8 reflects a Beta value of 0.356 (β = 0.356) for the need for uniqueness and the p value is significant (p< 0.005).This suggests that the more consumers seek to be unique the more the more likely there are to adopt a new fashion style.

Susceptibility to Interpersonal Influence and Fashion Adoption: The descriptive statistics results for the third hypothesis, susceptibility to interpersonal influence and fashion adoption, are presented in Table 9, followed by a discussion thereof.

Table 9: Descriptive Statistics: Susceptibility to interpersonal influence and adoption

	Mean	Std. Deviation	N
Adop	4,2975	1,50281	400
Susc	2,8647	1,32917	400

Adop= Adoption; Susc=Susceptibility to interpersonal influence

As indicated in Table 9(above), the mean values for adoption and susceptibility to interpersonal influence are 4.30 and 2.86 respectively while the standard deviation values are 1.50 and 1.33 falling between the recommended thresholds of (- 2 and +2) implying that with regards to how susceptibility of interpersonal influence affects the extent of fashion adoption the respondents provided views that did not veer too much from the mean responses of the group.

Upon testing the linear regression model, the following equation was used:
$\mathbf{y = \beta_0 + \beta_1 X + \varepsilon}$
y = Dependent Variable: Adoption
x = Independent Variable: Fashion

Table 10: Susceptibility to interpersonal influence and adoption correlation

Correlations					**ANOVA**					
					Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
		Adop	**Susc**							
Pearson Correlation	Adop	1,000	0,059	1	Regression	3,134	1	3,134	1,389	.239[b]
	Susc	0,059	1,000		Residual	897,983	398	2,256		
Sig. (1-tailed)	Adop		0,120		Total	901,118	399			
	Susc	0,120								
N	Adop	400	400							
	Susc	400	400							

Note: a. Dependent Variable: Adoption (Adop); b. Predictor: Susceptibility to interpersonal influence (Susc)

In table 10 (above), it can be observed that the correlation between the predictor variable (susceptibility to interpersonal influence) and the dependent variable (adoption) is 0.059 which is below the threshold of 1. This indicates that a correlation between the two variables exists, however it is very weak as it is distant from 1. Hypothesis three is therefore not supported. Table 11presents the coefficient for susceptibility to interpersonal influence and adoption.

Table 11: Susceptibility to interpersonal influence

Coefficients[a]							
	Unstandardized Coefficients		**Standardized Coefficients**			**95,0% Confidence Interval for B**	
Model	**B**	**Std. Error**	**Beta**	**t**	**Sig.**	**Lower Bound**	**Upper Bound**
1 (Constant)	4,106	0,179		22,989	0,000	3,755	4,458
Susc	0,067	0,057	0,059	1,179	0,239	-0,045	0,178

a. Dependent Variable: Adop

In Table 11(above) it can be observed that the Beta value for susceptibility to interpersonal influence is 0.059 ($\beta = 0.059$) and the p-value is insignificant ($p>0.05$). This implies that susceptibility to interpersonal does not influence individuals' decision to adopt a new fashion style.

Individualism/Collectivism and Fashion Adoption: For the fourth hypothesis, individualism/collectivism and fashion adoption, the descriptive statistics are presented in Table 12, followed by a discussion.

Table 12: Descriptive Statistics

	Mean	Std. Deviation	N
Adop	4,2957	1,50428	400
Coll	4,6689	1,05481	400

As indicated in Table 12(above) the mean values for adoption and collectivism are 4.30 and 4.67 respectively while the standard deviation values are 1.50 and 1.05 falling between the thresholds of (-2 and +2).This implies that the sample is evenly distributed and that there is low variation amongst the views of the respondents and those of the group concerning the influence of individualism/collectivism on fashion adoption.

Upon testing the linear regression model, the following equation was used:

$\mathbf{y = \beta_0 + \beta_1 X + \varepsilon}$

y = Dependent Variable: Adoption

x = Independent Variable: Fashion

Table 13: Collectivism and adoption correlation

Correlations				ANOVA					
		Adop	Coll	Model	Sum of Squares	df	Mean Square	F	Sig.
Pearson Correlation	Adop	1,000	0,040	1 Regression	1,414	1	1,414	0,624	0.430[b]
	Coll	0,040	1,000	Residual	899,209	397	2,265		
Sig. (1-tailed)	Adop		0,215	Total	900,623	398			
	Coll	0,215							
N	Adop	400	400						
	Coll	400	400						

Note: a. Dependent Variable: Adoption (Adop); b. Predictor: Collectivism (Coll)

In table 13(above) it can be observed that the correlation between the predictor variable (collectivism) and the dependent variable (Adoption) is 0.040which is lower the threshold of 1, thereby revealing that there is a correlation between the two variables. The positive value also reveals evidence of a positive linear correlation however the linear correlation is distant from 1 positing that the relationship between collectivism and adoption is very weak. This suggests that collectivism does not have an impact on consumer's adoption of fashion brands. Hypothesis four is therefore not supported. Table 14 in the following section presents the individualism/collectivism coefficient.

Table 14: Collectivism coefficient

Coefficients[a]							
	Unstandardized Coefficients		Standardized Coefficients			95,0% Confidence Interval for B	
Model	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1 (Constant)	4,032	0,342		11,779	0,000	3,359	4,705
Coll	0,057	0,072	0,040	0,790	0,430	-0,084	0,197

a. Dependent Variable: Adop

It is evident from Table 14 (above) that the Beta value for the collectivism is 0.040(β = 0.040) and the p value is insignificant at the level of significance is (p< 0.005) suggesting that individualism/collectivism does not influence consumer's decision to adopt a new fashion style.

Masculinity/Femininity and Fashion Adoption: The descriptive statistics results for the last hypothesis, masculinity/femininity and fashion adoption are presented in Table 15, followed by a discussion thereof.

Table 15: Descriptive: Masculinity and adoption

	Mean	Std. Deviation	N
Adop	4,2975	1,50281	400
Masc	3,7619	0,61494	400

As indicated in Table 15 on the previous page, the mean values for adoption and masculinity are 4.30 and 3.76 respectively while the standard deviation is 1.50 and 0.61 thereby falling below the threshold of (-2and +2). This implies that the sample was evenly distributed and demonstrates low variation between the views of the respondents and those of the group regarding masculinity/femininity's influence on fashion adoption.

Upon testing the linear regression model, the following equation was used:
$\mathbf{y = \beta_0 + \beta_1 X + \varepsilon}$
y = Dependent Variable: Adoption
x = Independent Variable: Fashion

Table 16: Masculinity and adoption correlation

Correlations

		Adop	Fash
Pearson Correlation	Adop	1,000	-0,098
	Masc	-0,098	1,000
Sig. (1-tailed)	Adop		0,025
	Masc	0,025	
N	Adop	400	400
	Masc	400	400

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8,620	1	8,620	3,844	0.051[b]
	Residual	892,498	398	2,242		
	Total	901,118	399			

a. Dependent Variable: Adop
b. Predictors: (Constant), Masc

Note: a. Dependent Variable: Adoption (Adop); b. Predictor: masculinity (masc)

In table 16(above), it is evident that the correlation between the predictor variable (masculinity/femininity) and the dependent variable (adoption) is -0,098. This value is lower the threshold of 1 thereby revealing that there is a correlation between the two variables, however an inverse relationship exists. In other words, the more masculine individuals are, the less likely that they will adopt a new fashion style. Therefore, feminine consumers are more likely to adopt a new fashion style. The following section presents the masculinity/femininity coefficient (Table 17).

Table 17: Masculinity coefficient

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound	95,0% Confidence Interval for B Upper Bound
1	(Constant)	5,197	0,465		11,183	0,000	4,283	6,110
	Masc	-0,239	0,122	-0,098	-1,961	0,051	-0,479	0,001

a. Dependent Variable: Adop

As presented in Table 17, the Beta value for masculinity/femininity is -0,098 (β = -0.098) and the p value is significant (p< 0.010). This suggests that the more the masculine a consumer is the less likely that they would adopt a fashion brand.

Summary of Results: Table 18 presents a comparison of coefficients observed in the present study. The findings reveal that three of the five hypotheses are supported, namely fashion consciousness, the need for uniqueness and masculinity/femininity. Therefore indicating that the latter variables have an influence on fashion adoption. The strongest relationship was found to be between the need for uniqueness and fashion adoption, followed by fashion consciousness and fashion adoption. An inverse relationship was found between masculinity/femininity and fashion adoption. On the other hand, susceptibility to interpersonal influence and individualism/collectivism do not influence fashion adoption.

Table 18: Comparison of Coefficients

Relationship	Standardized Coefficients Beta	Pearson Correlation	P-Value	Outcome
Fash&Adop	0,270	0,270	0,000	Supported and significant at (p<0.01)
Need&Adop	0,356	0,356	0,000	Supported and significant at (p<0.01)
Susc& Adop	0,059	0,059	0,239	Unsupported and insignificant at (p<0.01)
Coll&Adop	0,040	0,040	0,430	Unsupported and insignificant at (p<0.01)
Masc& Adop	-0,098	-0,098	0,051	Supported and significant at (p<0.10)

Fashion consciousness (Fash), Need for uniqueness (Need), Susceptibility to interpersonal influence (Susc), Collectivism (Coll), Masculinity (Masc) and Adoption (Adop).

5. Discussion and Conclusion

The current research is primarily concerned with investigating the influence of certain personality traits on fashion adoption among the youth in Johannesburg. This study concludes that fashion consciousness and the need for uniqueness have a positive influence on fashion adoption, while masculinity/femininity has an inverse relationship with fashion adoption. In other words, the more fashion consciousness an individual is, the more likely that they will adopt a new fashion style. These results are consistent with previous literature (Goldsmith et al. 2015; Lertwannawit & Mandhachitara, 2012) that indicated a positive relationship between fashion consciousness and fashion adoption. Likewise, the higher an individual's need for uniqueness, the more likely that they will consider adopting a new fashion style. Previous research (McAlister & Pessemier, 1982; Tian et al., 2001) supports this finding that individuals who desire social distinction tends to be more open to fashion adoption. In contrast to previous literature, the present study found that susceptibility to interpersonal influence do not influence fashion adoption. In other words, it was found that there is no relationship between these two variables. Previous work by several authors (Belleau et al., 2001; Khare & Rakesh, 2012; Lertwannawit & Mandhachitara, 2012; Park, Rabolt & SookJeon, 2006) did indeed indicate a positive relationship between susceptibility to interpersonal influence and fashion adoption. Similarly, collectivism was found to have no relationship with fashion adoption. This finding is contradictory to previous work that confirmed a significant relationship between individualism/collectivism and adoption. In fact, Saad et al. (2015) suggested that individualistic societies are more likely to adopt new fashion style. Lastly, the results for masculinity indicated an inverse relationship with fashion adoption, therefore showing that the more masculine an individual is, the less likely they are to adopt a new fashion style. Therefore inferring that feminine-orientated individuals are more likely to adopt new fashion styles. This is consistent with previous literature by Shephard et al. (2014), which found that feminine-orientated consumers are more likely to adopt new styles.

Implications of the Study: The contributions of the present study are threefold: firstly, it contributes to theoretical literature in the field of fashion marketing. More specifically, it extends on Sprole's (1980) and Craik's (1995) models of fashion adoption, by confirming that fashion consciousness, the need for uniqueness and masculinity/femininity influence fashion adoption. Secondly, it provides marketing practitioners with insight into factors that influence the youth's intention to adopt a new fashion style. For example, fashion marketers should target their campaigns on fashion conscious consumers. Therefore highlighting fashion forward trends that will attract fashion conscious consumers. Furthermore, fashion marketers should focus on creating campaigns that emphasize uniqueness and individuality. Through the implementation of this strategy, innovators and early adopters will adopt the new trends after which it will, over time, trickle into the commercial market. Marketers should also consider the implications of individualism/collectivism on fashion adoption. For instance, when targeting different cultures, marketers should note that individualistic cultures are more likely to adopt a new fashion trend, therefore, rather invest in less traditional cultures that clearly portray characteristics of individualism. Thirdly, the present study adds to contextual knowledge in the field of fashion adoption among the youth in Johannesburg, an emerging market that is often overlooked in a global context.

Limitations and Future Research: The current research makes several contributions to literature and industry. However it is not without limitations. Firstly, this study is solely conducted on students and possibly to obtain more informed results the researcher would recommend that future studies be conducted on students as well as working people. This would probably provide much needed comparison. There is a possibility that students have restrictions on their buying power hence their responses might have been compromised therefore including employed respondents in such a study would reap different results as to consumers' fashion preferences. Another limitation of the study was that it was a voluntary survey and accuracy of results could have been comprised with students neither having an obligation nor incentive to complete it hence they could have rushed or not read through the survey properly. The other limitation is that the sample might not have had sufficient exposure to fashion and this might have reduced the potential contribution or impact that the study could have made.

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Long-Term Relationship between Inflation and Public Sector Deficit in the Turkish Economy and its Macroeconomic Implications (1975–2014)

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Abstract: The process of deterioration in the fundamentals, in particular those related to inflation and the public sector deficits, that had started in the 1980's have accelerated in the 1990's. Meanwhile two way causative relations seem to have appeared between the fluctuations of some fundamentals. In this context, this paper examines the long term relationship between inflation and the public sector deficit and provides an analysis of the macro dynamics that derive from this relationship. Following a summary of the theoretical literature on the relationship between inflation and the public sector deficit, the behavior of these two variables in the 1975-2014 periods are delineated and an analysis of their relationship to some selected macro-variables is presented. The most important result of this article is that high and chronic inflation rates are one of the responsible of deterioration which appeared on the main economic variables particularly in the public sector balance. Similarly, in the 2000's, on the basis of positive developments in the public balance lies in falling inflation rates quickly and permanently.

Keywords: *Inflation, Public Sector Deficit, Johansen Cointegration, VECM, Granger Causality*

1. Introduction

The fact that the regional international integrations started to speed after the 1960s, that the effect of the cold war decreased and that the information age was born, caused the concept of industrialization which was under the supervision and leadership of the states to slow down. The foreign exchange bottle-neck caused by the oil crisis and by the increase of these effects compelled many countries, including Turkey, to make an outward oriented industrialization strategy (Türkkan, 1998). Until the 1980s, until the period in which the Turkish economy showed all the properties of the self-contained economy, the basis of the development and industrialization policies were the import substitution industrialization strategy. In the period of 1970-1977, in which the import substitution was tried to be developed, the increase in oil prices (which is an important industrial input) and the rapid growth in import despite this increase, took the current account deficit (CAD) to an unsustainable level. In addition to this, the fact that the increase in oil prices continued until 1979, caused further increase in shortage of foreign exchange, production downturn and scarcity of goods. It also laid the foundation for high and persistent inflation which will affect the Turkish economy negatively for 30 years (Tokgöz, 1998).All these negative developments have pushed the Turkish economy into a severe economic crisis which started in 1978. The crisis period of 1978-1980 was a turning point in terms of industrialization and economic policies. In order to overcome the economic crisis, 24 January decisions which were put into effect in the January of 1980 revealed that export-based growth model under the free market conditions would be followed in the long term industrialization process.

Adopting an outward-oriented market economy after 1980, the Turkish economy managed to decrease the inflation levels which were close to 100% in 1980 in the following three years.[14]The success of decrease in inflation is due to the considerable decrease in real wages and in non-manufacturing terms (agriculture-trade) by the 24 January decisions in other words, to the suppressed domestic demand by the income policies. In addition to this, high inflation policy played an important role in suppressing the internal demand. However, starting from 1984, the inflation which was controlled to a large extension the beginning of the 1980shad the tendency to increase again due to rapid monetary expansion and the increase in non-wage costs (Erçel, 2001). This new trend in inflation rates which started after 1984, continued during 1990s in which basic macroeconmic indicators (fundamentals) were deterioted considerably and the inflation turned into a high and persistent phase but not into a hyperinflation one. The inflationist process which gained speed

[14] The inflation rates in 1981, 1982, and 1983 were 34%, 27% and 28% respectively. Source: www.tcmb.gov.tr

in the middle of 1980s caused both the nominal interest rates to increase and also the quick currency adjustments to gain a continuous form in order to protect the international competitive power. The uncertainty caused by both the high nominal interests and the inflationist environment caused a considerable recession in industrial investments namely the private sector investments when compared to 1970s. (Erçel, 2001). In decrease of private sector investments, public saving deficits which had the tendency to increase from the middle of the 1980s and the withdrawal of the private sector funds by the public with high borrowing interest rates to finance these deficits, were also effective (Crowding-OutEffects). From the second half of the 1980s, the basic macroeconomic indicators which had the tendency to deteriote quickly and the growth rates[15] which were about to stop, leaded the Turkish economy to engage in different political pursuits. In 1989, with the decision no 32[16], the restrictions over foreign exchange controls and capital movements were removed. Therefore, the foreign trade liberalization which started after 1980 was followed by financial liberalization. Among the most important reasons of financial liberalization, the following can be enumerated: To make the Turkish economy closes these deficits by leaning towards foreign sources and funds and to make it continue the growth dynamism which it has captured after 1983.[17]

Following the opening of the capital account, the expectation that there will be a significant increase in foreign capital inflows, that the high speed of growth -which was reached before- would be sustained owing to these capital inflows and that the increasing public deficit would be overcomed by the foreign sources and funds, were accepted in general by the economic administration. However, the expected results were not fully reached. There was a rapid increase in foreign capital inflow; however these increases were not continued in medium and long terms. They were carried out in short term capital flows rather than long termed foreign investments. Similarly, following the opening of capital account, even though a high increase in growth of 9.4% was captured, no stable rates of growth could achieve during 1990s.[18] It must be importantly emphasized that not only expected results were not achieved through financial liberalization but also the deterioration which stared in the middle of 1980s in basic macroeconomic indicators, namely the inflation and public saving deficit, continued increasingly in the 1990s. Because it was the foregone result that financial liberalization process which was started without making the banking system acquire a healthy structure, without creating a mechanism to supervise it[19], without dragging down the high and persistent inflation, without ensuring the budget discipline and without making the structural reforms, would create a range of negative impacts. Short term capital inflows which increased with the liberalization of capital inflows helped to finance the increased public and foreign trade deficits. However, as the short term capital inflows were related to the expectations that the high real interest rates and real foreign currencies would not change, this caused the high interest rates to lower speed. In addition to this, the fact that the increasing short term capital inflows cause monetary expansion, made an extra pressure on inflationist expectations.

The budget deficit and the current account deficit which reached unsustainable levels under the high and persistent inflation were the major factors which caused two important crises of 1994 and 2001. In the crisis of 1994 the Turkish economy shrank by -6.1%. Whereas in 2001 it shrank by -9.5 % in which the budget deficit reached its highest level. It must be underlined that the crisis of 2001 was the deepest crisis which has Turkish economy faced throughout the republican history. After the crisis of 2001 which the Turkish economy have passed through, the targets of the public finance were redetermined by the "Program for Transition to a Strong Economy" announced on 15 April 2001.The main target of the Program for Transition to a Strong Economy was to eliminate the public deficit dynamic which reached to a unsustainable level and

[15]Between 1981-1987, average growth rate was 5.7 %, the same ratio was 1.4 % and 1.6 % in 1988 and 1989 respectively. *Source*: www.tcmb.gov.tr

16 The Turkish Lira became convertible by the Decision No.32 for "Protecting the Value of Turkish Currency" which entered into force on 11 August 1989 after being promulgated in the Official Gazette.

17 In the basis of the liberalization movement which started under the leadership of TurgutÖzal, it can be said that the idea of "Considering the liberalization policies as the salvation formulas" played also a role (Çakman-Çakmak, 2003:30).

[18]The growth rate which was 9.4% in 1990 declined to 0% in 1991 and put the Turkish economy into recession. The Turkish economy which grew respectively by 6.4% and 8.1% in 1992 and 1993, shrank by – 6.1% in 1994. The average growth rate of 1995-96-97 was 7.7%. However, due to the Russian crisis of 1998, the growth rate of 1998 declined to 3.9%. As result of the earthquake disaster of August 1999, the growth rate of 1999 declined tı -6.1%. So the Turkish economy couldn't capture a consistent growth trend in 1990s. Source: www.tcmb.gov.tr

[19] Banking Regulation and Supervision Agency (BRSA) was established in 1999 in Turkey.

decrease the Turkish economy's need for external help. The main condition to reach that long term basic target is to establish the macroeconomic balances. The tight monetary and fiscal policy applied after the program for Transition to a Strong Economy managed to stop the inertia of high and persistent inflation. The double –digit inflation which had been continuing since 25 years decreased to 9.4% in 2004. The decrease in inflation continued relatively after 2004 and was about 7.2% in average between 2004-2014.[20] In parallel to the decrease in inflation, the budget deficit decreased considerably and the budget deficit/GDP ratio was below the Maastricht Criteria of 3% between 2004-2013 (except 2009-2010).

The main purpose of this article is an analysis of the interaction of the high and persistent inflation faced by the Turkish Economy with the basic macroeconomic indicators mainly the public sector balance and the disturbances which it has caused on these indicators. The deterioration of budget balance due to rising interest rate in the wake of the high inflation that became chronic in post 1980 period of Turkish economy and particularly development of a mutual relationship between the budget deficit and inflation in the 1990s are the basic topics analyzed in the article. Similarly, on the basis of improvements in budget deficit and public balance of Turkish economy in 2000s, the impact of the rapidly decreasing inflation rates has also been analyzed in the article. The relationship between inflation and the budget deficit were tested with econometric analysis and interpretations on this topic were intended to be strengthened. Within this context, following the introduction part the theoretical framework is summarized in the second part. In the third part, empirical methods are applied to question long term dynamic relation between the inflation, interest payments and budget balance. The causality relationship between these macroeconomic indicators is tested with VECM. In the fourth final part, the results achieved from the article are discussed while giving an analysis.

Theoretical Framework: Dynamics of Inflation and the Relation between the Public Balance and the Inflation: Classical economists do not have a tolerance for the state's intervention on the economy. They want that the state serve only for defense, diplomacy and public order. According to them, economy finds it balance through price mechanism. So, in the classical system, in case where the activity field of the state is limited, the state budget have to be balanced and have to be as small as possible annually. Any increase in budget spending, will deteriorate the budget balance and any calling on additional taxes to overcome the deficit creates negative impact on investments, savings and labor supply. So by this way, the neutrality of the state will be damaged and the state intervention on the economy will increase. On the other hand, if the state leans towards debt instead of taxation, the interests increase owing to the fact that the state is a competitor to the private sector in loan able funds and the private firms will be excluded from the funds market. In addition to this, classical economists lean towards debts only in state of emergences and in great public works (Yılmaz, 2012). According to the classical economy theory which favors the balanced budget policy, the reason of inflation is expressed by the Quantity Theory created by Fisher (1911). M denotes monetary base, Vdenotes velocity of circulation of money, Pdenotes general level of prices, and Tdenotes volume of trade. The equation is expressed as follows:$M.V = P.T$ In the equation, assuming that the V and $T$are constant, there is a correlation between the money supply and general level of prices in the same direction and in the same ratio (Fisher, 1911).

Keynes and the Keynesians disregarded the quantity theory of money developed by the classical economists and they paid secondary importance to the money and monetary institutions in macroeconomic processes. With the Keynesian economy, budget balance concept, which was given importance by the classical economy, started losing its importance and instead "economic balance" concept came into prominence. In addition to this, the Keynesian economists defended that following a budget policy in line with the economic conjuncture is important (Aktan, 2002). John Maynard Keynes claimed that the Great Depression of 1929 occurred because of the demand insufficiency and that the escape from the crisis would be through the state intervention (public spending) and in this regard through the budget deficits. However, as a result of increase in public spending, if there occurs to be a domestic demand pressure, the budget deficits cause inflation (Doğru, 2014). According to the founder of the monetarist economy Milton Friedman (1963), "the inflation is always a monetary matter everywhere. In every country where inflation is high for a long time, the growth of the money supply is high" (Mishkin, 1984).As can be understood from these expressions of Friedman, in the

[20]The inflation of Consumer Price Index was double-digited, 10.1% in 2008 and 10.4 % in 2011.

monetarist approach, as long as the fact that "the fiscal policy creates an impact of the monetary policy" is prevented, fiscal policy control is not necessary to ensure price stability. On the contrary, if the budget deficit is closed through monetization, there will be stimulant impact of monetary expansion on inflation. That is why the only aim of the central bank is to ensure the price stability and to control the quantity of money without concession within the framework of this aim. The control of the money passes through "monetary policy accords to rule", so to say, increasing the money supply in relation to the degree of economic growth. Uncompromising attitude and independency of the central bank will force the fiscal authority to apply a tight fiscal policy.

In neoclassical approach – having its roots based on monetarism and diverging significantly from Keynesian approach by accepting rational expectations rather those adaptive expectations – there is no reached consensus over the views on the budget deficit and inflation. For example, Robert Barro puts forward that among the indicators of total demand, there is also the fiscal policy and that the fiscal policy remains the least important as an indicator among these indicators. He explains that the budget deficits do not have a crucial impact on total demand and therefore on the price determination within the framework of Ricardo's Equation (Barro, 1974, 1989). Even though they are in the neoclassical school, another completely differentiated analysis was written by Sargent and Wallace (1981) named "Some Unpleasant Monetarist Arithmetic" and it found itself an important place in the economics literature. The article is a rejection of monetarist acceptance of "inflation is a monetarist phenomenon". According to Sargent and Wallace, in an environment where the fiscal deficits have continuity, it not possible to hold inflation low by making debts in the long term on one side and by applying tight monetary policy on the other. The process collapses finally and causes high inflation. There are three basic assumptions in Sargent and Wallace's analysis. The first one is the real interest rates of the public debts is higher than the economic growth. The second one is that the central bank had to gain revenue (senior age) by issuing money. The last assumption is that the central bank submits itself under the fiscal pressure. However, the first assumption is quite important. Because if the real interest rate is higher than the growth rate, debt stock/GDP rate will increase gradually and debts will be unsustainable. Unsustainable public debt will cause the monetary authority to create new monetary demand and therefore this will put the monetary base growth rate and inflation in an uncontrollable circumstance (Sargent & Wallace, 1981).

In brief, according to Sargent and Wallace, financing the budget deficits in long term by incurring liabilities, will cause a more inflationist result compared to printing money in case where the opportunity to incur debts is eliminated. In other words, avoiding monetary financing causes more inflation in the long term. As the monetarists consider the monetization as the reason of inflation, this fact is called the "Unpleasant Monetarist Arithmetic". After Sargent and Wallace's article which opened new horizons, financial instabilities became the center of all the theoretical models which explain persistent inflation. In developing countries where there is a low level of activity to collect taxes, where there is political instability and where the access to foreign debts are limited, the approaches which took the fiscal-based theories of inflation as a basis, came into prominence. To sum up, this highly important article of Sargent and Wallace formed the intellectual basis of "Fiscal Theory of the Price Level (FTPL)" or shortly "Fiscal Approach" (Catao & Terrones, 2001). FTPL approach rejects the monetarist approach in two important ways. Firstly, under some assumptions, what determines the inflation is not the quantity of money; it is rather the budget deficits and the public debts caused by these deficits. Secondly, in such a case the monetary policy and independency of the central bank would not be enough for the price stability. Appropriate fiscal policy must also be applied (Uygur, 2003).

According to FTPL approach, the budget deficit must be eliminated through an increase in the quantity of money in order prices to increase. If there are continuous budget deficits in an economy, the monetary policy is under pressure of these deficits and therefore of the fiscal policy (fiscal dominancy). In order for the public budget deficits not to exert an inflationist pressure, eliminitating these deficits through internal debt rather than monetization will cause the real interests to increase and create a status where the payment of these debts are made through incurring new debts. As a result of such a development, the interest burden increases to a considerable extent, the government have to head for monetization. The inflation which occurred at that point is comparatively higher (Uygur, 2001). Furthermore, in fiscal approach, the real interests which increase in relation to the increasing public debt, provide high real incomes to people of middle and high income people and /or institutions who lead towards for the government securities. These high real incomes

cause both deterioration of the income distribution on one side and an extra pressure on the inflation by increasing consumption on the other side. The causality relationship of the fiscal approach from budget balance to the inflation can also cause an effect from inflation to the budget balance by creating a feedback effect. According to Dornbusch, Sturzeneggerand Wolf (1990), inflation affects the share of the budget deficit in gross domestic product by several mechanisms. The first effect is the Olivera-Tanzi Effect. Inflation causes the real tax incomes depreciate and the tax collection declines. As the inflation is high, so the real loss which will occur in the public's tax income will be relatively high. The second effect is that the high inflation causes unwillingness to pay taxes. This will create a decreasing effect on the public income. The third effect is the real value of the public debt stock may depreciate in a high inflationary environment. However, as the "Risk Premium" increases owing to the high inflation so the payments of the real interest debts increase accordingly. This is an additional burden over the budget (Catao and Terrones, 2001). Stated in the theoretical studies, there is a bidirectional relation between the budget deficit and inflation. Not only the budget deficit causes an inflationary pressure owing to the monetization and negative expectations, but also the high inflation has a feedback effect increasing the budget deficit.

2. Literature Review

The Dynamic Relations between the Inflation and the Public Budget Balance: There are several theoretical and empirical studies made on the emergence and the reasons of high and persistent inflation in the Turkish economy. Generally, among the elements feeding the inflation and the inflationist processes, the following can be enumerated; high public saving deficits, monetization of these deficits, high expectations of inflation, political instabilities, increases in import input prices, increases in oil prices. Among these possible reasons, some of them have high correlation with each other, whereas some other can only have limited effect for specific periods (Kibritçioğlu, 2004). According to the article of Kibritçioğlu (2004), there are several macro-economic variables affecting the emergence of high and persistent inflation. After a while, the interaction of these variables with inflation and the powerful feedback effects which emerged as a result of this case, make it hard to define the main effects. So, defining the causality relationship between the inflation, budget deficits and money supply is not easy in that sense.[21]In addition to this, in the empirical studies which were carried out especially for Turkey, the fact the chosen sample periods are different, that the econometric methods applied are differentiated and that the chosen variables differ even though same periods and same econometric methods are used, change the found results completely. Hence, in the empirical studies made for the Turkish economy which we summarize below (for the period of 1948-2009); all the possible causality relationships are revealed. However, the dominant result is that the budget deficits feed the inflation.

According to us, the greatest reason behind the fact that different results are found within the estimated relations between the inflation and other macroeconomic variables is the sample period. These differences can be grouped under two headings. The first one is the start of the sample period can be in the periods, in which these two variables are highly deteriorated or in which the feedback effects occurred in a powerful manner. In that case, the variables which include the deterioration effects in the whole sample period are used. Secondly, the last periods of the used sample period might contain the periods which these two variables are in the levels that can still constitute a problem in terms of macroeconomics. So, it might not be possible to discover the relation in question. In brief, the chosen sample period may cause different results to emerge in measuring the power of the relation between variables and the causality relationship. As a result of all these reasons, the time period of the econometric study in this article is determined as 1975-2014. Because in the start and the endears of the chosen period, the inflation rates are one-digitedand the ratio of budget deficit/GDP is about 1%. Now, some of the important empirical studies for the Turkish economy will be summarized.

[21] "*Economic theory postulates a clear causal connection between fiscal deficits and inflation in the long-run. However, this relation ship is not easily detectable in the data. One reason is the complex short-run dynamics of high inflation processes; as stressed by Calvo&Vegh (1999) in their recent survey of the literature, once inflation rises to double- or triple-digit levels, strong feed back effects between the main macro variables make it very hard to identify the ultimate culprit(s)*" (Catao&Terrones, 2001: 15).

The dominant view on the inflationist process was mainly that the criminal was the fiscal instabilities and the monetization. However, the academic studies in recent periods show that the inflation has an inertial property and that the relation between budget deficits and inflation are statistically significant even in the periods in which monetization is excluded. In this context, the inertial nature of the inflation in Turkey is emphasized firstly in the monetary program announced during the signature of the 17th stand-by agreement with International Monetary Fund in the December of 1999. In the second half of the 1980s, direct monetization rate (short term advances used by the Treasury from the Central Bank) which corresponds to 1.5% of the gross national product, increased to 3% in 1993. The monetization rate decreased in between 1994-1997. Finally, owing to an agreement between the Treasury and the Central Bank, Treasury ended using short term advances from the Central Bank. However, even though direct monetization was cut off, there was no tendency of inflation to fall down in that period. Shortly, in the roots of the inflationist process, the budget deficits are found. Eliminating the budget financing (open finance method), does not end the relation between the budget deficit and the inflation (TÜSİAD, 2002).

Altıntaş, Çetintaş & Taban (2008) obtained a result which is totally on the contrary to what TUSIAD had obtained. Altıntaş, Çetintaş&Taban analyzed the relation between budget deficit, monetary expansion and inflation in period which comprised the period of 1992:01 and 2006:12. According to the ARDL model which was used in the study, the monetary expansion has a positive and significant effect on the inflation in both short term and long term (except specific terms). On the other hand, it is observed that the budget deficit does not have a significant relation with the inflation in the short and long term. The findings have the feature of supporting the monetarist view (Altıntaş, Çetintaş & Taban, 2008). In the study by Akçay, Alper & Özmucur (1996), in which they used yearly dates and which comprises the period of 1948-1994, budget deficit/GNP, percentage change of currency in circulation and GNP deflator based inflation were used as variables. In the study, carried out with the yearly data and under the assumption of long term monetary neutrality[22], a high correlation from the budget deficit to inflation was found. In another study carried out by Alper & Üçer (1998), the monthly data were used for the period of 1985/I–1997/9. The chosen variables were Consumer Price Index/CPI, Producer Price Index/PPI, M1, M2, M2Y and foreign currency basket (U.S. Dollarandthe Deutsche Mark). The authors reached the conclusion that the relation between the fiscal imbalances and the inflation was weaker than it was thought and that the reason of inflation in Turkey is the "inflation" itself. Özgün (2000) made a study for the period of 1950-1998 by using the annual data of budget deficit / GDP, percentage change of currency in circulation and the inflation rates. At the end of the cointegration test made by using the annual data, it was observed that there was a long term linear positive correlation between the budget deficit, money in circulation and the inflation and that there was also a bi-directional causality relationship between the budget deficits and the inflation.

Supportive results for Özgün's (2000) findings were obtained by Çetintaş (2005). In his study, Çetintaş uses the period of 1985-2003 and analyzes the relation between inflation and budget deficit by using bivariate and multivariate models. Both the findings of the two models used by Çetin point out that there is a bi-directional causality relationship between the budget deficits and the inflation. In order to decrease the inflation in Turkey, the budget deficits must absolutely be decreased (Altıntaş, Çetintaş & Taban, 2008). In the study of Oktayer (2010), the relation between the budget deficit and the money supply in Turkey was tried to be analyzed by using quarterly data in the period of 1987-2009. The findings suggest that there is a direct impact of budget deficit on inflation. In the study of Günaydın (2004) made by using Johansen-JuseliusCointegration Test with the data of budget/deficit/GNP, (Whole Sale Price Index/WPI AND M1 for the period of 1971-2002, it was found out that the budget deficits have direct impact on inflation both in the short term and in the long term. As can be understood from the above paragraphs, it is not very clear what is the main responsible/responsible in the interaction dynamic between the budget deficit, inflation and money supply in the Turkish economy. In the studies made for Turkey just like those made even for other countries[23], fiscal balance is not as an explanatory variable for the inflation. As an example; Togan, 1987; Öniş & Özmucur, 1990; Darrat, 1997 and Akyürek, 1999 studies can be given (Kibritçioğlu, 2002).

[22] Money Neutrality is the idea that a change in the stock of Money affects only nominal variables in the economy such as prices, wages, and exchange rates, with no effect on real variables, like employment, real GDP, and real consumption.
[23]Romer (1993), Lane (1995), Carnpillo&Miron (1996) and Click (1998) studies can be given as examples to this (Catao&Terrones, 2001: 4).

3. Data Analysis and Results

Data Set and the Econometric Model: In this part, questioning the long term relationship basically between the inflation and some macroeconomic variables and determining the causality relationship were aimed. The variables used in this study for this purpose are the inflation rates (%), interest payments/budget expenditures (%), budget deficit/GDP (%), money in circulation (Million TL) and USD/TL exchange rate. The annual data of 1975-2014 period were used. Data sources regarding the variables were based on Republic of Turkey Ministry of Development (Economic and Social Indicators), Istanbul Chamber of Commerce and Central Bank of The Republic of Turkey (Electronic Data Delivery System). The inflation is based on Wholesale Price Index (WPI) (1963=100) and is calculated by us. The money in circulation and the foreign exchange rates were used in the anaylsis after the logarithmic transformations were carried out. In order to test the stationarity of the series, Perron (1997) test was used and the structural break was taken into consideration. The test results are summarized in Table 1.

Table 1: Unit Root Tests with Structural Break

	Level			First Difference		
Series	**Test Statistics**	**LagLenght**	**Break Date**	**Test Statistics**	**Lag Length**	**Break Date**
Inflation	-4.3223[0.1995]	0	2002	-6.5185[<0.01]	1	1994
(Interest Paym./Budget Expenditure)	-2.9101[0.9355]	0	2004	-9.0828[<0.01]	0	2001
(Budget Deficits/GDP)	-3.7565[0.5280]	0	2004	-6.6604[<0.01]	0	2005
Money in Circulation	-4.4303[0.2218]	1	2002	-6.6102[<0.01]	0	2009
Exchange Rate	-1.9792[>0.99]	1	2006	-6.6477[<0.01]	0	2001

Notes: Perron (1997) was performed for unit root test with structural break. Vogelsang (1993) asymptotic one-sided *p*-values are used and provided in square brackets. Trend specification is trend and intercept, break specification is intercept only, break type is an innovational outlier. The null is "series is has a unit root with a structural break".

Unit root test results depict that all series are stationary in first differences. In that step, in order to determine the direction of the relation between the variables causality tests will be carried out. In the causality tests, it is researched whether a change in the variable affect the other variable and whether it cause any change in it. Approaches used for the causality purposes differentiate in accordance with the time series of the variables in question. These series show differences according to whether they are in integrated order and they are cointegrated. As all the series used in this research are I(1), it is necessary to carry out the cointegration test before the causality tests. This problem will be tried to be answered by the Johansen (1991, 1995) cointegration test. Johansen method is related to basics of VAR method and it uses the test of most probability rate. The beginning step of the Johansen cointegration analysis is estimating the unrestricted VAR(p) model and determining the lag length. For this aim, VAR model is estimated and lag length are summarized in Table 2.

Table 2: The Determination of Time Lag Lengths of the VAR Model

Lags	LR	FPE	AIC	SCI	HQ
0	NA	0.211184	6.953815	7.514294	7.133117
1	80.93326	0.011651	4.034978	5.015816	4.348757
2	**22.7087***	0.007193	3.499542	4.900740	3.947797
3	15.08601	0.005991	3.212130	5.033686	3.794861
4	13.85350	0.004882	2.822594	5.064510	3.539803
5	15.36600	0.003009	2.025685	4.687960	2.877370
6	13.61955	**0.00174***	**0.92324***	**4.00587***	**1.90940***
7	3.114641	0.004429	0.930313	4.403307	2.020951

* The bold ones indicate the optimum lag length for the relevant criteria. LR: Likelihood Ratio Test Statistics, FPE: Final Prediction Error, AIC: Akaike Information Criteria, SIC: Schwarz Information Criteria, HQ: Hannan-Quinn Criteria.

Evaluating the criteria in Table 2, it was found out that the optiumum lag is 6 and in this lag and the stability conditions of the model in this lag were achieved. According to this it was found out that the model is in the structure of VAR(6)[24]. Between the variables, Johansen cointegration test will be carried out to test the long term relation. In order to determine the rank of long term information matrice or cointegre vector number, two methods are proposed by the Johansen (1991 and 1995): Trace and maximum eigenvalue statistics.

Table 3: JohansenCointegration Tests

H_0	Trace Statistic	Maximum Eigenvalue	Critical Values (.05)	
			Trace	Max-Eigenvalue
r = 0	27.77183*	20.51685*	24.27596	17.79730
r ≤ 1	7.254979	5.369599	12.32090	11.22480
r ≤ 2	1.885381	1.885381	4.129906	4.129906

Note: * denotes significant at .05 significance level. Cointegration spesification is intercept and trend in CE, no intercept in VAR model.

When the statistics of Trace and maximum eigenvalue are compared with Osterwald-Lenum (1992) critical values, it is observed that the first hypothesis is rejected at the .05 significant level. Therefore according to both models, there is statistically significant 1 cointegrated vector. According to this, there is a long term and significant relation between the inflation and the components (interest payments/budget spendings and budget balance/GDP) for the period of 1975-2014. Table 4 shows the results of the Johansen cointegration analysis between the inflation and other variables.

Table 4: Results of Johansen Cointegration Analysis with Normalized Cointegrating Coefficients

Sample Period	Intercept	(Interest Payments/Budget Expenditures)$_{t-1}$	(Budget Deficits/GDP)$_{t-1}$	Linear Trend
1975 − 2014	−19.9682	0.7309	0.8558	0.8391
		(0.3463)	(0.2802)	(0.1313)
		[2.1102]	[3.0545]	[6.3890]

[24] In the residual of VAR model, according to Breusch-Godfrey LM test, there is no autocorrelation for 12 lags. According to residuals of White test, there is no heteroscedesticity and according to Jarque-Bera test, components have a normal distribution one by one and jointly.

Notes: 1. Inflation rate is the dependent variable. 2. The numbers in paranthesis are standart errors, *t*-statistics are in brackets. Lag lenght is 5. 3. In order to signify the economic crisis in the Turkish Economy the dummy varible is used which is 1 in 2001-2002 and 2008-2009, money in circulation and USD/TL exchange rate are employed as exogeneus variables in the model.

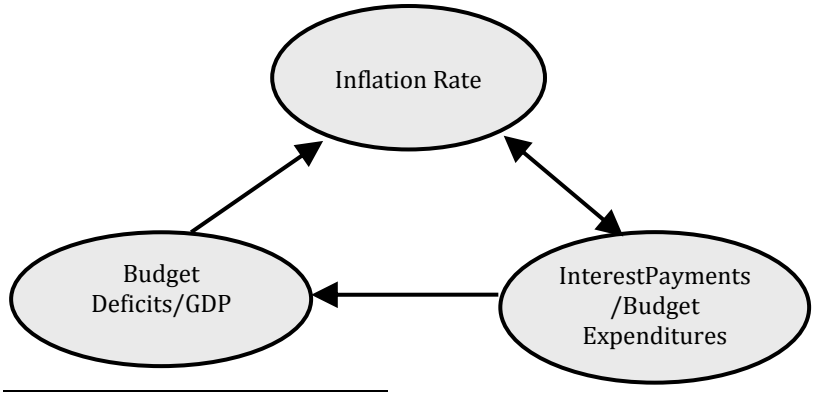
Table 5: Granger Causality Results Based on VECM

Dependent Variables	**Wald Statistics**		
	ΔIflation	**Δ(Interest Paym./Budget Expenditures)**	**Δ(Budget Deficits/GDP)**
ΔInflation	-	135.5633* [0.0000]	149.5337* [0.0000]
Δ(Interest Paym./Budget Expenditures)	18.5425* [0.0023]	-	5.7406 [0.3323]
Δ(Budget Deficits/GDP)	3.2927 [0.6550]	16.0975* [0.0066]	-

Note: * indicates the test statisticsaresignificant at the 1% level.

All the paremeters estimated are statistically significant. The estimates of the cointegration, while the other variables remain constant, show that when the share of interest payments in the budget spending increase by 1 point, inflation rate increases by 0.73 point; whereas when the share of budget deficit in the GDP increases by 1 point, the inflation rate increases by 0.86 point. Long-term estimate results suggest that inflation is more affected by the share of the GDP in budget deficit.In error correction equations, the error correction term is significant only in the inflation equation.[25] This term signifies the tendency from short term imbalances to long term balance. According to this, it can be said that the difference between the balance values is closed by 0.0866 point every year. The cointegrated relation determined between the variables gives us valuable information on how to carry out the causality test. The causality test will be carried out by using VECM. The VECM based Granger Causality results are given in Table 5 . The findings in the Table 5 gives us information on the short term causality between the variables. According to this, there is causality from interest payments/budget expenditures and budget deficits/GDP to inflation and from inflation to interest payments/budget expenditures, from interest payments/budget expenditures to budget deficits/GDP. The findings show that there is feedback between the inflation and interest payments/budget expenditure. The causal channels can be summarized as below:

Figure 1: Granger Causality Test Flow Chart



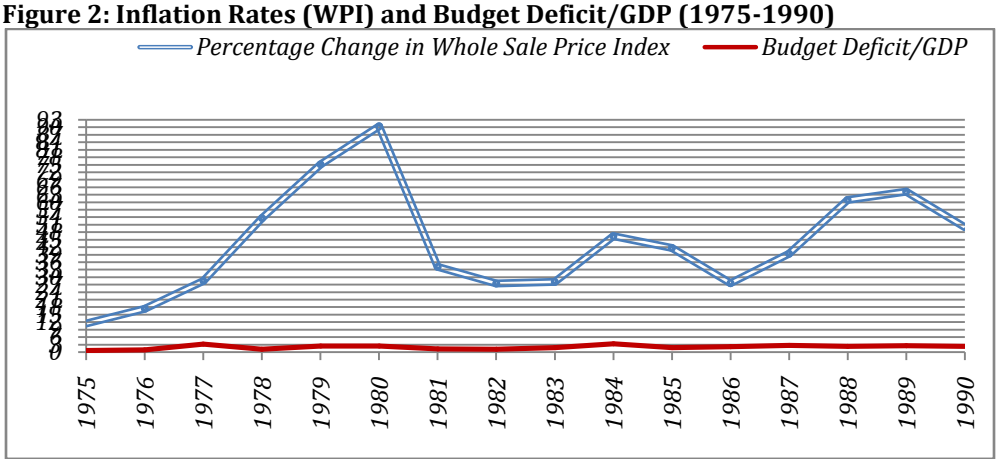
[25] ECT_{t-1} for the terms inflation, interest payments/budget spending andbudget balance/GDP equations are estimated respectively -0.0866(0.0124)[-6.9546], -0.5901(0.6052)[-0.9748] and -0.2663(0.3084)[-0.86373]. The numbers in paranthesis are standart errors, *t*-statistics are in brackets.

Figure1 refers following: High inflation leads to increase of the share of the interest rate within the budget due to risk premium and this also conduces to an increase in budget deficit. On the other side, the growing budget deficit, by creating negative expectations, is the source of the high and chronic inflation rates. Accordingly, a vicious cycle develops between inflation rates and budget deficit. When Figure 1 is examined, this dynamic process and developing vicious cycle are clearly observed. As emphasized throughout the article, we believe that the inflation rate is the most significant variable initiating this vicious cycle.

4. Conclusion and General Evaluations

The average inflation rate of the Turkish economy between 1970-1975 is 17%. Especially after 1977 with the political turmoil which Turkey faced and with the impact of the second oil crisis, the inflation rates increased to 53% in 1978 and 90%in 1980. Remaining between 27% and46% between 1981-1987, the inflation rate showed again tendency to increase after 1988 and showed a persistent and high structure until 2004. The average of inflation rate of 1988-2003 is 68%. Although there had been all these negative developments in inflation, the budget deficits/GDP ratio which we take as a reference in the fiscal balance, remained below 3%[26]which is the Maastricht Criteria and was around 2%. So, these data figure out the following: Leaving aside the empirical studies, the budget deficit which was about 2% in average within the period of 1975-1990 cannot be the reason for the inflation which was 30%-65% in average in the same period. In that period, there cannot be a bilateral relation, too. The relation between these two variables is shown in Figure 2. We can extend the analysis in the following way: Especially after 1987, the tendency of the inflation to increase and to be persistent caused the nominal and real interest rates of Government Domestic Borrowing Securities (GDBS) to increase owing to the increased risk premiums. When Figure 3 is analyzed, it is clearly observed that as the inflation is high, so the nominal and real interest rates of GDBS are high.[27] Increasing nominal and real interest rates caused an increase in the cost of public borrowing on one side, whereas an increase in the interest burden in the GDP and budget spending on the other. In brief, high inflation causes high interests; therefore this causes the interest burden in the budget spending to increase and the budget deficit to grow. So, there is a causality relation from the rate of inflation to the budget deficit. The Figure 3 shows the relation between Interest Payments/Budget Expenditures and Budget Deficit/GDP.

Figure 2: Inflation Rates (WPI) and Budget Deficit/GDP (1975-1990)

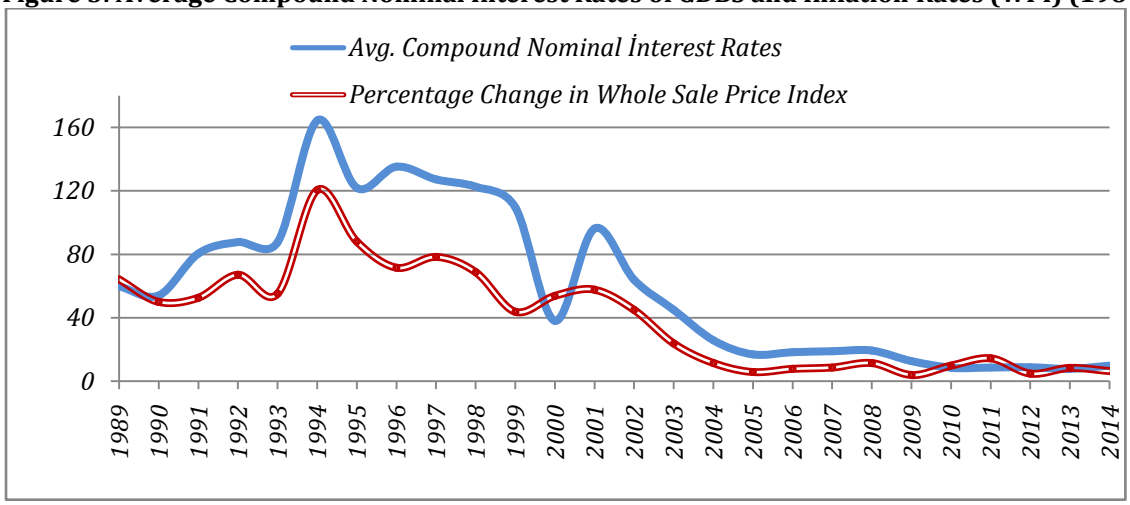


Source:http://www.kalkinma.gov.tr/Pages/EkonomikSosyalGostergeler.aspx

[26]Except for two years, it was 3.2% in 1977 and 3.3% in 1984.

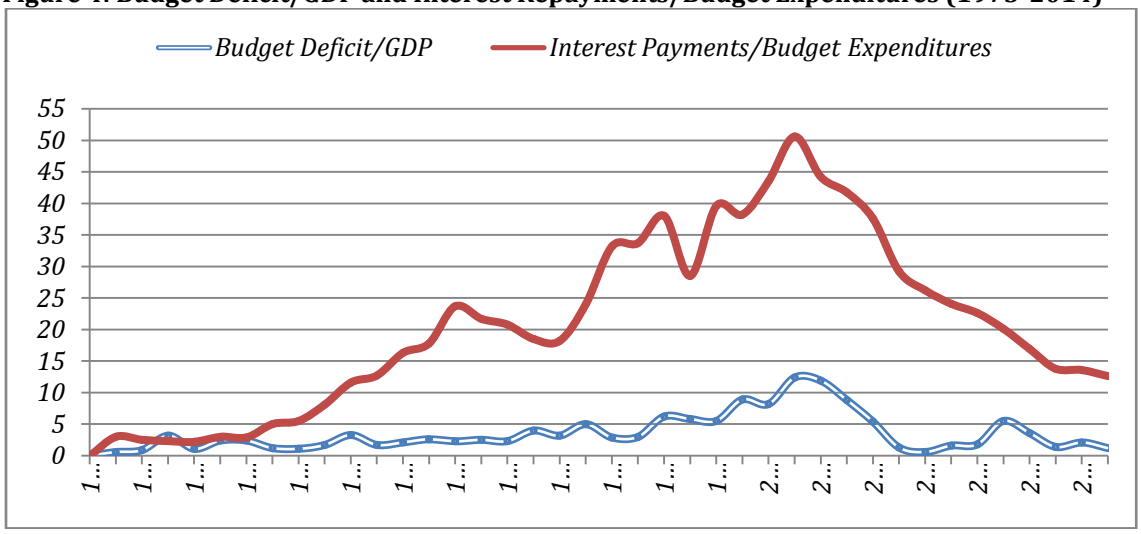
[27]When Figure 3 is analyzed, in the period in which the inflation is high, it can be observed that the margin between the nominal interests and inflation increases. That means; because of the increasing risk premiums, the real interest increase. Similiarly, the decrease of inflation to one digited rate after 2004 narrowed considerably the real interest margin.

Figure 3: Average Compound Nominal Interest Rates of GDBS and Inflation Rates (WPI) (1989-2014)



Source: http://www.kalkinma.gov.tr/Pages/EkonomikSosyalGostergeler.aspx

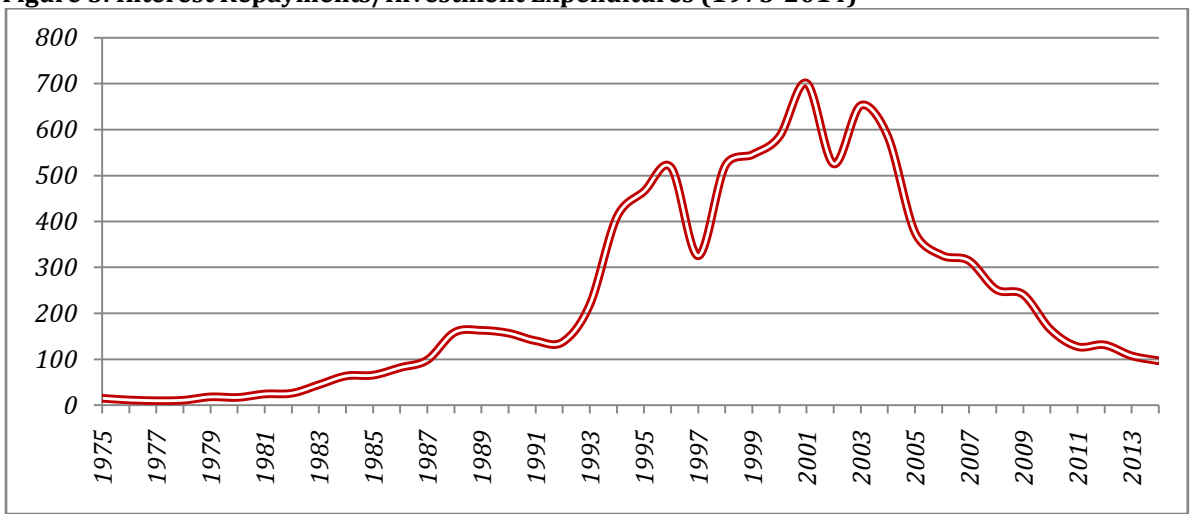
Figure 4: Budget Deficit/GDP and Interest Repayments/Budget Expenditures (1975-2014)



Source: http://www.kalkinma.gov.tr/Pages/EkonomikSosyalGostergeler.aspx

It must be underlined that continuously increasing budget deficits throughout the period of 1991-2001 caused the shortage of maturity dates of Government Domestic Borrowing Securities (GDBS) owing to the increase in risk premiums on one side and the increase of internal debt stock considerably on the other side. All these deteriorations which are depicted in the macroeconomic indicators caused a powerful pressure and inertia back in inflation. In addition to this, continuously increasing interest payment shares in the budget caused a decrease in current expenditures and especially in investment expenditures. This supported indirectly the increase in inflation. In Figure 5, it can dramatically be seen how the Crowding Out phenomenon gained strength until 1990s due to increasing interest rates.

Figure 5: Interest Repayments/Investment Expenditures (1975-2014)



Source: http://www.kalkinma.gov.tr/Pages/EkonomikSosyalGostergeler.aspx

To sum up; a strong and bilateral relation between the inflation and the budget deficit is observed in the 1990s. This vicious circle which supports the fiscal approach (FTPL), come into prominence as one of the most important factors explaining the relationship between the inflation and budget deficit in the Turkish economy of 1990s. One of the most important developments of the Turkish economy in 2000s is the financial crisis of February 2001 which is one of the deepest financial crisis of the republican history. In 2001, the Turkish economy shrank by -9.5% and the budget deficit/GDP ratio reached12.5%. Interest payments/budget expenditures ratio exceeded over 50%. EU-Defined General Government Debt Stock/GDP reached 78%. These ratios are the highest ratios observed in the republican history. Following the February 2001 crisis, "Program for Transition to a Strong Economy – PTSE" was announced on 15 April 2001, a new economic program was started in Turkey. Owing to the tight monetary and fiscal policy which started with the program, double digested, high and persistent inflation rates which started in 1970s decreased to 9.4 % in 2004. Following the decrease of inflation to one digested numbers in 2004, the process which was passed through in 1990s was reversed. The decrease in the inflation rates caused a decrease in nominal and real interest rates of the Government Domestic Borrowing Securities and in the share of interest burden in the budget[28]. On one hand, the tight fiscal and monetary policy and on the other hand the decreasing interests decreased considerably Turkey's budget deficit in 2000s. For example, in 2005, the budget defect/GDP ratio which is a Maastricht Criteria declined to 1.3%. Similarly, EU-Defined General Government Debt Stock/GDP ratio decreased to 52.7% in 2005 and 40% in 2007. In 2014, budget deficit/GDP ratio is -1.2% and EU-Defined General Government Debt Stock/GDP ratio is 34.1%. These values are far below the Maastricht Criteria.

According to the authors of the article, these positive developments which the Turkish economy have passed through in 2000s occurred as a result of the reverse process to the relation between inflation and budget deficit which was analyzed in 1990s. This relation emerged as a result of the reverse action of the bidirectional vicious cycle. We think that the most important factor which started this process is the rapid decrease achieved in inflation rates. Finally we would like to indicate the following: Turkish economy faced two great crises in 1994 and in 2001 within the period of 1980-2001 which are the lost years in economic terms. Unsustainable budget deficits and current account deficits are in the basis of these crises. Especially the most important variable which has the biggest share in deterioration of the public budget balance and which has indirectly affected the macroeconomic variables negatively is the high and persistent inflation which has continued for 30 years.

[28] While the Interest Payments/Budget Expenditures rate was 50,6 % in 2001, it declined to 29.2% in 2005 and 22.6% in 2008, 16.9% in 2010 and 11.4% in 2014 (www.kalkinma.gov.tr).

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Foreign Exchange Exposure Management Practices by Zimbabwe's Tourism and Hospitality Companies: A Case for the Depreciation Of Rand (2014-2016)

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Abstract: One of the key challenges for tourism and hospitality in the Sub-Sahara Africa (SSA) region is currency behaviours and Exchange rate regime choices. When a company engages in international business foreign currency risk management becomes a crucial part of doing business and the tourism industry of Zimbabwe was not spared on this issue. The objective of this research was to assess the foreign exchange (forex) Exposure Management Practices by Zimbabwe's tourism and hospitality companies. The study was done through a survey on 28 operators in Zimbabwe. A qualitative research approach was adopted in analysis of the data It was found out that the most commonly used ways of reducing the exposure by Zimbabwe's tourism companies were the amicable and mixed-method approaches, of receiving the currency and use it in the country of origin to import materials, matching receipts and payments in foreign currency, risk shifting though it come with low volumes and compromised repeat business. The study recommended that companies and the entire economy must consider invoicing products and services in Rands and even use the rand as a reporting currency. If for example tourism and hospitality players would price regional tourists especially from South Africa and other Rand countries, ignoring the impact of rand depreciation, it would mean that Zimbabwe's tourism and hospitality providers will be in direct competition with the former's own local service providers based on rand priced packages.

Keywords: *Foreign Exchange, Tourism, Management strategies, depreciation, Rand*

1. Introduction

The concept of exchange rate regime choice (Jefferis et al., 2013; Sikwila, 2013), and its effects on international business (Kramarenko et al., 2010) has received considerable attention by various scholars, researchers, analysts and practitioners. Kararach et al. (2010) noted that the adoption of the Multi- Currency Regime by Zimbabwe stabilized the macro-economy by containing inflation and allowing the private and public sectors the possibilities of medium to long-term planning. Some degree of business confidence in the economy was restored by the move. Among the risks innate in international business operations, the exchange rate risk represents one of the important considerations for the managers of multinational corporations. Management Foreign exchange exposure has received great attention by companies operating internationally due to a series of recent exchange crises. Significant fortunes have been made and lost due to the unusual behaviour of the foreign exchange rates and markets (Soenen, 1979). Due to a prolonged era of economic decline and hyperinflation during the period 2007 through to 2008, Zimbabwe abandoned its own currency, the Zimbabwe dollar in 2009 after years of record high levels of inflation. As a mitigatory measure, the government switched on to a new foreign exchange rate regime or multicurrency system, a variation of dollarization in order to map a way forward on economic growth. This exchange rate regime choice which was somewhat informal and partial variation of dollarization saw the country accepting the use of multiple currencies which among the dominant ones included the United States dollar, the British pound, South African rand, the Botswana pula and the Euro and this policy was made to effect 30 January 2009 during the country's fiscal policy presentation. It has been using the US dollar as its functional currency ever since, the South African rand is also widely accepted though the US dollar has mainly been adopted as the reporting currency by many entities including the government, hence the country described as a dollarized economy. Given this kind of a set up, the United States of American Dollar (USD), become the most pronounced currency amongst a basket of various other currencies supporting the regime.

Following that move, Zimbabwe's tourism industry as one of the drivers of economic growth had been making its way through towards sustainable revival as business prospects appeared flowery from all facets, that is local, regional and international. Responding to a recovering and stable environment, statistics from the tourism authority of the country indicates that arrivals to the country were on the upward trend after

some years of ailing in the low. Statistics released by the Zimbabwe Tourism Authority (ZTA) (2010), showed that the country recorded a 2.8 per cent increase in tourist arrivals in the first half of 2009 as the industry was approaching towards its former status of one of the prime tourist destinations in Africa. The table 1 below shows statistics of the Zimbabwe-South Africa tourism and trading history.

Table 1: Zimbabwe's Tourism and Trading Data with SA

ITEM	STATISTICS/Estimate
SA arrivals to Zimbabwe 2013 Q1	37 294
Growth rate in SA arrivals to Zimbabwe	6%
Imports from SA	US$7.15 billion
Exports to SA	US$3.25 billion

Source: http://victoriafalls24.com/, Zim Statitics (2013)

Mzembi (2016) in www.fin24.com noted that Sub-Sahara Africa (SSA) region's tourism business is mainly affected by the behaviour of currencies against major currencies. He commended that the loss in the value of the rand has have negative effects on the on the country's hospitality and tourism industry following the over reliance on the US dollar. This made Zimbabwe to be viewed as an expensive destination for regional visitors and South Africans being the main trading partners and consequentially this resulted in a decrease in SA's contribution to regional business in Zimbabwe. Therefore, against this back ground, when a business is involved in international business and finance, foreign exchange rate risk becomes a fundamental cause for concern especially when cash flows and values of sales oscillates in response to currency fluctuations.

Main Objective and significance of the study: The main objective of this study is to assess the impact of the rand depreciation and Zimbabwe's multicurrency regime choice on tourism industry. The study was motivated by the fact that South African is one of the big source markets for the industry in the country and the regional business component was the most affected. The research seeks to find out the main areas of the tourism business that were most affected, and how companies managed to deal with problem at hand. The significance of the study is three fold: First for practising managers, it will act as a practical tool in understanding risks inherent in international business and in developing strategies that minimizes these risks while not harming the other business operations. Secondly recommendations made will also guide policy makers on the consequences of certain exchange regime choice. Lastly, little research has been made on effects of exchange regime choices on Zimbabwe's tourism sector; hence the study is expected to contribute to the existing body of knowledge on foreign exchange exposures and the management strategies for organisation engaging in international business activities

2. Literature Review

According to Solakoglu (2005) Foreign exchange rate risk represents one of the important considerations for the financial and risk managers of multinational companies' from the various risks common in international business. Foreign exchange exposure management is a very important in the context of international trade and investments; and research of the subject has been done much. To have a better review of literature, the concept of foreign exchange rate will be presented first followed by exposure management strategies and empirical studies conducted before.

What is foreign exchange risk? Foreign exchange exposure can be defined as the amounts of currencies which represent the sensitivity of the future real local currency (market) value of any financial or physical asset to random variations, in future domestic purchasing powers of these foreign currencies, at some given future date (Adler and Dumas, 1984). Foreign exchange risk is where values from the statement of profit or loss and the statement of financial position in a business are affected when there is movement in foreign exchange rates. According to Soenen (1979), the assets and liabilities of multinational companies, by definition, are held, and their income stream achieved, in a number of currencies. Movements in the exchange rates of foreign currencies may negatively affect the reported earnings or profits and the nominal net worth of the company. When a company decides to go international, no matter what the business is, foreign currency risk management becomes a vital part of the daily business life. According to Backlund (2011) translation and transaction exposures are the most common currency risks that companies are faced. These

risks are seen as both opportunities and threats, and companies have various ways of dealing with these exposures, usually following the company´s own risk management policy. Exchange rate movements have been a big concern for analyst, managers, investors and shareholders since the breakdown of Bretton Woods's system in the 1970s (Solakoglu, 2005). Alssayah and Krishnamurti (2013) indicated that companies are exposed to the risk of changing exchange rates through many channels. For instance, if a company depends on international sales, it becomes exposed to the risk of foreign exchange rate fluctuations. For example if the company has receivables denominated in Rands and the Rand depreciates relative to the U.S. dollar, the dollar-value of the Rand receivables is altered and so the firm's profits and its net worth changes. Jong et al. (2006) indicated that it is not necessarily only those firms engaged in exporting or importing activities or are classified as multinational corporations that are exposed to changing exchange rates. They commented that local players that might not have any international earnings are not involved in cross-border sales may also be affected by changing exchange rates, possibly indirectly through their competition with other importing companies. The exposure comes through three main types as discussed below.

Types of Foreign Exchange Exposure: Shapiro (2013) explained the three main types of exchange rate risk in international finance, i.e., translation, transaction and economic exposure. These are explained below.

a) **Translation/Accounting Exposure:** Accounting exposure divides the balances sheet's assets and liabilities into those accounts that will be affected by exchange rate changes and those that will not. This is intrinsic when a multinational company is consolidating its financial statements from subsidiaries and affiliate or activities from one currency to the reporting currency. During the consolidation financial statements by MNCs, the translation could be done either using the end-of-the-period exchange rate or using an average exchange rate of the period, depending on the accounting standards and regulations affecting the parent company. According to Papaioannou (2006), given that statements of profit or loss are usually translated at the average exchange rate over the period, statement of financial position exposures of foreign subsidiaries are often translated at the prevailing current exchange rate at the time of consolidation. Accounting exposure for a foreign subsidiary is usually measured by the exposure of net assets (assets less liabilities) to potential exchange rate moves. From a statement of profit or loss point of view, the translation exposure can be noticed on the item "foreign exchange loss/profit".
b) **Transaction Exposure:** This results from a firm taking on "fixed" cash flow foreign currency denominated contractual agreements. This exposure has a time frame equal to the horizon of the already established contractual agreements, and the cash flows only include those determined in the contracts. The most typical issues in this case is the accounts receivables and payables that is affected by changes in foreign exchange rates, but also investments and loans denominated in foreign currency (Eriksen and Wedøe, 2010).
c) **Economic Exposure:** Economic exposure reflects the risk to the firm's present value of future operating cash flows from exchange rate movements. Basically, it concerns the effect of exchange rate changes on revenues (domestic sales and exports) and operating expenses (cost of domestic inputs and imports). Economic risk is usually applied to the present value of future cash flow operations of a firm's parent company and foreign subsidiaries.

Managing Foreign Exchange Exposure: In order to develop a strategy for managing currency risk it is important for companies to first identify and measure the various types of currency exposure. There are two broad ways through which foreign Exchange rate exposure can be managed, namely, Contractual (External) hedge methods and Operational (Internal) hedging methods. These depend on the level of development of financial markets. Abor (2005) carried out a study on the foreign exchange risk management on Ghanaian companies and their results indicated that almost 50% of the companies do not have any well-functioning risk-management system. Foreign exchange exposure was mainly managed by adjusting prices to reflect changes in import prices resulting from currency fluctuation, and also by buying and saving foreign currency in advance. They commented that the main problems faced by firms are the frequent appreciation of foreign currencies against the local currency and the difficulty in retaining local customers because of the high prices of imported inputs, which tend to affect the prices of their final products sold locally. For example, If the company owns receivables denominated in Rands and the Rand depreciates relative to the U.S. dollar, the dollar-value of the Rand receivables is altered and so the firm's profits and its net worth changes.

Using a Contractual Hedge to Deal with Exposures: According to EDC (2012) this involves buying foreign exchange hedging instruments that are typically sold by banks and foreign exchange brokers. The ones most commonly used are: foreign exchange forward contracts, currency options and swaps. For the purpose of this study, contractual hedges maybe ignored in the analysis since they mainly deal with derivative instruments from which the level of development of financial market is not yet conducive for the trading of those.

Internal/operational Hedging techniques: Internal hedging techniques are cheaper than external techniques and should therefore be considered first. Internal hedging techniques include leading and lagging, invoicing in home currency, matching and multilateral netting (BPP ACCA P4, 2015)

a) **Hedging via Lead or Lag:** To lead is accelerate the collection of a receipt or payment of an obligation in order to take advantage of a favourable movement in exchange, or in anticipation of a pending devaluation of depreciation of a currency. For instance foreign trade payables can be settled earlier (leading) if there is anticipation of devaluation or depreciation of local currency.
b) **Invoicing in home currency /risk shifting:** Wherever possible, have the overseas subsidiaries bill their customers in another strong currency instead of local currencies. This is seen as an especially good strategy in countries where the prospect for local currencies is depreciation against the dollar. It puts all the currency risk on the customer (Soenen, 1979). One way of avoiding transaction risk is for an exporter to invoice overseas customers in its own domestic currency, or for an importer to arrange with its overseas supplier to be invoiced in its home currency.

- ✓ If a Zimbabwean tourism services provider is able to quote and invoice an overseas customer in US dollars, then the transaction risk is transferred to that customer.
- ✓ If a Zimbabwean tourism services (importer) is able to arrange with its overseas supplier to be invoiced in US dollars then the transaction risk is transferred to that supplier.
- ✓ Although either the exporter or the importer avoids transaction risk, the other party to the transaction will bear the full risk. Who ultimately bears the risk may depend on bargaining strength or the exporter's competitive position (it is unlikely to insist on payment in its own currency if it faces strong competition).
- ✓ An alternative method of achieving the same result is to negotiate contracts expressed in the foreign currency but at a pre-determined fixed rate of exchange

Bergendahl & Sjögren (2011) found out that Swedish firms use currency as a competitive advantage offering suppliers and customers to invoice in "home" currency, and the introduction of the Euro has not affected their operations. Types of products (standardized or customised) affect the hedging procedures.

c) **Matching receipts and payments:** A company can reduce or eliminate its transaction exposure by matching receipts and payments. Wherever possible a company that expects to make payments and have receipts in the same foreign currency should plan to offset its payments against its receipts in that currency. The process of matching is made simpler by having foreign currency accounts with a bank. This method is rarely used due to the uncertainty of timing of the cash flows. The inflow and the outflow must occur at exactly the same time to provide a 'perfect' hedge (CPA Australia www.cpaaustralia.com.au 2009).
d) **Do nothing follow the prevailing exchange rates:** With this strategy you act on the day you want to buy or sell your foreign currency. While simple, this approach means you will not know how much local currency you will need to pay or receive for your foreign currency until the day in question. This can be a high-risk strategy as the exchange rate may have moved significantly since you agreed the price with your customer/supplier. If rates have moved the wrong way, your profit will be reduced accordingly.

Mathur and Knowles (1985) conducted a survey among 300 major U.S. multinationals to examine their foreign exchange risk management practices. Two-thirds of the respondents, generally the larger ones, had formal written policies for managing foreign exchange risks. Their results showed that approximately one-third of a firm's exposure to foreign exchange risks was covered through hedging operations and the vast majority of firms were using techniques such as intra-corporate netting of corporate transactions, and speeding up or delaying remittances, accounts receivable, and accounts payable. Minimal utilization of interest arbitraging indicated that very few firms were actively involved in speculating in foreign exchange markets.

3. Methodology

The research was conducted through a survey on 28 tourism and hospitality entities operating in Zimbabwe to examine they deal with foreign exchange risk management.

Data collection: A "mix and match" approach was adopted for research instruments. One of the procedures that was take by the research was to approach managers and Accountants of tourism players during the annual event of the tourism fair, Sanganai/Hlanganani, and interviews on the effects of the depreciating rand to their operations and how they deal with the vice. This data collection instruments is flexible and it gave the researcher the opportunity to probe some of these data obtained. Interviewees will given the chance to build on their responses and give more explanation when the need arise in the collection process. Above all a questionnaire was used to collect data that was later used in the SPSS software. The questionnaires were given company financial managers, General Managers or other senior managers, all of whom were expected to have a thorough understanding of their firm's exposure to exchange rate risk in question.

Questionnaire design: The questionnaire was included a covering note with permission to do research, ethical issues and contact detail for the researcher. The type of questions includes both closed-ended and open-ended questions. Open-ended questionnaire allows respondents to give as much information as possible at their own liberty. Closed-ended questions would be answered by simply checking a box or circling the proper response from a set provided by the researcher (Fowler, 1993). The aim of the questionnaire was to establish the effects of the depreciation of the rand to tourism business and then to assess the measures taken by companies in trying to reduce the effects.

Sampling design: Convenience sampling was employed as it was a cost-effective and efficient means of gathering data given that the population of the study was very large and dispersed across a large geographic area. A total of 40 questionnaires sent out, and 28 were returned back to give a response rate of 70 percent. The data from questionnaire were captured into an SPSS application and analysed through descriptive statistics.

Reliability: In order for the study questionnaire to measure what it is supposed to measure, pilot testing was done before the study questionnaire is used in actual data collection. A sample questionnaire was given to 5 respondents at Sanganai Tourism Fair. These partook in the study after which it was checked for completeness, ambiguity and language. Necessary adjustments were made before the actual data collection exercise. In the pilot study, respondents were asked to indicate questions that they found ambiguous, those questions that they are uncomfortable with and to make any other comments that could improve the questionnaire.

4. Data analysis and Results

Following is a presentation and analysis of data.

Analysis of the companies' business models: The survey first dwell much on the main business line of each company survey within the tourism and hospitality range, that is, whether, hotel, resorting, transport and tour, fast food, recreation etc. The results of the analysis are shown in table 1 below.

Table 2: Main Business Line

	Frequency	Percentage
Catering	2	7.1
Hotel & Leisure	22	78.6
Tour Operator	3	10.7
Tour, Hotel & Leisure	1	3.6
Total	28	100.0

From a wide spectrum of the Tourism and Hospitality activities in the country, the table above shows that most respondents (78.6 percent) were in the hotel and leisure business. This category of leisure included a wide range of activities like fishing, cruising, wildlife and gaming. Resorts and monuments were also included under the 'hotel and leisure' band. Having looked at the tourism activity by company, the research focused on the reporting currency used by each entity during the period under study and hence the effect of depreciating rand on business operations. Table 2 below shows a cross tabulation of the reporting currency used by a company and the effect of the depreciating rand to regional tourism. Results showed that about 93 percent of the entities surveyed used the United States dollar as the reporting and functional currency, which become a good case to focus on given the problem in question. One participant indicated that they used the South African Rand and other was using both USD and Rand concurrently. The reasons given by those reporting in Rands were that their head office or parent companies were from the Rand area. A follow up question was made in order to identify the various areas that have been affected by the vice. The results at shown in table 2 below

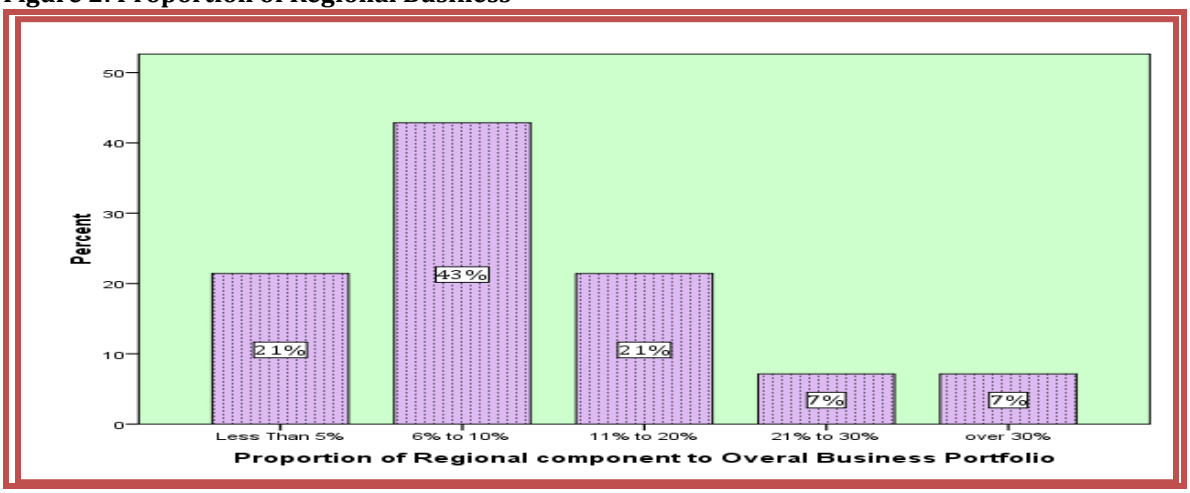
Table 3: Companies' Reporting Currency * Effect of Rand depreciation

		Effect of Rand depreciation on Business Operations for the Past year		
		Adversely	**No effect at all**	**Total**
Companies' Reporting Currency	South African Rand	1	0	1
	US Dollar	22	4	26
	US Dollar/Rand	1	0	1
Total		24	4	28

For the cross tabulation above, it shows that 86 percent (24 companies) indicated that they were adversely affected by the depreciation of Rand against the USD. 4 entities indicated that there was no effect at all and they were all using the USD as their reporting and transacting currency.

Regional Business: The goal of this write up was to assess the impact of Zimbabwe's multicurrency regime choice on tourism following the depreciation of the Rand against the US Dollar and assess the foreign exchange exposure/risk management strategies by tourism companies in Zimbabwe following the depreciation of the Rand against the USD. Therefore it was imperative for the researcher to look at the contribution of regional business from SA to the overall business portfolio of an entity. The information on that is presented in figure 1 below.

Figure 2: Proportion of Regional Business



Indeed the regional tourists are contributing a significant share of the tourism revenue. 14 percent of the entities indicated that the Rand area contribute more than 20% of their total revenue, while the majority (85 percent) indicated that regional business constitute more than between 6% to 20%. This state of affairs made it further possible to evaluate the effects of the depreciating Rand and how further the entities managed to deal with the vice.

Effects of the depreciation: Given the fact that the Rand area contributes a significant proportion of the tourism and hospitality business in Zimbabwe, certain variables were identified as the most affected following the depreciation of the Rand against the dollar. As indicated in table 3, 82 percent were mainly exposed to transaction risk through receipts from debtors, 71 percent of the respondents' coined volumes and occupancy as the most affected variable and 50 percent indicated the growth of foreign exchange loss. The other areas indicated as most affected were: pricing policies and payments to creditors as shown in table 4 below.

Table 4: Areas Affected

		Responses	
		N	**Percent**
Areas[a]	Receipts from Debtors	23	82%
	Pricing policies	11	39%
	Revenues	11	39%
	Volumes and Occupancy	20	71%
	Payments to Creditors	4	14%
	Foreign Exchange Loss	14	50%
Total			100.0%

Foreign exchange loss was one of the main worry for player in the industry and the following is a snapshot of the range in Dollar value terms of average monthly loss for each entity. Table 5 below shows the cross tabulation of foreign exchange loss and proportion of regional business

Table 5: Proportion of Regional component to Overall Business

		Proportion of Regional component to Overall Business Portfolio					
		Less Than 5%	**6% to 10%**	**11% to 20%**	**21% to 30%**	**over 30%**	**Total**
Average monthly Foreign Exchange Loss	$1-$5000	1	8	6	0	0	15
	$6000-$10000	3	3	0	2	0	8
	Over $25000	0	0	0	0	2	2
Total		4	11	6	2	2	25

The research showed that translation risk affected companies as evidenced by an 89 percent response, having this line item on their profit and loss statements. From the data in table 4 above, there is evidence of the effect of the depreciation on regional business. The higher the regional component on the business portfolio, the higher will be the exchange loss. However 36 percent indicated that they are experiencing exchange losses of more than $6000 and the balance are in the range of $1 to $5000. This is pure evidence that companies are exposed to foreign exchange rate risk, both transaction and translation. As commented by Abor (2005) that the main problems the firms face are the frequent appreciation or depreciation of foreign currencies against the local currency and the difficulty in retaining local customers because of the high prices of imported inputs, which tend to affect the prices of their final products sold locally. Companies indicated the following as measures put in place to retain regional customers as they are an important component for growth of the sector.

- Customer loyalty has been difficult to maintain as regional business has taken a knock and there is not enough local and international business to replace the regional component, thus we are considering going back to quoting SA clients in Rand and absorb the exchange losses.
- Intensified marketing strategies through South African office targeting mainly the South African Market as it is one of the regional contributor to our volumes and occupancies
- Maintaining standard rate of exchange that result exchange rate loss in hope of tapping into regional market in the long run.
- Offer discounts and credit Facilities
- Having a 2-tier pricing system

The question is how these companies are managing the exposure and at the same time managing repeat business from the regional component as it is crucial for the growth of the sector. The following table shows the various strategies used by companies in mitigating the vice.

Table 6: Rand Exposure Management Strategies

	Frequency	Valid Percent
Use the Rands to make purchases in SA	21	75
Pricing in USD shifting the exposure to clients	15	54
Matching Rand payments with Rand Receipts	6	21
Do nothing	1	4
Reduction of prices and rates	11	39

From table 5 above, a majority of respondents (75 percent) used a very wise strategy which balances the two spectrums of retained business and exposure reduction. With this approach, they indicated that there was a deliberate move to buy products from SA to reduce the rand exposure and cut costs as SA products would land cheaper compared to procuring locally, while in other instances local suppliers were selling goods from SA, thus eliminating the foreign exchange risk and the middlemen at the same time. This was achieved by entities doing a two tier pricing strategy so that from the Rand guest's perspective, the local product becomes affordable than if the dollar rate was used. Thus 39 percent resorted to relationship building strategies of quoting in US dollars but at a lower rate to make the products and service affordable. This middle of the road approached will be favourable both to the company and to the customer. Half of the respondents however pointed out that they manage exposure through risk shifting though it comes with some fall outs.

Discussion: The results of the study showed that most of the tourism companies use the USD as reporting currency and by so doing have been so prone to the adverse effects of the depreciating rand against the USD. The effects were mainly extensive due to the fact that the regional component of the tourism contributes on average a minimum of 6% to the overall business volumes. It was further explored that the depreciation impact manifested itself through transaction exposure on areas like receipts from receivables and volumes or occupancies even though translation risk was realised through marginal increases in exchange loss. The study indicated that the maximum possible loss that could be incurred was over US$25000. The effect were also realised through a decrease in retained business and loyalty of regional tourists. When the volatility started in 2013, some companies indicated that they made deliberate move to stop quoting rates in Rand and quote the regional customers in USD, however at discounted rates compared to the international clients. This however has seen the decline in the S A business and other Rand based countries. However as mentioned by (Soenen, 1979) this is seen as an especially good strategy in countries where the prospect for local currencies is depreciation against the dollar. It puts all the currency risk on the customer. In this case the local reporting and transaction currency was appreciating against the foreign currency which would make the destination less competitive. Tourism is a service industry based on destination accessibility and affordability together with perception, loyalty and proper promotional activity hence risk shifting won't be ideal for Zimbabwe given the economic status of the country. As noted by Minister of Tourism in an article by Smith (2016), the depreciation of the rand has certainly impacted Zimbabwe's tourism industry, which often prefers to be US dollar based making it more expensive for South Africans a big source market and the net impact has been a reduction of SA as a source market in the SADC region. A few companies however indicated that they have

established an office in the Rand area with a foreign bank account that can be used to match Rand receipts and Rand payments without converting to USD. This will reduce the exchange loss item of the profit and loss statement while at the same time not jeopardising credit relations with customers. Having realised the effects of the vice, players in the industry resorted to some natural ways of reducing foreign exchange exposure. Among them was to receive the weak rand and use it to buy equipment and raw materials from South Africa, matching Rand receipts and payments especially by those who have a head office in the rand area.

5. Conclusion

It was noted from the research that the tourism industry in Zimbabwe was hard hit by the depreciation of the rand against the dollar given the nature of its regime choice. This was evidenced the growth in foreign exchange loss visa-vie the regional business component from the Rand area. The most affected areas being receipts for the rand debtors, Revenues, volumes and occupancies. Companies however were caught in a fix by the nature of the forex regime in the country in which it tends to be difficult to constitute and device measures to reduce foreign exchange exposure. However the most commonly used ways of reducing the exposure by Zimbabwe's tourism companies were the amicable and mixed-method approaches, of receiving the currency and use it in the country of origin to import materials, matching receipts and payments in foreign currency, risk shifting though it come with low volumes and compromised repeat business.

Recommendations: Against the conclusion the following recommendations have been suggested: It is recommended that companies and players in the sector use an integrative approach in managing risks inherent in business operations by aiming at integrating the company with its clients for continuity and repeat business. Whilst they are managing their bottom line, a stakeholder's approach of doing business should always be considered. It is also recommended that companies and the entire economy consider invoicing products and services in Rands and even use the rand as a reposting currency If for instance, tourism and hospitality players would price regional tourists especially from South Africa and other Rand countries, ignoring the impact of rand depreciation, it would mean that Zimbabwe's tourism and hospitality providers will be in direct competition with the former's own local service providers based on rand priced packages. That monetary authority together with concerned authorities considers formally adopting the rand as the main currency so as to enable smooth trade with neighbouring countries. The formal dollarization will bring in more advantages and stability to various sectors of the economy. That the government reduce taxes and tariffs on regional business so as to expand the sector and make the destination attractive to visitors at the same time improving the easy of doing business. This survey was narrowed towards a particular sector; there severity of the depreciation could have been measured throughout the entire economy. There future studies should focus on the effects of the depreciation on the entire economy and feasibility of joining the rand union as a foreign exchange regime choice.

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Management's Commitment, Education and Ethics on Organisational Entrepreneurship: The Case of South African Non-Profit Organisations

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Abstract: The objectives of the study were to explore the management characteristics that are related to organisational entrepreneurship in not-for-profit organisations (NPOs) in Gauteng, South Africa as well as the relationship between organisational entrepreneurship and the organisational performance. The methodology involved a quantitative approach of collecting and analysing research data. A field study was conducted in Johannesburg, South Africa whereby research data were collected from 257 NPO managers from voluntary organizations. Using the SPSS 22 and the AMOS 22 software program, Structural Equation Modeling (SEM) was performed to analyze the research data. The study noted implications for NPO management teams, including the renovation of business model structures to incorporate continuous learning and constructive risk-taking in order to take advantage of the performance benefits derived from organisational entrepreneurship. The study also recommends further research into potential citizenship bodies for NPO management teams to foster commitment to their occupation in the non-profit sector. The research makes a significant contribution by providing a framework in which management's commitment to NPOs can be measured and analysed.

Keywords: *Management, Education, Non-Profit Organisations*

1. Introduction

Entrepreneurship as a field of study has attracted a great deal of attention over the years (Amezcua, Grimes, Bradley, & Wiklund, 2013 and Miller, Steier& Breton-Miller, 2016). The study is of importance within a local context considering that entrepreneurship is key to alleviating poverty as highlighted by the work of (Rivera-Santos, Holt, Littlewood & Kolk, 2015).In today's aggressive competitive environment, organisations are constantly evolving and engage in entrepreneurial initiatives (Kantur, 2016). Furthermore, Kantur (2016) posits that Inflexibility, risk aversion, and fatigue accentuated by mechanistic organizations impede the development of entrepreneurial activities and therefore would not be regarded as a desirable approach to organisational development. Entrepreneurship can be applied to organisations that are driven by a profit motive, which can be identified as for-profit organisations, and those motivated to address social needs, which can be identified as non-profit organisations (NPOs) (Weerawardena & Sullivan-mort, 2001).Whether an organisation's core objective is to make financial profit or serve social needs, the key ingredient for operating in a market is the ability to offer value to consumers (Kotler & Keller, 2012). Both NPOs and for-profit enterprises engage in exchanges with other entities so as to benefit themselves and the other entities. This research is interested in exploring how management characteristics in NPOs would relate to the extent of innovativeness of NPOs and furthermore, how this relates to the performance of the NPO. Organisations tend to attempt to prevent unethical behaviour in organisations through ethics management interventions as this is believed to keep organisations in compliance with rules and regulations (Van Vuuren & Crous, 2005).

Context of the Study: The present study is grounded in the context of NPOs in the Gauteng province, South Africa focusing on management characteristics that may be impacting how NPOs provide value to consumers who depend on them for various needs, such as food, shelter, education and care, among other needs. There are for-profit organizations that provide similar services (Chalmers & Balan-Vnuk, 2012), but interest has been generated in NPOs due to NPOs being considerable contributors of needed services to vulnerable consumers. A non-profit organisation (NPO) is essentially an organisation that operates to provide a particular value offering without the intention to profit (Grobman, 2008). In cases where the organisation reports a surplus over its expenses, surplus funds are not distributed to shareholders or owners, but are re-invested into the organisation to help satisfy the goals of the organisation (Harris, 2012). NPOs have been generally known to provide services that governments consider important but for-profit organisations deem to be either not-profitable, and therefore do not provide them and offer these services at prices that cannot be

afforded by everyone who needs them (Austin, Stevenson &Wei-Skillern, 2006). The value that NPOs create is termed social value because it appeals to the needs of beneficiaries, or those who need the essential services (Austin et al., 2006; Yujuico, 2008) but are not able to access them from for-profit organisations. Examples of NPOs include charitable organisations, environmental, animal and other foundations, public associations, trade unions and other humanitarian associations (Crutchfield & Grant, 2012).

Purpose of the Study: The purpose of the current study is to determine the relationships between certain management characteristics, organisational entrepreneurship and organisational performance of NPOs. Through understanding how the capabilities influence operational performance, contributors and management teams would be better able to determine how to improve the organisational performance of the NPO (Weerawardena & Sullivan-mort, 2008). Management characteristics such as professional commitment, professional education, professional ethics and contribution towards organisational entrepreneurship have an impact on organisational entrepreneurship (Wood, Bhuian & Kieker, 2000). The focus in this study is on management's commitment to their occupation in the non-profit sector, management's continuous education, and management's ethics as internal contributors to the organisation's entrepreneurship.The remainder of this paper provides background on the literature adopted for the study, the research conceptual model and research methodology. This is then followed by the data analysis section, results as well as some important implications for both practitioners and academicians. The present paper ends with a conclusion, recommendations and possible suggestions for future research.

2. Literature Review

Creswell (2013) posits that literature serves the purposes of sharing findings of other studies related to the study at hand, relating the study to a larger ongoing conversation in literature as well as fillings gaps and extending prior studies. The following section explores the literature adopted for the present study.

Theory of Innovative Enterprise: The function of enterprises in the economy is to convert resources into valuable goods and services that can be consumed (Drucker, 1998). An economic theory of this nature on enterprises posits that three major activities contribute to the enterprise's success, namely the enterprise's strategy, its organisation and its finances (Schuster & Holtbrügge, 2014). Through its strategy, the enterprise develops its human and physical capabilities by allocating resources that will enable the enterprise to better create value for its consumers (Naidoo, 2011). Concurrently, the theory presents a perspective of entrepreneurship that highlights an organisation's ability to allocate and use its available resources (Drucker, 1998; Austin et al., 2006). This is considered as a central aspect of the organisation's ability to continuously create new value for its clients.

Organisational Learning: Argote and Miron-Spektor (2011) refer to organisational learning as a series of processes in an enduring cycle where the experience is converted to knowledge. Outside the organisation, the learning happens within an environmental context affected by consumers or political, climatic, competitive or legal factors. Organisational learning in organisational theory recognises that employees in organisations need to continuously acquiring new knowledge and skills beyond the context or present scope of the organisation (Drejer, 2000). Two essential elements that remain persistent in the running of organisations are their innovation and marketing (Drucker, 1998), which continuously require employees to effect positive changes by learning and developing new ways of improving the value being offered by their organisation.

Market orientation: Market orientation is a business philosophy based on the notion that the needs of the consumer determine the goods and services that an organisation provides (Wood et al., 2000; Kumar, Jones, Venkatesan & Leone, 2011), and any changes in the goods and services provided by the organisation are motivated primarily by the consumers' changes in demands (Hult, 2011). This differs from a product orientation, which considers the product or service to be more important than consumer needs, and hence expects consumers to adapt their needs to the products (Kotler & Keller, 2012).

Organisational entrepreneurship: Organisational entrepreneurship can be described as the eagerness of the organisation to be creative, flexible and be able to take calculated risks (Wood et al., 2000), as effected by its members. Van Vuuren & Crous (2005) suggested that organisations that harm their reputations through

scandals relating to unethical behaviour may take a long period of time to recover and regain their reputations. Within a local context importance of entrepreneurship is highlighted by (Chimucheka, 2015; Maziriri & Chinomona, 2016) who posit that small businesses are responsible for employment creation, poverty reduction and reducing levels of inequality.

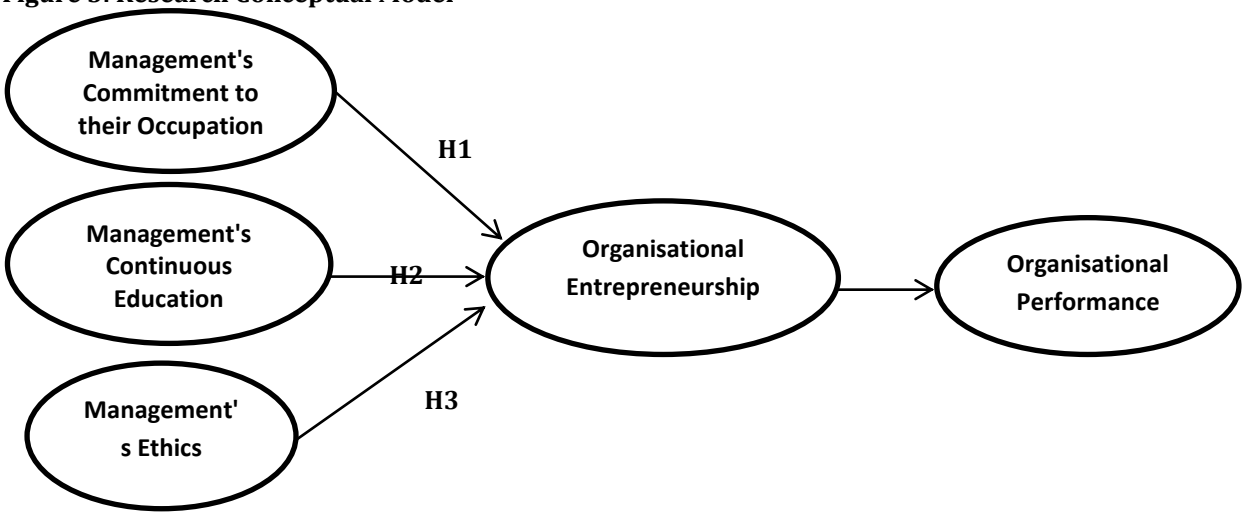
Management's Commitment to their Occupation: It has been established that employees remain committed to their work because of a psychological bond that keeps them attached to their profession (Cho & Huang, 2012). This is seen in professions such as Information Technology (IT) and Accounting, where employees become members of a society with other professionals, to occasionally engage in profession-related issues and for social purposes (Fu, Bolander & Jones, 2009). When it comes to managers in NPOs, commitment is important to the organisation because it shows confidence in managers and their intention to continue providing value to consumers who need to benefit from NPOs (Huarng & Yu, 2011). Furthermore, commitment facilitates flexibility in the organisation and helps to construct risk-taking abilities in managers (Fairlie & Holleran, 2012). It indicates intention for the organisation to remain operating in the market, and it allows for potential of improvement of services through innovative processes (Wood et al., 2000).

Management's Continuous Education: Markets are continuously evolving therefore imperative for managers to remain relevant with the changes in order to make good and progressive decisions for their firms (Kotler & Keller, 2012). Management's continuous education refers to managers' ability to continue to develop their professional skills and knowledge in various forms. This relates well to the concept of a learning organisation, in which members develop the perspective of acquiring new knowledge relevant to their industry and implement informed decisions that benefit the organisation (Chiva, Grandío & Alegre, 2010). Senior managers believe in continuously developing their skills and knowledge to ensure that the organisation is aware of methods of providing higher quality services for their clients (Sessa, London, Pingor, Gullu & Patel, 2011). This has been seen in IT professionals (Cho & Huang, 2012) actuaries and academics who, as part of their associations, attend conferences and workshops to remain current about their professional fields.

Management's Ethics: Management ethics refer to the codes and practices that managers adhere to that ensure that they put the interests of the organisation before their own (Wood et al., 2000). Ethics bring all members of the organisation under a common vision for the organisation (Garcia-Morales, Llorens-Montes & Verdú-Jover, 2006). The presence of ethics in the organisations promotes managers to make constructive decisions that uplift the organisation rather than disadvantage it (Kao, Kao & Kao, 2005). The King Committee on Corporate Governance (2009) suggests that managers with ethics take calculated risks that benefit the organisation as they are committed to ensuring that the organisation continues to operate well into the future, continuing to provide quality services to their clients (Matei, Bolcas, Badea & Carstea, 2010).

Organisational Performance: Common impressions of organisational performance refer to the profitability of the organisation (Albrecht, Stice & Stice, 2011). How an organisation performs depends on how well it fulfils its objectives and mandate for existing in the market (Kotler & Keller, 2012). In the case of the NPOs, is the ability to serve its community with valuable offerings that improve their livelihood.

Figure 3: Research Conceptual Model



Research Conceptual Model: The proposed conceptual model below in figure1 consists of three predictor variables: Management's Commitment to their Occupation (MCO), Management's Continuous Education (MCE), and Management's Ethics (ME) that influence the mediator Organisational Entrepreneurship (OE) which ultimately influences Organisational Performance (OP).

Management's commitment to occupation and organisational entrepreneurship: In NPOs' market orientation, management's commitment to the organisation positively and directly influences the organisational entrepreneurship (Wood, et al., 2000). Taking a South African perspective Bargraim (2003) suggests that more committed managers dedicate more time and effort to understanding and experiencing their industry's risks and opportunities, and contributing to making the organisation flexible to respond to changes that affect the organisation (Chalmers & Balan-Vnuk, 2012). The level of managements' commitment to their occupation in the voluntary organisation may demonstrate the managers' willingness to remain in this non-profit industry, even when offered a similar position in another industry (Wood et al., 2000). From this literature, the first hypothesis was postulated.
H1: *Management's commitment has a positive relation with on organisational entrepreneurship*

Management's continuous education affects organisational entrepreneurship: Managers can generate intelligence on which to base their decisions in response to the changes in the industry and ways of improving their offerings. Making informed decisions helps to minimise the risks of failure that may be associated with adopting certain technologies or reacting to changes in the market environment. It is therefore assumed that managers' continuous learning has a positive influence to organisational entrepreneurship. Learning experiences that aid creativity are important for bridging gaps in knowledge, which is why strong emphasis is placed on individuals engaging continuously in learning and skills improvement (Chiva et al., 2010). From this, the second hypothesis was postulated. According to Draper, Clark and Rogers (2016) healthcare organisations encounter challenges in providing care in the continuously increasing difficult environment and are encouraging staff to take up ongoing professional education courses as it is critical for staff to maintain and develop their knowledge and skills.
H2: *Management's continuous education has a positive relation with organisational entrepreneurship.*

Managers' ethics influence on organisational entrepreneurship: Theory surrounding market orientation considers managerial ethics to be important for facilitating principled risk-taking by senior managers (Wood et al., 2000). This element of risk is inherent in entrepreneurial thinking (Mort, Weerawardena & Carnegie, 2003). Since senior managers are responsible for making decisions that affect the organisation, their ethical standards affect how well they perceive risk and the effect that risk would have on the organisation. Management's ethics are therefore have a positively influence on the internally generated entrepreneurship of an organisation. This allowed the third hypothesis to be postulated.
H3: *Management's ethics have a relation with organisational entrepreneurship.*

Organisational Entrepreneurship and Performance: The purpose of managers contributing to the organisational entrepreneurship is to facilitate innovation that will make the organisation more successful in its activities of providing valuable offerings to certain consumer segments. While the connection between entrepreneurial orientation and organisational performance widely accepted in literature, recent research started to refocus on the measurement of entrepreneurial orientation construct (Kantur, 2016). The ability of the organisation to learn and adapt to changes and development in the market impact their ability to provide better services through efficient use of scarce resources, to reach more consumers and to attract volunteers. Organisational entrepreneurship is therefore assumed to have a positive relation to organisational performance. The fourth hypothesis was then postulated as follows:
H4: *Organisational entrepreneurship has a relation with organisational performance.*

3. Methodology

Research Design: The study adopted the positivist paradigm, a philosophy that is of the view that knowledge stems from human experience (Collins, 2010). A quantitative research approach was used for this study. Probability sampling was adopted for the present research and was deemed appropriate as it assumes every respondent in the population had an equal chance of being included in the research, and thus reduced bias toward certain respondents (Galpin, 2013).A list of the members of this population was available in the directory of Non-profit Organisations, which was accessed on the website of the South African Department of Social Development (DSD) (Department of Social Development, 2014). Additional lists were also accessed from the Wits Citizenship and Community Outreach (WCCO), a facilitator of volunteer-led work at the University of the Witwatersrand. As far as basic parameters were concerned the study was limited only to NPOs based in the Gauteng province and this could have marginalised the findings of the study.

Measurement Instruments: The research constructs were adapted from prior studies of the same field of study. Sufficient adaptations were made to the research constructs so as to take in into consideration the current study's context and purpose. To collect data a likert scale questionnaire was utilised.

Survey Design: Fagarasanu & Kumar (2002) posit that the theoretical constructs in any study that are measured are the determining factors for the choice of measurement methodology. For purposes of the present research, senior managers were asked to complete a self-administered hard copy questionnaire with one section on background information, and the rest of the sections relating to the constructs under study. Sections B to F measured each of the constructs on five-point Likert scales, with questions adapted from various relevant scales used in previous research. The decision to use five-point Likert scale rather than seven-point Likert scale was based on knowledge that mean scores for either scales may not differ significantly and are readily transferrable by rescaling (Dawes, 2008). The questionnaire is available in Appendix A of this report.

4. Results of the Study

Respondent Profile: The profile of the participants is presented in Table 1 on the following page. The sample presents five organisational types which are as follows: health and disability (20.6%), other care (29.2%) and advocacy (16.0%) of the total sample. Furthermore it can also be observed that education and other categories represented (20.2%) and (14.0%) respectively. Members supported by NPO ranged from groups of 1-20 members and 41-60 members. Years of experience in NPOs and in current NPO ranged from 1-5 years and 20+ years. Various educational backgrounds, job titles and age groups are represented as well as gender sampled in the study.

Table 1: Sample Demographic Profile

Research construct	Category	Frequency	Percent (%)	Cumulative Percent (%)
	Health and Disability care	53	20.6	20.6
	Other Care	75	29.2	49.8
Organisation type	Advocacy	41	16.0	65.8
	Education	52	20.2	86.0
	Other	36	14.0	100.0
	Total	257	100.0	
	1-20	97	37.7	37.7
Members supported by	21-40	128	49.8	87.5
NPO	41-60	32	12.5	100.0
	Total	257	100.0	
	1-5	63	24.5	24.5
	6-10	64	24.9	49.4
Years' experience in	11-15	72	28.0	77.4
NPOs	16-20	47	18.3	95.7
	20+	11	4.3	100.0
	Total	257	100.0	
	1-5	99	38.5	38.5
	6-10	73	28.4	66.9
Years in current NPO	11-15	51	19.8	86.8
	16-20	23	8.9	95.7
	20+	11	4.3	100.0
	Total	257	100.0	
Educational	Social welfare	59	23.0	23.0
background	Health	63	24.5	47.5
	Business / Commerce	68	26.5	73.9
	Public administration	37	14.4	88.3
	Other	30	11.7	100.0
	Total	257	100.0	
Job title	Executive / Board member	64	24.9	24.9
	Senior manager			
	Operational manager			
	Administrative			
	Other			
	Total	257	100.0	
Age group	20-30	28	10.9	10.9
	31-40	42	16.3	27.2
	41-50	66	25.7	52.9
	51-60	88	34.2	87.2
	over 60	33	12.8	100.0
	Total	257	100.0	
Gender	Male	53	20.6	20.6
	Female	204	79.4	100.0
	Total	257	100.0	

Model Fit: Table 2 below illustrates the model fit indices of the present study. All the model fit indices met the recommended thresholds as discussed in greater detail in the section that follows.

Table 2: Model Fit

Model fit criteria	Chi-square (χ2/DF)	CFI	IFI	NFI	TLI	RMSEA
Indicator value	2.361	0.93	0.93	0.90	0.91	0.07

CFI=Confirmatory fit index; TLI=Tucker Lewis index; IFI=Incremental fit index; NFI=Norm fit index; RMSEA=Root mean standard error approximation

Scale Accuracy Analysis: The scale construct correlations are presented in table 2. Results of scale reliability are presented in table 2 whereby Cronbach's alpha coefficients were above 0.75 exceeding the 0.7 recommended by (Venter, Chuchu & Pattison, 2016) while the composite reliability values ranged from 0.701 to 877. Furthermore it was observed that most of the AVE values were above 0.59. The measurement model produced a ratio of chi-squared value over degree-of-freedom of 2.361 which is acceptable as it fall below the 3 recommended by (Ullman & Bentler, 2003). The other model fit indices include the CFI, IFI, NFI and the TLI were 0.93, 0.93, 0.90, and 0.91 respectively. All these model fit measures were above recommended threshold of 0.8 by (Chinomona, Lin, Wang, & Cheng 2010). The RMSEA was 0.07 which fell below the recommended threshold of 0.08 by (Hooper, Coughlan & Mullen, 2008).

Path Modelling & Hypotheses Testing: From Table 3, the findings reveal that all four hypotheses are supported. H1 and H2: Management's commitment to their occupation and continuous education directly and positively influences organizational entrepreneurship. The outcome of H1 is similar to (Rashid, Sambasivan & Johari, 2003) who established that commitment directly influences entrepreneurship positively. Both relationships imply that the more an organization is committed to its obligations and the drive to learn more the more a culture of entrepreneurship is encouraged within that organization. H3: Management's ethics also have a positive and direct impact on organizational entrepreneurship. This relationship lastly implies that organizations that are ethical encourage their employees to be entrepreneurial. Lastly, H5: Organizational Entrepreneurship leads to organizational performance. This implies that organizations that are entrepreneurial tend to become more successful. Table 4 presents the results of the structural equation modelling followed by discussion thereof.

Table 3: Accuracy Analysis Statistics

Research Construct		Descriptive Statistics				Cronbach's Test		C.R. Value	AVE Value	Factor Loading
		Mean Value		Standard Deviation		Item-total	α value			
Management's commitment to occupation	MgCmt2	4.21	4.13	0.64	0.69	0.462	0.747	0.701	0.439	0.702
	MgCmt4	4.13		0.72		0.486				0.644
	MgCmt5	4.05		0.72		0.417				0.639
Management's continuous education	MgEdu1	4.13	4.05	0.80	0.65	0.473	0.831	0.830	0.495	0.721
	MgEdu2	3.98		0.70		0.548				0.655
	MgEdu3	4.00		0.63		0.565				0.621
	MgEdu4	4.10		0.56		0.618				0.735
	MgEdu5	4.04		0.56		0.567				0.775
Management's ethics	MgEth1	4.30	4.23	0.71	0.69	0.509	0.872	0.877	0.589	0.743
	MgEth1	4.10		0.67		0.548				0.745
	MgEth3	4.20		0.65		0.564				0.737
	MgEth4	4.13		0.67		0.600				0.776
	MgEth5	4.41		0.73		0.696				0.832
Organizational entrepreneurship	OrEntr1	3.86	4.05	0.64	0.815	0.494	0.864	0.859	0.506	0.578
	OrEntr2	4.03		0.78		0.622				0.684
	OrEntr3	4.14		0.87		0.550				0.745
	OrEntr4	4.09		0.89		0.599				0.747
	OrEntr5	3.84		0.79		0.642				0.733
	OrEntr6	4.33		0.92		0.466				0.764
Organization's performance	OrPerf1	4.40	4.15	0.76	0.78	0.602	0.847	0.874	0.583	0.816
	OrPerf2	4.04		0.76		0.602				0.724
	OrPerf3	4.01		0.64		0.512				0.785
	OrPerf4	3.95		0.84		0.564				0.678

	OrPerf5	4.37	0.90	0.499	0.805

Note: Management's commitment to occupation (MgCmt), Management's continuous education (MgEdu), Management's ethics (MgEth), Organizational entrepreneurship (OrEntr), Organization's performance (OrPerf). C.R.: composite reliability; AVE: average variance reliability.
Structural model fits: χ2/df= ; CFI = 0.93; TLI = 0.91; IFI = 0.93; NFI= 0.90; RMSEA= 0.07 a significance level p <0.01

Table 4: Results of Structural Equation Model Analysis

Hypothesis	Description of Relationship	Outcome
1 (p<0.1)	Management's commitment to their occupation has a positive relation with organizational entrepreneurship.	Not Supported (0.382) Path Coefficient
H2 (p<0.01)	Management's continuous education has a positive relation with on organizational entrepreneurship.	Supported and significant (0.607) Path Coefficient
H3 (p<0.01)	Management's ethics have a positive relation with organizational entrepreneurship.	Supported and significant (0.581) Path Coefficient
H4 (p<0.01)	Organizational entrepreneurship has a positive relation with organizational performance.	Supported and significant (0.866) Path Coefficient

Structural model fits: χ^2/df=; CFI = 0.93; TLI = 0.91; IFI = 0.93; NFI= 0.90; RMSEA= 0.07[a] significance level p<0.01

5. Conclusion

Management continuous education has proven to be a management competency that allows management teams to contribute to their NPOs' entrepreneurship capabilities. The importance lies in encouraging continuous learning of employees to enable them to remain relevant in terms of important information about technologies and their industries that affects their organisations. With ever-changing needs of consumers who are dependent on NPOs, innovative learning can only be encouraged more as discontinuing or reducing momentum to learn could result in reversed in providing innovated social value. Due to theoretical differences in concepts of profession and occupation, commitment of NPO managers to their occupation in the non-profit sector proved to be less influential than continuous education. This shows a lack of the competency to influence internally the NPO's entrepreneurship. Capabilities of NPO managers could be enhanced through the creation of knowledge sharing bodies, which can be achieved through commitment of managers to such bodies to benefit from pooled knowledge hubs that are necessary for driving innovation. The current study views government support as vital for the continuity, competitiveness and efficiency of NPOs as supported by Chawarika (2016) who states that the government is considered as an active player in influencing the competitiveness of firms. The overall resolve of managers in the sample of NPOs to "do the right thing" and continually create benefit for their organisations does little to make a significant impact on the organisation's entrepreneurship. The restraint element, accompanied by management teams being risk averse, may be responsible for limiting managers' contributions to entrepreneurship that could benefit their organisations. This highlights the importance of instilling principles of constructive risk-taking educational efforts to allow managers to learn about benefits of investing and managing risk in order to be sustainable.

Implications of the Study: The present study offers implications for managers and academicians with regards to management and entrepreneurship of NPOs in South Africa. Based on the results of the current study organizational entrepreneurship and organizational performance (H4) is seen to be the strongest relationship implying that for managers to have successful NPOs there are required to provide incentives for their employees to have entrepreneurial mindsets. A key finding of the present study was that managers of NPO are now encouraged to utilize organizational resources supporting entrepreneurship within their organizations. This finding is supported by Kong (2007) who found that it has increasing become imperative for more managers to operate more resourcefully so as to increase organisational effectiveness. However it is

also observed based on the results that management's commitment to their occupations and organizational entrepreneurship is a relationship that is not supported. This implies that the commitment from managers of NPOs does necessarily lead to employee entrepreneurship. Other major implications for managers in NPOs are highlighted in this research. Firstly, management groups in NPOs that are interested in increasing their organisational entrepreneurship may consider creating or renovating in their business models structures to make provision for continuous education of their management teams in order to help managers to improve their contributions, and ultimately improve the performance of the organisation. The strong influence of continuous education on entrepreneurship for the organisation may encourage managers to invest in learning and knowledge sharing initiatives, such as workshops, seminars and conferences to contribute to their organisations' entrepreneurship.

Given the importance of management commitment to operational consistency and continuation, managers in NPOs should be encouraged to form or join collective bodies or societies that can help to moderate, maintain and encourage citizenship to the non-profit sector and knowledge generation relevant to the NPOs. This finding is reflected in a past study by (Balser & McClusky, 2005) who established that committed managers of NPOs are able to successfully conduct their practises so as to contribute to organisational effectiveness. Another managerial implication concerns building up management teams in NPOs to engage in constructive risk-taking with the organisation's resources. Being risk averse may come from fear of failure of fundraising projects or due to uncertainty, is a hindering element of entrepreneurship. The question may arise as to why NPOs should be entrepreneurial at all, to which NPO management teams can expect that, in a world of ever-changing circumstances, for-profit and not-for-profit organisations operate in a market-structured economy which runs on competitiveness for scarce resources.

Recommendations for Further Research: Recommendations for further research are directed at both practitioners and academicians, and are based on contributions to knowledge made during the research as well as ways of addressing limitations of the research. Given the positive impacts of management characteristics on entrepreneurship within NPOs observed in the current study, researchers may also extend studies to include non-managerial members of the organisation, because the capabilities of all members of an organisation help to implement the organisation's mandate. The intention would be for researchers and practitioners to consider investigating the likelihood of business model renovations that factor in the competencies being adopted by both volunteer and non-volunteer intensive organisations. Moreover, to address a particular limitation, it is important for further research to consider using explorative methods to discover possible themes pertaining to value creation in NPOs. Although there is evidence of entrepreneurship in NPOs, it is questionable whether the market economy is a suitable system for NPOs to operate in. However philosophical, research that explores areas beyond the boundaries of the market-economy discipline may help to motivate alternative systems or mechanisms under which NPOs can thrive. Some prospective research questions to be addressed may include the following: "Do NPOs really operate in the market? How suitable is the market discipline for NPOs? What alternatives to the market discipline are there for NPOs?"

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The Dinaledi Intervention Program

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Abstract: The study seeks to examine the relationship between educational inputs, primarily the Dinaledi intervention program and schooling outcomes. The Dinaledi program is one of the government's intervention programs to redress the inequalities and provided education resources to the previously disadvantaged communities in South Africa. The study employed a pseudo panel analysis on the attempt to answer the question of interest. Considering the random effect regression, Dinaledi schools were less likely to increase dropout rate by 0.099% with reference to non-Dinaledi schools. The pseudo panel analysis indicated a positive and significant association of the Dinaledi schools to pass rates. Further extensions of the analysis were looking at the distribution of the Dinaledi program on racial and gender issues by using the DiNardo-Fortin-Lemieux (DFL) estimation. It can be concluded that schooling outcomes can be strongly influenced by the Dinaledi intervention program with females and Blacks becoming more responsive to dropping out than their counterparts. Looking at the nature of resources and support provided to Dinaledi schools, it is recommended that the entire schooling system adopt the model to eradicate the legacy of inequality and improve schooling outcomes.

Keywords: *Dinaledi intervention, pseudo panel data analysis, dropout rates, random effects, DiNardo- Fortin-Lemieux (DFL)*

1. Introduction

Schooling outcomes such as dropout and pass rates are a major concern in education especially in developing countries today. Exit learners in the schooling system (matriculates) show persistent patterns of under-achievement particularly in Mathematics and Science subjects. Poor performance in these subjects lead to shortages in the most important skills such as engineering and these shortages constrain economic growth and employment creation. The poor schooling outcomes might lead to learners failing to finish schooling or deprived a chance to meet the admission requirements in tertiary institutions. Although there is a welcomed development in issues like enrolment and participation of learners in the Sub- Saharan regions, the challenge remains on improving the quality of education and increasing the number of matriculates with powerful Mathematics and Science results. For example, secondary school enrolment in Northern Africa was around 45%, 25% in South Eastern Africa, 13% in Central Africa and 100% in South Africa (DoE, 2009). The matriculation pass rate gradually increased in South Africa from 58% in 1994 to 65% in 2013, however, South Africa came last in the Trends in International Mathematics and Science Study (TIMSS) (DoE, 2003; DoE, 2007; DBE, 2014). This implies that an increase in pass rates may be pulled down by the high failure rate in Mathematics and science.

Responding to the concern of improving schooling outcomes, an interesting approach to assist students succeed is to examine if intervention programs can influence schooling outcomes. Discovering intervention programs that may reduce dropout rates and increase pass rates would be beneficial not only for individual learners but also for the society as the whole. Intervention programs for improving schooling outcomes have been developed. In this article, existing literature is integrated with the research that examines the Dinaledi intervention program effects on schooling outcomes. The Dinaledi program is the South African government intervention program collaborating with businesses for the redress of the inequalities, which provided resources to disadvantaged Black communities. The program started in 2002 to provide schools with extra resources for Mathematics, Physical science and Life science, learners provided with textbooks and mathematics kits; schools provided with laboratories and projectors; and educators trained on content (OECD, 2008); (DoE, 2011).

Studies on the Dinaledi intervention program are limited, for instance, there was an evaluation of the Dinaledi program which was done by the World Bank in the period 2005 to 2007 (DIME, 2008). However, studies of

the effects of intervention programs indicated a positive relation to schooling outcomes (Boardman et al., 1977; Mutsalklisana, 2011). This study attempts to find an effective mechanism for narrowing gap in resources and improving quality, productivity and accountability in education adopting education production functions. In educational microeconomics, the education production function or frontier is an education process that transforms input indicators into outcomes (Hanushek, 1989; Hanushek, 1990; Behn, 2003). Education production functions in schools essentially aim to identify which education inputs such as government intervention programs, teacher qualifications, availability of teaching materials and teaching time, have an effect on schooling outcomes (Mancebon & Molinero, 2000; Ray, 1991; Bhorat & Oosthuizen, 2006; Glewwe, 2002). This study extends the understanding of the link between inputs and output for the education production function using parametric and non-parametric density/ regression techniques. Therefore, the study sought to examine the relationship between the Dinaledi intervention program and schooling outcomes. In addition, there is an examination of equity in racial and gender issues to discover how they relate to school performance. Section 2 provides literature review, section 3 analytical framework that includes data issues and empirical models. Section 4 deals with results and discussions, and section 5 concludes by providing a summary of the findings and recommendations.

2. Literature Review

Theoretical literature: This study adopts a production function approach for learning to understand the causal relationship between educational inputs and academic achievements (Glewwe & Kremer, 2006). Due to lack of information on some characteristics of structural relationships of production functions such as learner and parent information, the structural model is not easily measured (Boardman et al., 1977). Therefore, a causal relationship, which is a reduced form equation in the following form, can be used:

$$\boldsymbol{A} = f(\boldsymbol{S}, \boldsymbol{Q}, \boldsymbol{H}) \qquad (1)$$

A is a scalar representing achievement which can be captured by standardized test scores, grade attainment or dropout rates. S is a vector of school characteristics usually captured by learner educator ratios, Dinaledi schools, location were the school operates (sector) and so on. Q represents learner characteristics usually captured by gender and race. H is a vector of household characteristics, which act as control for socio-economic characteristics, and is represented by quintile category of schools in this study. The study attempts to measure $\boldsymbol{A}'(.)$; which provides the total derivative of A with respect to each of the individual variables defined within vectors. According to Hanushek (1989), the production function approach which can be input-output or cost-quality approach is the most appropriate and useful approach in education studies. The production function for schools focuses on the relationship between school outcomes and measurable (observable) inputs into the educational process. Educational systems have no single defined production function, and no well-defined indicators of input and output (Hanushek, 1989). In most studies of the education production function, the measure of input and output is limited by the availability of data. Therefore, various educational outcomes can result from a variety of different combinations of inputs. Examples of output found the literature include academic performance; skills, attributes and values that favor workplace and social integration; communication and interpersonal skills, respect for the environment, physical fitness; and political, social and personal responsibility, grade repetition rates, or dropout rates (Hanushek, 1989; Ray, 1991; Giménez et al., 2006; Schwartz & Stiefel, 2004; Thieme et al., 2011). This study measures output using the dropout rates. On the other hand, inputs which are also referred to as instructional expenditures can be grouped as school, educator; student and household characteristics(Hanushek, 1989; Borge & Naper, 2006). In this paper, inputs include whether a school is a Dinaledi school or not, the grade 12 pass rates, gender, race, sector and quintile category of schools.

Empirical literature: Boardman and Murnane (1979) addressed the estimation of educational attainment using cross-sectional data, achievement measures at two points and panel data. They found that the panel analysis gave more nuanced results as it addressed the bias, although they assumed that there was no measurement error (Boardman & Murnane, 1979). Boardman, Davis and Sanday (1977) estimated a reduced form achievement equation in a simultaneous equations model with maximum likelihood estimation. Their model examined the determinants of pupil achievement through verbal, non-verbal, reading and mathematical skills (Boardman et al., 1977). They found that both home and school characteristics are

significant determinants of achievement; however, there are substantial differences in the average achievement of racial groups. In addition, males are better achievers but females are better readers, and pupils who attend white schools perform better than others. The World Bank evaluated the Dinaledi schools' performance in the South African National senior certificate examinations in Mathematics and Physical science (DIME, 2008). The study used matching and the difference in difference techniques to estimate the impact of the Dinaledi program in the period 2005 to 2007 and found that the program improved performance. Another study by Mutsalklisana, evaluated the effects of job training on immigrants in the United States (Mutsalklisana, 2011). The researcher used Random effects, Propensity Score Matching, quantile regressions and semi-parametric reweighting method to measure these effects. The results revealed the conditional effect of job training on average earnings of immigrants is less than that of natives at 7.7%. The distribution analysis showed a positive effect on wages of immigrant workers over most of the wage distribution. The DiNardo-Fortin-Lemieux (DFL) counterfactual distributions indicated that the largest proportional impact of job training is at the upper part of the wage distribution for both natives and immigrants. On the attempt to answer the question of interest, the relationship between the Dinaledi intervention program and school outcomes, the pseudo panel analysis was adopted from Boardman et al. (1977) and Verbeek (2007). Further extensions of the analysis looked at the distribution of the Dinaledi program on gender issues; hence, the DFL was adopted from Johnston & DiNardo (1997). Gender was investigated to find out if the province still had persistent gender gaps.

3. Data and Method

Data issues: The data used was obtained from the examination directorate of the Province of Eastern Cape Education in South Africa. A random sample of the Eastern Cape public schools with grade 12 examination results was selected with longitudinal data for the period 2008 to 2013. The data suffered some drawback within the context of estimating the education production function. For instance, the data was at school level and not at learner level and constrained the validity of the estimates derived. In addition, data lacked educator characteristics, direct learner, and parent information. This means that estimates suffered from the omitted variable bias, which could not be controlled for. The data also suffered selection bias, as it did not provide variables such as grade repetition rate. The study sought to address some of the biases by using different estimation techniques in the pseudo panels. For instance, according to Deaton (1985) and Verbeek (2007), pseudo panels are advantageous as they suffer less attrition and non-response, reduce biasing effects of measurement error, improve coverage and reduce endogeneity as the variables used are all aggregated at the cohort level. They are substantially larger in number of households and in the time, they span. There is also a reduction of the number of laborious computational problems associated with large micro data sets. However, its major limitation is not following the same individuals over time, so individual histories are not available for inclusion in the model, for constructing instruments or transferring the model to first differences. It is advantageous, however, to undertake the study as a guide for improving on future research of this sort with better quality data. The study serves as a benchmark for evaluating the possible effects of the redress in developing countries. The large sample of grade 12 offering schools and the estimation techniques added to the robustness of results and control for the aforementioned biases.

Table 1: Descriptive statistics: Eastern Cape dropout and pass rates, 2008 to 2013

	2008	2009	2010	2011	2012	2013	All
DROPOUT RATE MEAN	0.633	0.495	0.838	0.609	1.159	0.697	0.739
Standard Deviation	1.309	0.986	1.499	1.503	2.890	1.823	1.789
Min	0	0	0	0	0	0	0
Max	16.117	11.486	13.99	16.788	16.789	16.789	16.789
PASS RATE MEAN	54.719	55.921	62.573	63.056	63.755	67.431	61.252
Standard Deviation	33.049	31.106	29.001	28.424	27.732	26.228	29.675
Min	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100

Source: Own compilation from Province of Eastern Cape Education

Descriptive Statistics: Table 1 provides descriptive statistics of the dropout and passes rates in grade 12 for the period from 2008 to 2013. The pseudo panel data give a mean of 0.7% for the dropout rate, our dependent variable with a standard deviation of 1.8, where these values fall between zero and 16.8%. The mean value of 0.7% implies good performance as schools with zero dropout rates are an indicator that all learners who enrolled managed to write examinations. The dropout rate trend is consistent with the South African performance of 15.3% from 2008 to 2010 in National Income Dynamics Study (NIDS), although the author measured the cohort dropout rate (Branson et al., 2013). The Eastern Cape performed better than an American case, where the Mexican-American dropout rate was 35.3%, the White non-Hispanic rate was 8.9% and the African-American rate was 13.5%. The pass rate has a mean of 61.3% with a standard deviation of 29.7. Table 2indicates the percentages of dummies Dinaledi schools, gender, race and sector. There was 93.5 %of non-Dinaledi schools, 95% of schools were public schools, gender was almost half-half and 79% of learners were Black.

Table 2: Distribution of some input variables

Variable	Frequency	Percent
Non-Dinaledi	12 650	93.52
Dinaledi	877	6.48
Females	6 771	50.03
Males	6 752	49.97
Blacks	10 690	79.00
Non-Blacks	2 834	21.00
Independent	712	5.26
Public	12 815	94.74

Source: Own compilation from Province of Eastern Cape Education

The empirical model: The dependent variable in this study is grade 12-dropout rate by school, which is expected to have a negative association with explanatory variables. The explanatory variables are a range of learner, school and household characteristics drawn from repeated cross sections from 2008 to 2013. The study attempts to estimate the following equation of the generic form:

$$y_i = \alpha + \beta x_i + u_i \qquad (2)$$

$'y_i'$ Refers to grade 12 dropout rate in school i being a function of $kx1$ vector, α captures the constant, x refers to relevant explanatory variables, β *is the* $kx1$ vector of parameters which describe the transformation process of inputs to output and u reflects measurement error in x and unobserved aspects of explanatory variables on output. The dependent variable, dropout rates, is a percentage change between learner enrolment and learners who wrote examinations. In this study, the event dropout rate is measured for the period 2008 to 2013, which is a proportion of learners who dropout in a single year without completing grade 12. Explanatory variables are pass rate and dummies of whether a school is a Dinaledi or not, race is Black and non-Black, gender is female and male, school quintiles are quintile one to five schools and sector is independent and public schools.

Reduced form equations suffer endogeneity bias due to unobservable characteristics. The bias can be addressed by employing a two-prong approach: the parametric and non-parametric approaches. The panel data (available for this study) of the reduced form enables us to obtain unbiased estimates of the effects of explanatory variables on output (Boardman & Murnane 1979). The study adopts a parametric technique from Verbeek (2007), pseudo panels, for the period 2008 to 2013 in the Eastern Cape grade 12 schools and estimates the following function:

$$y_{it} = \alpha_i + x'_{it}\beta + u_{it},\ t = 1, \dots, T \quad E[x_{it}u_{it}] = 0\ for\ each\ t \qquad (3)$$

'x_{it}' is K-dimensional vector of explanatory variables, β is the parameter vector of interest and$i$is schools with grade 12 (Verbeek 2007). It is assumed that the data set is a series of independent cross sections (pseudo panels) meaning repeated observations on T observations. If all observations are aggregated to cohort level, like school level, we have:

$$\bar{y}_{cit} = \bar{x}'_{cit}\beta + \bar{\alpha}_{cit}, \quad c = 1, \dots, C \quad t = 1, \dots, T \qquad (4)$$

'c' is cohort of schools, $\bar{y}_{cit}$ is the average value of all observed y_{it} in cohort c in period t. Cohort is defined by Deaton as 'a group with fixed membership, meaning individuals who can be identified as they show up in the sample. The main challenge with (4) is unobservable$\bar{\alpha}_{cit}$ which is likely correlated with $\bar{x}_{cit}$ if α_i is correlated with x_{it}. Therefore treating $\bar{\alpha}_{ct}$ as part of a random error term is likely to lead to an inconsistent estimation. So, the solution is to treat $\bar{\alpha}_{ct}$ as a fixed unknown parameter and assume that variation over time is ignored (Verbeek, 2007). However, the Hausman test and the Breusch-Pagan Langrangian multiplier (LM test) are performed to test for the best consistent estimator(Torres-Reyna, 2007).

A linear dynamic model is measured with error and therefore an Anderson & Hsiao (1981) estimator and more efficient GMM estimator of Arellano & Bond (1991) cannot be used for pseudo panels (Verbeek, 2007). This is because y at t-1 for individuals or households is unobservable but observable in true panels. Deaton (1985) suggests the use of cohorts to estimate a fixed effect model from repeated cross sections and this approach is as efficient as an instrument variable approach. The averages within cohorts are treated as if they were observations within pseudo panels (Deaton, 1985). The study is extended with the semi-parametric approach which utilizes the DiNardo- Fortin-Lemieux (DFL) decomposition to compare distributions of Dinaledi schools between females and males (Johnston & DiNardo, 1997). It is called a semi-parametric approach because, within the parametric density approach such as DFL decomposition, we use the non-parametric approach like a probit or logit model. Parametric approaches are useful for exploratory data analysis, estimate standardized distributions to account for different characteristics and needs no specification of functional form. The following equation is estimated:

$g^t(y) = \int \theta f_t(y|x)h(x|D = t)dx \quad where\ \theta = \Pr(D = t)\ /\Pr(D = t|x)$ (5)

$'g^t(y)'$ is the hypothetical distribution showing a full distribution of observed output for the characteristics of x, $\Pr(D = t)$ is the unconditional probability in the overall sample that an observation belongs to group t (females or males), $\Pr(D = t|x)$ is the conditional probability that can be estimated by means of a discrete choice model or non-parametrically (Johnston & DiNardo, 1997), $f_t(y|x)h(x|D = t)$ is the joint distribution of output and characteristics for the group t.

The literature on education functions recognizes convergence, complementarities and lack of empirical evidence on proximity on parametric and non-parametric approaches (Chakraborty et al., 2001). Comparing results between the two approaches brings stability to the production function estimates and strong policy formulation. The expected results should yield a negative relationship between the dropout rate and the Dinaledi program, as this would mean few learners are leaving schools if there is intervention by the department. The limitations of this study are those school inputs that are not controlled for which does not allow us to assess the specific role of the Dinaledi program, but to measure the effects of resources in general. The subsequent reference to the effects of the Dinaledi program should be understood in this sense. As robust check of the effects of the Dinaledi program on schooling outcomes, the dependent variable was changed from the dropout rate to pass rates. The sign of the estimates is expected to change from negative to positive because the intervention program is expected to influence pass rates positively.

4. Results and Discussion

In an attempt to answer the research question of what is the association of the Dinaledi Intervention program with schooling outcomes, specifically dropout rate, different models such as pooled OLS, random and fixed effects were estimated. After testing for the more consistent and efficient estimator using the Hausman and the LM test, the random effect was chosen (Torres-Reyna, 2007). The Hausman test gave $\chi^2 = 2.48$and $Prob > chi2 = 0.9625$ therefore the preferred model for dropout rates is the random effects. The LM test for consistency between the pooled OLS and the random effect resulted into the random effect being the chosen model; with$chibar2(01) = 4.35\ and\ Prob > chibar2 = 0.0185$.the results of this study indicate that dropout rates are negatively associated with whether a school is a Dinaledi school or not at the 5% significant level in pooled, random and fixed effect estimations (table 3). Considering the random effect regression as a consistent and efficient estimator, Dinaledi schools are less likely to increase dropout rate by 0.0994% with reference to non-Dinaledi schools. These results indicate a significant impact of the Dinaledi Intervention program on schooling outcomes as measured by grade 12 event dropout rates in the period 2008 to 2013. Pittman (1991) found that dropout rates are associated with student social relationships within the school

environment (Pittman, 1991). McMillan and Reed (1994) found dependence on adult relationships in their conceptual model of factors influencing resilience of at-risk students (Mcmillan & Reed, 1994). Analogous to these afore-mentioned researchers and looking at the resources and support provided to Dinaledi schools such as learning material to learners, training educators and laboratories, it would be beneficial to provide this intervention program to all schools.

When random effect functions of females and males were estimated, it revealed that they had the expected sign and females were significant at 10% while males were insignificant (table 3). This implies that females of Dinaledi schools have a significant influence on grade 12 dropout rates in relation to females of non-Dinaledi schools. This gender issue is further discussed below. Pass rates are negative and significant at 1% significant level in all specifications. This means that an increase in the school's grade 12 pass rate would decrease the drop out in the school. To get more nuanced results, dropout rates were replaced with pass rates to represent schooling outcomes (table 4). The Hausman test indicated the fixed effect estimator as the more efficient and consistent estimator with a large $\chi^2 = 167.45$ *and* Prob $> chi2 = 0.0000$. The pseudo panel analysis indicates a positive and significant association of the Dinaledi schools to pass rates, implying that they are more likely to influence performance by 9.8% with reference to non-Dinaledi schools. Interestingly, Dinaledi schools are significantly affected by both males and females by about 10% in relation to non-Dinaledi schools. The dropout rate significantly explains pass rates with the decrease in dropout rate would increase pass rates by around 3%, ceteris paribus.

Another set of variables that are very robust across the mean are the control variables such as race, gender, sector and quintile (tables 3 & 4). In this study race was grouped into Blacks and non-Blacks with Blacks as the referent. Non-Blacks are less likely to drop out of school than Blacks, both among females and males. Males are less likely to drop out of school in grade 12 than females (the referent). This highlights the racial and gender inequality challenges that still exist in the province. Interestingly, public schools perform better than independent schools (the referent) with large magnitudes as represented by the sector in table 3. This is surprising because independent schools follow a model close to private schooling, which is expected to influence schooling outcomes better than public schools. However, this outcome supports the intuition of adopting the Dinaledi model at all public schools than increasing the independence of schools. Schools in quintiles two to five are less likely to have learners dropping out than quintile one (the referent) schools. Females in quintile three to five schools show insignificant results with different signs, while males show significant and negative results in all quintiles in the dropout rate analysis. Similar results were found when pass rates were used as a dependent variable. The quintile category needs a brief explanation. Quintile one are the poorest schools and quintile five are the richest schools. Quintile one to three are declared as poor schools, provided with nutrition, and allowed non-payment of fees. These results therefore, provide for a powerful policy message that the intervention is working well in the Eastern Cape except for females in quintile three to five.

Table 3: Estimates of dropout rate: Dependent Variable: Dropout rate

VARIABLES	pooled	random effect	fixed effect	Female (RE)	Male (RE)
Dinaledi	-0.101**	-0.0994**	-0.0952**	-0.116*	-0.0806
	(0.0425)	(0.0429)	(0.0436)	(0.0619)	(0.0626)
Pass rate	-0.00690***	-0.00684***	-0.00682***	-0.00673***	-0.00668***
	(0.000426)	(0.000427)	(0.000428)	(0.000587)	(0.000626)
Race 2	-0.181***	-0.163***	-0.157***	-0.195***	-0.122**
	(0.0333)	(0.0355)	(0.0363)	(0.0502)	(0.0525)
Gender 2	-0.0893***	-0.0933***	-0.0947***		
	(0.0215)	(0.0215)	(0.0217)		
Sector 2	-1.415**	-1.456**	-1.458**	-1.884**	-0.570
	(0.695)	(0.695)	(0.695)	(0.833)	(1.229)
Quintile 2	-0.149***	-0.150***	-0.151***	-0.106**	-0.196***

	(0.0353)	(0.0353)	(0.0353)	(0.0488)	(0.0510)
Quintile 3	-0.148***	-0.152***	-0.152***	-0.0466	-0.259***
	(0.0334)	(0.0337)	(0.0337)	(0.0467)	(0.0487)
Quintile 4	-0.169***	-0.165***	-0.163***	0.0306	-0.360***
	(0.0392)	(0.0393)	(0.0394)	(0.0543)	(0.0570)
Quintile 5	-0.159***	-0.163***	-0.165***	-0.0256	-0.309***
	(0.0394)	(0.0397)	(0.0398)	(0.0548)	(0.0580)
Constant	2.674***	2.686***	2.712***	2.954***	1.903
	(0.696)	(0.697)	(0.696)	(0.833)	(1.229)
Observations	12,627	12,627	12,627	6,299	6,328
R-squared	0.0493	0.0493	0.0493	0.034	0.045

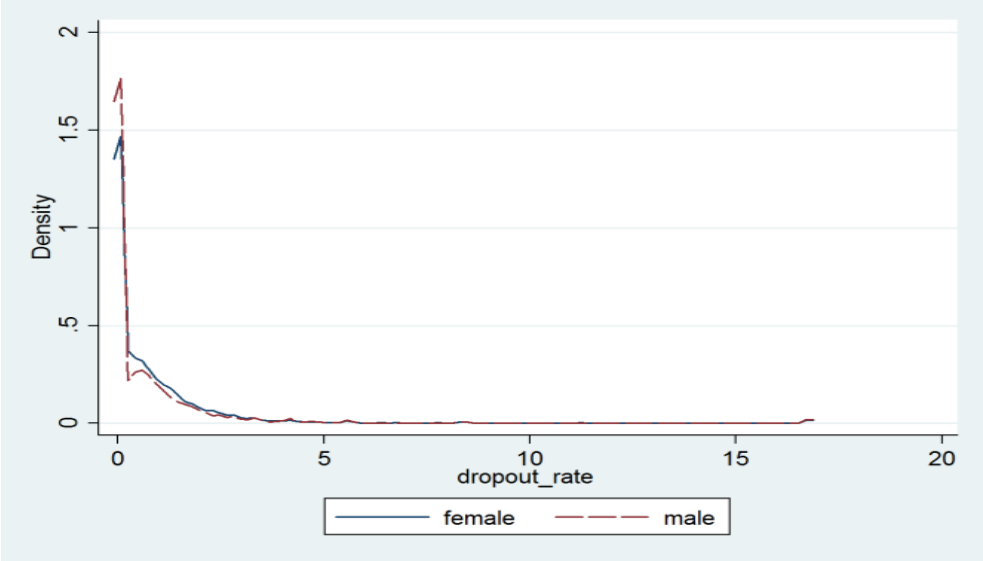
Source: Own compilation from Province of Eastern Cape Education; Stata 13 software
Notes:
Standard errors in parentheses, FE stand for Fixed Effect
*** p<0.01, ** p<0.05, * p<0.1
Referents are non-Dinaledi schools, Blacks, Females, Independent schools, quintile 1 schools

Table 4: Estimates of pass rate: Dependent Variable: Pass rate

	pooled	**Random**	**Fixed**	**Female (FE)**	**Male (FE)**
Dinaledi	8.558***	8.558***	9.804***	10.14***	10.10***
	(0.876)	(0.876)	(0.896)	(1.312)	(1.243)
Dropout rate	-2.958***	-2.958***	-2.898***	-3.053***	-2.660***
	(0.182)	(0.182)	(0.182)	(0.266)	(0.249)
Race 2	18.79***	18.79***	16.44***	14.90***	17.94***
	(0.670)	(0.670)	(0.734)	(1.055)	(1.022)
Gender 2	2.557***	2.557***	2.749***		
	(0.444)	(0.444)	(0.446)		
Sector 2	35.78**	35.78**	36.54**	41.98**	23.43
	(14.40)	(14.40)	(14.33)	(17.74)	(24.51)
Quintile 2	2.212***	2.212***	2.285***	0.993	3.622***
	(0.731)	(0.731)	(0.728)	(1.040)	(1.018)
Quintile 3	1.590**	1.590**	1.707**	-0.0412	3.496***
	(0.693)	(0.693)	(0.695)	(0.994)	(0.972)
Quintile 4	9.335***	9.335***	9.082***	6.966***	11.26***
	(0.808)	(0.808)	(0.808)	(1.154)	(1.133)
Quintile 5	21.81***	21.81***	21.40***	18.63***	24.26***
	(0.793)	(0.793)	(0.799)	(1.143)	(1.118)
Constant	13.81	13.81	13.40	12.63	24.41
	(14.42)	(14.42)	(14.35)	(17.76)	(24.53)
Observations	12,627	12,627	12,627	6,299	6,328
R-squared	0.279	0.279	0.207	0.177	0.236

Source: Own compilation from Province of Eastern Cape Education; Stata 13 software
Notes:
Standard errors in parentheses, FE stand for Fixed Effect
*** p<0.01, ** p<0.05, * p<0.1
Referents are non-Dinaledi schools, Blacks, Females, Independent schools, quintile 1 schools

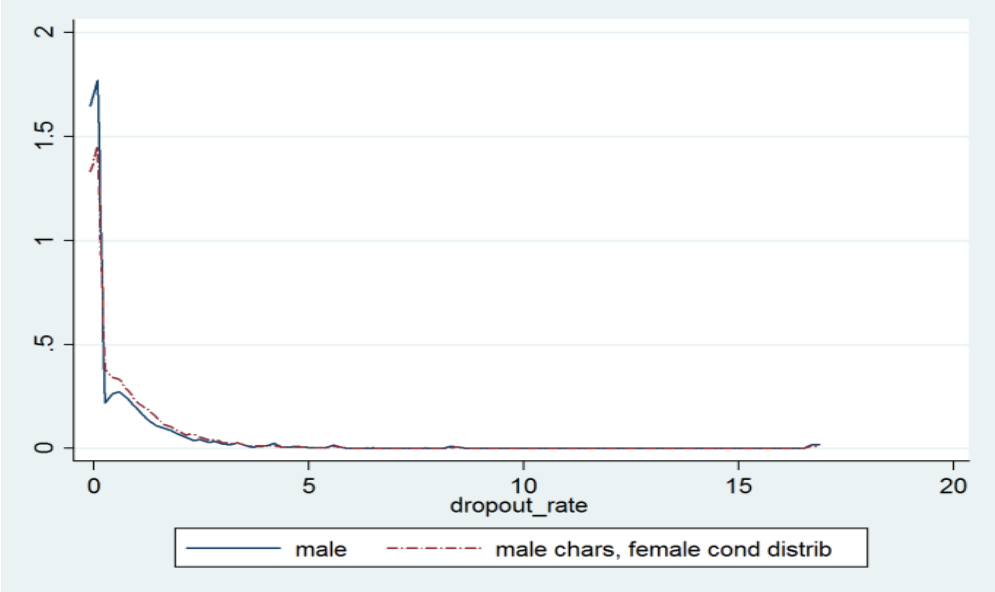
Figure 1: Non-parametric estimation- dropout out rates



Source: Own compilation from Province of Eastern Cape Education; Stata 13 software

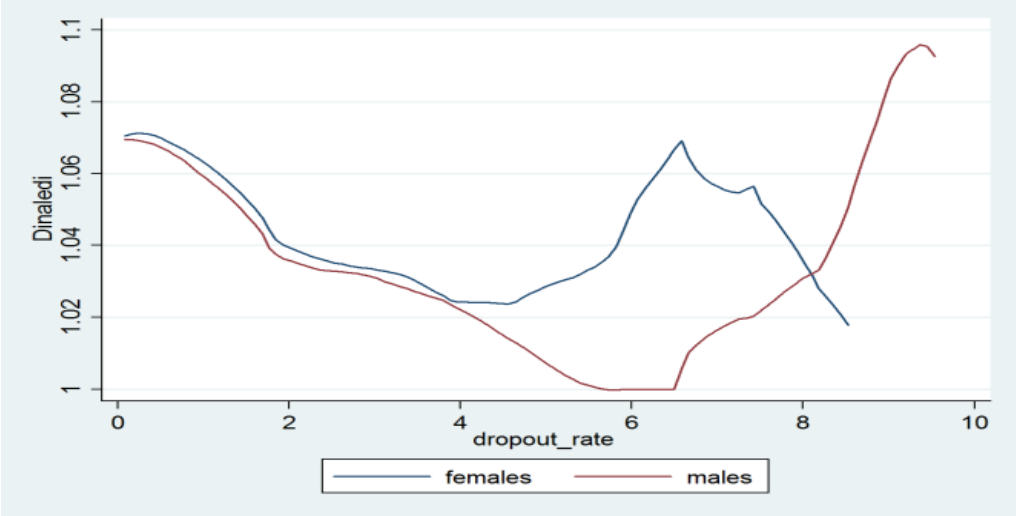
A non-parametric estimation was employed to estimate the density of dropout rates between males and females. A Gaussian kernel and default bandwidth was used for the estimations. In figure 1, it was found that females influence dropout rates more than males, which is consistent with the parametric estimation results. The non-parametric distribution approach shows the area between 0 and 5 for dropout rates as an area in which females differ from males. The distribution between males and females was further explored by employing DFL decomposition, where the distribution of males was made to look like those of females (figure 2). A counterfactual distribution of dropout rates was constructed using a probit model. It was found that if females had the characteristics of males, then the distribution would still look different in the same area. It turns out that the control variables used in the study do not explain the differences in the two distributions.

Figure 2: A non-parametric estimation DFL- dropout rate



Source: Own compilation from Province of Eastern Cape Education; Stata 13 software

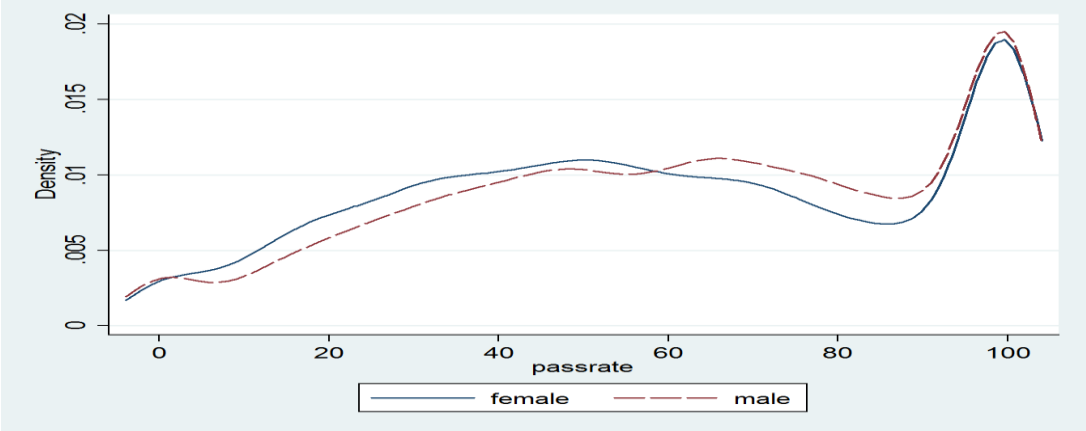
Figure 3: A non-parametric estimation Dinaledi vs. dropout rate



Source: Own compilation from Province of Eastern Cape Education; Stata 13 software

The analysis of the behavior of females and males was extended estimating a local linear regression for Dinaledi schools with Gaussian kernel and the default bandwidth (figure 3). The results suggested that in both females and males the provision of Dinaledi schools fluctuated with the dropout rate, beginning by a decrease then increases and then decreasing again. The decreasing part suggests that Dinaledi schools are less likely to increase dropout rates for either females or males, with females having a higher probability to dropout than males. Females divert quicker than males implying high response to the effect of Dinaledi schools on dropout rates. This suggests that treating schools to the Dinaledi intervention program influences schooling outcomes and females respond faster than males.

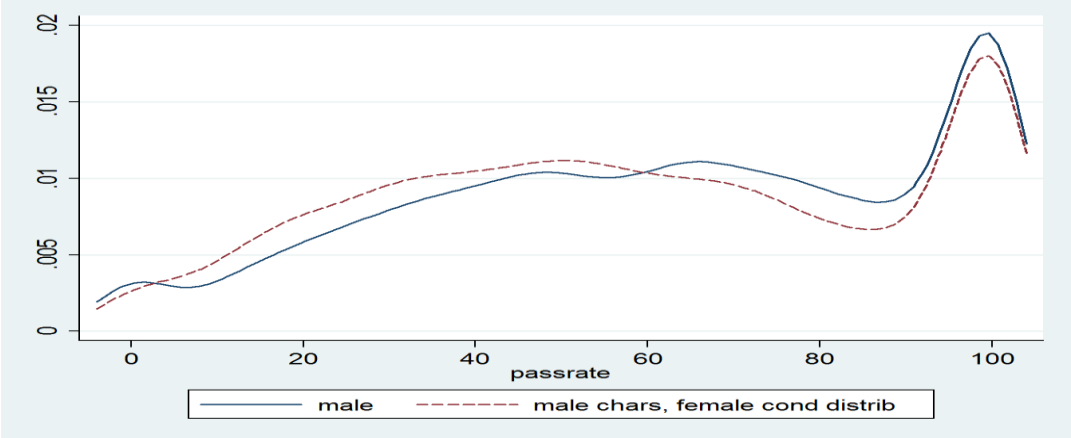
Figure 4: A non-parametric estimation- pass rates



Source: Own compilation from Province of Eastern Cape Education; Stata 13 software

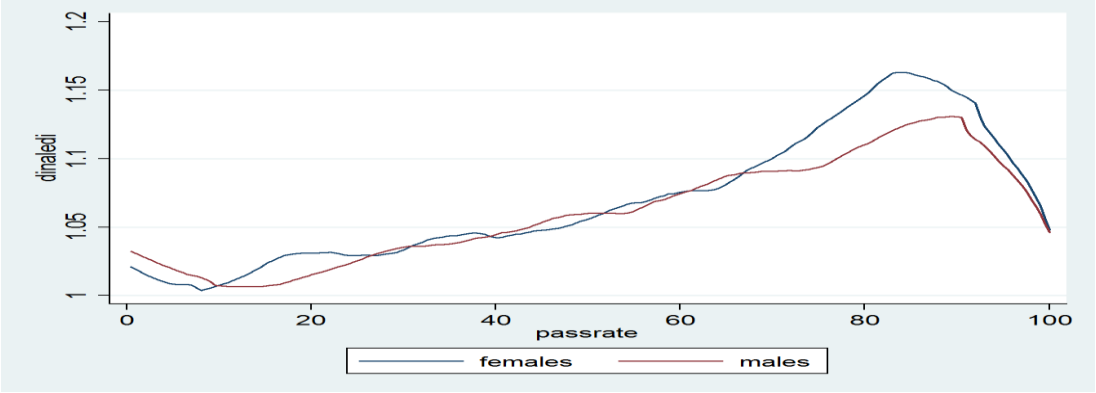
When a non-parametric estimation was further employed to estimate the density of pass rates between males and females, it was found that females influence pass rates more than males up to 60% of pass rates and gender roles changed thereafter (figure 4). The distribution between males and females was further explored by employing DFL decomposition, where the distribution of males was made to look like those of females (figure 5). A counterfactual distribution of pass rates was constructed using a probit model. It was found that if females had the characteristics of males, then the distribution would still look different in the same area. This endorsed the point that the control variables used in the study do not explain the differences in the two distributions.

Figure 5: A non-parametric estimation DFL- pass rate



Source: Own compilation from Province of Eastern Cape Education; Stata 13 software

Figure 6: A non-parametric estimation Dinaledi vs. pass rate



Source: Own compilation from Province of Eastern Cape Education; Stata 13 software

A local linear regression for Dinaledi schools with Gaussian kernel and the default bandwidth was estimated using pass rates as a dependent variable (figure 6). The results suggest that in both females and males, the provision of Dinaledi schools fluctuates with pass rates, but the case is indifferent and clearer after the 60th percentile. This suggests that Dinaledi schools are more likely to increase pass rates for both females and males, with females having a higher probability to pass than males. This one again suggests that treating schools to the Dinaledi intervention program influences schooling outcomes and females are more affected than males.

5. Conclusion and Recommendations

The paper attempted to investigate the effects of the Dinaledi intervention program on schooling outcomes. The theory of education production functions was adopted and the intervention program was used as an input factor in the schooling system. Dropout and pass rates were used as a measure of schooling outcomes. Evidence from the pseudo panel analysis on the effects of the intervention program revealed a number of interesting results. Firstly, there was a significant association at 5% significant level of whether a school is a Dinaledi school or not on dropout rates. This means increasing the provision of Dinaledi intervention to schools can decrease the dropout rate. When pass rates were used as schooling outcomes, there was a strong positive relationship indicating that, an increase in the intervention can increase pass rates. Higher coefficients were found when pass rates were used as the dependent variable at 1% significant level. This indicates that pass rates represent better schooling outcomes than dropout rates.

The equity issue was investigated by the inclusion of gender and race as control variables in the pseudo panel analysis. It was found out that Non-Blacks were less likely to drop out of school than Blacks even when females and males were estimated separately. Furthermore, the results showed that males were less likely to drop out of school in grade 12 than females. When the non-parametric estimation was employed to estimate the density of dropout rates between males and females, it was found that females influenced dropout rates more than males, even when the DFL decomposition was employed, where females had the characteristics of males. The analysis was extended between females and males by estimating a local linear regression for Dinaledi schools. This suggested that treating schools to the Dinaledi intervention program influences schooling outcomes and females respond quicker than males. Looking at the nature of resources and support provided to Dinaledi schools, it is recommended that schools can adopt the model to eradicate the legacy of inequality and improve schooling outcomes. Moreover, looking at the policy context of these results, it would be beneficial to adopt the Dinaledi model, as it is a useful tool to transform schools so that they become better learning institutions. Finally, it turns out that the schooling outcomes can be strongly explained by the Dinaledi intervention program with females and Blacks becoming more responsive to dropping out than their counterparts.

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Tourist Activity and Destination Brand Perception: The Case of Cape Town, South Africa

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Abstract: A respondent-completed questionnaire in Cape Town, South Africa was used to check how the activities that tourists enjoyed in Cape Town relate to how they perceive this destination using brand descriptive variables (brand essence, brand image and brand loyalty). 200 questionnaires were received for bivariate and multivariate analyses. This study finds that although tourists found most activities in Cape Town enjoyable; nature and outdoor, food and wine, and shopping enjoyment have more impact in determining the general experience satisfaction of tourists, than beach, and surprisingly, history and cultural activities. Nonetheless, tourists generally perceive Cape Town quite positively. From analyses, this study strongly suggests that the brand position statement for Cape Town should revolve around unique and diverse tourists' attractions in Cape Town, and the memorable experience with which tourists go home from Cape Town. The brand position statement should be linked to Cape Town tourism's integrated marketing communications. This study can assist tourism business owners in Cape Town to evaluate and improve tourism offerings to meet the expectations of visitors, contributing to visitors forming a positive perception towards Cape Town. The findings have implications for similar destinations in the developing economies.

Keywords: T*ourism activity, tourist experience, destination brand perception, Cape Town, South Africa*

1. Introduction

Wesgro, the Destination Marketing, Investment and Trade Promotion Agency for the Western Cape (one of South Africa's nine provinces, with Cape Town as the capital city) labelled the brand promise of the Western Cape as 'be inspired and discover new experiences' (The Western Cape destination marketing, investment and trade promotion agency of South Africa, 2013). Cape Town, in 2014 topped the list of New York Times' '52 top places to go in 2014' (New York Times, 2014) and received an 8.2% increase in visitor arrivals to the city in January 2015 in comparison to the previous year (The Western Cape Destination Marketing, Investment and Trade Promotion Agency- South Africa, 2015). Cape Town is South Africa's second most visited city, after Johannesburg, with an estimated 389 012 visitor arrivals at the Cape Town International Airport in July 2015 (Airports Company of South Africa, 2015). The major motivators for travel to Cape Town have been identified as nature, culture and heritage purposes (City of Cape Town, 2013). Cape Town is also emerging as a leading business and events destination in South Africa. The tourism industry has been acclaimed as a major contributor to global economic development and serves as a source of income generation for many developing countries (Wijethunga & Warnakulasooriya, 2014), including South Africa. The South African tourism industry in 2014 had contributed over 9% to the country's Gross Domestic product (GDP) through its direct and indirect impacts and also provided over 1.4 million employment opportunities (South African Tourism, 2015).

The tourism industry is quite competitive with its continuously changing trends and increasing tourist expectations (Okumuş & Yaşin, 2008).The perceptions that potential tourists have of Cape Town can have a huge influence on the viability and long-term survival of Cape Town as a tourist destination (Prayag, 2007). The increasingly popularity of Cape Town as a tourist destination makes it crucial to create a linkage between the marketed image and the perceived image of this destination. Among the tourists, a destination's brand essence needs to match their experience to create a positive perception of that destination (Perović, Stanovčić, Moric, & Pekovic, 2012). Lopes (2011) also suggested that the perceptions tourists have towards the image of a destination is the most influential factor during the tourists' decision making process towards choosing a destination as a destination with a positively stronger brand image is more likely to be selected. A tourism destination is defined as 'an amalgam of individual products and experience opportunities that combine to form a total experience of the area visited' (Murphy, Pritchard, & Smith, 2000: 44). Gâslason (2013) regarded a tourist destination as a city, region or country that a tourist temporarily travels to in

addition to all the tourism products/services and supporting services the tourist makes use of staying at the destination. Hence, it is not only a physical location, but also a combination of tangible elements (accommodation, food and beverage, attractions) and intangible elements (culture, heritage, ambience and tourist experience) that provide an overall visitor experience (George, 2011).

In a tourism destination, tourism demand meets supply. While tourism destinations offer destination experience to tourists, the destination awareness, perception and preferences are suggested by Dwyer and Kim (2003) as demand factors that form parts of the destination competitiveness' determinants. Crouch (2011) also emphasised the importance of a destination's image and its reputation in the tourism market. Tourists' awareness and image of a destination is a product of various information they have obtained about the destination which shape how they perceive the destination. Cessford (2003) studied the perception and realities of tourist experience in a destination and found both to be sometimes opposing. Destinations undertake marketing activities towards branding and positioning of their respective destinations. Research by Crouch (2011) suggested that the awareness and image of a destination amongst tourists are similarly crucial to destination's competitiveness, however many other external information about a destination are beyond the control of a destination, but can affect tourist perceptions. He (Crouch, 2011) then posited that the critical role of destination's attractiveness involves two essential dimensions: the reality of the destination's attributes and qualities (destination's appeal), and how this reality is communicated to and perceived by tourists (destination's knowledge and understanding), in comparison to the other information received about other destinations.

Consumers do not simply pay for services; they do pay for service brands (de Chernatony & Harris, 2010; Ezeuduji, Lete, Correia & Taylor, 2014). Kapferer (1997) posited that the value of a brand culminates from consumers' awareness of it, their trust in it and the image and reputation it has for them. Brands do offer consumers various tangible and intangible benefits over unbranded offerings thereby resulting in the value of the companies owning the brands to increase. Successful brands are those that present valuable marketing assets arising from the coherent blending of marketing resources. In the presence of well-conceived and effectively managed brands, organizations may build favourable reputations, increasing the confidence of buyers and users (de Chernatony & Harris, 2010). deChernatony and McDonald (1998: 20) regarded a successful brand as "an identifiable product, service, person or place, augmented in such a way that the customer or consumer perceives relevant, unique, added values which match their needs most closely". Rahi (2015) inspected the moderating relationship of brand image between internet banking and customer loyalty, and found that there is a significant quasi moderation effect between Internet banking and customer loyalty. This means that if the brand image is strong there will be a positive relationship between internet banking and customer loyalty. Previous researchers such as Dick (1994), Edvardsson, Johnson, Gustafsson, and Strandvik (2000), and Hallowell (1996) pointed to the importance of brand essence and brand image towards achieving brand loyalty, especially for service providers. Tourism is service-orientated, it is therefore expected that destination brand essence and image will play critical roles towards destination loyalty.

Recently, many authors studied tourism destination brand perception (such as Artuğer, Çetinsöz, & Kiliç, 2013; Beerli & Martin, 2004; Bertan & Altintaş, 2013; Gursoy, Chen & Chi, 2014; Hosany, Ekinci & Uysal, 2007; Ibrahim & Gill, 2005; Jraisat, Akroush, Alfaouri, Qatu & Kurdieh, 2015; Kiliç & Sop, 2012; Lopes, 2011; Molina, Gómez & Martín-Consuegra, 2010; Nel & Strydom, 2004; Prayag, 2010; Puh 2014; Qu, Kim &Im, 2011; Rajesh, 2013; Tasci & Gartner, 2007). These aforementioned authors did research the impacts of tourist perceptions, tourists' satisfaction, destination brand, destination personality, destination image, and destination loyalty, mostly outside Africa. Research with a focus on destination brand perception in Africa is limited; hence this study will provide more insight into tourists' perception of a popular South African tourism destination (Cape Town). This study will take the angle of tourists' activity and how these relate to how they perceive different brand descriptive variables (brand essence, brand image and brand loyalty) in a destination (Cape Town). Studies by Nel and Strydom (2004), and Prayag (2010) were done in Bloemfontein and Cape Town respectively in South Africa, focussing on brand image perceptions of international tourists. This research however will compare domestic and international tourists' perceptions in Cape Town. Globally, the tourism industry like any other industry is characterised by customers' ever-changing behaviour and demands (Ezeuduji, 2015). Hence, studies on tourism destination brand perception always need to be updated. This study will provide updated information on the tourists' activity and how they compare to destination brand

perception in Cape Town, South Africa. Results from this study could be compared with related findings in the international literature. This study can also assist tourism business owners in Cape Town to evaluate and improve tourism offerings to meet the expectations of visitors, contributing to visitors forming a positive perception towards Cape Town.Integrated marketing communications in Cape Town can be positioned as consistent and coherent forces to reinforce behaviour (as in advertising), or as an avenue of achieving mutual understanding between Cape Town and her publics (as in public relations) in order to justify and preserve its asset of reputation (O'Sullivan, 2010). The findings of this study can have significant implications for similar destinations in the developing economies, globally.

2. Literature Review

Tourist perception: Dimmock (2012) described perception as a mental process by which the sensory inputs of an individual are processed, organised and interpreted. The perceptions that potential tourists have about a destination represents their degree of knowledge about the destination's attributes (Okumuş & Yaşin, 2008), offerings and expected quality of experience provided. How tourists perceive a destination is considered to have a major influence on destination choice (Gao & Zhang, 2009) as potential tourists are able to compare the attributes of different destinations during their decision making process. Destinations that are perceived to provide potential tourists with the closest form of travel expectations are more likely to be chosen over competing destinations (Prayag, 2003). Positively perceived destinations therefore have a higher propensity of tourists deciding to return as well as encouraging others to visit same destination (Wijethunga & Warnakulasooriya, 2014). Destination choice therefore rests largely on the perceptions that potential tourists have towards a particular destination (Prayag, 2003).Factors influencing tourists' overall perception of a destination include mainly: (a) the information that tourists receive before travelling to a destination (Hosany et al., 2007; Gao & Zhang, 2009), and (b) the attitude a tourist has towards the attractiveness, quality and value of the experience received while at a destination (Quintal & Polczynski, 2010).

Lopes (2011) further suggest that physiological factors such as motivation for travel could also influence the choice of destination during the tourists' decision-making process. The socio-demographic variables of a tourist such as age, level of education and beliefs could also influence the way in which information received about a destination is selected and organised, resulting in each tourist interpreting the information received differently, creating their own unique perception of a destination (Gao & Zhang, 2009). Previous travel could also influence the perception of the destination. The perceptions of first time visitors are usually organic and are based on expectations whereas the perceptions of return visitors can be directly influenced by past experiences to the destination (Gao & Zhang, 2009). The results of a study conducted by Molina et al. (2010) revealed that the information gathered through destination marketing activities is often the first point of contact that a tourist has with the destination and has a significant influence on the formation of tourist perceptions. Awuah and Reinert (2011) concurred, as results of their study revealed that the perceived image that potential tourist have prior to visiting a destination is largely influenced by information collected from the internet, print advertisement and marketing campaigns of the destination. Although the information received through external sources has a huge influence on the overall perceptions of potential tourists, the previously mentioned study conducted by Molina et al. (2010) revealed that the direct contact that a tourists has with the destination, its local people, employees, facilities and services appeared to be the most influential component in the overall creation of tourist perceptions.

A study conducted by Bertan and Alvintas (2013) on the perception of visitors towards Pamukkale, Turkey, showed that the socio-demographic variables of tourists had a significant influence on the way tourists perceived the destination. Tourists between the ages of 22-30 indicated that Pamukkale had a unique atmosphere in comparison to tourists between the ages of 36-40, who answered that Pamukkale had a less unique atmosphere in comparison to other destinations, while tourists with a higher level of education perceived Pamukkale as having a low service quality in comparison to tourists that had a lower level of formal education who perceived Pamukkale as having high service quality (Bertan & Alvintas, 2013). Taking the above into consideration, the overall perceptions that a tourist has of a destination is a multidimensional construct (Puh, 2014) as it is influenced by a number of external information sources, social characteristics, as well as by the direct destination experience. Due to the competitive nature of the tourism industry,

potential tourists can compare the attributes of different destinations during their decision making process. Destinations therefore compete based on the perceived image of potential tourists (Okumuş & Yaşin, 2008).

Destination brand image: Brand image has been recognised as one of the most important elements of a destination (Lopes, 2011) as it has a strong influence on a tourist's motivation, preferences and behaviour towards tourism product or services that contributes to the pull factor for an individual to visit a destination. Keller (2003) depicted brand image as the sum of brand perceptions reflected by the brand association that are retained in consumer memory. Brand image is focused on the way in which a group of people or an individual perceives a product or service, a brand, an organisation, or a destination. Destination image is one of motivators in the travel and tourism industry. The attitudes and perceptions customers have towards a particular tourism product or destination influences the buying need of an individual (Nel & Strydom, 2004). The competitive nature of the tourism industry has provided potential tourists with a choice of broad range of destinations and tourist activities to select from. Therefore the attitude and images that tourists have towards a destination can significantly influence an individual buying decisions. Brand image plays a role in creating the satisfaction of the customers and the characteristics of the product or services are influenced by how customers perceive the brand (Lopes, 2011). Brand image is a multidimensional construct as it is influenced by a number of factors from the tourist's perspective, such as cognitive images (destination attributes), affective images (emotional evaluation of destination attributes) (Rajesh, 2013; Lopes, 2011), external information sources (Tasci & Gartner, 2007), socio-demographic characteristics (Beerli & Martin, 2004), as well as by the direct experience of the tourist (Lopes, 2011). Formation of the overall image of a destination results from the combination of all these factors.

Destination brand essence: Brand essence captures the core spirit of a brand, the functional and emotional benefits of a brand (de Chernatony & Harris, 2010). It identifies the brand's competitive advantage and the benefits received when choosing a brand over its competitors (Light, Kiddon, Till, Heckler, Mathews, Hall & Wacker, 2012). Unlike many commercial products and services, the purchase of tourism offerings is usually infrequent (Wijethunga & Warnakulasooriya, 2014) and consists of a large amount of planning beforehand. Hence, potential tourists are most likely to select a destination that has the most favourable image (Wijethunga & Warnakulasooriya, 2014) and can provide the benefits demanded for when taking a trip outside of their usual environment. The benefits (functional and emotional) received when travelling to a destination is communicated through the brand essence of a destination. Functional benefits can be described as the primary purpose for travelling to a destination. Depending on the tourists' motivation to travel, this includes visiting attractions and sight-seeing, attending business events and conferences, for medical care or to visit friends and family. In addition, the functional benefits sought include tangible elements of the tourist experience. This consists of the destinations' physical attributes, which make up a destination. The quality of the physical infrastructure and facilities of a destination such as accommodation and transportation network systems form the foundation upon which tourism services are produced in a destination, while the variety of attraction and activities of a destination serve as pull factors during the decision making of potential tourists (Pawitra & Tan, 2003; Vengesayi, 2003).The emotional benefits can be described as the intangible benefits received during the visit at a destination. These are the additional benefits that a tourist did not expect to receive when deciding to travel to a destination. These benefits include self-development, health and relaxation as well as the ability of the destination to provide tourists with new experiences (Chen, 2012; Pawitra & Tan, 2003). As tourism offerings are consumed and experienced outside of a tourists usual environment (Wijethunga & Warnakulasooriya, 2014), this contributes to the cross-cultural experience between the local people and tourists. The cross-cultural interaction between locals and tourists results in the breaking down of stereotypes and misconceptions from both sides. It also contributes to the knowledge development of tourists, to learn something different from what they are exposed to in their usual environment.

Research conducted by Albayrak**,** Caber and Aksoy (2010), show that the tangible elements of the tourism product had a greater impact on customer satisfaction compared to the intangible elements of the tourist experience. This is contradicted by the results of a study by Neuts, Romão, van Leeuwen and Nijkamp (2013) which suggest that destinations that were able to provide tourists with more emotional benefits and a unique atmospheric image had a significant competitive advantage as the results revealed that the intangible attributes of a destination has a higher propensity of achieving destination loyalty in comparison to the

physical attributes of a destination. This is also supported by a study conducted by Chen (2012) showing that the emotional benefits sought from travelling has a larger influence on destination choice as well as the frequency of travel. Hence, the relationship between the functional and emotional benefits that a destination projects through its brand essence need to match the expectations of tourists as this will undoubtedly influence their overall destination experience (Prayag, 2003). Destinations that can offer tourists with these benefits that exceed their cost of travelling to these destinations will have tourists with increased levels of satisfaction and revisit intention.

Destination loyalty: Rajesh (2013) suggests that the overall destination loyalty is influenced by the perceptions that tourists have before travelling to the destination, the perceptions that tourists have towards the destination image as well as the overall satisfaction of experience received while at the destination. The attitudes that a tourist have towards a destination are considered to be a key determinant when deciding to return to the destination. The results of a research conducted by Artuğer et al. (2013) revealed that the cognitive image a tourist has of a destination had a higher impact when establishing destination loyalty in comparison to the affective images of a destination. Further results indicated that tourists with a perceived positive image towards a destination showed a higher intention to return as well as to recommend the destination to other tourists (Artuğer et al., 2013). The results of a study conducted by Oom do Valle, Silva, Mendes and Guerreiro (2006) on tourists' satisfaction and destination loyalty intention in Arade, Portugal, revealed that tourist satisfaction had a significant influence on destination loyalty, as tourists with a higher level of satisfaction were more inclined to return and recommend the destination to others in comparison to tourists that had a lower level of satisfaction. The attitudinal dimension of destination loyalty was evident in the study of Artuğer et al. (2013) in Alanya, Turkey, as results revealed that satisfied tourists, who are not able to return to the destination, indicated that they would still recommend others to visit the destination through the spread of positive word-of-mouth. Destination loyalty is therefore largely influenced by the perceived level of satisfaction that tourists have towards their overall destination experience (Rajesh, 2013), as a positive tourist experience enhances the intent to return as well as ensures that a positive word-of-mouth is spread about the destination (Artuğer et al., 2013). It can therefore be said that Destination loyalty is influenced by the perceived satisfaction of the overall experience received, as this could influence the willingness of tourist to return to the destination as well as to recommend others to travel to the destination.

3. Methodology

Primary and secondary data have been used to obtain information relevant to this research.This study used a deductive approach, where theory is tested against the data collected, as the activities that tourists enjoyed in Cape Town and their relationship to how they perceive this destination using brand descriptive variables (brand essence, brand image and brand loyalty) are being investigated. Two hundred and twenty (220) tourists in Cape Town were surveyed using a structured questionnaire (respondent-completed, mostly close-ended). These tourists were surveyed at the three most visited attractions in Cape Town, namely Victoria and Alfred Waterfront, Table Mountain National Park and Kirstenbosch National Botanical Gardens (The Western Cape destination marketing, investment and trade promotion agency- South Africa, 2015). Contemporary tourism is understood to be a mass phenomenon that requires much involvement from governmental, not-for-profit and for-profit organisations, as well as tourists, relying on quantified information for important aspects of decision-making (Ezeuduji, 2013; Veal, 2011). Questionnaire survey is accepted as an ideal way of getting some of this information (Veal, 2011); including tourists' perception. Questionnaires were therefore administered using non-probabilistic convenience sampling of tourists, based on key attractions' selection, availability and willingness of tourists to partake in the study. Two hundred (200) usable questionnaires were eventually returned, resulting in a 91% response rate. The study involved domestic and international tourists visiting Cape Town. A screening question was asked by the researchers in order to identify the targeted respondents. The screening question asked was "Are you living and/or working in Cape Town?" This ensured that local residents of Cape Town were not included in the study. The exclusion of local residents who may be day visitors ensures that only 'actual tourists' were targeted.

The questionnaire battery included respondents' profile, level of visit satisfaction, activities done in Cape Town, brand essence perception, brand image perception, and brand loyalty. Questionnaire design used variables emanating from previous research: tourists' perceptions towards brand essence of Cape Town

(Chen, 2012; Quintal & Polczynski, 2010); tourists' perceptions towards the brand image of Cape Town (Nel & Strydom, 2004; Prayag, 2010); tourists' brand loyalty towards Cape Town (Artuğer et al., 2013; Oom do Valle et al., 2006; Rajan, 2015); and level of overall experience satisfaction in Cape Town (Oom do Valle et al., 2006; Rid, Ezeuduji, & Pröbstl-Haider, 2014). Brand essence, brand image, brand loyalty, activities, and satisfaction items were measured along a 5-point Likert scale (ordinal variables). The scale ranged from 1 (strongly disagree/ not enjoyable/ highly dissatisfied) to 5 (strongly agree/ highly enjoyable/ highly satisfied). Respondents' profile questions were sorted into categorical variables. Studies by Eriksson, Kerem, and Nilsson (2005), Hsieh and Li (2008), and Rahi (2015) used Likert type scale to measure brand essence, brand image and customer loyalty. Their validity and reliability analyses confirmed the instrument and measurement scale.

IBM's SPSS version 23 software was used for statistical analysis (IBM Corporation, 2015). The first stage of analysis used descriptive statistics to derive frequency of respondents' profile (in percentages), mean and standard deviation of brand essence, brand image and brand loyalty variables. Multivariate analyses of the data collected were done at the second stage of data analysis, to reveal the consistency of items in brand essence, brand image and brand loyalty sections. Cronbach's Alpha was calculated as reliability parameter to check the internal consistency of the variables within each section. Commonly, a cut-off point of 0.5 - 0.7 is used for Cronbach Alpha values (Buehl & Zoefel, 2005; George & Mallery, 2003), therefore we confidently accept that a Cronbach Alpha coefficient of 0.7 and above indicates internal consistency of items, hence we can rely on those items to explain a common feature such as brand essence, brand image and brand loyalty. Finally, at the third stage of analysis, Pearson Chi-Square test was used to check for relationships between categorical variables (in this case, ordinal variables were recorded into nominal/ categorical variables), and Spearman's Correlation tests was used to check for relationships between ordinal variables (Cessford, 2003; Veal, 2011; Zondo & Ezeuduji, 2015).

4. Results and Discussion

Tourists' profile: From Table 1, this study results show that female tourists dominate within the sample, and most tourists visiting Cape Town during the survey are relatively young, where 70% of them are 40 years and below, and mostly coming from abroad. More than 46% of tourists stayed 8 days or longer in Cape Town, mostly on holidays. Good news for Cape Town tourism is that repeat visits account for over 43% of the sample (depicting destination loyalty) and more than 92% of tourists indicated they were either mostly or highly satisfied with their visits. Rajesh (2013) suggests that overall destination loyalty is influenced by the perceptions that tourists have before coming to the destination, the perceptions that tourists have towards the destination image as well as the overall satisfaction of experience received while at the destination. It seems from this study therefore that Cape Town is positively perceived by its visitors.

Table 1: Profile of the respondents (*N* = 200)

Variable	Category	Frequency (%)
Gender	Male	42.0
	Female	58.0
Age group	Less than 20	11.5
	21 – 30	36.0
	31 – 40	22.5
	41 – 50	10.5
	51 – 60	12.0
	61 – 70	5.5
	More than 70	2.0
Origin	South African	35.5
	Non-South African	64.5
Continent of origin, if not South African	Africa	8.6
	Asia	11.7
	Australia/Oceania	12.5
	Europe	46.9
	North America	16.4

	South America	3.9
Repeat visit	Yes	43.5
	No	56.5
Source of information about Cape Town	Word of Mouth	39.3
	Internet	33.3
	Media (TV, magazines, books)	13.7
	Travel Agency	12.0
	Other	1.6
Group travel	Yes	50.8
	No	49.2
Length of stay in Cape Town	1 – 3 days	16.6
	4 -7 days	37.2
	8-11 days	13.6
	12 days or longer	32.7
Purpose of visit to Cape Town	Holiday	70.6
	Business (attending conference /seminar/ event)	12.2
		1.7
	Business (importing/ exporting goods)	12.8
	Visiting friends and relatives	1.1
	Medical care	1.7
	Academic exchange	
Level of experience satisfaction	Highly or mostly satisfied	92.4
	Moderately satisfied	6.1
	Mostly or highly dissatisfied	1.5

Tourists' activity versus level of experience satisfaction: Tourists were asked to indicate how they enjoyed the main activities in Cape Town. Table 2 shows that in as much as tourists in Cape Town indicated that they enjoyed much of the activities they engaged in; there are no statistical relationships between activity enjoyment and level of experience satisfaction for beach, historical and cultural activities. Nature and outdoor, food and wine, and beach activities seem to be quite popular among tourists in Cape Town. However, only nature and outdoor, and food and wine have strong positive correlation with the tourists level of general experience satisfaction. Shopping activity also was found to have some relationship with general experience satisfaction. It can therefore be interpreted that nature and outdoor, food and wine, and shopping enjoyment have some impact in determining the general experience satisfaction of tourists in Cape Town. As Pawitra & Tan (2003) and Vengesayi (2003) posited, the quality of the physical infrastructure and facilities of a destination such as accommodation and transportation network systems form the foundation upon which tourism services are produced in a destination, while the variety of attraction and activities of a destination serves as a pull factor during the decision making of potential tourists. Puh (2014), also stated that the overall perceptions that a tourist has of a destination is a multidimensional construct, as it is influenced by a number of external information sources as well as by the direct destination experience.

Table 2: Activities in Cape Town versus level of general experience satisfaction (N =200)

Activities in Cape Town	Not enjoyable or mostly unenjoyably (%)	Moderately enjoyable (%)	Mostly enjoyable or highly enjoyable (%)	Compared with level of general experience satisfaction
Nature and outdoors	4.1	8.2	87.7	*** The more the tourists enjoyed 'nature and outdoor' activities, the higher the level of general experience satisfaction.
Food and wine	5.4	14.5	80.1	** The more the tourists enjoyed 'food and wine', the higher the level of general experience satisfaction.
Beaches	5.2	15.1	79.7	NS
History and culture	4.5	20.5	75.0	NS
Shopping	8.3	26.3	65.4	*The more the tourists enjoyed 'shopping', the higher the level of general experience satisfaction.

Notes: Spearman's Correlation test significance. *, $p < 0.05$; **, $p < 0.01$; ***, $p < 0.000$.
NS, no significant results.

Brand perception: The internal consistencies of variables used in measuring brand statements (essence, image and loyalty) were tested using Cronbach's Alpha reliability test. Results show a Cronbach's Alpha values of more than 0.7 (Buehl & Zoefel, 2005; George & Mallery, 2003), indicating internal consistency of items within the brand essence, brand image and brand loyalty dimensions. Hence we can rely on those items to explain a common feature such as brand essence, brand image and brand loyalty.

Table 3: Brand statements' reliability tests (*N* =200)

Brand essence	Mean	Standard deviation	N
Cape Town provides tourists with authentic visitor experience	4.14	.801	192
My visit to Cape Town has been valuable to me	4.28	.795	192
My visit to Cape Town will be memorable	4.50	.752	192
I have gained new knowledge and experience during my visit to cape Town	4.26	.833	192
The local people in Cape Town are friendly and hospitable	3.94	.944	192
Reliability Statistics, Cronbach's Alpha = .812, N of Items = 5			
Valid cases = 192(96%),Excluded cases =8(4%),Total = 200; Overall mean= 4.22			
Scale: 1(strongly disagree); 2(disagree); 3(neutral); 4(agree); 5(strongly agree)			
Brand image	Mean	Standard deviation	N
I feel safe while travelling around Cape Town	3.61	1.024	184
Cape town has unique and diverse attractions	4.38	.766	184
The price of facilities and services (food & beverages, accommodation, entry fees, souvenirs) in Cape Town are reasonable	4.02	1.002	184
The overall service received at facilities (restaurants, accommodation, attractions) is of high quality	4.07	.744	184
Cape Town provides tourists with good value for money	4.11	.870	184
Reliability Statistics, Cronbach's Alpha = .765, N of Items = 5			
Valid cases = 184(92%),Excluded cases =16(8%),Total = 200; Overall mean = 4.04			
Scale: 1(strongly disagree); 2(disagree); 3(neutral); 4(agree); 5(strongly agree)			

Brand loyalty	Mean	Standard deviation	N
Cape Town is one of the best places I have ever been to	3.94	.927	198
Cape Town would be my preferred choice when choosing a destination to visit	3.88	.879	198
I would consider visiting Cape Town in the future	4.26	.878	198
I would recommend Cape Town to my family and friends	4.43	.693	198
I would say positive things about Cape Town to my family and friends	4.39	.751	198

Reliability Statistics, Cronbach's Alpha = .861, N of Items = 5
Valid cases = 198(99%),Excluded cases =2(1%),Total = 200; Overall mean = 4.18
Scale: 1(strongly disagree); 2(disagree); 3(neutral); 4(agree); 5(strongly agree)

Results show that tourists generally perceive Cape Town well, agreeing or strongly agreeing to the items in Table 3. Amongst all the items used in measuring brand perceptions, "*I feel safe while travelling around Cape Town*" had the lowest mean score. This means that tourists in Cape Town do still have some reservations concerning safety issues, in terms of crime. Ezeuduji (2003) therefore advised that strong police presence and proper policing in South Africa (such as, instilling the values of zero-tolerance for crime and responsiveness within the South African Police service) will be effective in dealing with crime in South Africa, and reducing the negative perception of tourists towards South African destinations. Local community collaboration with the police force can also help to curb crimes in South Africa. As Rajesh (2013) and Lopes (2011) posited, brand image is a multidimensional construct as it is influenced by a number of factors from the tourist's perspective, such as cognitive images (destination attributes), and affective images (emotional evaluation of destination attributes).

Brand statements versus activities in Cape Town: Tourists were asked to indicate how they enjoyed or not enjoyed main tourists' activities in Cape Town, and also indicate their level of agreement with brand perception statements (brand essence, brand image and brand loyalty) about Cape Town in Table 4. This study found mostly that the more tourists enjoyed these activities, the more they agree to most of the brand statements. However, the questionnaire brand essence item – "*the local people in Cape Town are friendly and hospitable*" did correlate positively with "*nature and outdoor*" activities, only. Tourists' most likelihood to encounter many locals doing '*nature and outdoor*' activities may have influenced them to perceive Cape Town local population as being friendly and hospitable. A brand essence questionnaire item ("*my visit to Cape Town will be memorable*"), and a brand image item ("*Cape Town has unique and diverse attractions*") stand out from the rest items (see Table 4), as all the tourists' activities correlated positively with these two brand statements. We can therefore deduce that the brand position statement for Cape Town should strongly revolve around unique and diverse attractions, and memorable experience. Cape Town's brand essence (consisting of the functional and emotional benefits of visiting this destination) can therefore be linked to its competitive advantages of unique and diverse attractions, and providing a memorable experience to its tourists (Ezeuduji, 2015). These unique and diverse attractions that can impact on visitor experience include the popular Victoria and Alfred Waterfront, Table Mountain, Cape Point, Cape wine routes, Kirstenbosch, Robben Island, etc.

Table 4: Brand statements versus activities in Cape Town (N =200)

Brand essence	**Nature & outdoor**	**Food & wine**	**Beaches**	**History & culture**	**Shopping**
Cape Town provides tourists with authentic visitor experience	NS	**	NS	*	***
My visit to Cape Town has been valuable to me	***	*	NS	**	**
My visit to Cape Town will be memorable	**	**	**	**	**
I have gained new knowledge and experience during my visit to cape Town	**	NS	***	***	***
The local people in Cape Town are friendly	***	NS	NS	NS	NS

and hospitable					
Brand image					
I feel safe while travelling around Cape Town	*	*	*	NS	*
Cape town has unique and diverse attractions	**	***	***	**	***
The price of facilities and services (food & beverages, accommodation, entry fees, souvenirs) in Cape Town are reasonable	NS	**	NS	NS	*
The overall service received at facilities (restaurants, accommodation, attractions) is of high quality	***	**	NS	NS	*
Cape Town provides tourists with good value for money	*	***	**	NS	*
Brand loyalty					
Cape Town is one of the best places I have ever been to	*	NS	**	*	**
Cape Town would be my preferred choice when choosing a destination to visit	NS	NS	**	*	*
I would consider visiting Cape Town in the future	NS	*	***	**	**
I would recommend Cape Town to my family and friends	NS	*	**	**	*
I would say positive things about Cape Town to my family and friends	***	*	NS	NS	NS

Notes: Spearman's Correlation test significance. *, $p < 0.05$; **, $p < 0.01$; ***, $p < 0.000$.
NS, no significant results.

Interpretation of results: Where result is significant, the more tourists enjoyed an activity, the more they agree to the corresponding brand statements. This Cape Town's tourism position statement communicates core functional benefits (unique and diverse attractions) and emotional benefit (memorable experience). Cape Town tourism may therefore integrate this brand position statement into its integrated marketing communications, in its continual endeavour to justify and preserve her assets of reputation (Ezeuduji, 2015).

5. Conclusion

This study finds that although tourists found most activities in Cape Town enjoyable; nature and outdoor, food and wine, and shopping enjoyment have more impact in determining the general experience satisfaction of tourists, than beach, history and cultural activities. Tourists in Cape Town do have some reservations concerning safety issues, in terms of crime. Strong police presence and proper policing in Cape Town will be effective in dealing with crime, and reducing the negative perception of tourists towards this destination. Local community collaboration with the police force can also help to curb crimes in Cape Town. Nevertheless, tourists generally perceive Cape Town quite positively. This research also deduced that the brand position statement for Cape Town should strongly revolve around unique and diverse tourists' attractions in Cape Town, and the memorable experience with which tourists go home from Cape Town. Thus suggesting that Cape Town tourism's brand position statement could read -*"To tourists seeking highly memorable experience, Cape Town offers unique and diverse attractions".* This brand position statement, communicating both the functional and emotional benefits of visiting this destination, should be linked to Cape Town tourism's integrated marketing communications, such as in advertising and public relations.

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