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BEHAVIORAL MODELING OF FOREIGN INSTITUTIONAL INVESTOR'S IN INDIAN EQUITY MARKET

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ABSTRACT

In the last decade, the Foreign Institutional Investor (FII) flows have increased almost twenty times and attained shares of thirteen and six percent in the National Stock Exchange and Bombay Stock Exchanges respectively in the cash segment of the Indian equity market. This raises the issue of behavioral modeling of FII flows with respect to local and global stress in the market. The present study empirically documents static and dynamic interaction between FII flows and stock market returns using daily data from 2000 to 2009 using ordinary least squares regression and vector auto regression along with an impulse response function. The regression results show strong evidence of positive feedback trading of FIIs with an adjusted R square of eleven percent. Further a Granger Causality test leads to rejection of both of the null hypotheses lending strong support to a bidirectional relation between FII flows and equity market returns in Indian. However, the overall response function of institutional investors to a one standard error shock reveal a sharp and significant impacts dying out in four to five days. Thus, the paper recommends active and informed churning strategies by portfolio managers and investors dealing with firms with higher FII participation at the time of local or global stress.

JEL: G11; G15

KEYWORDS: Positive Feedback, FII, Granger Causality, VAR, Market Return, Impulse Response Function

INTRODUCTION

Almost two decades ago, the Government of India allowed Foreign Institutional Investors (FIIs) integrating the Indian economy with global financial markets. Since then FIIs flows have exhibited four different structural periods with widely different characteristics in quantum and momentum. Institutional investors changed their momentum drastically at three different points in time: 1997 (Asian crisis), 2004 (Election and UPA Government), 2008 (Lehman Crisis and Satyam debacle). Initially it appears that FIIs are speculators and tend to make money in short spans. However recently they are net buyers in spite of mutual funds being net sellers. Thus, the prime facie facts lead to mixed observation pertaining to behavior of FIIs in the Indian equity market. The paper is organized into five sections. The second section reviews the relevant literature and objectives. The third section deals with data and methodology. The fourth section presents results and some discussion. Finally, some concluding comments are provided.

LITERATURE REVIEW

Transnational capitalism has directed the flow of significant amount of capital from developed to emerging economies. International capital investment can play a useful role in development by adding to the savings of low and middle- income developing countries (Michael and Menkhoff, 2003; Mody *et al*, 2001) in order to increase their pace of investment. But at the same time, the volatility of flows can be a matter of deep concern among third world countries as they can be easily exposed to disruptions and distortions (Dodd, 2004). The process of liberalization has triggered a huge influx of foreign capital into the Indian financial market resulting in a deepening and widening of its capital market. FIIs remained net investors in the country except during 1998-99 (Pasricha, J. and U. Singh,2001) and their investment has been steadily growing since their entry in the Indian markets. Chakrabarti, R (2001) establishes a high correlation between FIIs and contemporaneous returns in the Indian markets.

Mukherjee, P. et al (2002) concludes there are various probable determinants of FII. FII flows, to and from Indian markets tend to be caused by return in the domestic equity market and not the other way. Returns in the Indian equity market are indeed a vital, and perhaps the single most important, factor that influences its rate of flow. In addition they also discovered a strong demonstration effect in the action of FIIs which has become the key driver of the domestic market as well as the foreign exchange market. Trading behavior of FIIs and the impact of their trading biases upon stock market stability indicates that FIIs have a positive feedback on investors on a daily basis (Batra, A, 2004). But there has been no conclusive evidence of positive feedback trading on a monthly basis. The role of return, risk and inflation as determinants of foreign institutional investors in the Indian capital market depends on stock market returns, inflation rates (both domestic and foreign) and ex-ante risk (Rai, K. and N. Bhanumurthy,2004).

Contemporaneous flows of FIIs in India are positive and highly significant (Griffin, 2004). FII and Stock Index show positive correlation, but fail to predict the future value. FIIs investments are simultaneously influenced by the previous trading day as well as next trading day results (Ahmad et al, 2005). Most studies generally point to a positive relationship between FII investments and movement of the National Stock Exchange share price index. Some also agree on bidirectional causality stating that foreign investors have the ability to operate like market makers given their volume of investments (Babu and Prabheesh,2008).

FIIs inflows have actually imposed certain burdens on the Indian economy (Rakshi et.al ,2006). Sudden increases and decreases in FIIs in India have raised several issues regarding the real implications of FIIs. The impact of FIIs can largely be observed at: (1) stock market (2) exchange rate and (3) forex reserves. Numerous studies examine the relationship between stock markets and FIIs, but some gap has been observed in the literature related to dynamic interaction between FIIs and the equity market. The recent plummet and surge in inflows warrants a fresh investigation to shed light onto the issue of causality between FIIs and equity markets . The present study is an attempt to examine the static and dynamic relation between FII and stock returns in Indian. To be more specific, this paper detects the direction of relationship between FII and market returns. Second, in the case of interdependence, we check the dynamic relation of FII flows to the lagged values of market return and vice versa. Finally, the paper also appraises the existence of positive feedback trading hypothesis in Indian equity market.

DATA AND METHODOLOGY

Aggregate daily FII data comprising three components purchases, sales and net purchases were obtained from 7th January 2000 to 6th August 2009 from the monthly bulletin of Money Control. Net FII purchases (purchases less sales) were normalized by market capitalization at time t (Goetzmann & Massa, 2003). The paper used five notations relating to FII viz. FIIP, FIIS, NFIIP, FIIPT and UFIIPT referring to FII purchases, FII sales, net FII purchases, net normalized FII purchases, and unexpected net normalized FII purchases respectively. The UFIIPT series is generated by subtracting estimated FIIPT from actual FIIPT. Thus, the number of observations for all components of FII is 2,338 which is further reduced to 2,336 in static analysis. The data on the market index (S&P CNX Nifty) is collected from the official website of National Stock Exchange (www.nseindia.com). Days when there is no trading are omitted and the price change is computed from the last day the market was open. Market returns are taken by the log difference in the price index.

$$RT = LogP_t - LogP_{t-1} \tag{1}$$

RT is the return of the market (S&P CNX Nifty) at time t.

P_t and P_{t-1} indicate the market's index at the end of day t and t-1 respectively.
Similarly RTP and RTF are the returns in the previous period (t-1) and following period (t+1) respectively.

The study is undertaken using daily data. Daily data give more precise results and enable capture of lead lag dynamics between FII and market return. To carry out the analysis between FII and market return the study is completed in four stages as follows:

Static Analysis

As a first step to explore the direction of relationship between FIIPT and market return the Granger Causality test is performed to eliminate the simultaneity bias in the bivariate model. By this technique the channels of causality are established using the standard "identification by ordering" methodology. The channel of causality is established from the results of Granger Causality test (Granger, 1969). Then Augmented Dickey Fuller tests and Phillips Perron tests are conducted to check the presence of a unit root to estimate the bivariate model under OLS assumptions.

Dynamic Analysis: The second step is Dynamic Analysis. In order to capture the dynamic interaction between market return and FIIPT flows, the paper uses unrestricted Vector Auto Regression (VAR) without any restrictions on the structure of the system as below:

$$FIIPT_t = FIIPT_{t-1} + FIIPT_{t-2+} \ldots\ldots\ldots . FIIPT_{t-n} + R_{t-1} + R_{t-2+} \ldots\ldots R_{t-n} + €_1 \tag{2}$$

$$R_t = R_{t-1} + R_{t-2} \ldots\ldots\ldots\ldots R_{t-n} + FIIPT_{t-1} + FIIPT_{t-2} \ldots\ldots\ldots FIIPT_{t-n} + €_2 \tag{3}$$

Where $FIIPT_t$ is the net normalized *FII* purchases at time t.

The study uses VAR to quantify the impact of innovations ($€_1$, €2) in returns by net FII purchases and vice versa. In addition, the paper generates Impulse Response Function to trace the time path of shocks on the variables contained in the VAR and finally identify the appropriate lag length using the AIC and SBC criterion.

Decomposition of FII Flows: The third step is to explore the bivariate model further by separating the flows into expected and unexpected components and investigating the regression results of both the components with market return.

Test of Positive Feedback Trading Hypothesis

The positive feedback trading hypothesis describes the strategy of rushing in when the markets are booming and rushing out when the markets are on the decline. Thus it expects a positive relationship between current FII investment and the past performance of the market. For estimation, the paper examines the following regression equations.

$$FIIPT_t = C + \beta_1 (RT) + \beta_2 (RTP) \tag{4}$$

$$UFIIPT_t = C + \beta_1 (RT) + \beta_2 (RTP) \tag{5}$$

$$RT = \beta(FIIPT) + C \quad (6)$$

Where $FIIPT_t$ is net normalized FII purchases at time t, calculated by dividing net *FIIP* at time t by the market capitalization at t-1. β_1 and β_2 are regression coefficients and *RTP* is the return in the previous period. $\beta > 0$ indicates positive feedback trading.

RESULTS AND DISCUSSION

Table 1 and 2 show descriptive statistics and the autocorrelation (AC) and partial autocorrelation (PAC) at different lags respectively for various components of FII. The results of the autocorrelation matrix reveal that various components of FII have a high correlation at lag 1 but lower correlation at higher lags indicating the daily FII investments are independent of its distant lagged values. There is clear indication that the FII pattern is short lived and persists for very short duration. Further the unit root test is conducted based on Augmented Dickey Fuller Test and Phillips Perron tests (Phillips and Perron, 1988).

Table 1: Descriptive Statistics

Variable	Observation	Mean	median	S.D	J.B	
					t-statistics	p value
FIIP	2338	1278	732.1	1396	4235	0.00
FIIS	2338	1180	583.5	1353.9	4225	0.00
NFIIP	2338	97.64	51.9	554.5	39986	0.00
FIIPT	2338	0.011	0.008	0.038	46945	0.00

Table 1 presents the descriptive statistics of four components of FII viz. FIIP, FIIS, NFIIP and FIIPT. It is evident from the table that NFIIP and FIIPT are relatively more volatile than FIIP and FIIS. Further JB statistics also claim that all the particulars are not strictly drawn from normal population.

Table 2: Autocorrelation Matrix at Different Lags

Variable	Statistics	length of lag		
		1	3	5
FIIP	**AC**	0.827	0.784	0.794
	PAC	0.827	0.216	0.141
FIIS	**AC**	0.867	0.816	0.814
	PAC	0.867	0.199	0.137
NFIIP	**AC**	0.326	0.227	0.190
	PAC	0.326	0.127	0.060
FIIPT	**AC**	0.291	0.222	0.151
	PAC	0.291	0.138	0.040

Table 2 describes the autocorrelation and partial auto correlation at three different lags of one, three and five days for all components of FII. In this table, PAC has changed drastically from one to three and subsequently from three to five days for all components of FII leading to gradually diminishing impact of lagged foreign institutional investments.

The results (Table 3) show that all the components of FIIs are stationary in their level forms indicating the absence of trend and the long term mean reversion. From the Jarque –Bera statistics, it may also be inferred that various components of FII are unlikely to be drawn from a normal distribution. The standard deviation in FII, which is indicative of unconditional variance in FII, however continues to remain high for all the components of FIIs. Table 5 shows the Vector Auto Regression (VAR) results of the FIIPT and RT and the UFIIPT and RT. The VAR analysis is undertaken with different lag lengths and the appropriate lag 6 is selected on the basis of AIC and SBC results. The FIIPT and UFIIPT regression equations show that they are significantly correlated to their own lagged values up to four days where they have significant relation with lagged daily returns up to three lags. These results lend support to positive feedback hypothesis in the Indian context. The graphs for the impulse response function are generated by VAR model and depicted in Figure 1.

Table 3: Test of Stationary Series (Unit Root)

Particular	Unit Root Tests			
	Augmented Dickey Fuller Test		Phillips Perron Test	
	Test Statistic	Critical value (5%)	Test Statistic	Critical value (5%)
FIIP	-4.73**	-2.78	-13.80**	-2.86
FIIS	-4.78**	-2.78	-11.14**	-2.86
NFIIP	-14.01**	-2.78	-37.67**	-2.86
FIIPT	-14.78**	-2.78	-38.84**	-2.86

*Table 3 shows the results of Unit Root test (ADF and PP) at five percent level of significance. Results indicate the null hypothesis is rejected for all components of FII making them stationary and fit for further analysis. ** indicates significant at five percent level of significance.*

Figure 1: Response to a Shock to FIIPT

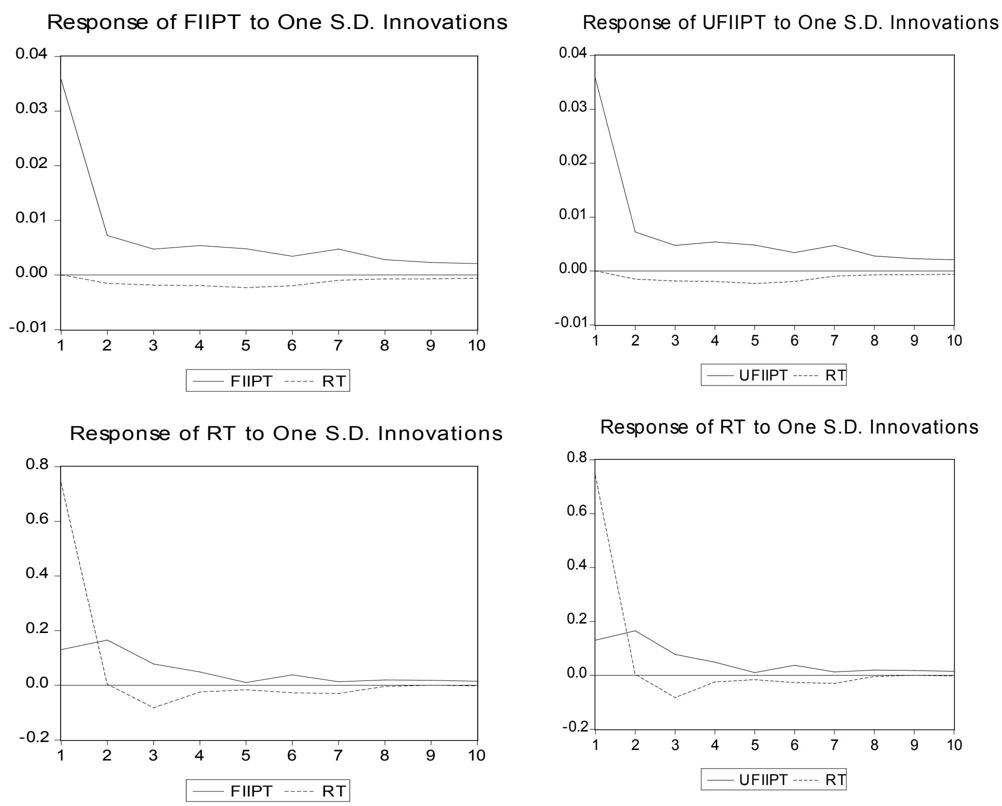

Figure 1 depicts the Impulse Response Function of FIIPT and UFIIPT (unexpected FIIPT) to one S.D Innovations in the left and right columns respectively. It clearly supports the short lived nature of FIIPT and UFIIPT owing to steep slopes in both the scenarios.

The response of FIIPT and UFIIPT to a one standard error shock to lagged return is sharp and significant for a very short period. However, the impact remains intact for a prolonged duration with lesser fluctuations. This may be attributed to some unknown macroeconomic factors or some hidden information apart from lagged returns. The results of the VAR model further support our conclusion from static estimation. Further direction of causality is tested between stock returns and FIIPT using Granger causality tests. The results in Table 4 show that the null hypothesis "RTP does not Granger cause FIIPT" is rejected and the null hypothesis "FIIPT does not Granger cause RTF" is rejected as well.

This is clear indication of bidirectional causality between stock return and FIIPT. This also reveals that Foreign Institutional Investors are well informed compared to retail investors and their buying and selling activity determines the market direction. This is particularly in consonance with a previous study by Babu and Prabheesh (2008) who examined the dynamic interaction between FII flows and stock market returns using daily data from 2003 to 2007. They found the existence of bidirectional causality between FII flows and stock returns and adequate symptoms of momentum trading hypothesis.

Table 4: Granger Causality Test

Pair wise Granger Causality Tests (2 Lags)			
Null Hypothesis:	Obs	F-Statistic	Probability
FIIPT does not Granger Cause RTF	2336	116.3	0.00*
RTP does not Granger Cause FIIPT	2336	37.72	0.00*

Table 4 shows the pair wise Granger Causality tests between return and FIIPT. It is evident that both the null hypothesizes are rejected at one percent level of significance leading to bi directional relationship between return and FIIPT. It leads to dynamic dependence of both the variable on each other.

Table 5: Dynamic Analysis of FII and Return

VAR Results between FIIPT and RT			**VAR Results between UFIIPT and RT**		
Lagged Independent	**FIIPT**	**RT**	**Lagged Independent**	**UFIIPT**	**RT**
FIIPT(-1)	0.21**	4.60**	UFIIPT(-1)	0.21**	4.61**
FIIPT(-2)	0.10**	1.59**	UFIIPT(-2)	0.10**	1.59**
FIIPT(-3)	0.12**	0.95**	UFIIPT(-3)	0.12**	0.95**
FIIPT(-4)	0.08**	-0.46	UFIIPT(-4)	0.08**	-0.46
FIIPT(-5)	0.04	0.50	UFIIPT(-5)	0.04	0.48
FIIPT(-6)	0.07**	-0.20	UFIIPT(-6)	0.07**	-0.20
RT(-1)	-0.00**	0.00	RT(-1)	-0.00**	0.00
RT(-2)	-0.00**	-0.10	RT(-2)	-0.00**	-0.10
RT(-3)	-0.00**	-0.01	RT(-3)	-0.00**	-0.01
RT(-4)	-0.00**	-0.01	RT(-4)	-0.00**	-0.01
RT(-5)	-0.00	-0.02	RT(-5)	-0.00	-0.02
RT(-6)	-0.00	-0.02	RT(-6)	-0.00	-0.02
C	0.00**	-0.05**	C	0.00	0.02
R-squared	0.14	0.07	R-squared	0.14	0.07
Adj. R-squared	0.13	0.07	Adj. R-squared	0.13	0.07

*Table 5 shows the Vector Auto Regression (VAR) results between RT and FIIPT in the first three columns and VAR results between RT and UFIIPT in the last three columns. Results are shown with respect to the lagged values of both the variables up to six lags. The appropriate length of lag six is determined on the basis of highest adjusted R square and lowest AIC and SC of results at different lags. The first and fourth columns present the lagged independent variables up to six lags. Each of the lagged independent variable has corresponding coefficient with appropriate sign and significance level. ** refers to significant coefficient at five percent level of significance. The above results show that the behavior of FIIPT and UFIIPT can be explained up to thirteen percent with lagged FIIPT and lagged return. Further it is also evident that the FIIPT depends on its lagged values and lagged return up to 4 days.*

Table 6 presents the regression results of FIIPT and UFIIPT with current and lagged daily returns. The results show a positive and significant coefficient of lagged returns with FIIPT and UFIIPT. It is prime facie evidence that FIIs have been positive feedback traders at aggregate flows. The similarity of regression results using FIIPT and UFIIPT as dependent variables may be on account of a significant role of an unexpected component (adjusted R square is 0.11) in both the series. The higher value of unexplained variation in regression results is in consonance with the several findings who conclude there are several external factors like LIBOR, emerging market stock returns and changes in credit ratings that determine FII. From the static regression results, it is evident that unexpected FII flows play a major role indicating that FII traders are positive feedback traders.

Table 6: Regression Statistics

Regression of	Independent Variable	Coefficient	Adjusted R-squared
FIIPT	C	0.01*	0.11
	RT	0.01*	
	RTP	0.01*	
FIIPT = 0.01 + 0.01(RT) + 0.01(RTP) (4)			
UFIIPT	C	-0.00*	0.11
	RT	0.01*	
	RTP	0.01*	
FIIPT = -0.00 + 0.01(RT) + 0.01(RTP) (5)			
RT	C	-0.03*	0.05
	FIIPT	4.88*	
RT = -0.03 + 4.88(FIIPT) (6)			

*Table 6 presents the regression estimates of following equations. FIIPT = C + β_1 (RT) + $\beta 2$ (RTP), UFIIPT = C + β_1 (RT) + $\beta 2$ (RTP) and RT = C + β (FIIPT). The third column shows the coefficients of independent variables with their significance levels. The last column shows the adjusted R square for each regression estimates. * indicates significance at 1 percent level of significance. Regression estimates of all equations have significant positive coefficients indicating strong positive feedback relationship.*

CONCLUDING COMMENTS

This study is conducted to analyze static and dynamic relationship between FII flows and stock market returns in Indian. In order to accomplish the results, the Granger Causality test, Regression, VAR and Impulse Response Function are applied using time series data of FII and market index for the last ten years.The empirical investigation of FII flows reveals many stylized facts. First, FII flows are significantly correlated to their lagged values and lagged returns. The response of FII flows to a one standard error shock to lagged return is sharp and significant for a very short period. Secondly, there is a bidirectional relationship between FII flows and returns with FII granger causing return and vice versa.

Finally, the findings here corroborate evidence of positive feedback trading. These results are predominantly more important for investors because the quantum of FII inflows have substantially changed in the last decade due to liberalization and have influenced the stock market. Results substantially show that the FII traders have their own method of investment and normally their trend persist for a short duration. Further it leads to the conclusion that FII traders are rushing into the market when the market shows a bullish trend and rushing out of the market in bearish phase. This paper has certain limitations for traders who actively participate in sector, theme or style specific indices instead of diversified indices. Future research is needed to quantify the impact of FII flows in specific sectors, selected themes and various styles of investments.

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THE ASYMMETRIC LONG-RUN RELATIONSHIP BETWEEN CRUDE OIL AND GOLD FUTURES

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ABSTRACT

This study employs the momentum threshold error-correction model with generalized autoregressive conditional heteroskedasticity to investigate asymmetric cointegration and causal relationships between West Texas Intermediate Crude Oil and gold prices in the futures market. The paper examines data from May 1, 1994 to November 20, 2008. The empirical results show that an asymmetric long-run adjustment exists between gold and oil. Furthermore, the causality relationship shows that West Texas Intermediate Crude Oil plays a dominant role. The findings should prove valuable to individual investors and financial institutions who can use the findings here to gold prices based on oil prices.

JEL: C32; G15; Q39; Q49

KEYWORDS: Momentum Threshold Error Correction Model, Asymmetric Causality Relationship, Crude Oil, Gold, Futures Market

INTRODUCTION

Oil and gold supply, demand and prices affect every nation. Melvin and Sultan (1990) fist researched the link between oil and gold. Hammoudeh and Yan (2008) indicated that oil and metals are complements in consumption and that oil and gold prices have been rising in unison. Narayan et al. (2010) examined the long-run relationship between gold and oil spot and futures markets. These previous studies confirm that the causality relationship between oil and gold is an important research topic.

Oil prices and inflation are often seen as being connected in a cause and effect relationship. As oil prices move up or down, inflation follows in the same direction. For example, analysis from economists at the Bank of England shows that a $1 rise in oil adds 0.1% to inflation after two years. The value of the currency declines, as the currency loses value against gold. Additionally, a literature review on the oil price shocks and the macroeconomics can be found in Jones et al. (2004). Hammoudeh et al. (2007) find oil prices have a greater speed of adjustment to equilibrium than other commodities. Thus, oil price spikes are often associated with inflationary pressures. There is a corresponding increase in demand for gold since gold is regarded as a more secure way for storing wealth. Thus investors find gold is a good inflation hedge tool. However, few researchers directly study the relationships between oil and gold.

We are interested to know whether oil futures prices have forward influences on the prices of gold futures contracts.This study explores whether there exists a long-run relationship between the oil and gold markets. Most previous studies examining the traditional time series model assumed that underlying variables exhibit linear and symmetrical adjustment processes. However, Balke and Fomby (1997), Enders and Granger (1998), and Enders and Siklos (2001) have demonstrated a low power problem of traditional cointegration tests in situations involving asymmetric adjustment.

They have used nonlinear techniques to capture this asymmetry effect when the variable is adjusting towards its long-run equilibrium. Unfortunately, the standardized model innovations assumed to be normally distributed may also fail to explain the excess kurtosis of financial data. Thus, this study applies TECM-GARCH with generalized errors distribution (GED) describing leptokurtic phenomenon of returns of financial assets. The method of Lee and Hung (2007) is used to investigate the asymmetric cointegration relationship between the oil and gold markets.

The remainder of this paper is organized as follows. Section 2 introduces methodologies. Section 3 then describes data and analyzes the empirical findings. Finally, conclusions are presented in Section 4.

LITERATURE

As highlighted earlier, few researches study the relations between oil and gold prices. However, long and short-run relationships between oil and gold are important issues. Cai et al. (2001) investigate the effect of macroeconomic announcements on intraday patterns of the gold market. They found interest rates, oil prices, consumer demand, the Asian financial crisis, and tensions in South Africa influenced large price changes in the gold market. Hammoudeh et al. (2007) applied GARCH models to examine the impact of crude oil and interest rate shocks on the volatility behavior of gold, silver and copper strategic commodities. They found the impact of past oil shocks on gold, silver and copper is different. Past oil shocks affect the transitory volatility (conditional volatility) of gold market in CCGARCH (EGARCH) model, but do not effect the conditional mean of gold market in three model. Cheng, et al. (2009) used a jump model to capture stochastic and jump volatility, and then used the combined BHK and power GARCH models to investigate value-at-risk (VaR) forecasts in gold market by considering oil shocks. They found the importance of oil jump volatility and the flexibility in power term model are required for VaR forecasting in the gold market.

Soytas et al. (2009) used a VAR model to examine the long and short-run relationship between world oil prices, interest rate, exchange rate, gold and silver in Turkey. They find the world oil price does not lead the gold price in Turkey. However, innovations in world oil prices impact gold markets by generalized impulse response functions. Narayan et al. (2010) use cointegration tests by Gregory and Hansen (1996) to examine the long-run relationship between gold and oil spot and futures markets. They find the oil price leads gold prices in short-run. In terms of various maturities, they identified the long-run relationship between spot (futures) by residual-based tests. Overall, the problem of the low power of traditional cointegration tests is a concern. Therefore, this paper investigates the asymmetry cointegration effect between gold and oil prices.

DATA AND METHODOLOGY

The sample period for this study runs from May 1, 1994 to November 20, 2008. Daily prices of the WTI crude oil and gold futures traded in New York Mercantile Exchange (NYMEX) transaction data were collected and transformed into daily returns, yielding 3,414 observations. The full 14-year period was divided into two separate time periods based on the oil price $40. Thus, the first period covers the dates from May 1, 1994 to May 10, 2004, and the second period covers the dates from May 11, 2004 to November 20, 2008. The daily financial data were obtained from Bloomberg.
Using the threshold cointegration test of Enders and Granger (1998), the completion of the threshold autoregressive (TAR) model required two steps. By assuming variables x_t and y_t are integrated of order 1 (I(1)) process, the first regression takes the form

$$y_t = \alpha + \beta x_t + \varepsilon_t \quad , \tag{1}$$

where ε_t is the stochastic disturbance term. A regression with the form

$$\Delta\varepsilon_t = I_t \rho_1 \varepsilon_{t-1} + (1 - I_t)\rho_2 \varepsilon_{t-1} + \sum_{i=1}^{l} \gamma_i \Delta\varepsilon_{t-i} + \mu_t \ , \tag{2}$$

is then taken, where $\{\varepsilon_t\}$ are the regression residuals from Eqn.(1), μ_t is an i.i.d. disturbance with zero mean, and I_t is the Heaviside indicator such that

$$I_t = \begin{cases} 1 & if \quad \varepsilon_{t-1} \geq 0 \\ 0 & if \quad \varepsilon_{t-1} < 0 \end{cases} \quad \text{or} \quad I_t = \begin{cases} 1 & if \quad \varepsilon_{t-1} \geq \tau \\ 0 & if \quad \varepsilon_{t-1} < \tau \end{cases} \quad , \tag{3}$$

where τ is the threshold value.

When $\varepsilon_{t-1} > \tau$, Eqn.(3) becomes $\Delta\varepsilon_t = I_t \rho_1 \varepsilon_{t-1} + \sum_{i=1}^{l} \gamma_i \Delta\varepsilon_{t-i} + \mu_t$,

otherwise $\Delta\varepsilon_t = \rho_2 \varepsilon_{t-1} + \sum_{i=1}^{l} \gamma_i \Delta\varepsilon_{t-i} + \mu_t$ is used. For any value of τ, some authors have demonstrated the sufficient and necessary conditions for ε_t to be stationary are $\rho_1 < 0$, $\rho_2 < 0$, and $(1-\rho_1)(1-\rho_2) < 1$.

This representation not only captures the asymmetric effect, but can also test the long run relationship between x_t and y_t. Enders and Granger (1998) and Caner and Hansen (1998) claim that it is also possible to allow the Heaviside indicator to depend on the change in ε_{t-1} (namely, $\Delta\varepsilon_{t-1}$) rather than the level of ε_{t-1}; Momentum-Threshold Autoregressive (M-TAR) model. The Heaviside indicator of Eqn. (3) then becomes,

$$I_t = \begin{cases} 1 & if \quad \Delta\varepsilon_{t-1} \geq 0 \\ 0 & if \quad \Delta\varepsilon_{t-1} < 0 \end{cases} \quad \text{or} \quad I_t = \begin{cases} 1 & if \quad \Delta\varepsilon_{t-1} \geq \tau \\ 0 & if \quad \Delta\varepsilon_{t-1} < \tau \end{cases} \quad . \tag{4}$$

The M-TAR model implies that the adjustment mechanism of ε_t is dynamic, since the momentum of the series is greater in one direction than the other. Thus, for any large and smooth changes, the M-TAR model can explain the series more efficiently. This study adopts the method of Chan (1993) to obtain a consistent estimate of the threshold used by Enders and Siklos (2001).

Based on the threshold cointegration found in the previous section, we apply TECM-GARCH with GED by Lee and Hung (2007) to investigate the asymmetric cointegration relationship between the oil and gold markets. TECM-GARCH with GED takes the form:

$$\Delta \mathrm{Y}_{it} = \alpha + \gamma_1 Z_{t-1}^{+} + \gamma_2 Z_{t-1}^{-} + \sum_{k=1}^{k_1} \delta_i \Delta Y_{1t-k} + \sum_{k=1}^{k_2} \theta_i \Delta Y_{2t-k} + \sqrt{h_{it}}\, \nu_{it} \tag{5}$$

$$h_{it} = A + \sum_{j=1}^{p} B_j \nu_{1t-j}^2 + \sum_{j=1}^{q} C_j h_{it-j}$$

where $Y_i =$ (Oil, Gold), $\nu_{it} \sim N(0,1)$, $Z_{t-1}^{+} = I_t \hat{u}_{t-1}$, $Z_{t-1}^{-} = (1-I_t)\hat{u}_{t-1}$ such that $I_t = 1$ if $u_{t-1} \geq \tau$, $I_t = 0$ if $u_{t-1} \leq \tau$ and ν_t is a white-noise disturbance. The density function of GED, $\nu_t \sim$ GED(d), is：

$$f(\nu_t) = d \cdot e^{-\frac{1}{2}\left|\frac{\nu_t}{B}\right|^d} \Big/ B \cdot 2^{1+\frac{1}{d}}\, \Gamma\!\left(\frac{1}{d}\right) \tag{6}$$

where $B = \sqrt{2^{-2/d}\,\Gamma(1/d)/\Gamma(3/d)}$, $\Gamma(\cdot)$ is the gamma function and d is a scale parameter, can be estimated, controlling the shape of the GED. From the system, the Granger-Causality tests are examined by testing whether all the coefficients of $\Delta Y_{1,t-i}$ or $\Delta Y_{2,t-i}$ jointly differ statistically from zero based on a standard F-test and/or whether the γ_j coefficients of the error-correction are also significant.

EMPIRICAL ANALYSIS

Descriptive statistics for WTI and Gold futures returns are reported in Tables 1. This study finds the average returns of WTI and Gold were 0.0359 and 0.0002 when the oil price is below \$40, and 0.0196 and 0.0628 when the oil price is above \$40. The Jarque-Bera statistics indicates that the distribution of these three commodities returns in both time periods has a fatter tail and sharper peak than the normal distribution. The statistics also show that most returns in the first and second periods are negatively skewed except for gold in the first period. The leptokurtosis implies that the distribution of returns has a fatter tail than the normal distribution. As to Ljung-Box Q^2 test examining the serial correlation of square returns, the statistics in both periods with 38 lags are significant at the 1% level. These results indicate that returns exhibit autocorrelation, linear dependence and strong ARCH effects.

Table 1: Summary Statistics of Returns

Iterms	Oil Price is Below \$40		Oil Price is Above \$40	
	WTI	Gold	WTI	Gold
Mean	0.0359	0.0002	0.0196	0.0628
SD	2.4075	0.8869	2.3526	1.3134
Skewness	-0.2812***	1.3970***	-0.0953	-0.1987***
Kurtosis	6.5491***	24.0571***	6.0517***	6.9172***
Jarque-Bera Test	1255.2749***	43813.5044***	430.8387***	713.7674***
Q^2 (38)	208.1181***	61.1244***	518.6853***	344.6743***

*Notes 1. SD denotes standard error. 2.$Q^2(N)$ is Ljung-Box Q^2 statistics with N lags. 3. Jarque-Bera Test denotes the normality test. 4. *** denotes rejection of the hypothesis at the 1% level.*

This study uses the Augmented Dickey-Fuller, Phillips and Perron and Kwiatkowski, et al. unit root tests on prices and their differentials with respect to the WTI and Gold. These tests are designed to indicate whether the WTI and Gold are non-stationary in terms of their levels and stationary in terms of their first differences. This study thus suggests that they are integrated of order one, I(1).

The momentum threshold cointegration test is estimated and the results are provided in Tables 2. Using the method of Chan, the obtained best threshold values are -0.07117 and 0.09811for M-TAR in the first and second period, respectively. The joint null hypothesis of no cointegration with M-TAR adjustment is rejected for each spread given that the $\hat{F}_C$ -statistic exceeds the respective critical value. Given this finding, the following null hypothesis of symmetric adjustment was tested and rejected for each spread given the $\hat{F}_A$ -statistic exceeds the critical value in favor of the alternative for all three spreads in the two different periods. Thus, each threshold signals the change in the spread needed to adjust asymmetrically back to the long-run position. In order to better understand the relationships between these three different commodities, TECM-GARCH with GED are estimated.

Table 2: Momentum Threshold Cointegration Test between WTI and Gold Markets

Items	Oil Price is Below \$40	oil Price is Above \$40
Threshold Value	-0.07117	0.09811
$\hat{F}_C$	5.40859***	12.28992 ***
$\hat{F}_A$	8.307170***	23.465421***
AIC	656.9335	-657.2172
SBC	679.9273	-642.2327
Lag	2	1

*Notes 1. *** denote significance at the 1% levels. 2. $\hat{F}_C$ and $\hat{F}_A$ denote the null hypothesis of no cointegration and symmetry.*

Table 3 shows the estimates of TECM-GARCH with GED between WTI and Gold. The Q^2 tests of diagnostic residuals are all insignificant in asymmetric ECM-GARCH, implying that no serial correlation exists. We also found coefficients of *d* are significant and *d* is small at 2, implying the GED density has fatter tails and is more peaked in the middle (leptokurtic) than the normal density.

While traders of WTI and Gold are active in the long-run disequilibrium, we find WTI and Gold adjusts slower to narrowing of the spread ($|\gamma_1|$) than widening ($|\gamma_2|$) when the oil price is below $40. However, the response is slower to widening of the spread than narrowing when the oil price is above $40. Regarding the causality relationship, we find the unidirectional relationship from WTI to gold when the oil price is below $40 ($\delta_1 = \delta_2 \neq 0$) and above $40 ($\delta_1 \neq 0$). The results reveal the oil price is an important indicator for measuring expected inflation, and the price of Gold tends to rise as people switch from currency to gold as a hedge against expected inflation.

Table 3: The Estimates of TECM-GARCH with GED between WTI and Gold Markets

Items	Oil Price is Below $40		Oil Price is Above $40	
	WTI	Gold	WTI	Gold
α	0.0495	-0.0209***	0.1128*	0.0780***
δ_1	0.0109	0.0062***	-0.0615**	0.0172***
δ_2	-0.0680***	0.0021***		
θ_1	-0.0917*	-0.0823***	0.0124	0.0187***
θ_2	0.0012	0.0046***		
γ_1	-0.0820	0.0177***	181.439***	59.4079***
γ_2	-5.8365***	0.4244***	-0.7313	0.2355**
A	0.0325*	0.0021	0.0726	0.0045
B	0.0326***	0.0545***	0.0480***	0.0387***
C	0.9620***	0.9469***	0.9392***	0.9612***
d	1.5421***	1.9482***	1.1658***	1.4940***
F1	7.4234***	7328.661***	254.4703***	11594.03***
F2	7.9442**	12749.31***	255.9826***	127540223.***
F3	3.0169		0.0601	
F4		38106.39***		286.8835***
$Q^2(38)$	46.155	14.723	38.939	25.818
LL	-5149.5309	-2564.2523	-2391.6310	-1671.2239

Note 1., **, and *** denote significance at the 1%, 5%, and 10% levels, respectively. 2. $Q^2(N)$ are Ljung-Box Q^2 statistics with N lags 3. LL is Log Likelihood. 4. F1 is $H_0: \gamma_1 = \gamma_2$, F2 is $H_0: \gamma_1 = \gamma_2 = 0$, F3 is $H_0: \theta_1 = \theta_2 = ... = 0$, F4 is $H_0: \delta_1 = \delta_2 = ... = 0$.*

CONCLUSION

This study examines the asymmetric long-run and causality relationship between oil and gold. This article uses the threshold cointegration test to investigate the long-run relationship and uses TECM-GARCH with GED to examine the causality relationship between West Texas Intermediate crude oil and gold prices in the futures market from May 1, 1994 to November 20, 2008.

The empirical results show that an asymmetric long-run adjustment exists between WTI and oil. Furthermore, the causality relationship shows that WTI plays a dominant role whenever the oil price is below $40 or above $40 (i.e., Gold were affected by WTI). In other words a unidirectional relationship exists from WTI to Gold, implying the finding could prove valuable to individual investors and financial institutions. Finally, this study found GED density has fatter tails and is more peaked in the middle (leptokurtic) than the normal density.

This paper sets the foundation for research work in the area. Future research can use the MTAR model to investigate out-of-sample forecasts between oil and gold markets. Then future research can explore the asymmetric long and short-run dynamic relationships between oil and other commodity prices.

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PROFITABILITY AND LEVERAGE: EVIDENCE FROM NIGERIAN FIRMS

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ABSTRACT

This study examines the profit profile of firms in Nigeria and analyzes the impact of leverage on profitability for the period 1999-2007. The results show that aggregate profit level for the firms decreased by 0.02 percent yearly over the study period. However, when disaggregated into sectors, a few firms actually experienced an increased profit level. The results show that firm size has a significant positive effect on profitability, while leverage has negative effect. The paper suggests that expansion, increased sales and low debt ratios enhance firm profitability.

JEL: G32

KEYWORDS: Profitability, leverage

INTRODUCTION

The analysis of financial leverage on profit profiles of firms occupy a substantial portion of financial literature (Dean 1968, Sheel 1994 and Barthwal, 2000). This arises because of two main reasons: the importance of profitability as an index for assessing business efficiency and controversy surrounding the relationship between financial leverage and profitability. Although, most existing studies concentrate on developed countries not many studies have focused on developing countries like Nigeria. Specifically no known study has examined the issue in Nigeria. This paper addresses this gap. This paper seeks to analyze the profit profile of firms in Nigeria and to examine the impact of financial leverage on profitability using panel data.

Analysis of the profit profile of Nigerian firms is important because it provides the basis for judging whether business firms run efficiently or otherwise. The literature asserts that profit is the primary measure of a firm's efficiency and success (Barthwal 2000). Secondly, a deeper understanding of the trends and patterns of firm's profitability assist managers in evolving policies to enhance the profit level of their organisations. In addition, knowledge of the relationship between leverage and profitability helps to show how effectively firms are able to debt finance.

The remainder of the paper is organised as follows. Section 2 discusses the relevant literature. Section 3 discusses the methodology. Section 4 provides the results of the analysis and Section 5 concludes the paper.

LITERATURE REVIEW

In view of the importance of profitability on firm growth and survival, a substantial theoretical and empirical body of knowledge examines the issue. . The major theoretical developments in profitability analysis include the establishment of a link between market structure and profitability. In this earlier stage, inter-industry differences in profitability was explained in terms of a single element of market structure i.e. concentration. However, over the years, the literature has identified several other factors as determinants of profitability. These factors include firm growth, capital intensity, advertisement intensity, age of firm, business cycle trends among others. However, since the aim of this study is not to discover determinants of profitability but rather to examine whether leverage is significantly related to firm's performance, the literature review focuses on empirical evidence related to this issue.

There are many empirical works on the relationship between leverage and profitability. However, the findings from these studies are mixed. Some studies found positive relationships between leverage and profitability while others identified a negative relationship. A few others found no relationship between the two. Studies by Robb and Robinson (2009), Ruland and Zhou (2005) believe that there is a positive relationship between leverage and profitability. According to Jensen (1986), profitable firms signal quality by leveraging up, resulting in a positive relation between leverage and profitability. This agrees with Modigliani and Miller (1963). Robb and Robinson (2009) found that gains from leverage are quite significant, and the use of debt enhances the firm market value. It is argued that financial leverage has a positive effect on the firm's return on equity given the earning powers of the firm's assets is greater than the average interest cost of debt to the firm.

A study by Abor (2005) reported a significantly positive relationship between total debt and total assets and profitability measured as return on equity. In the same way, Chandrakumarmangalam and Govindasamy (2010) found that leverage is positively related to profitability and shareholders wealth are maximized when firms are able to employ more debt. In the view of Berkivitch and Israel (1996), a firms debt's level and value is positively related when shareholders have total control over the firm's business and it is negatively related when debt holders have the power to influence the course of the business. Hence, the impact of debt on firm value is a function of the balance of power within a firm. In a situation where debt holders have more power, a negative leverage would obtain. The reverse is however the case where shareholders have more power. The use of high levels of debt in the capital structure leads to a decrease or increase in the return on shareholders' capital (return on owner's equity).

In contrast to the above view, some studies have found negative relationships between leverage and profitability (Negash, 2001; Phillips and Sipahioglu, 2004; Myers, 2001). Negash (2001) found that debt has a negative impact on the profitability of firms quoted on the Johanesburg Sock Exchange. He argues the potential gains from leverage over an infinite period are significant and comparable to what is reported in studies from developed countries in support of the Modigiliani and Miller 1963 theory. However, the actual gains were not as implied by the 1963 theory, as the effective tax rate for most firms in South Africa is lower than the statutory rate.

Titman and Wessels (1988) observed that highly profitable firms have lower levels of leverage than less profitable firms do because they first use their earnings before seeking outside capital. Moreover, stock prices reflect how the firm performs. Some recent studies including Sheel (1994), Sunder and Myers (1999) and Wald (1999) have corroborated these findings. For example, Wald (1999) found that profitability has a negative effect on debt to asset ratios in a heteroskedatic tobit regression model. Sheel (1994) reported a negative relationship between debt-to-asset ratio and non-debt tax shield and between firm's leverage behaviour and its past profitability.

Fama and French (1998) reported that debt does not concede taxes benefits. The degree of leverage tends to generate agency problems among shareholders and creditors that predict negative relationships between leverage and profitability. Other studies that reported negative relationships between leverage and profitability include Myers 1984, Chittenden et al. 1996, Michaelas et al. 1999, Cassar and Holmes 2003, Gedajlovic et al. 2003 and Lincoln et al 1996.

A few other studies reported no relationship between leverage and profitability. Long and Malitz (1986) found no relationship between capital structure and profitability. Hall et al. (2000) found that profitability is not statistically significant to long-term debt. Amjed (2007) reported that total debt as a whole has no association with firm profitability because of the inherited different characteristics of short-term and long-term debt.

DATA AND METHODOLOGY

In order to analyze the profit profile, the study utilized data obtained from sixty-six purposively selected firms from listed non-financial firms on the Nigerian Stock Exchange (NSE). Only firms listed before 1999 and were still in operation at the end of 2007 financial year are chosen. Financial institutions such as banks, insurance companies etc were excluded from the sample due to the format used in reporting their balance sheets and different components of working capital such as stock is missing from the balance sheet. This makes their capital structure significantly different from those of non-financial firms.

The sample of firms cut across fifteen (15) sectors of the Nigerian Stock Exchange classification. They are Automobile and Tyre, Breweries, Building Materials, Chemical and Paints, Computer and Office Equipment, Conglomerates, Construction, Food Beverages and Tobacco, Healthcare, Industrial/Domestic Products, Machinery, Packaging, Petroleum, Printing and Publishing, and Real Estate.

To analyse the profit profile of the selected quoted companies over the study period, we first examined the movement of aggregate profit over the study period. Next, we obtained linear least square trends of aggregate profits for the entire 66 firms and for the various subsectors. Chi-square statistics were compared for actual and trend series to identify any significant difference between the two series. To examine the impact of leverage on the profitability of selected firms, we estimate a simple regression in which we relate profitability to the variable of interest, in our case leverage. However, in order to enhance the robustness of our findings we incorporate one control variable namely, firm size in the model. We measure firm size as the firms' total assets. The estimated relationship takes the form:

$$\pi_{it} = \beta_o + \beta_1 Lev_{it} + \beta_2 Siz_{it} + \varepsilon_{it}$$

Where π_{it} = profitability of firm i at time t,……… i = 1,2,3……….. 66 firm, β_o = intercept, Lev_{it} = leverage for firm i at time t, β_i = coefficients of X_{it} = independent variables for working capital of firm i at time t, and ε_{it} = error term.

Profitability is the dependent variable while leverage and the control variable size are independent variables. Our area of concern is the magnitude and nature of the relationship. The signs and values of coefficients along with measures of significance are pertinent to our intention.

RESULTS

Trend and Pattern of Aggregate Profitability

Table 1 shows the aggregate profit for all firms selected for the study. The aggregate profit dropped slightly from ₦493.193m in 1999 to ₦433.202m in 2000. The figure increased to ₦727.093m in 2003 but dropped sharply to ₦367.806m in 2004. This possibly reflects the aftermath of the election that took place in the middle of 2003. The uncertainty in business environment that resulted from the election might have affected production and profit levels of firms. The aggregate profit level increased from ₦367.806m in 2004 to ₦563.191m in 2007.

Table 1 shows linear least square trend values of firm profitability. The yearly percentage increase in aggregate profitability of -0.02 shows the firms together experienced a decline in profit over the study period. The differences between actual and trend values were negative for the years 1999 – 2000 and from 2004 to 2006. The values were however positive for 2001 – 2003 and 2007. The calculated chi-square value of 10.50 is lower than the table chi-square value of 12.592. This means that there is no significant difference between the actual and trend values of profitability at 5 percent level.

Table 1: Original and trend values of profit (₦m)

Year (1)	Actual (2)	Trend (3)
1999	493.19	591.63
2000	433.70	578.82
2001	731.35	566.00
2002	723.04	553.19
2003	727.09	540.38
2004	367.80	527.57
2005	401.80	514.75
2006	422.23	501.94
2007	563.19	489.13

The table shows the actual and trend values of profit for the entire firms over the period 1999-2007. Column (2) shows the actual value while column (3) shows the trend generated using trend regression $Prof = \alpha + \beta_1(trend)$. The estimated result is $Prof = 6.377 – 0.023trd$

As shown in Table 2, when disaggregating the data into sectors, two main features were discernable. The first was that, nine sectors experienced downward trends in their profit levels in the first two to four years and seven had a positive trend. The sectors with positive trends were automobile and tire, breweries, building materials, chemical and paints, computer and office equipment as well as health. Eight sectors had positive profit level for the period 1999-2007 while three sectors had negative profit level.

The linear least square regression estimates are shown in Table 3. The results show that the yearly percentage change in profit is negative for five sectors. These sectors are construction, food and beverages, industrial/domestic, machinery/marketing and printing and publishing. The remaining ten sectors have positive yearly percentage change. The yearly percentage change in profit ranges from -0.445 for machinery/marketing to 0.453 for breweries. The chi square reported in Table 3 is to ascertain whether there are significant differences between the actual and trend values of sector profitability. The results show there are significant differences between the actual and trend values of profitability for three sectors namely, chemical and paints, computer and office equipment and machinery/marketing. However, for the remaining sectors there is no significant difference between the actual and trend values of profitability of these sectors.

Table 2: OLS Estimates (Dependent variable PROF)

Industry	**C**	**Trend**
Automobile and Tyre	2.125(10.088)***	0.035(0.94601)
Breweries	-30.381(-1.293)	0.453(0.1085)
Building Materials	1.509(3.459)***	0.176(2.266)**
Chemical and Paints	7.600(12655)***	0.001(4677.9)***
Computer and Office	0.960(3.312)***	0.002(0.03703)
Conglomerates	0.309(0.61215)	0.171(1.470)
Construction	1.951(7.463)***	-0.073(-1.566)
Food and Beverages	3.394(2.692)**	-0.252(-1.304)
Health	0.986(0.90711)	0.215(1.109)
Industrial/Domestic	2.599(5.320)***	-0.138(-1.445)
Machines/Marketing	-8.647(-1.296)	-0.445(-0.3752)
Packaging	1.584(2.707)**	0.008(0.075)
Petroleum	2.865(19.429)***	0.028(1.054)
Printing and Publishing	3.258(11.768)***	-0.164(-3.344)***
Real Estate	1.778(5.014)***	0.111(1.757)*

*The table shows the trend regression estimates of the equation $Prof = \alpha + \beta_1(trend)$ for each of the sectors over the period 1999-2007. Column 2 shows the constant and column 3 shows the coefficient of trend. The trend is in units of years. The figures in parenthesis are t-statistics while the others not in parenthesis are coefficients. T values are in parentheses. ***, ** and * denote significant at 1%, 5%, and 10% levels respectively*

Table 3: Calculated and Tabulated Chi-square for Profitability

Sectors	χ^2 calculated	χ^2 Tabulated	Decision Rule
Automobile and Tyre	12.000	21.026	No significant difference
Breweries	13.750	21.026	No significant difference
Building Materials	11.000	15.507	No significant difference
Chemical and paints	36.000	26.296	Significant difference
Conglomerates	14.850	24.996	No significant difference
Construction	11.250	16.919	No significant difference
Computer and Office Equipment	27.000	24.996	Significant difference
Food and Beverages	21.600	24.996	No significant difference
Health	19.500	26.296	No significant difference
Industrial/Domestic	14.625	26.296	No significant difference
Machinery/Marketing	12.750	12.592	Significant difference
Packaging	16.125	26.296	No significant difference
Petroleum	9.375	12.592	No significant difference
Printing and Publishing	18.750	26.296	No significant difference
Real Estate	10.000	16.919	No significant difference

The table shows the calculated χ^2 for profitability for each sector over the study period. The chi square is obtained using the formula $\chi^2 = (O - E)^2/E$. Where O is the Observed Frequency in each category E. E is the Expected Frequency in the corresponding category ij sum of_df is the "degree of freedom" (n-1) and χ^2 is Chi Square

Table 4, shows the results of the relationship between profitability and leverage using pooled OLS, fixed and random effects panel methods respectively. Comparing the results from the three methods, it is immediately obvious from the adjusted R^2 values that the fixed effects approach performs best.

Table 4: Effect of Leverage on Profitability

Dependent Variable	Pooled	Fixed	Random
Regression Model			
C	-30.76***	-45.06***	-33.88***
	-(6.41)	*-(2.89)*	*-(4.20)*
Siz	6.09***	8.31***	6.57***
	(8.24)	*(3.43)*	(5.29)
Lev	-0.04*	-0.03	-0.03*
	-(1.62)	*-(1.43)*	*-(1.54)*
R^2	0.108	0.451	0.049
Schwarz criterion	8.369	8.584	-
F statistic	35.602	6.436	15.331
Akaike criterion	8.347	8.081	-
D.W	1.166	1.884	1.686
No of Observation	593	593	593

The table shows the regression estimates of the equation: $Hit = \beta_0 + \beta_1 Lev_{it} + \beta_2 Siz_{it} + \varepsilon_{it}$ for the 66 firms over the period 1999-2007. Columns 2, 3 and 4 show the results for pooled, fixed and random effects respectively. The first figure in each cell is the regression coefficient. The second figure in parenthesis is the t-statistic.

In Table 4 the adjusted R^2 explains 11 and 5 percent of the variation under pooled OLS and random effects respectively. However, within a fixed effects framework, the models explanatory power increases to 45.1 percent. The coefficient of leverage is negative but only significant at 10 percent level in the pooled OLS result and 20 percent under fixed and random effect methods. This result shows that profitability decreases with leverage. Specifically, the coefficients of leverage in the three models show that a 10 percent increase in leverage reduces profitability by 0.3 to 0.4 per cent. The result suggests that firms maintained high debt ratio to increase their liquidity holdings thereby decreasing the likelihood of financial distress. Increased liquidity holding might have adversely affected firm profitability. One possible reason for this finding is the high interest rates and high cost of funds that prevailed in Nigeria during the period 1999-2007. This finding is consistent with several studies in developing countries. Such studies include Matarirano and Fatoki (2010), Fatoki (2006), Zou and Xiao (2006), Kahle and Shastri (2004), Raj and Sutthisit (2003), Rajan and Zingales' (1995), and Myers and Majluf (1984).

Gedajlovic et al. (2003) and Lincoln et al 1996 found that firms with higher level of debt earn less profitability.

In all models, the coefficient of firm size is positive. The result shows that a 10 per cent increase firm size leads to an 83 percent increase in profitability in the fixed effects model. We further introduce sales growth as additional control variable, the results obtained were not significantly different from those reported in Table 4. The coefficient of size was positive. The coefficient of leverage was negative while sales growth was positive as expected. In general, the results suggest that firms tend to enjoy economies of scale in production as they expand which possibly translates into higher profit.

CONCLUSION

This paper analyzed the profit profile of firms in Nigeria and examined the effect of leverage on firm profitability over the period 1999-2007. The study analysed secondary data on 66 purposively selected non-financial firms, obtained from the firm's Annual reports and Accounts and the Nigerian Stock Exchange Factbook over the study period. The data were analysed using chi-square, pooled ordinary Least Squares (OLS), fixed and random effects frameworks.

The results showed that aggregate profit levels for the firms, decreased at 0.02 percent yearly. However, disaggregating the firms into subsectors, the results show that while a few of the firms experienced downward trend in profitability over the study period, a few others actually witnessed increased profit levels during the study period. The results revealed that except for three sectors: chemical and paints, computer and office equipment and machinery/marketing, there was no significant difference between actual and trend values of profitability for the remaining sectors.

The results show that leverage was negatively related to profitability. This suggests that the use of debt by firms in Nigeria decreases profitability. This implies that firms will need to reduce their debt ratio to boost their profit level. Essentially, selection of debt as a source of capital finance should be in line with the costs and benefits associated with the use of debt. The results showed that firm size was a major determinant of profitability. This simply suggests that firms need to expand in size to enhance their profit level. In summary, firms will be able to enjoy large profit levels if they can increase in size and sales with a large reduction in debt ratio. This paper does not distinguished between short-term and long-term debt ratios and does not distinguished between small and large firms. These classifications might have some effects on the findings of the paper. Hence our future area of research is to analyse the impact of capital structure (long and short term) on firms' profitability taking cognisance of their sizes.

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A STRUCTURAL EQUATION MODEL OF THE PERSONALITIES AND WORK ACHIEVEMENT OF LIFE INSURANCE SALESPERSONS: EVIDENCE FROM TAIWAN

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ABSTRACT

The aim of this research is to discuss the personal characters of salespersons that produce higher work achievement. A sample of 384 life insurance salespeople from Taiwan are examined. A structural equation model is used to discuss the direct and positive influence of personalities on work achievement. The research shows that conscientious and extravert characters have direct and positive influences on task performance within work achievement. Neuroticism has direct and negative influence. Being conscientious and agreeable has direct and positive influences on contextual performance. We recommend that insurance companies consider those whose personalities are conscientious, extravert, agreeable, emotional stable, and less anxious for employment. People with these features have better familiarity in core skills and can create better work achievement.

JEL：G22

KEYWORD：personalities, work achievement, structural equation model

INTRODUCTION

The competitiveness of a company comes from innovation and innovation comes from human resources. Therefore, human resources are the major advantage of a company in competition and the most important assets of a company. Understanding personalities of employees helps the company cultivate its employees and increases their performance. Life insurance salespersons have close contacts with people, need to spend much time visiting customers, maintain good relationships with clientele, are often under pressure to meet business targets, keep hunting for potential customers., and face rejection. As a result, the individual personalities which do not fit the salesperson needs are likely to be forced out of the market and give no realistic return to the firm, regardless of how much training cost has been invested. An outstanding life insurance salesman can bring the company enormous business.

After the economic recession in 2008, and the poor economic climate, decrease of interest rates, and increase in premiums, the life insurance sector in Taiwan faced difficult challenges. In such a competitive environment, it is worth exploring which personalities of the salespersons can produce. This paper is structured as follows: Section 2 briefly discusses the relevant literature. Section 3 describes data selection, research methodology, and empirical model. Section 4 contains the empirical results and analysis; Section 5 is the conclusions.

LITERATURE REVIEW

David (1989) argues that personalities are a set of enduring and stable features and tendencies representing commonalities and differences between individuals. The personalities of an individual can be perceived by observing his/her behaviors. Costa and McCrae (1992) argue that personalities are the personal features reflected by the individuals' behaviors which continuously appear in different contexts. Pervin (1993) stated that personalities are the constructional and dynamic features which appear when individuals react to contexts as well as a kind of constancy which makes the individuals different from others. Every person has his/her own unique personality which constitutes unique behaviors for dealing with the external environment. The type of unique characters are composed either mental or physical aspects some inherited and some learned. Personalities decide the mode of interaction between people and the environment, and the adaptability of the individuals to work in an environment. In the Incentive Theory in Management, achievement means that "an employee completes a job" (Gray and Smeltzer, 1993). In the context of organization behaviors, achievement means "the overall performance concerning efficiency, effectiveness, and efficacy".

Kane (1976) indicated that work achievement means the employee achieves results within a specified time. Campbell (1990) argues that work achievement is occurs when a person completes the expectation, rules, and requirements by the organization. Porter and Lawler (1968) state that work achievement includes the quality and quantity of achieved work and efforts expended on the work, which is the value contributed by an individual to the work.

Brouther (2002) argues that work achievement can be defined as the completed level of work targets for an individual in his/her position. He argues that work achievement is the net result of the employees' hard work. Van Scotter (2000) divided work achievement into task performance and contextual performance. Task performance means the level of task completion by the employees who utilize the hardware provided by the companies and professional knowledge. Contextual performance refers to the employees volunteering to provide extra resources to assist their colleagues, to improve interpersonal relationships and the atmosphere in the work environment, and to complete the work.

Borman and Motowidlo(1993) defined work achievement as behavior in relation to the organizations' targets. Those behaviors can be measured according to the level of contribution made by each individual to the organizations' targets. They also divide work achievement into task performance and contextual performance. Task performance concerns the tasks assigned by the organizations. Contextual performance is related to non-official activities and the passion to finish tasks, including cooperation with and help to other people, sacrifices of personal interest to follow the organizations' rules and procedures, and the endorsement and support of the relevant behaviors to achieve organization targets.

The study of Weitz Barton (1978) shows the direct factors which influence salespersons work achievement are encouragement, personal attitude towards sale, and recognition of the salespersons position. Different personalities react differently to the same contexts where different types of people have different performance. Many scholars also find the personalities of employees can effectively predict their performance (Barrick & Mount,1991；Mount & Strauss,1993；Steward & Carson, 1995；Carson & Cardy,1996). In a team, the more significant the agreeable, diligent, honest, and open characters are, the better performance will be (Neuman et al., 1999). For example, abstract-tolerant, vagueness tolerant, and independent characters are fit for production jobs. Energetic, decisive, adventurous, and risk-taking characters are fit for creative activities. As a result, personalities have a close relationship to work achievement. The purpose of this research is：1. exploring if the personalities of the life insurance salespersons influence work achievement and in what way, and 2. if different background variables influence work achievement.

DATA AND METHODOLOGY

The sample in this research are Taiwan Life Insurance salespersons. The number total life insurance salespersons in Taiwan in July, 2010 was 185,107. To achieve 95% credibility and 5% inaccuracy, there should be at least 385 people included in the sample. This research distributed surveys to 500 people. The response included 411 returned surveys representing an 82% return rate. There were 384 valid returns representing a 77% valid return rate.

We use a Likert-type scale as the tool to measure personalities and work achievement. This research has five potential exogenous variables related to personalities as amended from the five main personalities and scale raised by Costa McCrae (1985, 1986, 1992). These variables include:

(1) Conscientiousness includes features such as hard-working, diligence, perseverance, self-discipline, self-motivation, achievement-oriented, careful-thinking, keen to details, organization, responsibility are included in the questions of “I can always stick to it throughout when I make up my mind (X_1), ”I always do everything responsibly and wholeheartedly (X_2), and ”I am keen to details” (X_3)

(2) Agreeableness includes features like empathetic, trustworthy, frank, altruistic, willing to follow, gentle, modest and helpfulness are include in the three questions of ”I actively remain good relationship with customers” (X_4), ”I am often attentive and consider others”(X_5), and I can have good friendship with my work partners” (X_6).

(3) Extraversion includes features including being active, strongly-motivated, passionate, self-confident, and liking to perform and are measure by 4 questions as follows ”I like being surrounded by many people” (X_7), ”I like talking to and having contact with people” (X_8), ”I often take the initiative to participate in social activities” (X_9), and ”I am able to have a nice chat even with someone I don't know” (X_{10}).

(4) Openness to Experience involves imagination, creativity, curiosity, independent judgment, and pursuit of new things are include three questions as follows: ”I like pondering and exploring abstract concepts” (X_{11}), ”I often try new things” (X_{12}), and ”I have abundant imagination” (X_{13}).

(5) Neuroticism involves feeling easily anxious, nervous, upset, tense, and lack of a sense of security and are measured in three questions as follows “I often feel upset when facing problems (X_{14}), ”I often feel anxious” (X_{15}), and ”it’s hard for me to let it go when I face frustration (X_{16}).

This study also has two endogenous variables both related to work achievement. Based on the viewpoint of Borman and Motowidlon (1993), this research divides work achievement into task performance and contextual performance as follows:

(1) Task Performance relates to the work results of official positions, the contribution to core skills of the organizations, and the familiarity delivered within work, measured in five questions as follows: ”overall, my sale performance is good” (Y_1), ”I am able to notice every details in the work and manage them well” (Y_2), ”I always grip the work progress” (Y_3), ”my work efficiency is averagely high” (Y_4), and ”overall, I can do the required task by the organization well” (Y_5).

(2) Contextual Performance: is related to volunteering to complete the activities of non-official positions, which means, apart from task activities, the employees contribute other activities of the organization’s efficiency, show familiarity, have passion and perseverance to complete tasks successfully, work with others and recognize the organization goal. This variable is measured with the questions: ”I have been keeping working with other colleagues in a team” (Y_6), ”I often help others or work on performance for the team” (Y_7), ”I would check through the main customers on the list and active promote sale to them (Y_8), and ”I discover and look for new customers for the company” (Y_9).

<u>Research Design and Hypothesis</u>

This research is structured as shown in Figure 1 and the hypotheses are as follows:

Hypothesis 1.：”Conscientiousness” has direct and positive influence on ”task performance” and “contextual performance”.

Hypothesis 2：”Agreeableness” has direct and positive influence on ”task performance” and “contextual performance”.

Hypothesis 3：”Extraversion” has direct and positive influence on ”task performance” and “contextual performance”.

Hypothesis 4：”Openness to experience” has direct and positive influence on ”task performance” and “contextual performance”.

Hypothesis 5：”Neuroticism” has direct and negative influence on ”task performance” and “contextual performance”.

EMPIRICAL RESULTS

Table 1 shows the demographic information of our sample. We have more females in our sample at 56%. The participants aged from 31 to 40 represent 39.8% of the sample.

Table1: Frequency Distribution of Variables of Vital Statistics

Variable	Grouping	Number of Samples	%
Gender	Male	169	44
	Female	215	56
Age	21-30 years old	101	26.3
	31-40 years old	153	39.8
	41-50 years old	103	26.8
	51-60 years old	27	7
Education Level	Graduate Institute or above	13	3.4
	University	117	30.5
	Junior college	149	38.8
	Senior/Vocational high school	100	26.0
	Junior high school or below	5	1.3
Industrial Experience	Under 3 years	161	41.9
	4-6 years	76	19.8
	7-9 years	31	8.1
	10-12 years	41	10.7
	Above 12 years	75	19.5
Annual Income	Under 300,000	47	12.2
	310-600,000	58	15.1
	610-900,000	75	19.5
	910,000-1.2 million	75	19.5
	Above 1.2 million	129	33.6

This table shows the personal data distribution of 384 life insurance salespersons in Taiwan. Variables include gender, age, education level, industrial experience and annual income.The number of females is more than the number of males. The amount of annual income is expressed as the amount of NT dollars.

Additional summary statistics are presented in Table 2. The most represented education level is junior college at 38.8%. People with less than 3-year experience are the majority at 41.9%. Annual income is most commonly 1.2 million at 33.6% of the sample. The five personality aspects are measured next. The average conscientiousness is 3.9470, agreeableness is 4.1519, extraversion is 3.7969, openness to experience is 3.9601, and neuroticism is 2.3385. The average work achievement in task performance is 3.7409 and is 3.9512 for contextual performance. The personality trait of agreeableness appears most frequently and contextual performance is more significant in work achievement.

Table 3 shows the MANOVA results. The results show that age and annual income have a reciprocal effect on work achievement. We perceive its reciprocal effect on contextual performance and analyze its simple main effect and post-hoc comparison as shown in Table 4. The results indicate the contextual performance of people between 41 to 50 years of age with annual income above 1.2 million is better than that of people aged 31 to 40. In addition, education level and industrial experience have reciprocal effect on task performance and contextual performance as shown in Table 3. Similarly, we analyze the simple main effect and post-hoc comparison. The results are presented in Table 5. The results show that people involve in industry for under 3-years with education level of junior college or above have better task and contextual performance than those with senior/vocational high school education.

Table 2: The Average and Standard Deviation of Personalities Aspects and Work Achievement Aspects

	Aspects	Average	Standard Deviation
Personal Characters	Conscientiousness	3.947	0.5297
	Agreeableness	4.151	0.4857
	Extraversion	3.796	0.5702
	Openness to Experience	3.960	0.5686
	Neuroticism	2.339	1.0869
Work Achievement	Task Performance	3.741	0.5368
	Contextual Performance	3.951	0.4484

This table shows the average and standard deviation of personalities aspects and work achievement aspects of 384 life insurance salespersons in Taiwan. Personalities aspects include 5 items and work achievement aspects include 2 items . Agreeableness and contextual performance have the highest averages respectively.

Table 3: MANOVA of Vital Statistics in Work Achievement

Population Variable	Multivariable A\value (Significance)	Single variable F value	
		Task Performance	Contextual Performance
Gender*Annual Income	0.888*** (0.008)	1.506 (0.120)	2.238*** (0.01)
Education level*Industrial Experience	0.869*** (0.001)	3.008*** (0.000)	3.041*** (0.000)

*This table shows the interaction effect of gender and annual income at task performance and contextual performance on 384 life insurance salespersons in Taiwan. Another is the interactive of education level and industrial experience at task performance and contextual performance on 384 life insurance salespersons in Taiwan. ***, ** and * indicate significance at the 1, 5 and 10 percent levels respectively.*

Table 4: The Reciprocal Effect of Age and Annual Income in Contextual Performance

Variable	Annual Income	Statistics	Age				F value	Significance	Post-hoc Test
			21-30	31-40	41-50	51-60			
Contextual Performance	Above 1.2 million	Average	4.21	3.89	4.15	4.16	5.20	0. 002***	41-50years old>31-40 years old
		Standard Deviation	0.37	0.34	0.43	0.52			
		Standard Error	0.10	0.05	0.06	0.14			

*This table shows the average, standard deviation and standard error of contextual performance at each age level on 1.2 million of annual. And the table also shows the difference of contextual performance average at age on 1.2 million of annual in 384 life insurance salespersons in Taiwan. ***, ** and * indicate significance at the 1, 5 and 10 percent levels respectively.*

Test of the Model

Our path model was analyzed using the AMOS5.0 statistical package. The results of the factor analysis are presented in Table 6. The factor loading of the items reached a significant level and its standardized parameter is above 0.5, but the factor loading of the item "I always grip the work progress" (Y_3) did not reached a significant level and its standardized parameter is under 0.5. Table 7 shows the construct reliability of the latent variable is also above 0.5. The model provided a proof fit to the data. χ^2 (N=384) =399.5, p=0.00,GFI=0.922,NFI=0.89, AGFI=0.899, SRMR=0.027 as shown in Table 8.

Table 5: The Reciprocal Effect of Education Level and Industrial Experience

Variable	Industrial Experience	Statistics	Education Level					F value	Significance	Post-hoc Test
			Graduate	**University**	**Junior**	**Senior/**	**Under**			
		Average	3.95	3.74	3.77	3.16	3.68			
Task Performance	Under 3 years	Standard Deviation	0.21	0.51	0.54	0.71	0.57	7.31	0.000***	Graduate Institute or above , university, and junior college > Senior/ Vocational high school
		Standard Error	0.09	0.06	.07	0.16	0.05			
		Average	4.20	3.93	3.96	3.58	3.91			
Contextual Performance	Under 3 years	Standard	0.54	0.44	0.37	0.54	0.45	5.12	0.002***	Graduate Institute or above , university, and junior college > Senior/ Vocational high school
		Standard	0.25	0.05	0.05	0.12	0.04			

*This table shows the average, standard deviation and standard error of task performance(or contextual performance) at each education level in industrial experience under 3 years. And the table also shows the difference of task performance(or contextual performance) average at industrial experience under 3 years in 384 life insurance salespersons in Taiwan. ***, ** and * indicate significance at the 1, 5 and 10 percent levels respectively.*

The test on Hypothesis 1 is analyzed in Figure 1. Figure 1 shows that being “conscientious ” has direct and positive influence on task performance ($\gamma_1 = 0.390$，$t = 2.45$) as well as on contextual performance ($\gamma_2 = 0.341$，$t = 2.04$).The test on Hypothesis 2 shows the standardized coefficient, (γ_3), in which “agreeableness” influences task performance, is 0.047, while the t value is 0.45. They are not significant enough to prove that “agreeableness” has direct positive influence on task performance. On the other hand, that the standardized coefficient, (γ_4), in which “agreeableness” influences contextual performance, is 0.448, while the t value is 3.59. They are significant enough to prove that “agreeableness” has direct positive influence on contextual performance.

The result of test of Hypothesis 3 can be learnt from Figure 1 that the standardized coefficient of “extraversion” (γ_5)) is 0.37and t value is 2.52, which achieve significant. This shows “extraversion” has direct and positive influence on “task performance”. The standardized coefficient of “extraversion” (γ_6) in “contextual performance” is 0.11 and t value is 0.715, which fail to achieve significant level so “extraversion” has no influence on “contextual performance”. The results of the Hypothesis 4 are presented in Figure 1. The results show the standardized coefficient of “openness to experience” (γ_7) is -0.004 and t value is -0.039, which are not significant so “openness to experience” has no influence on “task performance”. Also, the standardized coefficient of “openness to experience (γ_8)” in “contextual performance” is 0.018 with a t value of 0.170, which is not significant so “openness to experience” has no influence on “contextual performance”.

The Hypothesis 5 test results are presented in Figure 1. The results show the standardized coefficient, (γ_9), in which “neuroticism” influences “task performance”, is -0.155, while the t value is -0.039. They are significant enough to prove that “neuroticism” has direct negative influence on “task performance”. On the other hand, the standardized coefficient, (γ_{10}), in which “neuroticism” influences “contextual performance”, is -0.056, while the t value is -0.967. They are not significant demonstrating that “neuroticism” does not directly influence “contextual performance”.

Table 6 ：Model Parameter Estimation Table

Parameter	Unstandardized Parameters	Standard Error	T Value	Standardized Parameter	Parameter	Unstandardized Parameters	Standard Error	T Value	Standardized Parameter
λ_1	1.000			.690	δ_1	.246	.022	10.946***	0.524
λ_2	1.000	.084	11.880***	.728	δ_2	.197	.019	10.129***	0.470
λ_3	.832	.087	9.562***	.563	δ_3	.332	.027	12.428***	0.683
λ_4	1.000			.560	δ_4	.241	.021	11.727***	0.686
λ_5	1.259	.151	8.360***	.635	δ_5	.260	.024	10.654***	0.597
λ_6	1.269	.150	8.450***	.648	δ_6	.245	.024	10.395***	0.580
λ_7	1.000			.696	δ_7	.314	.028	11.413***	0.516
λ_8	.878	.071	12.334***	.727	δ_8	.203	.019	10.926***	0.471
λ_9	1.013	.083	12.198***	.717	δ_9	.286	.026	11.090***	0.486
λ_{10}	.783	.082	9.558***	.547	δ_{10}	.423	.033	12.758***	0.701
λ_{11}	1.000			.692	δ_{11}	.251	.025	10.199***	0.521
λ_{12}	1.090	.099	10.987***	.729	δ_{12}	.241	.026	9.324***	0.469
λ_{13}	.914	.093	9.783***	.613	δ_{13}	.320	.028	11.497***	0.624
λ_{14}	1.000			.894	δ_{14}	.279	.032	8.672***	0.201
λ_{15}	.989	.040	24.838***	.901	δ_{15}	.252	.031	8.252***	0.188
λ_{16}	.976	.041	23.960***	.880	δ_{16}	.309	.033	9.448***	0.226
λ_{17}	1.000			.623	ε_1	.347	.028	12.286***	0.612
λ_{18}	.951	.091	10.464***	.661	ε_2	.257	.022	11.925***	0.563
λ_{19}	.944	.089	10.602***	.673	ε_3	.238	.020	11.792***	0.547
λ_{20}	.991	.097	10.217***	.641	ε_4	.311	.026	12.132***	0.589
λ_{21}	.666	.081	8.249***	.493	ε_5	.306	.023	13.072***	0.757
λ_{22}	1.000			.617	ε_6	.199	.017	12.087***	0.619
λ_{23}	1.175	.116	10.088***	.647	ε_7	.235	.020	11.744***	0.581
λ_{24}	1.128	.115	9.814***	.624	ε_8	.245	.020	12.016***	0.611
λ_{25}	.984	.115	8.592***	.527	ε_9	.309	.024	12.785***	0.722

*This table shows the regression coefficients(λ_i) of observed variables on latent variables. λ_i is also the factor loading of the items. This table also shows the measurement errors(δ_i) of exogenous observed variables and the measurement errors(ε_i) of endogenous observed variables. ***, ** and * indicate significance at the 1, 5 and 10 percent levels respectively.*

Table 7：Composite Reliability of Latent Variable of the Amended Model

Latent Variable	Composite Reliability
Conscientiousness	0.70
Agreeableness	0.65
Extraversion	0.77
Openness to Experience	0.72
Neuroticism	0.92
Task Performance	0.73
Contextual Performance	0.73

This table shows the reliability indexes of latent variables in the structural equation model of the personalities and work achievement in 384 life insurance salespersons in Taiwan. Bagozzi and Yi (1988)suggest that the value of the reliability indexes of latent variables is equal to 6 or above.

Table 8：Test Indicator of Overall Fit of Hypothetical Model

Fit Indicator	Statistics after Amendment	Fit Indicator	Statistics after Amendment
Absolute Fit Indicator	CFI		0.952
χ^2 value (df) (Significance)	399.5(231) (0.000***)	IFI	0.952
GFI	0.922	PNFI	
AGFI	0.899	PNFI	0.748
SRMR	0.027	PGFI	0.71
RMSEA	0.044	Normedχ^2	1.729
Absolute Fit Indicator			
NFI		0.89	

This table shows the indicator of overall fit. It includes absolute fit measure, incremental fit measure, and parsimonious fit measure. Absolute fit measure is composed by goodness of fit index(GFI), adjusted goodness of fit index(AGFI), standardized root mean square residual(SRMR), and root mean square error of approximation(RMSEA). Incremental fit measure is composed by normed fit index(NFI), comparative fit index(CFI), and Incremental fit index(IFI). Parsimonious fit measure is composed by parsimonious normed fit index(PNFI), parsimonious goodness-of-fit index(PGFI), and normed chi-square

The results above indicate that conscientious, agreeable, extravert, and neuroticism relate to work achievement where task performance and contextual performance are positively influenced by conscientiousness. A conscientious person appears hardworking, responsible, self-disciplined, achievement-oriented and in-depth thinking. They have better efficiency in the work assigned within the official position in an organization, have more contribution to the core organization skills, and have better task performance. A conscientious person has the passion and perseverance to complete tasks successfully, works together with others, recognizes the organization's target, volunteers to complete non-official duties and has better contextual performance. An agreeable person has features of being willing to follow, gentle, modest and helpful and will be more able to work with and help others.

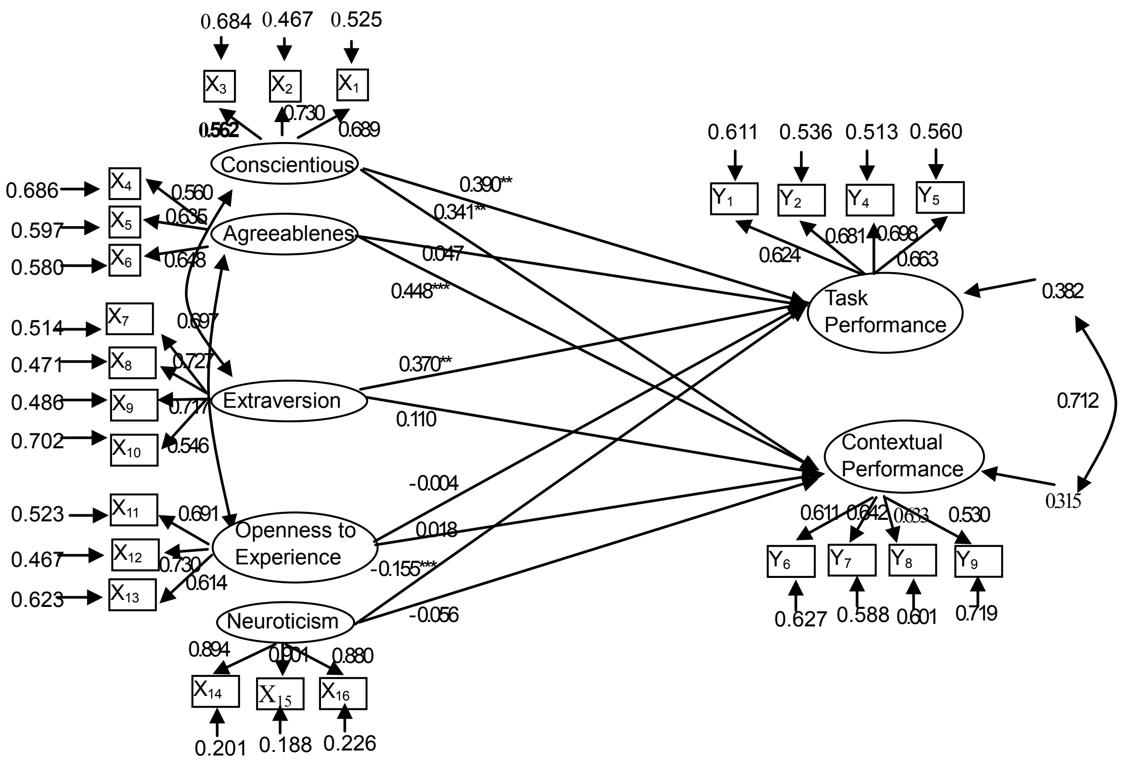
People fitting this profile are willing to sacrifice their interests to follow the rules and procedure of the organization and to volunteer to participate non-official activities of the organization. They are also more likely to win the trust of customers and establish interpersonal relationships with customers because of their empathy and have better contextual performance. Extraverts are active and confident and like to perform. So they show their activeness in official positions and their task performance is also relatively higher. Neurotic people easily feel anxious, nervous, upset and lack of a sense of security so they are more likely to be nervous and anxious when interacting with official persons. Their task performance is lower. Hence, neurotic people have negative influence on task performance.

CONCLUSION

The research results show a reciprocal influence between age and the annual income of the salespersons and the work achievement. With annual income above NTD$ 1.2 million, people from 41 to 50 years of age have greater contextual performance than those from 31 to 40. People between 41 and 50 years of age have good and stable income, well-connected interpersonal network, abundant work experience, recognition of the goal of insurance organization, great passion and negotiation capacity, attention to team work, and establishment of reciprocal relationships with colleagues so their contextual performance is better than those aged 31 to 40.

The reciprocal effect by education level and industrial experience also exists in task performance and contextual performance. People working as life insurance salespersons for under 3 years with education level of junior college or above exceed the performance of people who hold senior high school or vocational school degree in task performance and contextual performance. This result suggests the education level of people who work less than three years in an industry can accentuate its relationship with performance because of their lack of work experience. Work experience can make up for insufficiency of education level for those with more than 3-years of experience. As a result, the influence of education level on work achievement descends and becomes less significant. Conscientiousness is a must in the personalities of an outstanding salesman. Life insurance salespersons need to keep in touch with customers and provide good after-sale service as well as to reflect on customer feedback and actively market the company.

Figure 1 ： Amended Model



*This figure shows thee structural equation model of the personalities on work achievement of 384 life insurance salespersons in Taiwan. The regression coefficients of observed variables on latent variables(the factor loading of the items) are over 0.5. This figure shows how the personalities explain the task performance ◦ ***, ** and * indicate significance at the 1, 5 and 10 percent levels respectively.*

The salesman him/herself should be perseverant, meticulous, and a careful thinker. They must also organize and plan products, be strongly goal-oriented, set sales goal, and be self-motivated. Hence, he/she can deliver in task performance and contextual performance. Extraversion is a must personality trait for insurance salespersons. Life insurance salespersons need not only keep current customers but must develop new ones so they need to keep in touch with their customers and keep good relationship with them. Extravert salespersons show active attempts to achieve the company business goal, provide after-sale service, and establish the long-term trust with customers. Agreeableness in personalities can smooth the development of life insurance business. In order to maintain the relationship with customers, life insurance salespersons need to have ordinary conversations with and send regards to customers in addition to the usual business contacts. This can make customers feel warm and that they are valuable. Salespersons should be empathetic and give a warm impression so the promoting and the development of business is easy and the contextual performance increases correspondingly.

Life insurance salespersons must control emotions. Life insurance salespersons have many contacts with people and frequently interact with people over a long period of time. They are often rejected when they pay a visit to customers or try selling insurance products causing frustration. The customers they meet can vary requiring the salesperson to be adaptable. Insurance salespersons work under great pressure. Because of these factors it is important to select salespersons with ideal personalities.

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CONSUMER ATTITUDE TOWARD PRODUCTS MADE IN GHANA

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ABSTRACT

The attitude of people living in a particular country towards the goods and services produced within that country is a key determinant of the economic growth and development of the country. This study investigates the attitude of respondents towards made in Ghana products. A sample including 500 randomly selected individuals were surveyed using a structured questionnaire. The results show that although there is some element of ethnocentrism among respondents; they are not highly ethnocentric. Industries in the country are advised to increase the quality levels of their products, reduce their prices and make available more products to compete favorably with imports.

JEL: **M31**

KEYWORDS: Consumer, Ethnocentrism, Attitude, Domestic, Foreign Goods

INTRODUCTION

Ghana as a developing country is working hard to become a middle income country by the year 2020. This is a step in the right direction toward competing favorably with the rest of the world and bettering the lot of its citizens (www.ghana.gov.gh). In a quest to become a middle income country, Ghana cannot rely on other countries for a large chunk of products to feed the domestic market. Most developed countries have achieved their objectives by depending on local production and government campaigns in support of the consumption of domestic goods (Elliot & Cameron 1994). The level of commitment to local products depends to a large extent on ethnocentrism (Sciffman & Kanuk, 1997).

The Ghanaian government has suggested the concept of national orientation. The first of the five concepts and pillars of this orientation is 'Proud to be Ghanaian'. This concept emphasizes the need for Ghanaians to take pride in their national heritage and in those things Ghanaian and patronize made-in-Ghana products (www.ghana.gov.gh).

National and International markets recognize that consumers have either positive or negative feelings towards products depending on how they perceive quality, accessibility, security, warranty, goodwill and some other factors (Watson & Wright 2000). There is also an issue of positive and negative bias. Negative bias appears in the form of a dislike for foreign products (Shimp & Sharma 1987). Consumers may also have positive bias towards products. This has to do more with products that are coming from countries that are culturally similar to the home country (Heslop et at 1998, Lantz & Loeb 1996). There is evidence to support the fact that products made from developed countries, particularly the Western world are of superior value to those produced in developing countries (Bilkey & Nes, 1982**).**

This paper explores consumer ethnocentrism in Ghana by investigating consumers' attitude towards made in Ghana products. The measure of ethnocentrism used indicates the extent to which consumers favor locally-made over competing foreign products. The specific objectives of the study were to determine the attitude of consumers towards made in Ghana products; to find out whether consumers would buy made in Ghana goods if there were superior foreign substitutes; to find out the reasons behind preferences for made in Ghana goods; to identify why some consumers do not buy made in Ghana goods and to find out whether government campaign or education on "buy made in Ghana goods" has had positive impact on the attitude of consumers towards made in Ghana products.

The remainder of the paper is organized as follows. In the next section a literature review is provided. Next the research methodology is presented. The following section discusses the results. The paper closes with some concluding comments and recommendations.

LITERATURE REVIEW

Ethnocentrism refers to the idea and belief that products or items from one's ethnic environment are superior to others. Marketers therefore distinguish between consumer segments that are likely to be receptive to foreign-made products and those which are not. Highly ethnocentric consumers are likely to feel or think that it is wrong or inappropriate to purchase foreign-made products because of the economic impact on the domestic economy. Non-ethnocentric consumers tend to evaluate foreign-made products more objectively for their extrinsic characteristics (Schiffman & Kanuk 2007).

Ethnocentrism is represented by intense preference for products that are made within the home country. Consumers become ethnocentric as a moral obligation. Ethnocentrism is the tendency for consumers to show a favourable predisposition toward locally made products vis a vis overseas made products (Sharma & Shimp 1987). Ethnocentric consumers believe that it is inappropriate, immoral, unpatriotic and disloyal to a nation to buy foreign-made products in place of domestic–made products. Ethnocentric consumers exhibit a greater preference for locally made products in purchase decisions in which a domestic alternative is available (Watson & Wright 2000). Brodowsky (1998) indicates that highly ethnocentric consumers are prone to biased judgement by being more inclined to focus on positive aspects of domestic products and to discount the virtues of foreign made products.

Netemeyer et. al. (1991) made mention of the fact that ethnocentric individuals view their group as superior to others. For this reason they view groups from the perspective of their own, and reject those which are different while accepting those which are similar. Purchasing foreign products may be viewed as improper because it costs domestic jobs and is inimical to the domestic economy. The purchase of foreign made products is tantamount to unpatriotic behaviour. Vida and Dmitrovic (2001) are of the view that consumer ethnocentrism gives individuals an understanding of what purchases are acceptable to the in-group, as well as feelings of identity and belonging. For non-ethnocentric consumers or polycentric consumers, products are considered on their own merit exclusive of national origin, or possibly even viewed more positively by reason of the fact that they are not locally made.

According to Maheswaran (1994), the way consumers judge products is influenced by the products' country of origin. In other words, the country of origin of products has a strong influence on ethnocentrism. Consumers' attitude to foreign products may be positive or negative depending on which country it is coming from. Consumers tend to have stereotypical ideas about products and people of other countries and real product evaluation are almost always influenced by country stereotyping (Bilkey & Nes, 1992).

Brodowsky (1998) studied consumer ethnocentrism in the USA among car buyers. The study revealed that there was a strong relationship between high ethnocentrism and country-based bias in the evaluation of automobiles. Consumers who are less ethnocentric appeared to evaluate automobiles based more on the merits of the actual automobile rather than the country of origin. Brodowsky (1998), therefore, was of the view that understanding consumer ethnocentrism is very critical to the understanding of country of origin effects.

Other studies have revealed several antecedents of consumer ethnocentrism. Studies by Balabanis et. al. (2001) and Good and Huddleston (1995) have demonstrated that young, male, well educated consumers as well as those with higher income levels tend to be less ethnocentric.

Cultural prejudices as well as historical activities of some countries account for negative biases towards products coming from such countries. Schiffman and Kanuk (2007) intimates that some older American consumers have negative bias towards German made products because the role of Germany in World War II is still fresh in their minds.

Colonialism has played no small role as far as ethnocentrism is concerned. In most African countries, where almost all were once colonies of Western Countries, there is still the tendency for consumers to prefer buying products from Western countries. During the colonial days; raw material were sent to the colonial masters from the colonies for the manufacturing of products. These products were sent back to the colonies. This practice hasn't changed much since most African countries and Ghana for that matter are yet to fully industrialise. This, as a result, has created an inordinate preference for Western products and/ or foreign made products. Shimp and Sharma (1987) suggest that opportunities to interact with other cultures, including people and artefacts of other cultures may reduce cultural prejudice and thus the level of preference for locally made products.

Globalization has become a very popular and important term today in the world of trade and business. One expected that globalisation would bring to an end barriers to world trade. Despite globalisation, barriers to foreign markets remain. One of such barriers is ethnocentrism. Shimp and Sharma (1987), therefore, suggest that with increased nationalism and heavy emphasis on cultural and ethnic identity, consumer ethnocentrism will be a potent force in the global business environment now and the future. At the dawn of the twenty-first century, the world is experiencing a concurrent rise in two major forces: nationalism and globalization (Balabanis et. al., 2001).

International trade activity is becoming a central part of the world economy, and it is recognized that there is a greater necessity to gauge consumers' attitudes toward both domestic and foreign products (Netemeyer et al., 1991). Globalization presents considerable challenges and opportunities for international marketers. The relaxation of trade policies has provided consumers with more foreign product choices than ever before. Consequently, their attitudes toward products originating from foreign countries have been of interest to international business and consumer behaviour researchers for decades (Wang and Chen, 2004)

RESEARCH METHODOLOGY

The study selected the Kwame Nkrumah University of Science and Technology (KNUST) community as the study area. The population consisted of current students of the University. A sample size of 500 was selected. Respondents were randomly selected. The main instrument used in collecting data was structured questionnaires. A questionnaire survey is cheaper and less time consuming than in-depth interview (Collis & Hussey 2003). Also considering the number of respondents involved in the survey, it was nearly impossible to embark on in-depth interviews. The questionnaires were made up of both open and close ended questions and were designed in such a way that they were self explanatory. The study was done in the latter part of November, 2009.

In all, Four Hundred and Seventy-Seven (477) questionnaires were returned and all were usable given a response rate of 95.4%. The study mainly employed qualitative methods, but also integrated quantitative methods of data analysis. Thematic analysis was employed to evaluate qualitative data, while descriptive statistics comprising simple percentages were used for the quantitative data.

RESULTS AND DISCUSSION

Consumers' attitude towards goods and services is of critical importance to marketers (Schiffman & Kanuk, 2007, Sheth et.al., 1999). Attitude in this context refers to whether consumers consciously or advertently look for the country of origin of products. High ethnocentric consumers look for the country of origin and make purchase decision in favour of those products made in their own country (Maheswaran, 1994). Less ethnocentric consumers do not concern themselves with product origin but purchase decisions are objectively made; more often in favour of foreign products (Sharma & Shimp 1987). Data collected indicate that 44% of respondents look for the country of origin before they buy products and their purchases are made in favour of made in Ghana products. Their attitude towards made in Ghana products is, therefore, positive. On the other hand, 56% of consumers do not consciously make purchase decision in favour of products made in Ghana. This category of consumers are, thus, less ethnocentric. This does not argue well for a developing country like Ghana. For an emerging economy like Ghana, it will take high ethnocentric consumers who make conscious buying decisions in favor of goods and services made in Ghana before considering those made elsewhere (Elliot, 1994).

Related to the above is the issue of whether consumers would buy made in Ghana products if there were superior foreign substitutes. The results indicate that 66% of respondents as against 34% were not ready to buy made in Ghana products if there were superior foreign substitutes. The reason behind this attitude is that generally consumers will look for products that are of good quality since quality has a direct link with customer satisfaction (Kotler & Keller 2009). For consumers to be highly ethnocentric there is the need for the products made in the country to be of good quality (Sheth et. al., 1999). Consumers look for products that will give them the benefits desired (Kotler 2003). Vida and Dmitrovic (2001) are of the view that if consumers believe that foreign products will give them more benefits than those made in their own country, purchase decisions will more often favor of foreign products. The only exceptions are those consumers who are highly ethnocentric who may make decisions in favour of local products despite their deficiency in quality (Watson & Wright 2000, Maheswaran, 1994). However, as indicated earlier, this category of consumers in Ghana are not in the majority.

The study further delved into the reasons why some consumers buy made in Ghana products. Various reasons were given by the respondents. Top on the list is patriotism (34%). The other reasons with their respective percentages were quality (30%), affordability (17%), safety (0%), uniqueness (8%) and environmental concern (1%). This corroborates the study of Balabanis et. al. (2001) who found determinants of consumer ethnocentrism vary from country to country and culture to culture. However, in collectivist cultures like Ghana, patriotism becomes an important factor. Quality, the next important factor is defined simply as freedom from defect and the ability of the product to perform what it is supposed to do (Kotler 2003). It is also described as the ability of the product to satisfy stated or implied needs (Kotler & Keller, 2006).

Quality is important because consumers buy benefits and not just products. Consumers desire products that meet their expectations and will not sacrifice quality. This explains why the percentage of quality is higher than that of affordability. In a developing country like Ghana where incomes are lower, one would expect that affordability would be the main reason for buying local products. However, this was not the case. This explains that quality is more important to customers than affordability (Blythe, 2009).

Just as some consumers have reasons for buying made in Ghana products; others have reasons for not buying made in Ghana products as the results indicated. The factors were, non availability (1%), poor packaging (17%), poor quality (59%), health reasons (4%) and relatively expensive (19%). On top on the list is poor quality. Consumers want to have their monies worth. As stated earlier, consumers buy benefits and not just products. High ethnocentrism thrives on the production of good quality products that compare favorably with imports (Damanpour, 1993; Eliott & Cameron, 1994; Herche, 1992). Affordability is of great importance to consumers (Kotler and Keller 2006, Jobber 2007) in the developing world and Ghana for that matter where income levels are low. It therefore stands to reason that, consumers in Ghana may want to be patriotic by patronizing goods made in the country; however, if prices of foreign goods are lower than those produced in the country, patriotism will be sacrificed for affordability. Products that appeal to the aesthetic sensibilities of consumers enjoy good patronage (Kotler and Keller 2006). This is very important as 17 per cent of the respondents did not buy made in Ghana products because of poor packaging. However good a product is in terms of quality, it must appeal to the eyes of consumers to enjoy good patronage (Jobber, 2007; Sheth et. al., 1999).

Most countries of the world that have developed high ethnocentric consumers through an effective government campaign and sometimes with the help of industry (Ettenson et. al., 1988; Elliot 1994). Therefore, the campaign of the Ghanaian government on "buy made in Ghana goods" is a step in the right direction. However, there is the need to investigate how this has influenced consumer attitudes towards made in Ghana products. The studies of (Elliot & Cameron, 1994; Garland et. al. 1991) indicate that national campaigns are launched with the intention of generating a patriotic bias for buyers to select domestically manufactured products relative to foreign products and thus increase the sale of domestic products. The Study found out that 84% of respondents as against 16% were aware of the Government of Ghana's campaign. Out of this number, 56% said the campaign had positively influenced their attitude towards made in Ghana goods. Forty-four percent (44%) on the other hand said the campaign had not influenced their attitude towards made in Ghana goods in any way. The latter percentage is on the higher side given the fact that they are aware of the campaign. There may be some reasons why these respondents are still not changing their attitude towards made in Ghana goods. The issue of quality comes into play. Some still consider foreign goods to be of superior quality (Bilkey & Nes, 1982**)**. These are less ethnocentric consumers who make purchase decisions in favor of goods they think will give them the maximum satisfaction regardless of whether they are from abroad or domestically manufactured (Sciffman & Kanuk 1997).

Another point worth mentioning is the fact that the campaign will have to do more than it has currently done. The study further investigated how respondents become aware or heard about the campaign. It became clear that television (TV) commercials are the most influential medium followed by radio, newspapers and others. Consumers prefer TV commercials because of its power of audio visuals. The reason for the likeability of TV commercial is the fact that it is active (Blythe, 2008). Its audio-visual nature and wider reach also accounts for the likeability of TV commercials (David & Lomax, 2008). When consumers watch television, they tend to be a "captive" audience absorbing whatever is shown (David & Lomax, 2008).

CONCLUSION AND RECOMMENDATION

The main objective of this study was to determine the attitude of consumers toward products that are made in Ghana. A structured questionnaire was used to collect data from 500 respondents. It was found out that attitudes of Ghanaian consumers towards made in Ghana goods is not at a level that will help boost local production. Countries need their citizens, particularly countries of the developing world, to be highly ethnocentric in their attitude toward local goods. This can be achieved through the encouragement of local industries to improve the quality of their products to compete favorably with those from other parts of the world.

It is, therefore, recommended that industries in the country be encouraged to increase the quality levels of their goods to compete favorably with those from abroad. The industries should also find ways to reduce their cost of production in order to reduce the prices of their products to levels competitive with those coming from abroad. Production levels should also increase especially with regard to food and electronic goods to reduce customer reliance on imported food and electronics. The government of Ghana should revamp its campaign of "buy made in Ghana goods" and industries must join hands with the government in this direction. There should be effective use of TV and radio to educate and sensitize the citizenry on the need to patronize made in Ghana goods since it has a direct link on economic development of the country.

This study is not without limitations. First, studying consumers in Ghana as a whole demands taking a larger sample than the 500 used in this study across all the ten regions of Ghana. Moreover, the study is limited to tertiary students. The results could have been different if other consumer categories were involved. For future research, it is recommended that product category be incorporated as a basis for measuring consumer attitudes as consumers may have different attitudes toward different products.

APPENDIX

QUESTIONNAIRE

This questionnaire seeks to solicit data about the attitude of Ghanaian towards products made within the country. The data collected will be used for academic purpose only. Please answer the following questions by ticking or providing your own answers where applicable:

1	Sex	Male	Female				
2	Age	18-25	26-35	37-45	46-55	55 and above	
3	Education	No Formal Education	JHS	SHS	Degree/ HND	Master	Other, Please Specify
4	Do you intentionally buy made in Ghana goods?					Yes	No
5	Please give reason(s) for your answer above						
5	Which type of made in Ghana products do you buy		Electronics	Food	Garment	Cosmetics	Other, please Specify
7	Would you buy a made in Ghana product if there is a foreign substitute that is superior in quality?					Yes	No
8	Have you heard about the government's campaign on 'buy made in Ghana goods'					Yes	No
9	How did you hear about the campaign?					Yes	No
10	Has the campaign in any way positively influenced your attitude towards made in Ghana goods					Yes	No
11	Do you intentionally buy foreign-made products?					Yes	No
12	Give reasons for your answer above						

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INTERNATIONALIZATION OF CHINESE EXECUTIVES

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ABSTRACT

Over the last two decades, Chinese nationals have increasingly been employed by multinational companies (MNCs) operating in China taking positions previously occupied by foreign expatriates from investor countries. The development of local managers has therefore become crucial in the field of human resource management because the success of these companies depends greatly upon the ability and competence of their executive management class. The present paper addresses the issue of how to develop Chinese executives working in MNCs into a source of sustained competitive advantage. Empirical research was carried out among ten MNCs in China using a resource-based view (RBV) approach. Based on the findings, we propose concrete measures for improving the current skills of Chinese executives and develop new skills.

JEL: F23; M12; O15

KEYWORDS: Chinese executives, Competitive advantage, Internationalization, Resource-based view, Turnover

INTRODUCTION

Foreign direct investment in China has increased noticeably since the 1990s as a result of the country's integration into the world economy and the increase in domestic purchasing power. Despite the current global financial crisis, China has not lost its attraction for FDI. In fact according to the survey on investment for the period 2010 to 2012 (2010-2012 *World Investment Prospects Survey*) presented in 2010 at the *World Investment Forum* organized by UNCTAD (*United Conference on Trade and Development*), China remains the most popular worldwide destination for foreign direct investment (Zhou, 2010).

The continual inflow of FDI has brought about an increase in the number of multinational companies which have set up in China. In these companies, over the last few decades increasing numbers of local Chinese executives have being employed to replace foreign expatriates from the investor countries. The development of local managers has therefore become crucial in the field of human resource management because the success of these companies depends greatly upon the capability and competence of their executive management class. As a result, how to develop Chinese executives into a source of sustained competitive advantage has become a hot issue in MNCs.

The paper is organized as follows: The relevant literature is discussed in Section 2. The research sample and methodology are presented in Section 3. Section 4 gives the empirical results. The empirical findings are discussed in Section 5. The last section concludes the paper.

LITERATURE REVIEW

The resource-based theory of management (*Resourced-based View*), an economic tool used to determine strategic resources available to a company, is founded on the belief that the basis for sustained competitive advantage lies in the utilization of a variety of valuable resources at the disposition of a company (Wernerfelt, 1984). According to Barney (1991), there can be heterogeneity of firm-level differences among firms that allow some of them to sustain competitive advantage. The resource-based view of management puts its emphasis on identification, development and deployment of key resources in order to maximize returns.

According to Hofer and Schendel (1978), resources within a company can be divided into several different categories:

Physical resources: equipment, localization, access to raw materials.

Human resources: training, experience, judgment, decision-making skills, intelligence, networks, knowledge.

Organizational resources: company culture, formal reporting structures, monitoring and control systems, coordination systems, informal networks.

Technological resources: patents, intellectual property rights.

However, not all resources are able to generate sustained competitive advantage. Some of the four resource categories outlined have tangible characteristics and others have non-tangible characteristics. Generally speaking tangible resources are usually easy to identify, imitable and therefore not strategically competitive. Barney (1991) goes on to state that only resources which meet VRIN criteria are able to generate abnormal economic rent. These resources fall into the following categories:

Valuable: resources which enable a firm to implement strategies to outperform its competitors.

Rare: resources which are not commonplace amongst competitors.

Imperfectly imitable: resources which are difficult to replicate because of their unique historical conditions, causal ambiguity and social complexity.

Non-substitutable: resources which are unique in the sense that there is no other resource with an equivalent strategic value which itself is not rare or imitable.

Amity and Shoemaker (1993) add a few other criteria to the VRIN mix: longevity, non-transferability and being specific to the firm. They make the distinction between resources and capabilities, and conclude that resources are transferable and not specific to a company whereas capabilities are specific to a company and are used to develop the internal resources of the company.

A resource cannot generate sustained competitive advantage if it is tradable. Competitors can buy this resource and use it in the same way (Dierickx & Cool, 1989). Nor is a transferable capability which is not specific to a company, able to generate competitive advantage for the capability can be transferred via recruitment to another company (Amit & Schoemaker, 1993).

Amongst the different resources discussed above it would seem that the most important are human resources. The rare resource in the current environment is not capital anymore because capital is, after all, something which can always be achieved by appealing to the relevant markets, or technological advantages which will be quickly superseded in any event. The rare resource is man himself: his creativity, initiative and knowledge (Bartlett & Ghoshal, 1999). Human resources play a vital role in the generation of business profitability. Being an intangible resource characterized by social complexity and causal ambiguity, human resources are the most likely of all resources to generate competitive advantage (Hitt, et al, 2001). In other words, knowledge, capability and capacity – the constituent parts of the human resources are the things which will determine the success and survival of a business. Companies have a vested interest in identifying and developing human capital within their workforce in order to create sustained competitive advantage and competencies particular to their business.

RESEARCH METHODOLOGY

Our study has used resource and capability theory to carry out an empirical and exploratory study involving 10 multinational companies currently operating in China. The aim of the study is to assess the state of the Chinese management executive class against academic criteria used to determine competitive advantage to ascertain whether or not this resource can truly generate sustained competitive advantage. Using the results obtained, we then put forward proposals for future development.

The companies involved in our research have been operating for more than a decade in China (See table below). All of them employ Chinese executives in various different functions. Our interviewees are either HR directors or people in charge of the representative offices of MNCs in China. We selected them on the basis of their direct involvement in the decision-making processes connected to the management of staff.

Table 1: Characteristics of 10 companies interviewed

	Business industry sector	Size in China	Length of time company operational in China
Case 1	Automobile	10 000	+20 years
Case 2	Automobile	43	+ 20 years
Case 3	Energy	1 000	+ 20 years
Case 4	Energy	250	+20 years
Case 5	Construction materials	12 200	+ 20 years
Case 6	Food packaging	350	+10 years
Case 7	Retail distribution	39 600	+10 years
Case 8	Retail distribution	40 000	+ 10 years
Case 9	Hotel chains	16 000	+ 10 years
Case 10	Aviation	300	+ 40 years

This table shows some of the main characteristics of the 10 multinational companies interviewed. These companies conduct business in seven different sectors in China: automobile, energy, construction materials, food packaging, retail distribution, hotel, and aviation. The size of the companies vary significantly from 43 employees to 40 000. All of them have been operating in China for a considerable length of time, from 10 to 40 years.

In order to get detailed and in-depth knowledge we carried out qualitative research using the technique of semi-structured interviews. This method allowed us to look beyond the statistics produced and to get a more profound understanding of underlying causes. We were also able to have open and wide-ranging discussions with the individuals interviewed and so obtain clarification or further information on some points. Each interview was on average 1 hour long.

EMPIRICAL RESULTS

The body of managerial talent within multinationals in China - made up of both expatriates and Chinese executives - is an intangible resource capable on the face of it of generating a source of sustained competitive advantage. Measured against the criteria for competitive advantage developed by Barney, Amit and Shoemaker, our study reveals that in reality, currently, in the majority of multinational companies, transforming Chinese executives into a source of sustained competitive advantage has not yet been achieved. This statement is based on the following observations.

Firstly, the potential for value added that local executives are able to bring to a business has not been sufficiently developed. Although Chinese management personnel are a valuable resource - particularly in the development of the local market, their potential has not yet been fully exploited and returns on investment have not been maximized. In fact, in the majority of cases, up until now the management positions occupied by local executives have tended to be more operational than strategic or supervisory, and their exposure has been limited to the local market.

There was a general consensus of opinion amongst the 10 participating companies that strategic management and supervisory positions were considered to be key posts and that such positions had a considerable and decisive impact upon business performance in China. With the exception of the companies featuring in case B and C, regional headquarters have been set up in China; however, in all but one of these companies, the general management of the headquarters is carried out entirely by French executives. In the case of the exception-Case F, the regional director is American of Taiwanese extraction.

In relation to supervisory management roles e.g. individual unit management (factory, shop or hotel) and financial management, 4 characteristics were observed. Firstly, these positions are mostly occupied by French nationals. Secondly, when a post such as financial controller is actually transferred to a Chinese executive, the incumbent continues to be monitored by a French executive manager - often the Director General. Thirdly, in the area of financial control more overseas Chinese or Chinese returnees from overseas are employed than Chinese local hires. Finally, we observed that localization of these positions was more likely to take place when the company established a regional headquarters or a holding company within China able to oversee the business operation on the ground.

Secondly, Chinese executives are rare but transferable. In the Chinese employment market, the imbalance between supply and demand means that foreign and national companies are competing for local executives in the same small pool of managerial talent. Some smaller companies have noted a turnover rate in excess of 30% but even the larger multinationals are not immune from the phenomenon. L'Oreal, which employs some 3.000 in China, reports a turnover rate amongst its marketing staff of 15 % (Jakouiller, 2006). Our study data reveals turnover rates of anywhere between 3 and 30%. Despite having such a low staff turnover rate themselves, the two companies which reported only a 3% turnover rate recognize that turnover is a real concern. The threat comes mostly from Chinese local companies which are going through structural reorganization and modernization.

When an executive moves from one company to another, his knowledge goes with him to the new employer.

Thirdly, the knowledge possessed by Chinese executives is not specific to a particular company. All the companies interviewed have acknowledged employing local executives primarily for their intimate knowledge of local markets and for their network of professional and personal contacts. However, although this knowledge is vital and contributes significantly to the success of a company in the Chinese market, this type of knowledge is not specific to the business because it can be used in and by other multinationals (Tan & Mahoney, 2006).

DISCUSSION

Given the current state of local management staff, the development of local managers into a sustained competitive resource has therefore become a crucial consideration in the field of human resource management. Our study indicates that the internationalization of Chinese executives can be an effective solution which would both improve existing competencies as well as create new ones.

The term « internationalization » refers to the involvement of Chinese nationals across the whole spectrum of company activities both in and out of China. Two concrete measures are proposed: Firstly instead of sending local executives on short courses at company headquarters abroad for training and observation, a common practice in the majority of companies, individuals showing particular potential should be given posts of responsibility at company headquarters and be based there for a significant period of time. This experience would enable executives to get an in-depth understanding of the way the company works, to be immersed in the organizational culture and to establish a network of working relations at headquarters. The aim is to get them out of their subsidiary cocoon-like mentality and help them acquire an increased understanding of the company's operations generally on a widespread global scale. Secondly, instead of confining them to the local market, once an employee has worked with the company for several years, they could be offered a variety of different posts, in a variety of overseas company locations. This particular measure would be designed to increase a sense of global cooperation and coordination between different operations of the company worldwide. The benefits of internationalization are numerous.

Firstly, internationalized local talent will become a more valuable resource. The knowledge accumulated and skills acquired through the process of internationalization are vital not only for the Chinese operation of the company but also for other company bases located outside China throughout the rest of the world. Armed with these new skills, executives are more able to take on strategic management positions within China or overseas. In addition, the process of internationalization of Chinese executives is also beneficial for the personnel at company headquarters for Chinese experiences provide them with the learning opportunities about the Chinese market. Working with Chinese managers enriches their knowledge of intercultural management. As a result, the improved knowledge and competence can stimulate more pertinent reflections in the development of global strategies of the company.

Secondly, internationalized local talent will become a rarer resource. At the current moment the internationalization of Chinese executives has not yet become a commonplace business practice in the majority of companies. Amongst the 10 companies interviewed, only 2 had started to introduce measures designed to encourage and foster internationalization and even then these initiatives were not being carried out in any formal or systematic manner. As a result of this lack of uptake on the ground, a company which elected to encourage internationalization initiatives would acquire the competitive advantage of being the first mover. Competent Chinese executives are already few in the Chinese employment market so to be an internationalized executive on top would make them a rare pearl indeed.

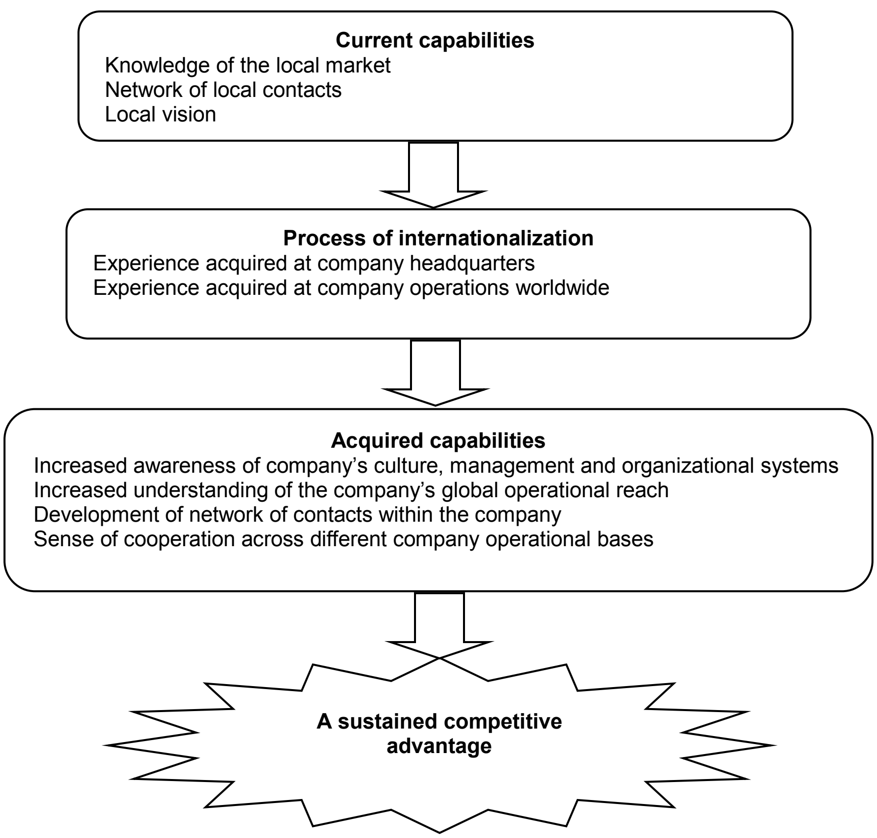
Thirdly, internationalized local talent will become an imperfectly imitable resource. Internationalization is a long and complicated process. An internationalized executive needs to have been exposed to a variety of experiences in a variety of roles throughout a variety of different countries worldwide. Several years are required to develop competent skills. As a result, internationalization enables a company to create a distinct competitive advantage, over a relatively long time scale, which would not be easily imitated by competitors. In fact it could take a considerable amount of time for competitors to catch up in this area.

Fourthly, internationalized local talent will become a non-substitutable resource. By the time Chinese executives have completed the process of internationalization within the company, they will have acquired a much wider vision and understanding of the company's activities, a more intimate knowledge of organizational functions and they will have established a network of internal contacts. These new and uniquely acquired skills are almost impossible to be replaced by other resources - either tangible or non-tangible.

Fifthly, internationalized local talent will become a non-transferable resource specific to the company. Throughout the whole process of internationalization, the knowledge acquired by executives of the operations of the business as a whole, the organizational culture of the company as well as the network of contacts accumulated, are specific to the particular company in question. This knowledge and these skills are not transferable to other companies which will have their own particular management methods, their own organizational structures and hierarchies as well as their own organizational culture and network of contacts specific to them.

Lastly but not least, internationalized local talent will become a non-tradable resource. Chinese executives who are internationalized will become a resource which is almost completely non-tradable. The whole process of internationalization requires considerable personal investment in terms of energy and time. This investment is irreversible. If they move to another company they lose a huge part of the economic value of their acquired knowledge, skills and contact network which is specific to the company (Becker, 1964; Williamson, 1975). This increases the turnover cost for Chinese executives themselves. Allegiance to the company is much greater upon completion of the internationalization process (Tan & Mahoney, 2006). Immersion in corporate life experienced from various different vantage points enables executives to gradually identify with the company. As a result a strong allegiance to the company is developed. Finally, several years' stay in the company is needed to complete the internationalization process, Previous research indicates that seniority has a negative link to staff turnover rates e.g. the longer a person stays in a company, the smaller the chances are that he will leave the company for another (Mobley, 1977, Simmons, et al, 1997). To summarize, a figure is set up below to illustrate the link between the development of sustained competitive advantage and internationalization amongst Chinese executives.

Figure 1: Development of Sustained Competitive Advantage through the Process of Internationalization



This figure shows the link between the development of sustained competitive advantage and internationalization amongst Chinese executives. The process of internationalization through accumulation of managerial experience at headquarters and in other operations outside China helps improve the current skills of Chinese executives and develop new ones as well thus enabling them to become a source of sustained competitive advantage.

CONCLUSION

Our empirical study leads us to conclude that currently in the majority of cases Chinese executives employed by multinationals have not yet really achieved sustained competitive advantage in line with the resource-based view. The aim of this current research paper is to show the need for and benefits of the internationalization of Chinese executives. This measure would not only improve existing capabilities but also create new ones so that Chinese executives can be developed into a resource which is valuable, rare, imperfectly imitable, non-substitutable, non-transferable, non-tradable and tailor made to a specific company.

The importance of internationalization as a human resource management practice is also supported by Huselid, Jackson and Schuler (1997). They make a distinction between technical and strategic practices in human resource management, and emphasize that practical techniques in the field of recruitment and training both effect and influence business performance. If employees of high caliber are selected and trained in a different way to their competitors, resource heterogeneity within a company can be achieved as a result. The heterogeneous nature of resources is key to transforming a short-term advantage into a sustained competitive advantage (Barney, 1991). The process of internationalization of local management talent -largely overlooked until now by the majority of multinational corporations, offers a way for companies to create novel business solutions to help them stand out from the crowd at the same time as adding value in the current highly competitive market.

Our study also reveals that despite recognition on the one hand that the internationalization process is beneficial for both individual employees and the company as a whole, it is still not commonplace practice amongst multinational corporations in China. Our interviewees indicated that there are 3 main reasons for this reluctance. Firstly, the process of internationalization requires considerable input in terms of time and financial resources and the returns are not immediate or easily quantifiable and identifiable. Secondly, the Chinese market is so culturally special that the company relies on local managers for daily activities. Finally, sending Chinese executives to work either at company headquarters or in company bases elsewhere worldwide can be a very complicated bureaucratic procedure particularly if the company involved is a joint venture in which the 2 partnership entities don't share the same vision or management practices.

How best to plan and organize the process of internationalization, and how to balance the need for immediate results with long-term interests will be investigated in the next stage of our research.

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THE BRAND IMAGE OF A SMALL ISLAND DESTINATION: THE CASE OF MAURITIUS

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ABSTRACT

It is acknowledged that brand image has an impact on the behavior of individuals. It influences the tourists' pre-purchase decision-making behavior where destinations with stronger images are more likely to be selected. Brand image also influences post-purchase decision-making including evaluation and future behavioral intentions. Furthermore, brand image is also essential for the destination to ensure a strong positioning in the competitive business environment. Despite the growing body of work on brand image, there is scant empirical evidence on the topic especially regarding small island destinations. This paper builds upon an existing research that was carried out on tourists' perspectives of the brand image of the small island of Mauritius. The purpose of this study is to determine if this small island destination benefits from a strong positioning through its brand image attributes. Strong and weak brand image attributes are identified and implications discussed.

JEL: M31

KEYWORDS: attributes, brand image, destination, Mauritius, positioning, tourism, word-of-mouth

INTRODUCTION

Destination marketers are striving to promote and position their respective destination by creating positive images in the minds of tourists to select their destination ahead of others. Ongoing developments in the tourism industry, competition among tourist destinations, changing customer expectations and habits are factors that have urged tourist destinations to be conceived as brands since they have to be managed in a strategic manner in order to be successful (Beerli and Martin, 2004). The brand image of destinations is essential due to three main reasons. Firstly, brand image influences the tourists' choice of the holiday destination. It represents tourists' "mental picture formed by a set of attributes that define the destination in its various dimensions" and "exercises a strong influence on consumer behaviour in the tourism sector" (Beerli and Martin; 2004: 623). Tourists usually lack information about destinations they have not previously visited and hence destinations with stronger images are more likely to be chosen. Secondly, brand image influences post-purchase decision-making behaviours including evaluation (satisfaction) and future behavioural intentions (Bigné *et al*., 2001; Chen and Tsai, 2007; Chon, 1990; Joppe *et al*., 2001).

Thirdly, a strong brand image is essential for the destination to ensure a strong positioning in order to entice potential tourists. Destinations with a strong, coherent, distinct and recognisable brand image will create a positive opinion of the destination (Beerli, 1998) and will have a higher likelihood of being chosen. Mauritius, an island covering 1,860 square kilometres with 1,227,078 inhabitants is a well known holiday destination for beach-resort tourists. It is located in the Indian Ocean and lies 600 kilometres to the east of Madagascar. Tourism is one of the main pillars of the Mauritius economy. The recent marketing efforts of the government and Destination Marketing Organisation has contributed to create the brand image of Mauritius. The Government has recognised the importance of creating a destination brand and has assigned a budget of USD$ 10 million (340 million Mauritian Rupees) for the year 2008/2009 (Deloitte 2008) for developing the destination brand. However, due to increased competition among destinations, more efforts has to be placed in creating and maintaining a strong brand which has become a prerequisite for this small developing island wishing to compete amongst other international existing and emerging tourism destinations. Despite the growing body of work on brand image, there are limited studies on the brand image of Mauritius and small islands in general. Therefore, the aim of this study is to assess tourists' perceptions of the brand image of the destination. The paper discusses if Mauritius benefits from a strong positioning through its brand image attributes among European tourists and also identifies the strong and weak attributes of the destination.

This paper is organised as follows: Section 2 provides a review of the literature on brand image. Section 3 presents the methodology adopted in conducting the research including the focus group and the questionnaire design. Section 4 provides the results and Section 5 presents the discussion. The last section concludes the study.

LITERATURE REVIEW

Branding is one of the most important strategies in marketing but is relatively recent in its application to the tourism industry (Gnoth, 1998; Pritchard and Morgan, 1998; Cai, 2002). Aaker (1991) has proposed one of the most popular definitions of a brand where it is defined as a distinctive name and/or symbol such as a logo or trademark used to recognize the goods of one seller, or group of sellers, and to differentiate them from competitors attempting to provide similar products. Branding also ensures consumers of consistency in the quality of the product and consequently allows marketers to manoeuvre with a greater level of pricing freedom (Onkvisit and Shaw, 1989). Cai (2002: 722) defines destination branding as the selection of a "consistent element mix to identify and distinguish a destination through positive image-building". These mental pictures represent what tourists observe, feel and experience about the destination. Hankinson (2004) argues that destination images can be placed on a continuum. Firstly, organic images are developed over a long period of time. They emerge from the exposure of what the tourists derive from formal information sources such as newspapers, radio and TV news, documentaries, periodicals, dramas, novels, and non-fictional books as well as from classes on geography and history (Gunn, 1997). These organic images are replaced by induced images that are created by the efforts of destination marketers whose aim is to maintain, improve or change these organic images. The third stage of the spectrum consists of "experiential" images that develop after having experienced the destination. Images embody a simplification of a large number of associations and pieces of information linked to the destination or the holiday experience (Medway and Warnaby, 2008).

Brand image has been recognised as a key factor for consumers in selecting a destination (Baloglu and McCleary, 1999). It is acknowledged that tourists' selection of a holiday destination is founded on the degree to which the place generates favourable images (Goodrich, 1978; Gartner, 1989). Hence, image determines if a destination has the potential to satisfy prospective tourists (Pearce, 1982). A successful brand image should transmit a message that communicates the product's benefits (Ataman and Ulengin, 2003), emphasise the positive features of the destination, and differentiate it from other 'realities' by the presentation of tangible cues (Onkvisit and Shaw, 1989: 17). A strong and clear brand image can increase consumer confidence and convince consumers to purchase (Ahmed 1991). When there are several competing destinations, a clear and strong brand image enable destinations to occupy a strong positioning and entice customers to purchase. Brand image is therefore essential to the success of a destination (Leisen, 2001).

Destination branding is challenging because that just like products, destinations have become 'substitutable and difficult to differentiate' (Pike, 2005: 258). Hence, many destinations struggle to build a powerful brand (Prebensen, 2007), and are often unable to distinguish themselves from competitors. In order to become competitive, destinations promote specific attributes. Several studies have attempted to identify the brand image attributes of different countries (Embacher and Buttle, 1989; Echtner and Ritchie, 1993; Walmsley and Jenkins, 1993; Kozak and Rimmington, 2000). The empirical evidence shows that the brand image attributes of destinations may differ from one another. Destination should make a rigorous analysis of its image by combining together the different image attributes in order to develop a strong brand image and position the destination. As opposed to attributes, the term holistic image (Morgan, Pritchard and Pride, 2002; Hankinson, 2004) is used to express the overall image of the brand (Gartner, 1986). This is congruent with Ahmed (1991) who argues that evaluations of overall image and its attributes would be different; therefore, both should be measured to better understand the positioning of a destination.

METHODOLOGY

In this study, the perceptions-minus-expectations approach has been borrowed from the service quality methodology and applied to the measurement of a destination's brand image attributes. Measuring the gap between expectations and perceptions of tourists will determine if the brand image attributes of Mauritius being projected prior to the visit are in line with the reality as observed by tourists after their experience. Therefore, the following null-hypothesis is proposed:

H1. There is no positive gap between expectations and perceptions of the brand image attributes.
The destination product is an experience, thus the difficulty to determine the likelihood of consumer satisfaction prior to purchase and consumption (Levitt, 1981, Dean and Lang, 2008). Although consumers of destination brands generate sets of expectations prior to consumption (Metelka, 1981), their expectations may not match the performance of the brand image attributes. Research that reveal the link between expectations and perceptions have been numerous and the most well-known carried out by Parasuraman, Zeithaml and Berry (1988) to measure service quality by using the SERVQUAL instrument. The gap model has also been used by other researchers to evaluate image of destinations. A study carried out by Chaudarry (2000) uses the pre- and post-trip gap to investigate the image of India as a tourist destination. O'Leary and Deegan (2005) measure the image of Ireland by the gap between performance and importance across specific destination attributes rated on a Likert-scale.

Another widely used model is the disconfirmation paradigm (Oliver 1980, 1989, 1993; Oliver and Bearden 1985; Oliver and Burke 1999) to measure customer satisfaction. Performance is 'positively disconfirmed' if it exceeds expectations, and performance is 'confirmed' if it meets expectations. Performance that does not match expectations is 'negatively disconfirmed' (McCollough *et al.,* 2000:122). These two models and the performance-only model (Pizam, Neumann, and Reichel, 1978) have been used to measure tourist satisfaction with destinations (Kozak and Rimmington, 2000). However, there is continuous debate about the most appropriate method used to measure customer satisfaction. Nevertheless, many researchers agree that the measurement depends on the purpose of the study (Yuan and Jang, 2008).

The gap model is applied when it is important to identify areas of shortfalls whereas the performance-only model is used to explain variations in dependent constructs (Parasuraman, Zeithaml, and Berry, 1994) as done in this study.Brand image is not completely controlled by marketers. Empirical evidence shows that consumers rely on personal sources of information (Zeithaml, 1981 and Murray, 1991) especially if they have not yet experienced the service (Knowles and Howley, 2000). These sources of information are considered as more credible (Mangold *et al.,* 1999), more influential and less biased than formal marketing-driven communications (Ahluwalia *et al.*, 2000). Word-of-mouth (WOM) communications influences individuals to make their own travel decisions (Andereck and Caldwell 1993; Woodside *et al.,* 2004). Swanson and Kelley (2001) argue that a single positive WOM recommendation can result in favorably viewing the brand. However, a negative signal (through unfavorable WOM) will have more impact than a positive signal of the same magnitude (Dean and Lang, 2008). Empirical evidence also reveals that service consumers rely more on WOM than product consumers (Murray, 1991). This has been observed in the pre-purchase stage where service consumers are more likely to purchase after engaging in WOM than purchasers of goods. Evidence also shows that the most commonly used information source for travelers before the travel decision was made emerged from WOM from friends and relatives (Beiger and Laesser, 2004). According to previous research findings, the use of WOM information is considerably higher than any other single source of information (Murphy *et al.,* 2007). It has also been demonstrated that there is a significant relationship among tourist satisfaction, intention to return, and positive WOM (Beeho and Prentice, 1997; Pizam, 1994; Ross, 1993). A similar relationship exists among tourist dissatisfaction, willingness to look for other destinations for further trips, and negative word-of-mouth communications (Almanza, Jaffe, and Lin, 1994; Peter and Olson, 1987; Pizam, 1994). The following hypothesis is formulated:

H2: There is a positive relationship between brand image attributes and WOM.

A combination of both structured and unstructured method was used to capture information relevant for this study. The first stage of the research consisted of carrying out focus group interviews with European tourists who are the main market of the destination in order to identify the most common brand image attributes that they associate Mauritius with. Over a period of one week, several tourists were approached in a shopping mall to carry out focus group interviews over coffee. The focus group was carried out with seven tourists. From the discussion, a set of 21 most frequently cited brand image attributes were identified to develop the survey instrument.

The questionnaire was divided into 3 parts. Part A consisted of closed-ended questions to collect demographic and behavioral data. Part B listed 21 brand image attributes for expectations and the same 21 for perceptions where respondents were asked to rate each attribute using a 5-point Likert-scale (1=*not important at all* to 5=*most important*). Open-ended questions were designed to support the tourists' perceptions with regard to the brand image attributes of the destination. The questionnaires were pre-tested among 30 European tourists at the Sir Seewoosagar International Airport of Mauritius. This exercise was carried out to determine if the questions were correctly set and understood. The questionnaires were translated into English and French language, as the United Kingdom and France are the main tourists' generating countries. It was also found that these two languages were widely spoken by tourists from other European destinations. The pre-test revealed that a few Likert-scale questions overlapped. Following this exercise, the questionnaire was revised and the Likert-scale questions were reduced to 18 attributes.

The survey was carried out over 4 weeks. The study was conducted among 400 European tourists originating mainly from France, United Kingdom and other European countries such as Germany, Belgium, Italy and Switzerland. Convenience sampling was used to collect data from European tourists who were keen to complete the questionnaire. Only departing tourists were surveyed, as they would be in a better position to express their views based on the experience with several aspects of the destination.

RESULTS

A list of brand image attributes of Mauritius was derived from the focus group. It is observed from the expectations scores that the highest mean for the functional attributes are related to 'sunny and warm climate', 'white sandy beaches', and 'standards of hotels' with mean values of 4.601, 4.576, 4.410 and respectively (Table 1). On the other hand, the highest mean scores for the psychological attributes were 4.601 for 'peaceful and relaxing' and 4.496 for 'hospitality of locals'. These high values are congruent with the images of Mauritius projected in formal marketing communications over many years. It can be observed that relatively low scores were obtained for 'spa facilities' (2.968) and 'family activities' (2.932).

Table 1: Gap Scores for Functional and Psychological Image Attributes

	Expectations Mean	Perceptions Mean	Gap Mean	SD	t-values
Functional Attributes					
White Sandy Beaches	4.410	4.511	0.101	0.956	1.757*
Cultural & Historical Sites	3.317	3.644	0.327	1.428	3.821*
Ecotourism & Nature-based Activities	3.230	3.467	0.237	1.344	2.945*
Family Activities	2.932	3.259	0.327	1.716	3.181*
Standard of Hotels	4.270	4.284	0.014	1.257	0.191
Local Cuisine	3.935	4.076	0.141	1.228	1.905
Festivals, Events & Handicrafts	3.029	3.302	0.273	1.173	3.885*
Medical Expertise	3.522	3.486	-0.036	1.496	-0.401*
Cultural Diversity	3.723	3.971	0.248	1.081	3.827*
Nightlife	3.090	3.302	0.212	1.635	2.164
Spa Facilities	2.968	3.482	0.514	1.614	5.314*
Reasonable Price	4.201	3.899	-0.302	1.268	-5.931*
Golf and Water Sports	3.457	3.763	0.306	1.620	3.147*
Shopping Facilities	3.622	3.482	-0.140	1.380	-1.695
Sunny & Warm Climate	4.576	4.511	-0.065	0.851	-1.268*
Psychological attributes					
Safety & Security	4.158	3.946	-0.212	1.373	-2.577*
Hospitality of locals	4.496	4.543	0.047	0.867	0.899*
Peaceful and Relaxing	4.601	4.568	-0.033	0.889	-0.607
Overall (combined scale of 18 attributes)	3.790	3.840	0.054	0.401	2.503

*Table 1 presents the perceptions, expectations and gap scores for tourists' perceptions of brand image of Mauritius. Gap mean is defined as perceptions mean – expectations mean. * Items significantly different between expectations and perceptions scores at probability < 0.05 (two-tailed tests).*

Tourists were also required to rate their perceptions of the brand image attributes after their visit. The highest mean values for the functional attributes were obtained by 'sunny and warm climate' (4.511), 'white sandy beaches' (4.511) and 'standards of hotels' (4.284). Moreover, the maximum scores for psychological attributes were observed for 'peaceful and relaxing' and 'hospitality of locals' with mean values of 4.568 and 4.543 respectively. The lowest score was obtained by 'safety and security' (3.946).

The largest positive gap scores were found with respect to functional attributes namely 'spa facilities' (0.514), 'cultural and historical sites' (0.327) and 'family activities' (0.327). The highest negative gap score was obtained for 'reasonable price' (-0.302) and 'shopping facilities' (-0.14). This figure is supported by the qualitative data obtained through open-ended questions where it was stated that some tourists felt exploited in their shopping activities as prices of goods and services in shops are not standardized. Under the psychological attribute, tourists felt that "safety and security" (-0.212) was the largest gap. Paired *t*-tests were carried out to investigate if there was a statistically significant difference between the expectations and perceptions scores (Table 1). The paired-sample *t*-tests between the two sets across all attributes indicate a statistically significant difference on 12 of the 18 items examined. In addition, the overall gap (defined as perceptions-expectations) score was 0.054 and was statistically different at $p < 0.05$, indicating that H1 is rejected as the destination performed better as compared to the expectations of tourists.

The possible influence of the brand image attributes on WOM was tested by using stepwise regression analysis (Table 2). The study attempts to find the effect of the independent variables on the dependent variable. The adjusted R^2 of 0.077 indicates 7.7 percent of variances in WOM can be predicted by brand image attributes, namely the psychological attributes. The psychological attributes have been found to be statistically significant at $p < 0.01$ and has a negative coefficient. This means that the lower the psychological attributes, the lesser the tourists will recommend the destination to others. This result thus indicates that there are other factors that predict WOM. Hence, H2 is not supported.

Table 2: Regression Results of Functional and Psychological Attributes and WOM

Image Attributes	Coefficients	Standard error	t-values
Constant	1.397	0.067	20.811[a]
Functional	-0.036	-0.123	-1.853
Psychological	-0.054	-0.195	-2.926[a]
$R^2 = 0.083$; Adjusted $R^2 = 0.077$; F = 15.309, Prob. F-statistics 0.000; [a] significant at $p < 0.01$			

This table shows the regression estimates of the equation: WOM = $\alpha + \beta_1(functional) + \beta_2(psychological)$. *It is found that only psychological attribute is statistically significant on WOM.*

DISCUSSION

From the study, it is observed that Mauritius is well positioned in the European market since there is a positive gap between overall perceptions and expectations. The development of a scale to measure the brand image attributes of Mauritius as a holiday destination reveals that although the overall brand image is positive, the measurement of the functional and psychological attributes pinpoints several strengths and weaknesses in specific areas. The destination has attractive functional attributes which address the needs of the tourists and motivate them to travel long distances to reach the destination. The destination is acknowledged for its white beaches ‘cultural and historical sites’, ‘ecotourism and nature-based activities’, ‘family activities’, ‘standard of hotels’, ‘local cuisine’, ‘festivals, events and handicrafts’, ‘cultural diversity’, nightlife’, ‘spa facilities’ and ‘golf and water sports’. The functional attributes illustrates that the destination setting is vital for the tourist experience and consolidates the brand image.

The strongest positive gap for functional brand image attribute was observed for ‘spa facilities’, followed by ‘cultural and historical sites’ and ‘family activities’. The reasons being that the first two attributes are relatively new activities being marketed, and hence tourists’ expectations were relatively low. The marketing efforts have also focused on Mauritius as a luxury honeymoon destination rather than a family destination. The lowest gap score was observed for ‘sunny and warm climate’. This was because the country was under the influence of a cyclone and the perceptions were not equivalent to the idyllic weather portrayed in the promotional materials. Concerning the psychological attributes, the highest positive gap was observed for ‘hospitality of local inhabitants’. In this study, it is identified as the important psychological attribute as it creates an emotional attachment between the tourist and the destination. Shortcomings were observed for ‘safety and security’ and ‘peaceful and relaxing’ attributes.

These findings were supported by the qualitative responses which explained that a few respondents were victims of robbery during their vacation and felt deceived after such an experience. The respondents have also stated that careless litter disposal and vehicles cause a considerable amount of pollution which tends to spoil on a ‘peaceful and relaxing’ environment The study reveals the importance of psychological brand image attributes in destination branding. The behavior of the host community is identified as the most valuable attribute through the ‘hospitality of the locals’. However, evidence depicts that the lower the psychological attributes, the lesser the tourists will recommend the destination. In this study, the psychological attributes are source of concern as negative behavior of the locals through exploitation of tourists and criminal behavior result in adverse WOM.

CONCLUSIONS

The purpose of this study was to assess European tourists’ perceptions of the brand image of Mauritius. A focus group followed by a questionnaire was administered to tourists. The study reveals that the destination is well-positioned in the European market since it is positively perceived by tourists.

It is hoped that the results of this study will be helpful to academics, DMO and tourism organizations. The future expansion in the projected number of tourists’ arrivals in Mauritius has created major challenges for tourism marketers. The study reported that both functional and psychological attributed were important on the selection of a holiday destination. Though well positioned in the European market, Mauritius has to continually consolidate its strong brand image attributes and restore its weak attributes to remain a competitive tourist destination. The DMO should continue to focus on developing promotional campaigns that highlight both the functional and psychological attributes as they are ubiquitous in positioning the brand. This will result in effectively positioning the destination in the desired market through a set of brand image attributes which are desired by the tourists before purchase. However, the marketing effort should match the actual experience of tourists so that there is no negative disparity with their expectations. Therefore, it is essential that the DMO manages this combination of brand image attributes upon which the destination's tourism appeal is based to maintain the desired positioning in the target market. The study was carried out with Europeans only and therefore does not capture data on the brand image of the destination in general. Therefore, further studies should be carried out in other markets to identify how to best position the destination in each respective segments.

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INFLUENCE OF ORGANIZATIONAL CULTURE ON ORGANIZATIONAL CITIZENSHIP BEHAVIOR: A THREE-SECTOR STUDY

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ABSTRACT

In recent years, the employer expectations have witnessed an upward surge, in anticipation of certain discretionary behaviors out of their employees, which fall beyond the purview of workplace requirement and reward systems. All this apparently is to ensure long service periods and bring out the 'Organizational Citizen' within the employee in the organizational context. The present paper is an attempt to examine and investigate the extent of impact that a given Organizational Culture has on Citizenship Behaviors of the employees in an Organization. The study examines the impact of select Culture variables on Organizational Citizenship Behavior across three dominant Organizations representing three sectors of the economy namely, Manufacturing, and Information Technology & Banking. The paper specifically aims at establishing a cause effect relationship between dominant Organizational culture characteristics on Organizational Citizenship Behaviors.

JEL: M10; M14

KEYWORDS: Organizational Culture, Organizational Citizenship Behavior, Correlation

INTRODUCTION

A substantial amount of attention has been paid to the concept of organizational culture in the past several years (Cameron & Freeman, 1991). Likewise, the subject of organizational culture has been considered as one of the central elements that contribute to organizational success. Many scholars (e.g. Deal & Kennedy, 1983, Cameron & Freeman, 1991), in organizational studies assert that when an organization has strong culture and congruence, it is more effective than when it has a weak, incongruent, and disconnected culture. Further, theorists and practitioners alike suggest that improving organizational culture assists in regaining organizational; competitiveness and revitalizing declining organizations (Yeung, Brockbank & Ulrich, 1991). Morgan (2002) explained culture as an active living phenomenon through which people jointly create and recreate the worlds in which they live. Organizational culture provides a framework for using conceptual work and scholarship to improve an organization's effectiveness. (Cameron and Quinn, 2006) found that it is difficult to find a highly successful company that does not have a distinctive, readily identifiable organizational culture because of its powerful effect on performance and long-term effectiveness.

In fact, Organization Citizenship Behavior is those discretionary individual behaviors that employees display which are above and beyond formal role requirements of the workplace and is entirely individual's discretion. They are often described as behaviors that "go above and beyond the call of duty". Not surprisingly, Organizational Citizenship Behaviors are considered to arise, at least in part, from intrinsic motivation including a positive mood state and the need for affiliation or a sense of achievement (Organ, 1988). Derived from Katz's (1964) notion of extra-role behaviors, Organizational Citizenship Behaviors have been defined as "individual behaviors that are discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promote the effective functioning of an organization" (Organ, 1988, p. 4). They represent 'extra effort' by employees that is nonetheless essential for the effectiveness of the organization, especially where organizational performance is dependent on the interconnectedness and social networks of its people. Though it is not formally recognized by the reward system of an organization, it has the potential to contribute towards improving efficiency and effectiveness of an organization leading to increased competitive advantage.

In order to achieve some of the objectives mentioned in the paper so far, the paper is structured as follows: Firstly, we review the theoretical literature on Organizational Culture and Organizational Citizenship Behavior. Following a literature review, a couple of relationships are hypothesized. Later, we show an empirical analysis of data gathered from 380 employees of three Organizations viz., Banking, Information Technology and Manufacturing. The research sample, the conceptual model and data collection methods are then discussed, followed by a presentation of the research results. The paper ends by indicating its principal conclusions and discussions.

LITERATURE REVIEW

The study of organizational culture is not a recent phenomenon (Trice & Beyer, 1993). The beginning studies of culture in organizations can be traced back to the early 1930 Hawthorne studies (Warner & Low, 1947) at the Western Electric Company in Chicago, Illinois. Since the 1980s organizational culture has become very visible in organizational research. The more recent focus on the subject came about in an effort to explain why U.S. firms were having difficulties in competing with organizations from countries with very different cultures, particularly Japan. (Schein, 1990; Trice & Beyer, 1993). From this line of study it was determined that national culture cannot explain all the differences. Instead researchers determined the need to differentiate between organizations within a society, especially in relation to organizational performance and effectiveness (Ouchi, 1983).

Organizational culture has long been regarded as a critical determinant of an organization's effectiveness (Deal & Kennedy, 1982; Peters & Waterman, 1982; Schein, 1992; Ouchi, 1983). Some exceptions have emerged, including influential work by Kotter and Heskett (1992), who found a correlation between indices of “strong” culture (e.g., clearly identifiable, consistent values) and long-term organizational performance. Moreover, research by Denison and his colleagues Denison & Mishra (1995) has afforded great insight and has demonstrated empirical ties between culture and organizational performance in various contexts, using an array of performance criteria. Many researchers have identified relationships between organizational culture, organizational performance and change (Deal & Kennedy, 1982; Peters & Waterman, 1982; Ouchi, 1983).

Researchers have argued that improving, maintaining or changing organization culture assists in making organizations more competitive and in helping revitalize declining organizations. Still, despite this potential importance, organizational culture is still a very controversial area of study among organizational researchers (Quinn & Spreitzer, 1991). Culture has been historically molded (Hofstede *et al*., 1990) and deeply ingrained in an organization and as a result is difficult to change (Atchison, 2002; Drucker, 1995; Hofstede *et al*., 1990; Narine & Persaud, 2003; Taylor, 2003). Culture influences the communication skills and decision-making processes of the organization’s members and affects its credibility (Cooke & Rousseau, 1988; Kowalezyk & Pawlish, 2002; Mycek, 2000). Organizational culture also shapes the organization’s level of socialization and learning (Cooke & Rousseau, 1988). Kowalczyk & Pawlish (2002) correlated the importance of culture to an organization’s competitive advantage, adaptability, and level of innovation. It has been further noted that the culture of an organization may affect organizational system operations, productivity, leadership actions (Shaw, 2002; Taylor, 2003), performance (Cameron & Quinn, 1999), and organizational effectiveness (Parry, 2004; Valentino *et al*., 2004).

Research has shown that culture has influenced employees’ commitment (Lok & Crawford, 1999; Mycek, 2000; O’Reilly, 1989; Parry, 2004; Putz, 1991; Webster, 2004) and behaviors (Atchison, 2002; Cooke &

Rousseau, 1988). It has been further noted that the culture of an organization may affect organizational system operations, productivity, leadership actions (Shaw, 2002; Taylor, 2003), performance (Cameron & Quinn, 1999), and organizational effectiveness (Parry, 2004; Valentino *et al*., 2004). Research has indicated that culture has influenced employees' commitment (Lok & Crawford, 1999; Mycek, 2000; O'Reilly, 1989; Parry, 2004; Putz, 1991; Webster, 2004) and behaviors (Atchison, 2002; Cooke & Rousseau, 1988). The change in organizations is pervasive due to the amount of change in the external environment (Cameron & Quinn, 1999). Culture emerges as people within organizations learn how to deal with these changes or uncertainties. It gives them accepted ways of expressing and affirming their beliefs, values and norms (Trice & Beyer, 1993). In short, "cultures are a natural outgrowth of the social interactions that make up what we call organizations" (Trice & Beyer, 1993).

Organizations that employ individuals who exhibit Organizational Citizenship Behaviors are more likely to have effective work groups within the organization (Podsakoff, Ahearne, & Mackenzie, 1997). Empirical studies on Organizational Citizenship Behaviors have been conducted in various industries, including sales (Mackenzie, Podsakoff, and Fetter, 1993; Podsakoff & Mackenzie, 1994), education (Somech et.al, 2004), communications, Podsakoff et.al 1990), and banking (Wheatley, 2002). Organizational Citizenship Behavior research has also expanded across the globe, with studies being conducted in organizations in countries other than the United States. Organizational Citizenship Behaviors have been studied in organizations in Canada (Latham & Skarlicki, 1996), Taiwan (Farh, *et al*. 1990), China (Farh, Zhong, & Organ, 2004), and Israel (Somech & Drach-Zahavy, 2004). (Chhokar, Zhuplev, Fok, and Hartman 2004) conducted a study on Organizational Citizenship Behavior that expanded across the boundaries of five different countries. They examined Organizational Citizenship Behavior in France, Britain, India, Russia, and the United States and found that in all there has been an impact of Organizational Citizenship Behavior.

Organizations facing increasing competition and uncertain environments are moving from bureaucratic structures to new organizational forms characterized as flat. Networked, uncertain, flexible, and decentralized (Ancona, Kochan, Scully, Maanen, & Westney, 1996). Traditional task-based jobs, comprised of fixed packages of similar tasks, have been "unbundled" into "broader chunks of work that change over time' (Cascio, 1995), resulting in more ambiguous work roles. To function effectively, it is not enough for an organization to "depend solely upon its blueprints of prescribed behavior" (Katz, 1964). Organizations have accordingly been relying increasingly on their employees' willingness to contribute beyond formal job descriptions and on their leaders to inspire an empowered workforce. Organizational citizenship behavior, originally conceptualized as extra-role behavior were valued by the organization but not explicitly recognized by formal reward systems (Organ, 1988), and leader-member exchange (Graen & Scandura, 1987), have much to offer for the effective functioning of these new forms of organizations.

Considerable empirical evidence has converged on the finding that Organizational Citizenship Behaviors have a significant impact on managerial performance appraisals and other managerial decisions (Allen & Rush, 1998; Avila, Fern, & Mann, 1988; Borman, White, & Dorsey, 1995; Conway, 1999; Johnson, Erez, Kiker, & Motowidlo, 2002; Kiker & Motowidlo, 1999; Lowery & Krilowicz, 1994; MacKenzie, Podsakoff, & Fetter, 1991, 1993; MacKenzie, Podsakoff, & Paine, 1999; Motowidlo & Van Scotter, 1994; Orr, Sackett, & Mercer, 1989; Rotundo & Sacket, 2002; Van Scotter & Motowidlo, 1996; Werner, 1994). In some cases, these findings indicate that citizenship behaviors have substantially greater influence on performance appraisals than objective performance information (Lowery & Krilowicz, 1994; MacKenzie *et al*., 1991, 1993; MacKenzie *et al.*, 1999).

A smaller set of studies has investigated the influence of citizenship behaviors on other managerial decisions. Orr *et al*. (1989) investigated the relative impact of contextual and task behaviors on supervisor ratings of the monetary value of employee contributions at work. Results indicated that contextual behaviors explained significant variance in Standard Deviation estimates, beyond what is explained by task behaviors alone. Additionally, Kiker and Motowidlo (1999) found that both contextual and task performance significantly influenced supervisor reward allocation decisions. In a military sample, Van Scotter, Motowidlo and Cross (2000) demonstrated that contextual performance explained significant additional variance beyond task performance in rewards such as medals received, promotability ratings, and informal rewards.

DATA AND METHODOLOGY

In this study, a specially designed Questionnaire was adopted to measure the employee's perception on different aspects of the study. The Questionnaire used in the study is designed taking into account different theories and models of Organizational Culture & Organizational Citizenship Behavior. The instrument consists of statements evaluated on a three point rating Scale. The three varied scale of Rating Behavior of employees were Yes, No & Can't say. The questionnaires were distributed to the 550 employees working in the Organizations under study. The total no of questionnaires received was 380 representing a rate of return of 69 percent. Further out of the 380 questionnaires returned another 36 questionnaires were rejected owing to a high rate of missing data. Hence, the complete survey data came to 344 which represent 62 percent of the total questionnaires, which is being used for the final analyses. The survey instrument comprised of a total of 54 questions excluding the demographic questions. There were a total of 30 questions devoted to Organizational Culture and 24 questions to Organizational Citizenship Behavior. The survey involved Organizations representing three different sectors namely, The Modern Private Banking Organization, The modern Information Technology Organization and the Traditional Manufacturing Organization. A list of the variables used in the study are presented in Table 1. Summary statistics of the data are presented in Table 2. A graphical depiction of the model used in the paper is presented in Figure 1.

The hypotheses tested are as follows:

H1 – There would be a significant positive relationship between Organizational Culture and Organizational Citizenship Behavior

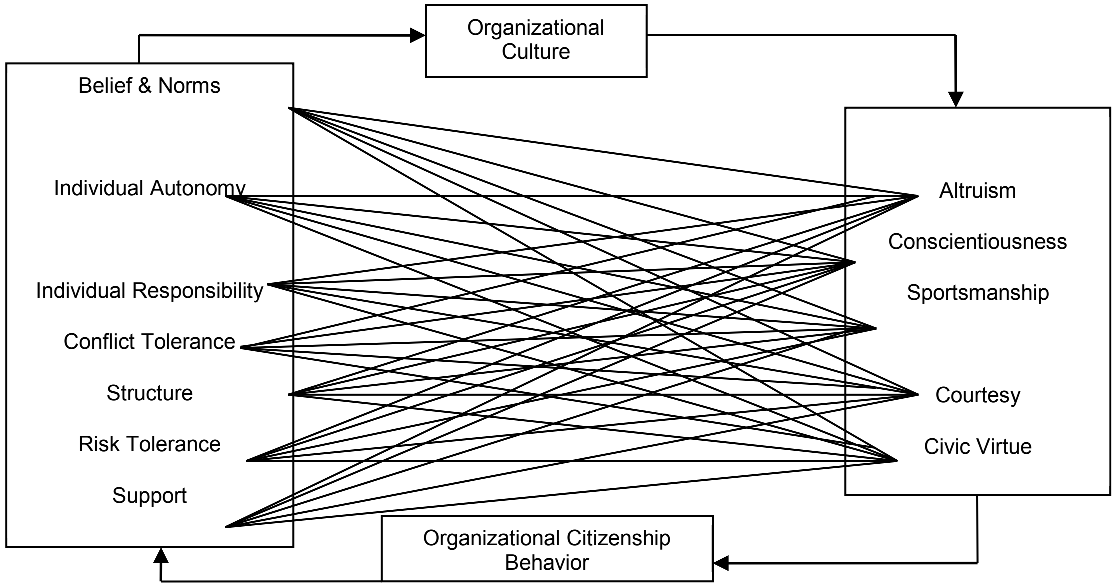
H2 – The factors of Organizational Culture will positively influence the factors of Organizational Citizenship Behavior.

Table 1: OC and OCB Variables

Organizational Culture	Organizational Citizenship Behavior
Belief & Norms	Altruism
Individual Autonomy	Conscientiousness
Individual responsibility	Sportsmanship
Conflict Tolerance	Courtesy
Structure	Civic Virtue
Risk Tolerance	
Support	

Above-mentioned table represents variables considered for analyzing the impact of Organizational Culture on Organizational Citizenship Behavior. Organizational Culture variables are the independent variables and Organizational Citizenship variables being the dependent variables.

Figure 1: The Conceptual Model



The figure above is the conceptual model on which the study is based. The model assumes and hypothesizes that all dimensions considered for analysis in Organizational Culture and Organizational Citizenship Behavior will impact each other i.e. each variable will have some impact of the other variable/variables.

Table 2: Mean, Standard Deviation and Intercorrelations of Study Variables

Corr	Mean	SD	BAN	IR	STR	IA	CT	SP	RT	ALT	SPRTS	CV	CONSC	COUR
BAN	14.65	2.76												
IR	11.88	1.98	0.51**											
STR	4.6	1.42	0.53**	0.42**										
IA	5.26	0.97	0.31**	0.28**	0.12*									
CT	7.07	1.4	0.54**	0.39**	0.33**	0.35**								
SP	11.29	2.22	0.65**	0.47**	0.47**	0.36**	0.53**							
RT	6.54	1.53	0.51**	0.43**	0.29**	0.22*	0.42**	0.47**						
ALT	15.51	3.16	0.47**	0.46**	0.43**	0.31**	0.43**	0.53**	0.37**					
SPRTS	9.1	2.07	0.48**	0.40	0.47**	0.23**	0.36**	0.52**	0.40**	0.59**				
CV	11.38	2.41**	0.52**	0.51**	0.39**	0.26**	0.45**	0.62**	0.36**	0.63**	0.62**			
CONSC	7.09	1.77	0.57**	0.48**	0.52**	0.27**	0.50**	0.58**	0.39**	0.66**	0.63**	0.61**		
COUR	8.97	2.02	0.46**	0.38**	0.43**	0.26**	0.41**	0.58**	0.29**	0.65**	0.56**	0.61**	0.59**	

*Note: The above table shows summary of Mean, Standard Deviation and intercorrelations among the study Variables at ** ten percent and * five percent levels. BAN = Belief & Norms, IR = Individual Responsibility, STR = Structure, IA = Individual Autonomy, CT = Conflict Tolerance, SP = Support, RT = Risk Tolerance, ALT = Altruism , SPRTS = Sportsmanship, CV = Civic Virtue, Consc = Conscientiousness & Cour = Courtesy **Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).*

RESULTS

To results of tests of the hypothesis (H1) correlation are presented in Table 3. The results derived indicated a high positive correlation between Organizational Culture and Organizational Citizenship Behavior ($r = .722, p < .01$) across all the Organizations (Manufacturing, IT, Banking). The results also demonstrated a significant level of correlation between Organizational Culture and Organizational Citizenship Behavior in the individual Organizations as well. For the banking Organization the correlation was significant ($r = .626, p < .01$), similarly for the IT organization the correlation was also significant ($r = .635, p < .01$), again for the manufacturing sector the correlation was found to be ($r = .764, p < .01$) higher than the average of all the sectors and highest among the three Organizations under study. Hence the hypothesis is accepted.

The analysis shows there was a significant correlation between all the variables (Organizational Culture: Belief & Norms, Individual Autonomy, Individual responsibility, Conflict Tolerance, Structure, Risk Tolerance, and Support. Organizational Citizenship Behavior: Altruism, Conscientiousness, Sportsmanship, Courtesy and Civic Virtue). It was observed that despite the fact that study was conducted in three diverse organizations, yet there was a significant relationship among the variables across the Organizations, notwithstanding that the culture and practices prevalent in respective Organizations are different. Also it was inferred that the degree of difference of correlation between the Organizations was not very significant i.e. (Banking, IT and Manufacturing). The uniformity may be attributed to a strong conformity to culture in each of the Organizations. In addition, it may be possible that each of these Organizations values their culture and attach high significance to it. Therefore conformity to culture in these Organizations is obvious and as such, has significant correlation with Organizational Citizenship Behavior Variables. Hence, citizenship behavior attributes in these Organizations is a result of healthy Organizational Culture practices, which are dear to every employee working. Among organizations, the manufacturing organization scored slightly over others. The reason could be the uniformity in pay and privileges, equal opportunities and job security, that is typical about Manufacturing Organizations, that keep the employees more committed to the culture, that results in overall better score in Organizational Citizenship behavior.

In this hypothesis (H2) it was assumed that each variable in Organizational Culture will positively impact the Organizational Citizenship Behavior, across all the organizations and also in the individual organizations. The results of these tests are presented in Table 4. For this purpose correlation was conducted to establish the impact of Organizational Culture on Organizational Citizenship Behavior. It was observed that across the organizations and also in individual organizations, the correlation was positive from high to moderate levels (refer table 2). Belief & Norms had a positive correlation with Altruism, at ($r = .47, p< .01$), with Sportsmanship, at ($r = .48, p< .01$), Civic virtue, at ($r = .52, p< .01$), with Conscientiousness at ($r = .57, p< .01$), with courtesy, at ($r = .48, p< .01$).

It can also be seen that Individual responsibility had a positive correlation with Altruism at ($r = .46, p< .01$), with sportsmanship, at ($r = .40, p< .01$), with Civic Virtue, at ($r = .51, p< .01$), with Conscientiousness, at ($r = .48, p< .01$), with Courtesy, at ($r = .38, p< .01$). It was further established that Structure had a significant positive relationship with Altruism, at ($r = .43, p< .01$), with Sportsmanship, at ($r = .47, p< .01$), with Civic Virtue, at ($r = .40, p< .01$), with Conscientiousness at ($r = .52, p< .01$), with Courtesy, at ($r = .43, p< .01$). It was further established that Individual autonomy had a positive moderate correlation with all variables, with Altruism, at ($r = .32, p< .01$), with Sportsmanship, at ($r = .23, p< .01$), with Civic Virtue, at ($r = .26, p< .01$), with Conscientiousness at ($r = .27, p< .01$), and with Courtesy, at ($r = .26, p< .01$). Again it was observed that Conflict tolerance was positively correlated with other variables, with Altruism, at ($r = .43, p< .01$), with Sportsmanship, at ($r = .36, p< .01$), with Civic Virtue, at ($r = .46, p< .01$), with Conscientiousness, at ($r = .50, p< .01$) and with Courtesy, at ($r = .41, p< .01$).

Also on inference it was established that Support was positively correlated with other variables, with Altruism, at ($r = .53, p< .01$), with Sportsmanship, at ($r = .52, p< .01$), with Civic Virtue, at ($r = .62, p< .01$), with Conscientiousness, at ($r = .58, p< .01$) and with Courtesy, at ($r = .58, p< .01$). Similarly on analysis it was observed that Risk Tolerance was positively correlated with other variables, with Altruism, at ($r = .37, p< .01$), with Sportsmanship, at ($r = .40, p< .01$), with Civic Virtue, at ($r = .36, p< .01$), with Conscientiousness, at ($r = .39, p< .01$) and with Courtesy, at ($r = .29, p< .01$). Therefore the hypothesis is accepted.

It was hypothesized that each variable in Organizational Culture will significantly influence the Organizational Citizenship Behavior across all Organizations and also for each of the Organization. This hypothesis was accepted. It was evident from the analysis that each variable was significantly correlated to the other variable, across all Organizations. When compared it was apparent that Support had most significant correlation with other variables viz. Altruism, Sportsmanship, Civic Virtue, Conscientiousness and Courtesy, of this Civic Virtue scored the highest. The reason for such results could be the cultural conformity in Organizations and positive impact of culture towards peer support. Particularly for the Civic Virtue could be the respect that, employees have for the rules and regulations of the Organization.

CONCLUSION

The paper was aimed at evaluating the extent of impact Organizational Culture can have on Organizational Citizenship Behaviors of the employees working in three different sectors i.e. Banking, Information Technology and the Manufacturing. For the said purpose, data was analyzed collected from 380 respondents using statistical measures like correlation, which was rigorously used to arrive at comprehensive analysis, in addition mean and standard deviation was also applied to test the hypothesis.

The study of the culture of three different organizations shows that Organizational Culture in many ways can impact the Citizenship Behaviors of employee in an Organization. It may be concluded that there are certain factors which relate to the Culture practiced in a Workplace and which have got lot to do with inculcating the Organizational Citizenship Behavior amongst the employees. The results indicated similar results for the Organizations surveyed, which reiterates the assumption that culture if nurtured can inculcate citizenship behaviors in employees within the Organization. It can be hence speculated that strengthening the cultural roots of an Organization can lead to observance of Citizenship Behavior across all sectors in a given Organization.

In this study, we found support for the hypothesis that the Organizational Culture is positively related to the dimensions of Organizational Citizenship Behavior. It was observed that all dimensions of Organizational Culture were found significantly correlated to the Organizational Citizenship Behaviors. This further strengthens the assumption that all factors of Organizational Culture will impact the Citizenship behaviors. Hence, these results provide support for the notion that Organizational Culture within certain framework can potentially shape the Citizenship Behaviors of the employees in an Organization. It may further be argued that individuals may bring with them a predisposition to perform Citizenship Behaviors but a Culture not prepared to absorb the discretionary behaviors can render individual efforts futile. Therefore, the results presented in the current analysis suggest that the most significant determinant of employee citizenship is the Cultural Phenomena and its capacity to influence people and their behaviors.

This paper is subject to several limitations. The size of the sample may be small when compared with the number of people working in all three Organizations. Data were collected from certain types of the Organization belonging to a particular location. Hence, the results cannot be generalized for the whole sector considering the working population in these sectors and given the immense size and cultural diversity of the nation. Another limitation was, the responses might have been influenced by certain degree of personal bias and because of which the responses might not have been completely accurate.

In addition, a very limited availability of literature pertinent to Indian Organizations served as a serious limitation. The maximum literature reviewed and cited on this subject was derived from journals, books, periodicals and magazines from the west, though the studies are authoritative and well researched, but lack of Indian context makes the study just a little unsupportive.

The present study has opened the doors for wider discussions, deliberations and research. There are several other dimensions to carry out research in this area. Further, studies related to Organizational Culture and Organizational Citizenship Behavior can be conducted having focus on gender and its impact on the variables. Gender presumes significant importance during study of variables like Organizational Commitment, Discipline, Leadership, Motivation etc. Because of the fact that gender differences largely influence Organizational Culture, Functioning, Motivation, Leadership Style, Communication, Commitment etc. Hence, it can potentially impact and influence the results of the present work. Another area that could be examined further is impact of employee's education on variables of Organizational Culture and Organizational Citizenship Behavior. It may be beneficial to observe if an employee's education matches with the job content or job description.

Table 3: Correlation between OC & OCB across all Organizations

Organization	N	Correlation
Total (Manufacturing, IT, Banking)	343	.722**
Banking Organization	51	.626**
IT Organization	89	.635**
Manufacturing Organization	202	.764**

*Note: Above table shows the overall correlation among different variables of Organizational Culture and Organizational Citizenship Behavior as mentioned in table 1 at 10 percent level. ** Correlation is significant at the 0.01 level (2-tailed)*

Table 4: Correlation of OC & OCB Variables across all Organizations

	Altruism	Sportsmanship	Civic Virtue	Conscientiousness	Courtesy
Belief & Norms	.47**	.48**	.52**	.57**	.48**
Individual Responsibility	.46**	.40**	.51**	.48**	.38**
Structure	.43**	.47**	.40**	.52**	.43**
Individual Autonomy	.32**	.23**	.26**	.27**	.26**
Conflict Tolerance	.43**	.36**	.46**	.50**	.41**
Support	.53**	.52**	.62**	.58**	.58**
Risk Tolerance	.37**	.40**	.36**	.39**	.29**

*Note: Above table shows the correlation of each variable of Organizational Culture with each variable of Organizational Citizenship Behavior as mentioned in table 1 at 10 percent level. ** Correlation is significant at the 0.01 level (2-tailed).*

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BIOGRAPHY

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EVIDENCE ON THE FUTURE PROSPECTS OF INDIAN THERMAL POWER SECTOR IN THE PERSPECTIVE OF DEPLETING COAL RESERVE

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ABSTRACT

Increasing industrial growth throughout the world largely depends on availability of electricity. The overall situation in the power sector provides an optimistic view. However, insight into the thermal power industry provides a bleak picture. Thermal power stations mostly depend upon coal as a basic raw material. Economists project that India has a little over 250 billion metric tons of coal reserve to sustain continued and progressive demand for thermal power generation in the next 40-50 years. Indian thermal stations have started importing expensive coal from other countries to maintain generation and supply. Every thermal power station emits CO_2. Suspended Particulate Matter (SPM), fly ash and effluents create health hazards and contribute to global warming. This paper develops a model based on Auto Regressive Integrated Moving Average (ARIMA) to depict the future prospects of coal based thermal power sector of India. The evidence shows that India needs to identify alternative sources of power generation to grow without damaging world and maintaining sustainability.

JEL: E23; E27

KEYWORDS: Insight; CO_2; SPM; Fly ash; Global warming; ARIMA Model; Sustainability

INTRODUCTION

Since independence, India's population has grown from 300 million to more than one billion today. Increased population and changing lifestyle along with rapid economic growth has accelerated energy requirement of the country. Since 1990s, India's Gross Domestic Product (GDP) has been increasing rapidly and is expected to increase at a similar pace for several decades. The rise in GDP implies an increase in expenditures on key energy sectors, namely electricity. Thermal power is the basic source of the country's energy production. In the beginning of 2010 the country produces 157,229 MW of electricity out of which 100,598 MW was generated from thermal plant. Coal is the basic primary fuel in thermal power plants, although there are other natural resources available like hydro-electricity, nuclear, solar and wind powered. These alternative sources of power are either highly technology oriented, capital intensive or demand highly skilled human capital. Moreover, commissioning a power plant based on these alternative sources of energy is time consuming.

As an alternative to the critical demand for power, country planners have concentrated more on commissioning of thermal power plants. Coal happens to be the basic fuel of any thermal power plant and India had a plentiful supply of this basic raw material until recently. Unfortunately, the stock of coal in India is not unlimited. The share of coal in electricity generation declined from 98% in 1950-51 to 62.3% in 2009-10. Even then, it accounts for more than one-half of the electricity generation of the country. Coal mining in India commenced in the 18^{th} century when much of the stock was exported to the UK due to limited requirement for thermal power in industries and in the domestic sector. The coal industry was in the hands of private entrepreneurs. In 1923, the India Government developed a regulatory framework and in 1972-73 nationalized the coal industry.

Coal India Ltd (CIL) was incorporated as a holding company for seven coal-producing subsidiaries. Today CIL is engaged in mining coal from 495 working coal mines, accounting for nearly 88% of total coal production in the country. It is estimated that total coal reserve in India are 267 billion tons. At present, the Government of India has plans to add more than 50 gigawatts of new coal-fired generating capacity during its 11^{th} power plan. In the recent five-year plan period ending in March 2007, only about 12 of 20 gigawatts of new coal-fired generating capacity were planned and completed.

India is the third largest coal producing country. Unfortunately, Indian coal is of poor quality with high ash content and low caloric value i.e. gross heat of combustion. A major portion of this ash is inherent in the coal, aggravating the difficulty in removing it before combustion. High ash content of Indian coal and inefficient combustion technology contribute to emission of suspendable air particles and other trace gases which are responsible for the greenhouse effect. Thus, the vicinity of thermal powerhouse in India are highly polluted causing health hazards and damage to agriculture. In consideration of depleting stocks of quality coal, India has started importing coal from countries like Indonesia, Australia and South Africa. However, cost of imported coal is high. Moreover, the ability to continue importing coal from these countries is uncertain, as there is likely to be worldwide shortage of coal in the near future. The remainder of the paper is organized as follows. Section 2 briefly discusses the relevant literature. Data selection, research methodology, and empirical models are described in Section 3. Section 4 provides analysis and interpretations of the empirical findings and Section 5 concludes the paper.

LITERATURE REVIEW

According to Dresner (2002), "Sustainability is a concept which combines post-modernist pessimism about the domination of nature with almost Enlightenment optimism about the possibility to reform human institutions." Since the conclusion of the Brundtland Commission (World Commission on Environment and Development, 1985), in itself something of a political compromise, two competing notions of *strong* and *weak* sustainability have dominated the theoretical debate on sustainable development. Loosely speaking, *strong* sustainability argues that we must live within the environmental and ecological limits that the planet has. *Weak* sustainability argues that humanity will replace the natural capital we use and depend upon with human-made capital. Theorists virtually unanimously agree that the latter has formed the conceptual basis for sustainable development.

The all-pervasive nature of neo-classical economics has also come to permeate thinking on sustainable development, with a broad acceptance that intra-generational and inter-generational equity can only be achieved within the confines of economic growth. Brandon and Lombardi (2005) focus on policy integration, as a central tenet for the evaluation of sustainable development. They claim an integrating mechanism or framework is required to obviate the interconnectedness and interdependence of systems. In the existing literature of Econometric models and forecasts on coal consumption and production, a single equation time series model is frequently used. In economic data commonly used forecasts are normally non-stationary and it have a high correlation coefficient (R2) due to the presence of trend between the dependent and independent variable.

Huntington (1994) shows that the forecasting performance of ten structural models was problematic since the errors in structural models were due to factors such as exogenous GNP assumptions, resource supply conditions outside OPEC, and demand adjustments to price changes. Lynch (2002) arrives at a similar conclusion by comparing the theory and practice of oil supply forecasting. Koomey et al (2003) point out that factor like technological innovation and inaccuracy of coal reserve forecasts may also contribute to forecast errors. Pindyck (1999) points out that structural models may not be always accurate in long run forecasts. Structural models are better for understanding the short run fluctuation of dependent and other variables. Areepong (1999) proposed methods to forecast the nonrenewable product by using forecasting techniques of regression analysis including the exponential smoothing method. The forecasting technique is regression analysis or moving averages. Moving averages work better with stationary data. For a time series that contains a trend or seasonal or non-stationary data, the forecasting technique should be the Auto Regressive Integrated Moving (ARIMA). ARIMA models have been applied to forecast commodity prices, such as oil. The ARIMA models has been used in different applications and has demonstrated more flexible than other simple models. The purpose of ARIMA analysis is to find a model that accurately establishes past and future patterns in the time series data and is able to capture a wide variety of realistic phenomena regarding the uncertainty about the future risk.

DATA AND METHODOLOGY

The present research focuses on time varying trends of future production of coal with the help of a benchmark time series Auto Regressive Integrated Moving Average (ARIMA) model. The study is based on the past twenty-six years of secondary data on coal consumption and production for the world and India. The data were published by Energy Information Administration, International Energy Annual 2006, etc. We analyze the result by using ARIMA model to predict future coal production and consumption in the Indian and world economy. After describing the ARIMA (p, d, and q) where p is the order of the auto regressive model, d is the number of differentiations to accomplish stationarity; and q is the order of moving average, we follow a parameter estimation procedure for the ARIMA model and an adaptive prediction scheme is then used to allow capturing the non-stationary characteristics. The authors expect that electricity demand will continue to grow at high rates as a natural consequence of industrialization in India, which will require coal alternative sources of fuel in order to expand the country's power generation capacity and maintain sustainability.

EMPERICAL RESULTS

Future Projection of Coal Consumption and Production in World and India

Coal is a nonrenewable resource for thermal power production. It has depleted over time at an increasing rate and its demand has increasing over time at an increasing rate. Therefore, the future projection of coal production and its demand become necessary homework for decision makers to achieve sustainable devolvement in respect to energy production. On the basis of the past 26 years (1980 to 2006) of data collected from Energy Information Administration, International Energy Annual 2006 we analyze the future trend of coal demand and supply and find a situation where coal production will be saturated with by demand. We apply a general time series regression model described as:

$$Y_t = X_t\beta + \varepsilon_t$$

Where Y_t = production of coal, X_t = Year, ε_t= White noise, with zero mean and constant variance.
We estimate the time series regression equations for world coal consumption and production as follows:

World Coal Production: $Y_t = 4301.36 + 59.36X_t$

World Coal Consumption: $Y_t = 4280.63 + 60.94X_t$

On the basis of the above time series regression equation we predict the future trend of coal production and consumption and draw a diagram which gives us a saturation point where supply and demand intersect each other. After the point of saturation, the world is faced with a big question regarding coal supply and the alternative sources of energy. The above model is a basic time series regression where we do not consider the random walk model as well as the stationary property of time series inherent in the problem of moving average and autoregressive problems. In order to avoid the problem of autoregressive and moving average we consider the ARIMA (autoregressive integrated moving average) model for prediction of consumption and production of coal.

AR-model: $Y_t = PY_{t-1+} \varepsilon_t$

It can be shown that $E(y_t) = 0;\ V(y_t) = \frac{\sigma^2}{(1-\rho^2)};\quad corr(y_t, y_{t-k}) = \rho^k.$

MA-models: $y_t = \varepsilon_t + \theta\varepsilon_{t-1}.$

It can be shown that

$$E(y_t) = 0;\ V(y_t) = \sigma^2(1+\theta^2);\quad corr(y_t, y_{t-1}) = \frac{\theta}{(1+\theta^2)},$$
$$corr(y_t, y_{t-k}) = 0,\ k > 1.$$

<u>ARIMA Model:</u>

$$y_t = \alpha x_t + \rho_1 y_{t-1} + \cdots + \rho_p y_{t-p} + \varepsilon_t + \theta_1 \varepsilon_{t-1} + \cdots + \theta_q \varepsilon_{t-q}.$$

Here x_t represents different years, ε_t is the error term at time t and $\varepsilon_{t-1} \ldots\ldots \varepsilon_{t-q.}$ represent error terms in previous time periods that are incorporated in the response of y_t .We estimate the ARIMA model for production and consumption of coal, where we apply Box-Jenkins (B-J) methodology for ARIMA (p, d, q) models with time series data. In practical applications of the B-J procedure, the most difficult part is to determine the values of p, d, and q. According to the Box- Jenkins method we determine whether the series is stationary or not by considering the graph of Autocorrelation Function (ACF).

The Autocorrelation Function is defined as $\rho_k = \frac{\gamma_k}{\gamma_0} = \frac{\text{cov}\,ariance.at.lag.k}{\text{var}\,iance}$. Based on the autocorrelation function we can determine the lag length and the value of p, q and d. If an ACF graph of the time series values either cuts off quickly or dies down fairly quickly, then the time series values should be considered stationary. If the ACF graph dies down extremely slowly, then the time series values should be considered non-stationary. If the series is not stationary, it can often be converted to a stationary series by differencing. In B-J procedure p and q can be determined by the ACF and PACF. From the characteristics of the ACF, it describes the correlation between current states of the time series with the past. Using ACF, we determine the moving average (MA) parameters order q straight. From the characteristics of the PACF, it describes the correlation between current state innovation of the time series with the past. Using ACF, we can determine the auto-regressive (AR) parameters order p directly. In such a model, we use the maximum likelihood method (MLE) to estimate the parameters. After estimating the model, we check for adequacy by considering properties of the residuals. The residuals from an ARIMA model must have the normal distribution and should be random. An overall check of model adequacy is provided by the Ljung-Box Q statistics. The test statistic Q is

$$Q = n(n+2)\sum_{k=1}^{m}\left(\frac{\hat{p}_k^2}{n-k}\right)$$

The model with the highest value of Q is preferred. The estimate ARIMA equations are as follows:

World Coal Production:

$$y_t = 4158.57 + 71.22x_t + 1.87y_{t-1} - 0.97y_{t-2} + 0.92\varepsilon_{t-1}$$

World Coal Consumption:

$$y_t = 4199.66 + 69.66x_t + 1.68y_{t-1} - 0.88y_{t-2} + 0.12\varepsilon_{t-1}$$

India Coal Production:

$$y_t = 103.45 + 13.94x_t + 0.87y_{t-1} + 0.13\varepsilon_{t-1}$$

India Coal Consumption:

$$y_t = 94.46 + 15.85x_t + 0.14y_{t-1} + 0.68y_{t-2} - 0.45\varepsilon_{t-1}$$

An Akaike Information Criterion (AIC) is defined as $\ln AIC = (\frac{2k}{n}) + \ln(\frac{RSS}{n})$. In comparing two ARIMA models, the model with the lowest AIC value is preferred. On the basis of Akaiki Information criteria and Ljung –Box statistics, (where all t-values for different regression parameter are statistically significant) we can accept the ARIMA model for different dependent variables. The results show the selection of an ARIMA (p=1, d=0, q=1) model for World Coal Production, ARIMA (p=2, d=0, q=1) model for World Coal Consumption, ARIMA (p=1, d=0, q=1) model for India Coal Production, and ARIMA (p=2, d=0, q=1) model for India Coal Consumption. It can be used to predict the future trend based on past data.

Table 1 shows ARIMA estimation of the world's coal production and consumption. The first series of rows show ARIMA Estimation for World's Coal Production. The first row of Panel A shows ARIMA (p=1, d=0, q=1) an in Panel B shows ARIMA (p=2,d=0,q=1). The first column of Panel A and Panel B shows the Log likelihood ((Ljung-Box Q Statistics) and the Akaiki Information Criteria. The second column shows Log likelihood ((Ljung-Box Q Statistics) and the Akaiki Information Criteria respectively. The third rows shows estimates of analysis of variance for Panel A and B. The second column of the fourth row of Panel A shows the degree of freedom. The third column shows the adjusted sum of squares and the fourth shows residual variance. The first column of the fourth row of Panel B shows the degree of freedom. The second column shows adjusted sum of squares, and third shows residual variance. The fifth row of Panel A and B shows the degree of freedom, adjusted sum of squares and the residual variance respectively. The sixth row of Panel A and B show estimated parameters for ARIMA estimation of world coal production. First column of seventh row of panel A shows parameters, second column shows estimated values, third column shows t-statistics and fourth column shows p-values. First column of seventh row of panel B shows estimated values, the second column shows t-statistics and third column shows p-values. The first column of the eight, nine, ten, eleven, twelfth and thirteenth row shows the parameters of AR1, AR2, MA1, years and constant. The second through thirteenth rows show the estimated value of different parameters.

Similarly, the second series of rows show the ARIMA Estimation for the world's coal consumption. The first series of rows show the ARIMA estimation for world's coal consumption. The first row of Panel A shows the ARIMA (p=2, d=0, q=1). Panel B shows the ARIMA (p=1,d=0,q=1). The first column of Panel A and B shows the Log likelihood ((Ljung-Box Q Statistics) and the Akaiki Information Criteria and the second column shows the values of Log likelihood ((Ljung-Box Q Statistics) and the Akaiki Information criteria respectively. The third row estimates the analysis of variance for panel A and panel B. The second column of the fourth row of Panel A shows degrees of freedom, the third column shows adjusted sum of squares and the fourth column shows residual variance. The first column of the fourth row of Panel B shows degree of freedom, the second column shows adjusted sum of squares, and the third column shows residual variance. The fifth row of panel A and B shows the degree of freedom, adjusted sum of squares and residual variance respectively. The sixth row of Panel A and B show estimated parameters for the ARIMA estimation of world coal consumption. The first column seventh row of Panel A shows parameters, the second column shows estimated values, the third column shows t-statistics and the fourth column shows p-values. The first column of the seventh row of Panel B shows estimated values, the second column shows t-statistics and the third column shows p-values. The first column of rows eight through thirteenth shows the parameters of AR1, AR2, MA1, years and constant. The second through seventh columns of the eighth through thirteenth rows show the estimated value of different parameters.

Table 1: ARIMA Estimation for World's Coal Production and Consumption

ARIMA Estimation for World's Coal Production						
Panel A: ARIMA (p=1,d=0,q=1)				**Panel B: ARIMA (p=2,d=0,q=1)**		
Log likelihood (Ljung-Box Q Statistics)			-169.93	Log likelihood (Ljung-Box Q Statistics)		-174.89
Akaiki Information Criteria			349.85	Akaiki Information Criteria		357.77
Analysis of Variance				**Analysis of Variance**		
	Degree of Freedom	**Adj. Sum of Squares**	**Residual Variance**	**Degree of Freedom**	**Adj. Sum of Squares**	**Residual Variance**
Residuals	22	462875	17359	23	666331	26708
Estimated Parameters				**Estimated Parameters**		
Parameters	**Estimated value**	**t-Statistics**	**p-values**	**Estimated value**	**t-statistics**	**p-values**
AR1	1.86	23.15*	0.000	0.87	7.11*	0.000
AR2	-0.96	-13.11*	0.000			
MA1	0.93	3.89*	0.000	-0.39	-1.91**	0.068
YEARS	71.22	6.90*	0.000	88.98	3.71*	0.001
CONSTANT	4158.58	27.72*	0.000	4028.73	9.23*	0.000
ARIMA Estimation for World's Coal Consumption						
Panel A: ARIMA (p=2,d=0,q=1)				**Panel B: ARIMA (p=1,d=0,q=1)**		
Log likelihood (Ljung-Box Q Statistics)			**-162.97**	Log likelihood (Ljung-Box Q Statistics)		-166.84
Akaiki Information Criteria			335.93	Akaiki Information Criteria		341.68
Analysis of Variance				**Analysis of Variance**		
	Degree of Freedom	**Adj. Sum of Squares**	**Residual Variance**	**Degree of Freedom**	**Adj. Sum of Squares**	**Residual Variance**
Residuals	22	275892	10880	23	368006	14215
	Estimated parameters				**Estimated parameters**	
Parameters	**Estimated value**	**t-Statistics**	**p-values**	**Estimated value**	**t-statistics**	**p-values**
AR1	1.68	9.54*	0.000	0.88	8.73*	0.000
AR2	-0.83	-4.44*	0.000			
MA1	0.11	0.41	0.684	-0.69	-4.52*	0.000
YEARS	69.65	4.62*	0.000	91.93	4.09*	0.000
CONSTANT	4199.64	17.39*	0.000	3978.84	9.53*	0.000

This table shows summary statistics of ARIMA Estimation for world's coal production and consumption. *We consider the values of different parameters of ARIMA model for world's coal production and consumption. As the value of AIC is lower in ARIMA (p=1,d=0,q=1) compared to ARIMA (p=2,d=0,q=1) in our model of world's coal production, we accept the ARIMA (p=1,d=0,q=1) to predict the future of world's coal production. Similarly, as the value of AIC is lower in ARIMA (p=2,d=0,q=1) compared to ARIMA (p=1,d=0,q=1) in our model of world's coal consumption, we accept the ARIMA (p=2,d=0,q=1) to predict the future of world's coal consumption. We also accept the alternative hypothesis for each parameter based on t-statistics where the test statistics is described as follows: * t- statistic are significant at 1% level of significance i.e., t-values are more than 2.51 at 22 degree of freedom and t-values are more than 2.50 at 23 degree of freedom. ** t- statistic are significant at 5% level of significance i.e, t-values are more than 1.72 at 22 degree of freedom and t-values are more than 1.71 at 23 degree of freedom.*

Table 2 shows the ARIMA estimation of India's coal production and consumption. The first series of rows show the ARIMA Estimation for India's Coal Production. The first row of Panel A shows the

ARIMA (p=1, d=0, q=1) and Panel B shows the ARIMA (p=2,d=0,q=1). The first column of Panel A and B show the Log likelihood ((Ljung-Box Q Statistics) and the Akaiki Information Criteria. The second column shows the Log likelihood ((Ljung-Box Q Statistics) and the Akaiki Information Criteria respectively. The third rows estimate the value of analysis of variance for Panel A and B.

Table 2: ARIMA Estimation for India's Coal Production and Consumption

ARIMA Estimation for India's Coal Production						
Panel A: ARIMA (p=1,d=0,q=1)				**Panel B: ARIMA (p=2,d=0,q=1)**		
Log likelihood (Ljung-Box Q Statistics)			-95.02	Log likelihood (Ljung-Box Q Statistics)		-94.42
Akaiki Information Criteria			198.04	Akaiki Information Criteria		198.85
Analysis of Variance				**Analysis of Variance**		
	Degree of Freedom	**Adj. Sum of Squares**	**Residual Variance**	**Degree of Freedom**	**Adj. Sum of Squares**	**Residual Variance**
Residuals	23	1789.4	74.55	22	1704	73.85
	Estimated parameters				**Estimated parameters**	
Parameters	**Estimated value**	**t-Statistics**	**p-values**	**Estimated value**	**t-statistics**	**p-values**
AR1	0.87	5.11*	0.000	0.23	0.38	0.709
AR2				0.57	1.19	0.244
MA1	0.14	0.51	0.618	-0.42	-0.61	0.546
YEARS	13.93	17.64*	0.000	13.95	17.16*	0.000
CONSTANT	103.45	7.31*	0.000	103.63	7.02*	0.000
ARIMA Estimation for India's Coal Consumption						
Panel A: ARIMA (p=2,d=0,q=1)				**Panel B: ARIMA (p=1,d=0,q=1)**		
Log likelihood (Ljung-Box Q Statistics)			**-102.57**	Log likelihood (Ljung-Box Q Statistics)		-103.67
Akaiki Information Criteria			215.14	Akaiki Information Criteria		215.35
Analysis of Variance				**Analysis of Variance**		
	Degree of Freedom	**Adj. Sum of Squares**	**Residual Variance**	**Degree of Freedom**	**Adj. Sum of Squares**	**Residual Variance**
Residuals	22	3119	134	23	3399.98	141.21
	Estimated parameters				**Estimated parameters**	
Parameters	**Estimated value**	**t-Statistics**	**p-values**	**Estimated value**	**t-statistics**	**p-values**
AR1	0.14	0.25	0.803	0.88	5.91*	0.000
AR2	0.68	1.56	0.131			
MA1	-0.45	-0.76	0.451	0.15	0.52	0.601
YEARS	15.86	13.90*	0.000	15.88	13.99*	0.000
CONSTANT	94.46	4.44*	0.000	93.23	4.51*	0.000

*This table shows summary statistics of ARIMA estimation for India's coal production and consumption. We consider the values of different parameters of the ARIMA model for India's coal production and consumption. As the value of AIC is lower in ARIMA (p=1,d=0,q=1) compared to ARIMA (p=2,d=0,q=1) in our model of India's coal production, we accept the ARIMA (p=1,d=0,q=1) to predict the future. Similarly, as the value of AIC is lower in ARIMA (p=2,d=0,q=1) compared to ARIMA (p=1,d=0,q=1) in our model of India's coal consumption, we accept the ARIMA (p=2,d=0,q=1) to predict the future. In our model, we accept the alternative hypothesis for each parameter based on t-statistics where the test statistics is described as follows: * t- statistic are significant at 1% level of significance i.e., t-values are more than 2.51 at 22 degree of freedom and t-values are more than 2.50 at 23 degree of freedom. ** t- statistic are significant at 5% level of significance i.e., t-values are more than 1.72 at 22 degree of freedom and t-values are more than 1.71 at 23 degree of freedom.*

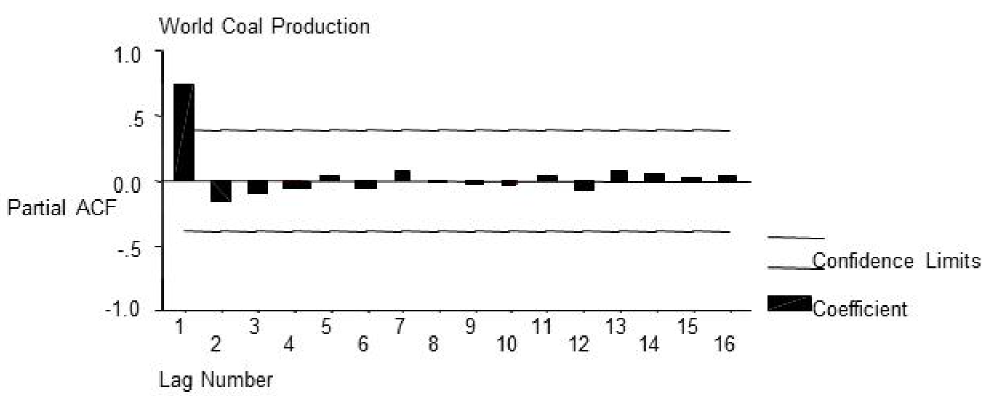
The second column, fourth row of Panel A shows degree of freedom, the third column shows adjusted sum of squares and the fourth column shows residual variance. The first column fourth row of Panel B shows the degree of freedom, the second column shows adjusted sum of squares, and the third column shows residual variance. The fifth row of Panel A and B shows the degree of freedom, adjusted sum of squares and the residual variance respectively. The sixth row of Panel A B shows estimated parameters for the ARIMA estimation of India coal production. The first column seventh row of Panel A shows parameters, the second column shows estimated values, the third column shows t-statistics and the fourth column shows p-values.

The first column seventh row of Panel B shows estimated values, the second column shows t-statistics and the third column shows p-values. The first column of the eighth through thirteenth rows shows the parameters of AR1, AR2, MA1, years and constant. The second through thirteenth rows show the estimated value of different parameters.

Similarly, the second series of rows show the ARIMA Estimation for India's coal consumption. The first series of rows show the ARIMA estimation for India's coal consumption. The first row of Panel A shows ARIMA (p=2, d=0, q=1) and panel B shows ARIMA (p=1,d=0,q=1). The first column of Panel A and B shows the Log likelihood ((Ljung-Box Q Statistics) and Akaiki Information Criteria and the second column shows the values of Log likelihood **((**Ljung-Box Q Statistics) and Akaiki Information Criteria respectively. The third rows estimate the analysis of variance for Panel A and B. The second column fourth row of Panel A shows degrees of freedom, the third column shows adjusted sum of squares and the fourth column shows residual variance. The first column fourth row of Panel B shows degrees of freedom, the second shows adjusted sum of squares, and the third shows residual variance. Refer to Figures 1 through 7 for additional results.

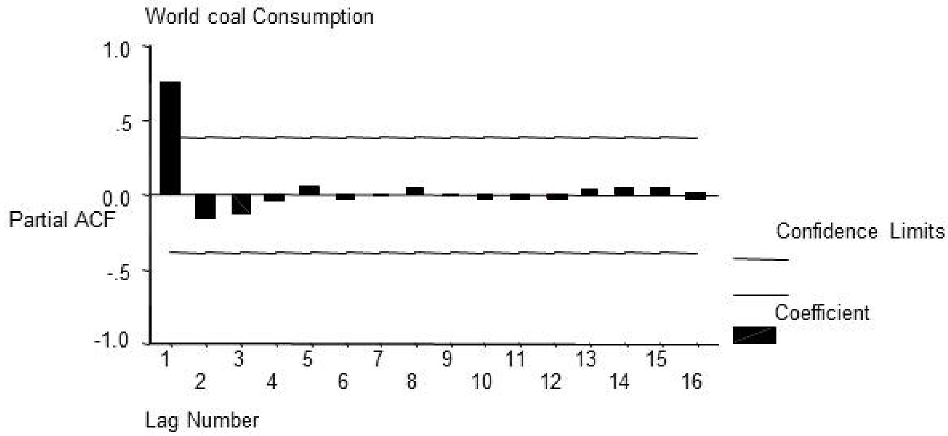
The fifth row of Panel A shows the degrees of freedom, adjusted sum of squares and residual variance respectively. The sixth row of Panel A and B shows estimated parameters for ARIMA estimation of India's coal consumption. The first column seventh row of Panel A shows parameters, the second shows estimated values, the third shows t-statistics and the fourth shows p-values. The first column seventh row of Panel B shows estimated values, the second shows t-statistics and the third shows p-values. The first column of the eighth through thirteenth rows shows the parameters of AR1, AR2, MA1, years and constant. The second through thirteenth rows show the estimated values of different parameters.

Figure 1: Partial Autocorrelation Function of the Differentiated Time Series of World's Coal Production



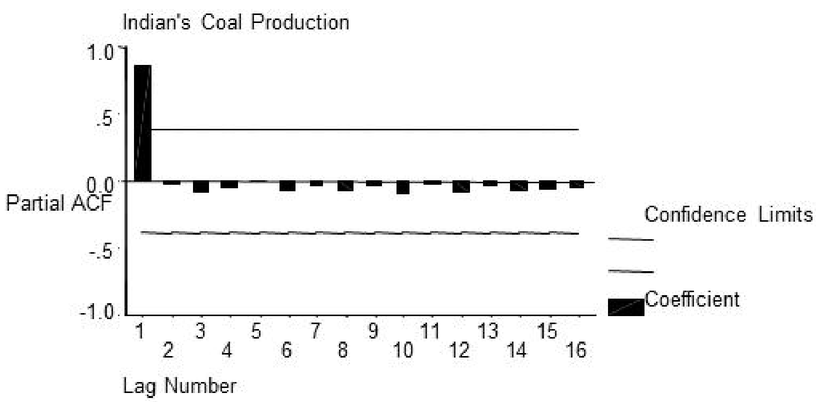
The analysis of partial auto-correlation function (PACF) depicted in figure 1 demonstrate that the ARIMA model for world coal production to be evaluated by (p=1, d=0, q=1) as PACF exhibits a peak much different from zero.

Figure 2: Partial Autocorrelation Function of the Differentiated Time Series of World's Coal Consumption



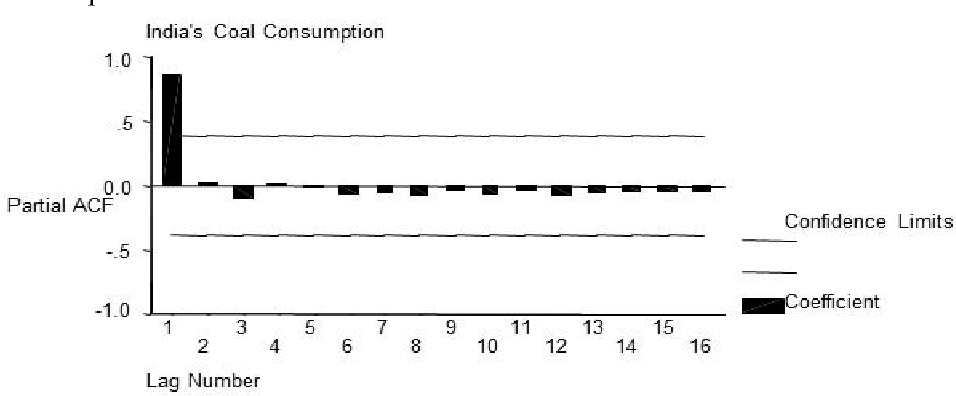
The analysis of partial auto-correlation function (PACF) depicted in figure 2 demonstrate that the ARIMA model for world coal consumption to be evaluated by (p=2, d=0, q=1) as PACF exhibits a peak much different than zero and exponential fall in negative values.

Figure 3: Partial Autocorrelation Function of The Differentiated Time Series of India's Coal Production



The analysis of partial auto-correlation function (PACF) depicted in figure 3 demonstrate that the ARIMA model for Indian coal production to be evaluated by (p=1,d=0, q=1) as PACF exhibits a peak much different from zero.

Figure 4: Partial Autocorrelation Function of the Differentiated Time Series for India's Coal Consumption



The analysis of partial auto-correlation function (PACF) depicted in figure 4 demonstrate that the ARIMA model for Indian coal consumption to be evaluated by (p=2, d=0, q=1) as PACF exhibits a peak much different than zero and exponential fall in negative values.

Figure 5: Prediction of World Coal Production and Consumptions

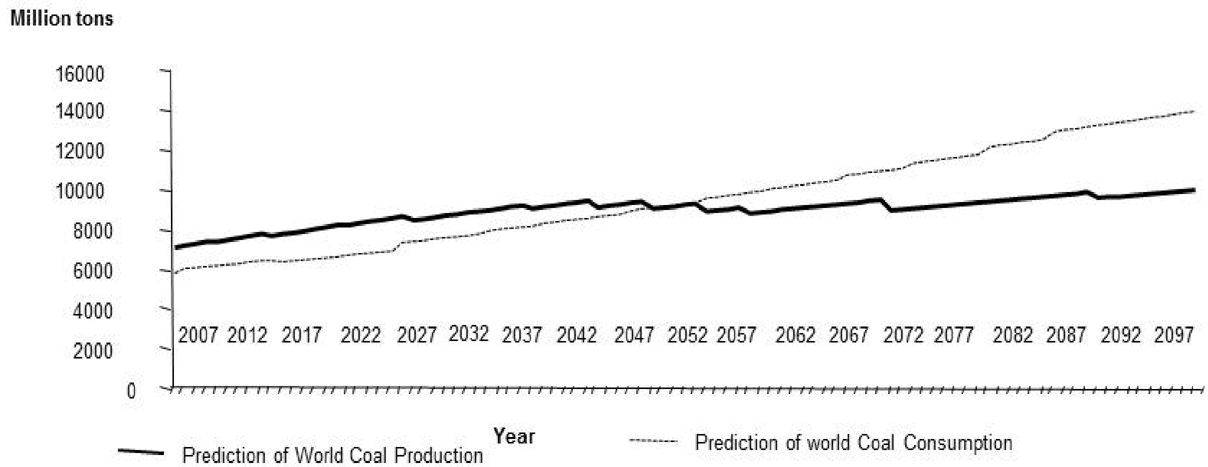


Figure 5 shows the prediction results of world foal production and consumption. It is observed that after 2050 a saturation point is reached for coal demand and supply in world.

Figure 6: Prediction of Indian Coal Production and Consumptions

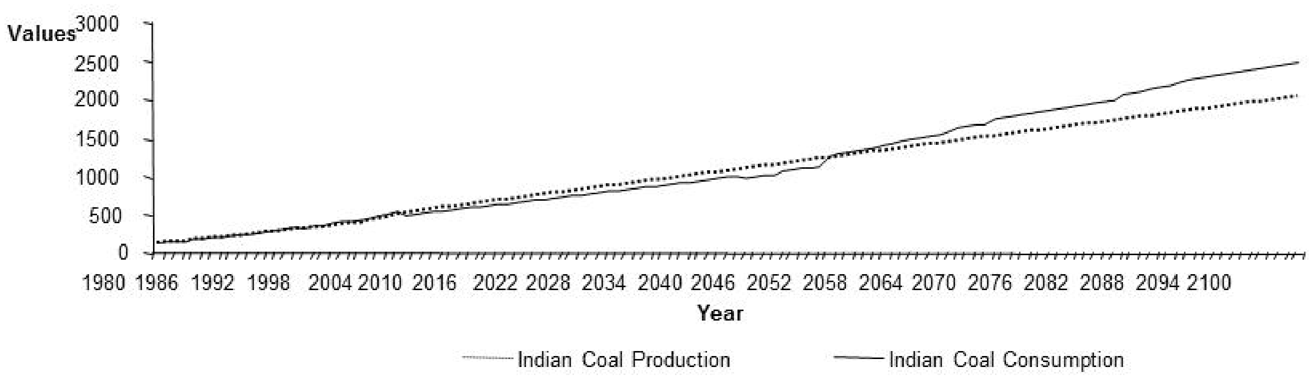


Figure 6 shows the prediction results of India coal production and consumption. It is observed that after 2055 a saturation point is reached for coal demand and supply in India.

Figure 7: Coal Consumption by Different Industries in India ('00000 Tonnes).

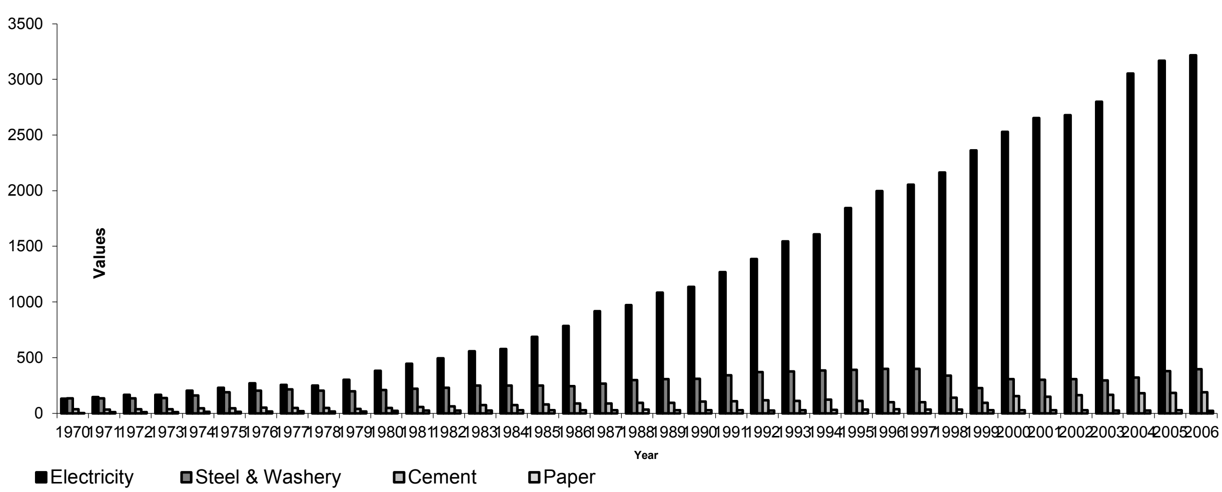


Figure 7 shows the consumption of coal by different Indian industries. It is observed that the demand for coal as a raw materials for the power sector increased over time where as the demand of coal as raw materials for other industries is constant but at a high rate.

CONCLUSION

Indian economic growth has stabilized at around 8 to 9 percent per annum, attributed largely to the industrial sector. We have observed that thermal power generating units use substantial quantity of coal. Further, consumption of coal has increased, as other major industries are also dependant on coal. While consumption of coal in the thermal power sector is increasing daily, it is more or less stable in other industries. In this scenario if the trend of coal consumption in the power sector continues to increase, other industries will starve for want of coal. The shortage of coal will push raw material costs of other industries high and they will face the question of survival. Therefore, in order to maintain the sustainable development and economic growth of the country, India needs to reduce coal use by the thermal power sector. This also leads us to the conclusion that in the near future thermal power generation with coal will not be possible because of shortages of this basic raw material

In the context of economic globalization, no country has any boundary with the neighboring country. Every country is looking towards foreign markets to achieve its target and combat international competition. Competition never leaves the price war, which is affected by raw material costs. Therefore, to be a market leader in both domestic and global markets, the Indian government should aid the industry in terms of cost of basic raw materials at an affordable cost. One of the basic costs of industrial production is electricity for which the country largely depends upon thermal power. The cost of thermal power is high due to factors noted above. Thus, India needs to explore alternative sources of energy.

The study also indicates that coal consumption will exceed production and the saturation point of coal consumption & production will reached by the mid 21st century. This holds true not only in India but all over the world. Therefore, decision makers must be concerned with uncertainty and non-availability of coal for generation of thermal power. Decision makers need to explore avenues for generation of electricity through alternative sources for sustainability of the country's economy.

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REGULATION OF ACCOUNTING FIRMS: EVIDENCE FROM FIJI

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ABSTRACT

Ever since the major corporate collapses of Enron in the United States and HIH Insurance in Australia, the public accounting profession has come under global scrutiny. Both collapses had one thing in common, the auditor firm, Arthur Anderson. Many lessons were learnt from these failures which saw both jurisdictions taking counter-active measures either through enactments of new legislation or establishment of oversight bodies aimed at tightening control over practicing public accountants and auditors. In the Pacific region, developing countries such as Fiji have also experienced corporate calamities. This paper explores the need to regulate chartered accounting (CA) firms in Fiji following three major financial mishaps: the National Bank of Fiji, the Fiji National Provident Fund and the hardware industry. To gather data, we conducted in-depth interviews with the Commerce Commission of Fiji, the South Pacific Stock Exchange, the Fiji Institute of Accountants (FIA) and partners from the top four CA firms in Fiji, namely, KPMG, PricewaterhouseCoopers, Ernst & Young and G. Lal &Co. The results showed that the FIA and the CA partners were pro self-regulation while other interviewees showed strong support for regulation by an independent oversight body.

JEL: M4

KEYWORDS: Regulation, chartered accountants, self-regulation, oversight body

INTRODUCTION

Much has been said and written by scholars and accounting practitioners about major corporate collapses such as Enron and HIH Insurance, which involved gross negligence on the part of their auditor firm, Arthur Anderson. These corporate disasters marked the move towards more stringent regulation of the accounting profession in both the United States (US) and Australia.

In the US, for example, the Sarbanes-Oxley Act (SOX) was brought into force in 2002, which in turn created the Public Company Accounting Oversight Board (PCAOB). The PCAOB has been empowered to set and enforce auditing, attestation, quality control and ethics standards for public companies. The Board also has powers to inspect and discipline public accounting firms that audit public companies (Gay and Simnett, 2007). In Australia, the Corporate Law Economic Reform Programme (Audit Reform and Corporate Disclosure) Act, known as "CLERP 9", which came into effect from 1 July 2004, amended the *Corporations Act 2001*. It strengthened the financial reporting framework, ending the era of audit self-regulation in favor of the Financial Reporting Council (FRC) (Robins, 2006). Additionally, the corporate collapses saw increased involvement of professional bodies such as the Australian Securities and Investments Commission (ASIC), the Urgent Issues Group (UIG) and the Certified Practicing Accountants (CPA) Australia.

These corporate failures also have implications for emerging Pacific Island economies, such as Fiji, where three of the Big Four chartered accounting (CA) firms such as KPMG, PricewaterhouseCoopers (PwC) and Ernst & Young have set up practices. These firms audit the sixteen listed companies on the South Pacific Stock Exchange (SPSE), as well as other non-listed companies. The practice of these firms has also spread to other Pacific Island Countries (PICs). Fiji adopted the International Financial Reporting

Standards (IFRS) in 2007 (FIA Annual Report, 2009) and the practices of these CA firms are dictated by these standards. Unlike its overseas counterparts, there is no independent oversight body in Fiji to monitor these audit firms or to take disciplinary action. The profession is currently subject to self-regulation through the Fiji Institute of Accountants (FIA), the only professional accounting body in Fiji. However, the FIA only has the mandate to control its members and lacks jurisdiction over non-members. Additionally, practitioners from CA firms dominate the membership of the FIA. Thus, the FIA has gained a monopoly status with limited (if no) scrutiny by the community and other stakeholders.

Fiji has also experienced its share of corporate calamities. The multi-million dollar saga involving the National Bank of Fiji (NBF), the misuse of public funds by Fiji's superannuation body, the Fiji National Provident Fund (FNPF) and the recent allegations against the hardware industry on their dubious pricing practices have questioned both the reliability of audit opinions and auditor competency. Who is answerable for these calamities on behalf of the accounting practice? Can the current regulator (the FIA) independently monitor, question and regulate the accounting practice in Fiji?

Therefore, this paper discusses the perspectives of various stakeholder groups, that is, the Commerce Commission of Fiji (hereafter, "Commerce Commission"), the SPSE, the FIA and the partners of CA firms. We sought their response on the current state of regulation of CA firms and the accountancy profession, the adequacy of the role of the FIA and the need (if any) to establish an independent accounting oversight body in Fiji. To gather data for this study, we conducted in-depth interviews with representatives of the above-mentioned stakeholders.

This paper has six sections. Section 1 examines the literature. Section 2 states the methodology. Section 3 provides an overview of the FIA and its role in Fiji. Section 4 describes the accounting crises in Fiji. Section 5 discusses the results of the interviews. The final section concludes the paper and highlights the implications, limitations and recommendations of this research.

LITERATURE REVIEW

The past several years have witnessed a widely perceived ethical breakdown of a trusted fiduciary institution that has been the epicenter of a number of financial scandals: the public accounting profession. Enron, WorldCom, Global Crossing, Tyco and other corporate collapses were widely seen as a failure of the profession, which is commonly viewed as a public watchdog of the honesty and accuracy of corporate financial statements they audit (Strier, 2006). According to Ball (2009), in several of the scandalous cases, Enron in particular, investors were alleged to have been misled by financial statements that were in technical compliance with the US Generally Accepted Accounting Principles (GAAP) but that did not reflect the economic substance of the transactions that were reported.

Lenard, Alam, Meonske and Pearson (2005) state that individuals and various organizations may be less willing to invest in stocks and bonds of large public companies because of a belief that accounting numbers disseminated by these entities can no longer be trusted as the accounting debacles have raised serious questions about the integrity of financial reporting. In the aftermath of such corporate scandals, legislators and investors have struggled with questions of how best to regulate the accounting profession and the implications of unethical financial reporting. Grumet (2002) argued that whether to regulate the accounting profession or not is not the real question because the answer is so obviously, yes. The real question is whether the profession and the regulators are willing to do it in a way that restores investor confidence in our capital markets and serves the public rather than their own agendas. According to Roberts and Kurtenbach (1998) as cited in Hassan (2008), "regulation" refers to legislative, administrative and professional controls over various aspects of accounting activities performed in the private and public sectors.

In response to these scandals, substantial changes took place in the approach to accounting rule-making, auditing standards and regulation of accounting firms, including auditor independence issues (Grusd, 2004). Miller and Pashkoff (2002) classified the SOX as a major reform package mandating the most far-reaching changes Congress has imposed on the business world. It seeks to thwart future scandals and restore investor confidence by, among other things, creating the PCAOB, revising corporate governance standards and significantly increasing criminal penalties for violations of securities laws. The operations of the PCAOB are subject to direct and substantial oversight by the Securities and Exchange Commission (SEC). Hill, McEnroe and Stevens (2005) conducted a survey of CPAs in the US two years after the introduction of SOX in order to determine auditor reactions to SOX and the PCAOB. Of the 1,200 CPAs surveyed, the authors received 336 responses. Respondents claimed that it was not the lack of auditing and accounting standards that led to corporate accounting scandals and audit failures, but rather a lack of vigilant monitoring and vigorous punishment of unethical behavior. Notably, 73% of the respondents agreed that an independent third party, the PCAOB should conduct investigations and impose sanctions upon auditors.

With the passage of the SOX, the role of the American Institute of Certified Public Accountants (AICPA) also changed. The PCAOB now oversees accounting firms with respect to services performed for publicly held corporations and the AICPA maintains its regulatory role for non-public company audits (Brody, Coulter and Jewell, 2006). It is clear that the SOX reforms significantly eroded the relatively high level of autonomy and self-regulation formerly enjoyed by the accounting profession in the US (O'Connell, Webb and Schwarzbach, 2005). To compare the US reforms with that which took place in Australia, while the accounting profession in Australia has lost some of its sovereignty, the profession still maintains significant influence in key bodies such as the FRC. Australia has no equivalent of the PCAOB, although the Ramsay Report of 2001 recommended the formation of a similar entity called the Auditor Independence Supervisory Board (AISB). This Body was not included in the CLERP 9 law reforms. Rather, the FRC and the ASIC share the many tasks that a body such as the PCAOB would undertake (O'Connell, et al., 2005).

Robins (2006) argues that regulatory reforms in the US considerably influenced the Australian response to corporate collapses. Although scandals and bankruptcies began earlier in Australia, the American response to the corporate failures was swift and came sooner. The Australian responses may be viewed as ill coordinated and weak, when compared with the apparent rigor of SOX. This was inevitable given the larger place in Australian tradition of voluntary codes of conduct, as opposed to prescriptive legislation. Australia has also given plenty of time for businesses, the accounting profession, shareholder organizations and others to participate in the public debate.

Chamisa (2000) and Xiao, Weetman and Sun (2004) as cited in Hassan (2008) suggest that as the economic environment revolutionizes so does the demand and use of financial information, leading to the development of new financial accounting regulations. According to Samuels and Oliga (1982) as cited in Hassan (2008), the procedure for developing accounting regulations in less developed countries has become more vague and theoretically complex, yet the desire to develop domestic regulations in accordance with international ones, or as they argue to harmonize them, seems to continue.

Against this background, we attempt to show how Fiji faces the daunting task of restoring public faith in the accounting profession. The country has much to learn from the US and the Australian regulatory and legislative reforms. It is imperative for such developing countries to involve regulatory bodies and the accounting profession in its reform process.

METHODOLOGY

To gather data for this research, we conducted in-depth interviews with four stakeholder groups: the Commerce Commission, the SPSE, the FIA and the partners of the top four CA firms operating in Fiji, namely, KPMG, PwC, Ernst & Young and G. Lal & Co. We digitally recorded the interview sessions, which lasted approximately 30 minutes each. The Commerce Commission and the SPSE are non-accounting bodies who were selected to provide an independent perspective. The Commerce Commission is a statutory body, charged with the regulation of competition, consumer protection and pricing of goods and services offered in markets with lessened or limited competition. The Commission had initially prompted the issue of regulating CA firms following its investigation on the recent hardware-pricing crisis.

The SPSE has the responsibility of facilitating trade in securities on the stock exchange. As part of SPSE's Listing Rules, listed companies are required to submit financial reports, these being audited by the CA firms. Thus, the interview sought to determine compliance levels of CA firms with the securities laws as well as the accounting and auditing standards expected of them.Given that FIA is the professional body, which is currently overseeing the accounting profession in Fiji, it became crucial to obtain their stand on the issue of regulation. The reason for selecting partners of the top four CA firms is that they are presently subject to great scrutiny by stakeholders who are demanding increased regulation and monitoring of the public accounting profession.

OVERVIEW OF THE FIJI INSTITUTE OF ACCOUNTANTS (FIA)

The *Fiji Institute of Accountants (FIA) Act 1971* (hereafter "the Act") came into force on 11 February 1972 and provided for the establishment of the FIA. Section 6(b) of the Act states that one of the purposes of the Institute is to "register accountants and to regulate the practice of the profession of accountancy in Fiji". The management and control of the FIA lies with an elected Council comprising of nine members. The Council has powers to make rules with respect to the professional conduct of its registered members, make by-laws for sound accounting practice, act to prevent illegal and dishonorable practices, promote the interests of the accountancy profession as well as regulate the conduct of members of the FIA (Section 28(1), *FIA Act*).

To assist in regulation of members, the Council has powers to appoint an Investigation Committee (IC) and a Disciplinary Committee (DC). Both comprise five members, of which three members are from the FIA Council. FIA also has various other committees such as the Professional Development Committee, the Act & Rules Committee, the Membership and Admissions Committee, the Accounting and Auditing Standards Committee as well as a Surveillance Panel Sub Committee (FIA Annual Report, 2009). Practitioners from the CA firms dominate the membership of these committees.

The Institute has approximately 681 members registered in accordance with the provisions of the Act (FIA Annual Report, 2009). Singh (2010) states that of all professional bodies in Fiji, FIA holds the highest respectability and professional status and that the profession consists of the most powerful movers and shakers in Fiji.

ACCOUNTING CRISES IN FIJI

The accounting profession in Fiji has come under the spotlight. Various stakeholders such as the Government, the Commerce Commission of Fiji, the Consumer Council of Fiji and the public have begun to question the role of auditors following three major accounting crises involving the NBF, the FNPF and the hardware industry in Fiji. These stakeholders are now calling for stringent monitoring and regulation of the accounting profession via establishment of an independent accounting oversight body.

The NBF formally started in 1976. Its predecessor, 'Savings Bank of Fiji' was in operation since 1907. The transition from a 'savings' bank to a 'commercial' bank began in 1973 after Fiji gained independence in 1970. According to Karan (2010), the NBF served a majority of Fiji's small-scale savers rather than major commercial customers. In 1974, the Government gave powers to the Managing Director of Finance to grant a waiver to the provisions of the Banking Ordinance, which required placing a limit on the loans to a single customer. This high-risk action was necessary if the bank was to have any chance of being profitable as a commercial bank. In 1984, the then Minister of Finance gave a broad waiver of the "25% equity rule" which allowed NBF to loan out large amounts for rehabilitation programs after a series of natural disasters. The 1993 audit by the Auditor-General's office revealed that this waiver was applied to all lending by the NBF.

After 1987, new leadership in NBF led to further abuses such as kickbacks, giving interest-free loans to friends, acceptance of non-competitive tenders and approval of large loans with inadequate security. No corrective action took place to address this malpractice. An external audit report by Aidney-Dickson in 1994, revealed that NBF operations were fundamentally flawed and the institution was bankrupt for some years (Karan, 2010). Lodhia and Burritt (2004) state that even though the NBF problems were evident, neither the Government, nor the NBF Board and the Reserve Bank of Fiji (RBF) interfered in the management of the NBF. This was also supported by a Former High Court Judge, Justice Nazhat Shameem who stressed that neither the RBF nor the Auditor-General's office and the Ministry of Finance corrected the interpretation of the "25% equity rule" (Wise, 2010).

Lodhia and Burritt (2004) further note that it was not until the situation got out of control in 1995 that these parties reacted. Prior to this, the results of NBF showed that it was doing reasonably well, when in essence, it was insolvent. The Office of the Auditor General (OAG) also failed to highlight deficiencies in these results. The manipulated results, which remained undiscovered for a long time due to auditing failures, provided the NBF management with complete independence, resulting in financial chaos. The collapse of NBF resulted in bad and doubtful debts of FJ$220 million (Karan, 2010). Lodhia and Burritt (2004) found that poor public sector management combined with corrupt practices contributed to the demise of the NBF. Although failure on the part of Government auditors resulted in significant loss of public monies, no disciplinary action was taken against them and nor were they held accountable for their negligence.

The second crisis as mentioned earlier, involved the FNPF, which is the only superannuation body in Fiji. The FNPF crisis surfaced in 2010 when poor investment decisions on the part of the superannuation body led to huge losses amounting to FJ$327 million in member funds. This accounted for nine per cent of the total members' funds. The write-off of FJ$327 million consisted of FJ$301 million from Natadola Investment, FJ$18 million from Momi Investment and the balance arising from projects such as the Malthouse Brewery, Savusavu Marina, Bayview Hospital, Grand Pacific Hotel and the Fiji Hardwood Corporation. The write-down was necessary to show the true and fair value of FNPF assets (Baselala, 2010).

The *FNPF Act* 1966 *(*as revised in 2006) provides that "an international firm of Chartered Accountants represented in Fiji Islands by practicing members of the Fiji Institute of Accountants and appointed by the Board" audit the accounts of the superannuation body. At the time when these investment decisions were made, one of the top four CA firms together with the Government auditor were providing audit services to FNPF. The auditors had highlighted the issue of over-valuation of the FNPF assets as early as 2005 (Baselala, 2010). In 2008, the auditor firm provided a qualified audit opinion on the basis that it was unable to access the full financial information relating to certain high-risk investments such as the Natadola project (FNPF Annual Report, 2008). Astoundingly, the FNPF operated with an inflated value of assets from 2005 until May 2010.

The third and most recent accounting crisis involved exorbitant pricing of hardware materials by the hardware industry in Fiji. The investigation into the hardware trade began in April 2010 upon the request of customers who lodged complaints with the Consumer Council of Fiji (Nadore, 2010). The Ministry for Trade and Industry also prompted an inquiry into the matter and sought assistance from the Commerce Commission to carry out an investigation. According to the Commerce Commission, the companies were involved in price fixing and price setting including marking-up of hardware materials from 15 to 34,000 per cent (Baselala, 2010). The Commission also discovered that the companies did not follow proper accounting practices as well as International Accounting Standards (IAS), yet auditors had signed off the accounts. The investigation also found companies shifting profits offshore by issuing dummy invoices. The Commerce Commission's Report signaled "alleged collaboration between accounting firms and their clients in misrepresenting various facts" (*Fiji Sun,* 21 August 2010).

The above three cases had two things in common: the involvement of the public accountants and the inactive presence of the FIA. All these cases either involved public accountants' laxity in detecting the crises beforehand or in the case of detection, the failure to investigate further into the issue. Despite being an oversight body, the FIA failed to question public accountants involved in the crises.

At the 2010 FIA Congress, the Prime Minister of Fiji sought accountability from practitioners by questioning their role at the time of the crises. On the NBF issue, the Prime Minister queried, "Would the debacle at NBF have been picked up earlier if the auditors and accountants, rather than simply highlighting matters, brought it…into the public domain?" He also questioned the accountants' responsibility in the FNPF investment crisis: "Is it only the fault of the then directors and management of FNPF Board that FNPF has had to write off in excess of three hundred million dollars from its books? When the excesses pertaining to Natadola and Momi were taking place, weren't accountants involved?" According to him, the accounting practitioners in Fiji have continued to overlook inherently flawed internal systems and procedures due to fear of upsetting the status quo and the risk of losing their clients. Further, the fact that the FIA has taken no disciplinary action demonstrates that "there may be a need to set up an independent disciplinary body" (Bainimarama, 2010).

Thus, the role of the FIA as a regulator of the accounting profession in Fiji has come under serious scrutiny. Stakeholder groups such as the Government and the Commerce Commission are considering the establishment of an independent oversight body charged with the responsibility of monitoring the accounting profession and taking disciplinary action where necessary. This prompted the authors to obtain perspectives of the various stakeholders on the proposed initiative.

RESULTS

In this section of the paper, we discuss the perspectives of the Commerce Commission, the SPSE, the FIA and the partners of CA firms on the issue of regulating the accounting profession and CA firms in Fiji.

The Perspective of the Commerce Commission

Authors sought response from a senior representative of the Commerce Commission on a number of issues as summarized by the table below:

Table 1: Response Gathered from the Commerce Commission

Issue	Response of the Commerce Commission
Current state of regulation of the accounting profession/firms in Fiji	The accounting profession in Fiji is not regulated at all. The CA firms are operating in a monopolistic manner.
Can the FIA independently monitor, question and regulate the accounting profession?	The FIA is not in a position to regulate the accounting profession. There is serious lack of independence, as members from the top four CA firms are dominating the FIA.
Need (if any) to create an independent accounting oversight body	The Commerce Commission believed that the accounting firms were engaging in violation of accounting standards day-in-day-out. Following its investigation into the hardware crisis, it made strong recommendations to the Ministry of Commerce to set up an independent oversight body.
Membership of the proposed oversight body	It should comprise members from the commerce industry, the academia and the existing professional body.
Powers and functions of the proposed oversight body	a) Monitor the ethical and audit conduct of accountants and accounting firms to prevent create accounting practices in future; b) Impose fines, suspend and expel non-compliant practitioners; c) Refer matters to the Fiji Police depending on its seriousness.

This table summarizes the response gathered from the Commerce Commission on the current state of regulation of the accounting profession, the adequacy of the FIA's role, the need for an independent oversight body and the membership, powers and functions of such a body (if created).

According to the interviewee, the Commerce Commission was the only body that had formally raised the issue of regulating the accounting profession in Fiji. It showed strong support for the establishment of an independent accounting oversight body as it had little confidence in the FIA.

<u>The Perspective of the South Pacific Stock Exchange (SPSE)</u>

Authors sought response from a senior financial representative of the SPSE on a number of issues as summarized by the table below:

Table 2: Response Gathered from the SPSE

Issue	Response of the SPSE
Current state of regulation of the accounting profession/firms in Fiji	The CA firms are generally doing well under the watch of the FIA. Firms are assisting (the then) seventeen listed companies on the SPSE to maintain satisfactory reporting standards in compliance with the SPSE Listing Rules.
Instances (if any) of discrepancies in the audited financial statements of listed companies submitted under SPSE Listing Rules	Yes. The SPSE has its own Research Team, which scrutinizes the audited financial statements. It has comes across instances where auditors had signed off financial reports and the Balance Sheet had not balanced.
Can the FIA independently monitor, question and regulate the accounting profession?	The crucial role of the FIA is to enhance the quality of financial reporting in Fiji by organizing courses/seminars to increase awareness, knowledge and skills of accountants. Dissatisfaction with the FIA on issues such as: a) Lack of staff having in-depth accounting knowledge; b) Inability to provide prompt feedback on queries; c) Workshops/seminars that falls short of SPSE expectations. Suggestion: The FIA should liaise with academics to perform its role better.
Need (if any) to create an independent accounting oversight body	SPSE showed strong support for the establishment of such a body.
Membership of the proposed oversight body	It should comprise of practitioners from all areas of accounting including representatives from the financial institutions and capital markets. Members could hold premier designations, be CPA qualified with vast experience in their respective fields.
Powers and functions of the proposed oversight body	It should have powers similar to the FIA but should have the right to question and oversee FIA operations.

This table summarizes the response gathered from the SPSE on the current state of regulation of the accounting profession, instances of audit discrepancies, the adequacy of the FIA's role, the need for an independent oversight body and the membership, powers and functions of such a body (if created)
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Authors note that in instances where the SPSE had found discrepancies in the audited financial statements of listed companies, the practice of the SPSE is to write to the directors of the company concerned, who then report the error to their auditors. Currently, there is no requirement for the SPSE to report such negligence on the part of the auditor firms to the FIA for action.

Overall, the SPSE showed firm support for the proposed oversight body. The interviewee accentuated that "it is about time FIA is properly governed to ensure that the accounting profession runs effectively and efficiently for delivery of better quality financial reports to shareholders."

The Perspective of the Fiji Institute of Accountants (FIA)

Authors obtained response from a Council representative of the FIA on a number of issues as summarized by the table below:

Table 3: Response Gathered from the FIA

Issue	Response of the FIA
Current state of regulation of the accounting profession/firms in Fiji	Primary regulation through the *FIA Act* 1971 *as* revised in 1996. Also regulated by other legislation such as the *Companies Act* 1983 (Fiji) and the *Income Tax Act* 1974, which is subject to annual amendments.
Can the FIA independently monitor, question and regulate the accounting profession?	FIA has been efficiently overseeing the profession since its establishment in 1972. *Disciplinary process:* • The Investigation Committee determines whether *prima facie* a case exists. • The Disciplinary Committee looks at the evidence, conducts interviews and imposes penalties such as censorship, fines and suspension of members. *Monitoring through the Surveillance Panel:* • Reviews published annual financial reports of statutory bodies and listed companies.
Lack of jurisdiction over non-members	Yes. The FIA has no jurisdiction over non-members, particularly tax agents. Suggestion: Bring all legislation into par to provide FIA with greater powers to oversee non-members.
Need (if any) to create an independent accounting oversight body	There was strong opposition to the proposal, as FIA is operating under the watch of the International Federation of Accountants (IFAC), an international oversight body that eliminates the need to have an independent governing body in Fiji. FIA is fully compliant with IFAC Statement of Member Obligations (SMOs) concerning education, disciplining of members and Continuing Professional Development (CPD) among other obligations.

This table summarizes the response gathered from the FIA on the current state of regulation of the accounting profession, the adequacy of the FIA's role and the need for an independent oversight body.

When questioned on the adequacy of FIA's role as the current regulator of the profession, the representative took a very defensive stance. The representative strongly believed that there was "huge misconception" about the hardware-pricing crisis (probed into by the Commerce Commission), which has brought the FIA unnecessary criticism.

On the issue of establishing an independent accounting oversight body, the interviewee stressed that "the accounting practice is a technical area and one needs to understand the practice well before being able to regulate it." Thus, the FIA showed strong opposition towards the proposed initiative. However, it acknowledged that with pressure from other stakeholders, the Government would perhaps set up such a body.

The Perspective of the Chartered Accounting (CA) Firms

To obtain the perspective of the CA firms, the authors interviewed four partners each representing KPMG, PwC, Ernst & Young and G. Lal & Co respectively.

Table 4: Response Gathered from Partners of CA Firms

Issue	Response of the CA Firms
Current state of regulation of the accounting profession/firms in Fiji	All partners agreed that the profession is self-regulated through the FIA and as well as the Tax Agents Registration Board (TARB), the RBF and the Fiji Islands Revenue and Customs Authority (FIRCA).
Can the FIA independently monitor, question and regulate the accounting profession?	The FIA: • Has played an instrumental role in aligning Fiji's accounting practice to international accounting and auditing standards; • Is fairly well-structured having its own Investigation and Disciplinary Committees to look into complaints; • Has commendable affiliation with the IFAC. Challenges and limitations: • Resource constraints such as funding and not having qualified personnel • Lack of jurisdiction over non-members • Independence issues within the FIA Council and its Committees (for example, Council members also serving on the IC and DC) Remedies: • The FIA has made recommendations to the Government to merge with TARB. • The FIA is considering the creation of a governing Council whose members would not serve on the other special committees.
Need (if any) to create an independent accounting oversight body	All partners strongly opposed the proposed initiative commenting that: • IFAC supervision eliminates the need to set up such a body. • FIA is fully compliant with IFAC requirements • Provide FIA with greater powers instead. One partner highlighted that it would be a challenge to establish such a body due to resource issues, such as funding and getting qualified personnel.

This table summarizes the response gathered from interviews conducted with four partners representing the top four accounting firms in Fiji, namely, KPMG, PwC, Ernst & Young and G. Lal & Co. It summarizes their views on the current state of regulation of the accounting profession, the adequacy of the FIA's role and the need for an independent oversight body.

Overall, the partners did not support the proposed initiative of establishing an independent oversight body to regulate the accounting profession in Fiji. They reasoned that the FIA was currently performing an adequate role and that with necessary support and increased regulatory powers it could continue to deliver as expected of a professional body.

CONCLUSION

The aim of this research was to determine how and who should regulate the accounting profession in Fiji. The stakeholders interviewed included representatives of the Commerce Commission, the SPSE, the FIA and the partners of top four CA firms in Fiji. The recent accounting crises of the FNPF and the hardware industry together with the NBF crisis of 1995 had motivated the authors to gain further insight on regulation of the CA firms and the accountancy profession in Fiji.

The interviewees from the non-accounting bodies believed that there is inadequate regulation of the accounting profession in Fiji and that there was an urgent need to establish an independent oversight body. They recommended that such body should consist of members from the FIA, the academia and the commerce industry. Conversely, the perspectives provided by the FIA representative and the CA partners were pro self-regulation. However, the FIA acknowledged that with pressure from other stakeholders, the Government might set up an independent oversight body. The authors had anticipated such responses given that practitioners from CA firms dominate the membership of FIA.

Our research also had its limitations. This paper has only considered the perspectives of four stakeholders. Further research on a larger scale must take place to determine the perspectives of other stakeholders such as partners of local CA firms, the academia and other regulatory bodies such as the RBF and FIRCA. Thus, one cannot solely rely on the perspectives presented in this paper to generalize the current state of regulation of the CA firms in Fiji and the directions that future reform processes should take.

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THE ROLE OF THE EXPERT WITNESS IN ACCOUNTING FRAUD CASES

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ABSTRACT

We provide information regarding expert testimony in financial fraud cases. Financial fraud, including tax fraud, is on the rise, and so is the demand for expert witness testimony for both the prosecutors and the defense team when these frauds are prosecuted. We detail the role and qualifications of the accounting expert witness and we provide examples of two high profile fraud cases in which expert testimony of accountants was used. This article should be of interest to attorneys, accountants, academics and students.

JEL: M40

KEYWORDS: financial frauds, expert witness

INTRODUCTION

Financials frauds have been making headlines for years. From Enron and WorldCom to Fannie Mae and Freddie Mac, it seems like there is a new high-profile scandal every week. Less publicized financial frauds are also on the rise (Emshwiller, 2010). This paper examines the role of the expert witness in accounting fraud cases. This is an important topic to examine because of the sheer magnitude of cases involving accounting fraud. In 2009, approximately 10% of all federal criminal cases were related to fraud (United States Sentencing Commission, 2010). In a recent poll by Deloitte, more than half of the 2,100 business professionals thought more financial fraud would be uncovered in 2010 and 2011 than in the prior three years (Deloitte, 2010). Due to the recent financial crisis in the United States, businesses, individuals, and large corporations have been facing huge financial pressures.

They have suffered or may still be suffering from financial losses, which could, to some extent, increase number of incidents of financial fraud. Pressures, opportunities, and rationalization form the fraud triangle for financial fraud perpetrators. Accountants play an increasingly important role in providing litigation services for financial fraud cases. Many attorneys need assistance from accountants during the preparation of their cases and then later need accountants to testify as expert witnesses. Currently, there is a lack of academic literature that addresses the role of the accountant as expert witness.

This article adds to the current literature by providing an overview of the role of the accountant as an expert witness in financial fraud cases, with a specific focus on two high profile cases: Enron and HealthSouth. In this paper, we examine those two high profile cases in detail, with actual quotes from the expert witnesses at trial. This paper should give both students and practitioners good insight into the role of the expert witness, from preparation to actual testimony.The remainder of the case is organized as follows. First, we review the prior research. Next, we look at tax fraud in general. Then we examine the role and the qualifications of an expert witness. Then the role of the expert witness in the Enron case is examined in detail, followed by an examination of the role of the expert witness in the HealthSouth case. Finally, a conclusion section summarizes the paper and provides suggestions for accountants in an expert witness role.

Prior Research

There is little academic research that examines in detail the role of the expert witness in specific accounting fraud cases. Many case studies examine accounting frauds in detail (e.g., Moriceau, 2005). The frauds at Enron and HealthSouth have been studied extensively. The frauds were widely covered by the popular press, especially the Wall Street Journal. There are cases on them in numerous textbooks (e.g., Knapp, 2011; Beasley et al., 2009). Most business students study at least one of these cases during their time at the University.

Enron is such an important part of accounting history that some faculty use the Enron case during the first day of all of their accounting classes to capture student interest and let them see that accounting is anything but boring (Stice and Stice, 2006). Enron is one of the most widely cited accounting fraud cases in recent history and is used to teach a variety of business topics, such as special purpose entities (e.g., Chasteen, 2005), ethics (e.g., Mintz, 2006; Earley and Kelly, 2004), auditor independence (e.g., Roybark, 2008), corporate governance (Cunningham and Harris, 2006) and other topics.

The HealthSouth case can also be used to teach ethics (e.g., Jennings, 2003; Johnson and Johnson, 2005), corporate governance (e.g., Veasey, 2003) as well as other topics. Part of the popularity of this case in academia may stem from the fact that the CEO of HealthSouth was the first to be tried under the Sarbanes-Oxley Act of 2002.Both Enron and HealthSouth have been studied extensively in the academic literature as well as the popular press. However, we are unaware of any study that examines the role of the expert witness in these cases. This paper contributes to the literature by examining in detail the role of the expert witness in these two important cases.

Tax Fraud

Among the kinds of financial fraud, tax fraud is one of the most common, resulting in billions of dollars lost every year. According to the IRS website, there were between 2,000-3,000 tax fraud investigations initiated each year from 2007 to 2010 (IRS, 2011). Such a large number of fraud cases indicate the increased demand for relevant services offered by accountants. Most often they serve as consultants before trial or as expert witnesses in court.The major phases of litigation are: pleadings, discovery, trial, and possible appeals. During the pleadings phase, the lawsuit is filed and then the defendant files their response. Next, during the discovery phase, written questions and requests for documents are exchanged. After the documents are exchanged, depositions may be taken. Finally, if the case is not settled, it will go to trial. Many cases then go on to appeal. The accountant as expert witness can be invaluable during both the discovery and trial phases.

In most tax fraud cases, although the defense counsel knows what evidence will be presented at the trial, he or she cannot predict every point that the prosecutor will make. Hence, to prepare for the trial, the defense counsel should know every detail about the client's financial records. The defense attorney needs to try to anticipate what will happen in court and mount an affirmative defense for the case. This usually cannot be accomplished by the attorney alone, because defense attorneys are not often experts in financial matters. This is where an accountant comes in during the preparation of the case or as an expert witness in court, which would be crucial to the defense. Therefore, when someone is charged with financial fraud either civilly or criminally, it is very important for an attorney to work with an accountant who can provide expert suggestions. The strategy of a defense counsel for a fraud case can depend largely on an accountant's evaluation of the case.

In the defense of a fraud case, attorneys need to know specifics, because the offense level, which would determine how many years the client could be sentenced, depends largely on the amount of losses. For example, in tax fraud cases, according to the Sentencing Guideline Excerpts for Tax Fraud Examination by University of Houston (2003), the defendant should be sentenced based on their offense level, and the offense level would be determined by the largest tax loss for tax evasion, the filing of fraudulent tax returns, and the failure to file returns. In the case of tax evasion or fraudulent returns, the tax loss is considered to be the amount of loss that would have resulted if the offense had been successfully completed. In the case of failure to file a tax return, the tax loss is considered to be the amount of tax that was owed but not paid.

When dealing with a fraud case, because of sentencing requirements, an accountant would be needed to examine the financial records in detail. After examining the details, an accountant should be able to make a judgment as to whether the defendant understated or overstated revenues, or if there are any fictitious items, and what is the accurate amount of the fraud. An accountant should also consider the tax perspective on both the federal and state level to see if there is any tax evasion or if any fraudulent tax returns have been filed, because these acts could raise tax issues after the main prosecution and generate multiple counts. Since most fraud perpetrators do not pay taxes on the money they steal, there would probably be a multiple counts issue. In addition, attorneys should be aware that it may be easier for prosecutors to file a case on tax crimes when they cannot find sufficient evidence for the main prosecution.By comparing the accountant's conclusion and the prosecutor's indictment, the attorney can make a decision as to whether or not the prosecution is reasonable, and if he or she should try to settle the case out of court instead of going to trial. In fact, the majority of tax fraud cases are settled out of court, whether the charges are civil or criminal. On the civil side, attorneys may advise a client to make a settlement in order to avoid the large expense that would be caused by going to trial. On the criminal side, avoiding the trial expenses is also a concern. However, avoiding a criminal record is the most important reason for out-of-court settlements in criminal cases.

Role and Qualifications of the Expert Witness

For the cases that are not settled, accountants can play another important role in the trial, the role of expert witness. Accountants can testify in court regarding the client's financial matters and give an expert opinion based on their findings. An accountant testifying in federal court must follow the Federal Rules of Civil Procedure and the Federal Rules of Evidence as well as other federal and state laws. An accountant testifying in state court must follow the rules in place in that state, some states have their own standards. CPAs also must comply with the AICPA Code of Professional Conduct. Federal Rule of Evidence 702 (enacted in 1975 and later updated) deals with the admissibility of expert testimony. Before Rule 702, under the Frye standard, courts generally did not accept expert testimony from accountants (The Frye standard is no longer used in federal courts, however, it is still used in some state courts.) The Frye standard requires the judge to consider the opinion of the "expert's" peers when deciding whether or not the expert should be allowed to testify. With the enactment of Rule 702, someone with "scientific, technical or otherwise specialized knowledge" could qualify as an expert witness, but it was left to individual courts to decide if accountants would qualify.

However the case of *Daubert v. Merrell Dow Pharmaceuticals* (509 US 579, 113 SCt 2786, 1993) is currently applied by most states. This case gave a checklist of factors for courts to use when assessing the reliability of scientific expert testimony. With this case, the Supreme Court ruled that the testimony of expert witnesses must be related closely enough to the issues under trial to aid in their resolution. Under Daubert, the judge must decide if the expert testimony is both relevant and reliable. It places the court as a "gatekeeper" in evaluating the admissibility of testimony.

The Daubert case focused on the admissibility of scientific evidence, and a later case, *Kumho Tire Co. v Carmichael* (526 US 137, 119 SCt 1167, 1999.) extended this admissibility to include technical and other specialized knowledge (i.e., nonscientific). Rule 702 was modified in 2000 to include the standards set by the Daubert and Kumho cases.Educational, professional and litigation experience are all important for an expert witness (Cendrowski et al. 2007). An expert witness in a fraud case is required by the courts to have specialized knowledge in the area in which he or she will testify. Testimony should be based on reliable facts and data. The accountant must convince the judge that they are an expert and that their testimony is both relevant and reliable. Below are two examples of high profile fraud cases in which expert witnesses testified in court.

The Enron Case

The Enron case is probably the most famous fraud case of all time. The Enron scandal resulted in a $1.2 billion reduction of owners equity in 2001. A complex business model had allowed dubious accounting practices to go unquestioned. Enron used hundreds of special purpose entities to keep debt off of its books. The corporate culture was one where executives were focused on short term profits and an increasing stock price. Enron's founder and Chairman Kenneth Lay and CEO Jeffrey Skilling were accused of misleading investors about Enron's financial health, including artificially inflating earnings, overvaluing assets, hiding losses, and tapping reserves to meet or beat earnings forecasts. Several expert witnesses testified in the Enron trial.

One expert witness, an accounting professor named Jerry Arnold, testified on behalf of Kenneth Lay. Arnold testified that Enron had followed generally accepted accounting principles on disclosing earnings and losses (Platt a, 2006). When government witnesses testified that Lay and Skilling were "cooking the books," Arnold said that there are different interpretations of accounting rules and "reasonable minds could differ" and that "there is a lot of judgment involved in reaching a conclusion (Platt, May 2, 2006). He testified that Enron used the "most appropriate way" of disclosing the financial information (Platt, May 2, 2006). Arnold testified that Kenneth Lay's description of a $1.2 billion reduction in shareholder equity was not misleading because it is immaterial (McWilliams, 2006).

Witnesses for the prosecution testified that Enron had overvalued many of their underperforming assets. For example, witnesses contended that an Enron power plant in India which was shut down due to political and legal battles with Indian authorities was overvalued by $1 billion. Arnold testified that Enron was trying to recover the $1 billion through legal action which was still occurring in 2001, so a write-off was not necessary at that point (Platt, May 2, 2006). Arnold testified that his company was being paid more than $1 million by Lay for expert witness services, of which Arnold had personally been paid over $600,000 (Dow Jones International News, May 3, 2006). Arnold testified that he reviewed more than a million pages of documents, but he said he never talked to former Enron employees or anyone from Arthur Andersen, and that he had only met with Lay for less than one day, and took no notes during that meeting (Dow Jones International News, May 3, 2006). When the prosecutor implied that Arnold would not have been paid that much "if you have opinions not favorable to Mr. Lay and his lawyers," Arnold said he found that "in a sense insulting. I don't get paid to be a puppet. I get paid to use my expertise to form opinions and judgments" (Dow Jones International News, May 3, 2006).

Another expert witness, Walter Rush was hired by Skilling to testify in his criminal trial (Roper, 2006). Rush is a former PricewaterhouseCoopers partner and has also worked at the Securities and Exchange Commission. Rush testified that last minute changes to accounting records are not unusual or improper and that the accounting reserves created by Enron were proper (McWilliams, 2006). He also testified that, "I went back to take a look and see if anything unusual was going on to manipulate the numbers, and the answer is no" (Graczyk, 2006). During questioning about whether Enron was hiding $700 million in losses from its retail energy business by moving the loss to the wholesale division through a reorganization, Rush said the accounting was acceptable as long as it was disclosed. When the prosecutor asked Rush whether he grasped the intent of what Enron was doing with that accounting maneuver, Rush answered, "Intent is not part of the rule" (Roper, 2006). Rush's testimony also included references to materiality, noting that many of the disputed amounts were immaterial, in other words, they were too small to affect Enron's overall financial picture. He said, "…for us to be talking about $40 million or $14 million? is truly immaterial" (Platt b, 2006).

Rush was questioned on the stand about the charge that Enron used its reserves like a "cookie jar" to artificially inflate earnings. Rush testified that the reserves had been set up legitimately in 2000 and 2001 to protect Enron from volatile energy prices (Roper, 2006). During cross-examination, the prosecutor found fault with Rush's methods, noting that Rush had not interviewed Enron's former accountants and auditors, but had rather only reviewed documents in order to come to his conclusions (Roper, 2006). Skilling was also accused of directing employees to bump earnings per share from 30 cents to 31 cents in 2000. Employees from the Investor Relations department at Enron testified early in the trial that Enron executives made or knew of overnight changes to earnings estimates that were made to meet or beat analyst expectations. Rush testified that he had reviewed documents and found nothing wrong, and that during financial reporting, "there are changes going on up to the very last second. It is universal. Every company goes through this" (Graczyk, 2006).

Rush testified that he was being paid $600 per hour by the defendants for his services, totaling $570,000. He testified that he is objective and had also been retained by the U.S. Department of Justice and other federal agencies for about a dozen investigations and financial reviews (Platt a, 2006).In the end, the testimony of the expert witnesses was not enough. Lay was convicted of 10 counts in 2006, and could have faced 20-30 years in prison. However, Lay passed away before his sentencing and a judge then vacated his conviction. Skilling was convicted in 2006 of multiple charges and is serving his sentence. In 2010, on appeal, the Supreme Court vacated part of Skilling's conviction and sent part of the case back to the lower court.Numerous Enron executives pleaded guilty or were convicted for their roles in the scandal. A federal jury convicted Enron's auditing firm Arthur Andersen of obstruction of justice, which effectively caused Arthur Andersen to go out of business. The conviction was later overturned. In the wake of the Enron scandal, congress passed the Sarbanes-Oxley Act of 2002 to help deter financial statement fraud and prosecute those who engage in it. Below, the HealthSouth case is discussed. The CEO of HealthSouth was the first to be tried under the Sarbanes-Oxley Act.

The Healthsouth Case

The HealthSouth case is interesting because of the enormity of the fraud and the use of accounting expert witnesses by both the prosecution and the defense. In the $2.7 billion HealthSouth scandal of 2003, CEO Richard Scrushy was charged with fraud, money laundering, false corporate reporting, obstruction of justice, racketeering, bribery and other charges. Scrushy was the first CEO to face trial under the Sarbanes-Oxley Act of 2002. After the fraud was discovered, HealthSouth's Board of Directors hired a forensic accounting team from PricewaterhouseCoopers to uncover the extent of the fraud. During the trial, one of the investigators, Harvey Kelly, testified that during the 23,000 hour fraud investigation, he and the other investigators had sorted through millions of documents (Shmukler, February 1, 2005). He testified that he and others interviewed more than 200 people and visited HealthSouth facilities throughout the country, but they found few emails to work with because HealthSouth's system deleted old emails every 60 days (Morse and Shmukler, 2005). The witness testified as to how the finance department employees "cooked the books," noting that 80% of the fraudulent income entries related to fake numbers being dumped into "contractual adjustments" (Morse and Shmukler, 2005). Kelly used flat screen video monitors in the courtroom to help show how the fraud was orchestrated. HealthSouth's field units would send their correct figures to corporate headquarters, then finance department employees would change the numbers to increase net income. Kelly said, "that's where they cooked the books… they just made up the numbers" (Morse and Shmukler, 2005). Kelly testified that he was paid $700 per hour by the government for his expert testimony (Shmukler, February 1, 2005).

Later in the trial, the prosecution used another expert witness, William Bavis, a money laundering expert, to testify against Scrushy. The prosecution argued that Scrushy laundered the profits from the fraud by buying very expensive luxury items. Bavis testified that Scrushy received millions of dollars in bonuses for meeting financial targets in HealthSouth's business plan and under bonus plans for management (Associated Press, LA Times April 13, 2005). The expert witness and his team of accountants analyzed more than 34,000 transactions while reviewing Scrushy's accounts (Associated Press Chicago Tribune April 16, 2005). Bavis testified that Scrushy would not have been eligible for the bonuses without the fraud and that Scrushy made $163 million in profits from stock options (Associated Press, LA Times April 13, 2005). The expert detailed, along with photographs, some of Scrushy's lavish purchases including a nearly $329,000 Rolls Royce, a $428,000 ring for his wife, and paintings by Picasso, Chagall, Renior and Miro.Scrushy's defense team argued that Scrushy's subordinates at the company had conducted an elaborate accounting fraud which they kept secret from Scrushy.

A forensic accountant used as an expert witness by the defense team, Tim Renjilian, testified that HealthSouth was so big and complex that Scrushy was not able to detect the fraud. Renjilian testified that the company had more than 2,500 bank accounts and $378 million in fake cash on its books and that the 15 people who pleaded guilty to participating in the fraud had years of experience in banking and working with the external auditors. He argued that the fraud was concealed from Scrushy, saying "You've got a group of folks involved in the fraud… who I think could have overcome the world's greatest internal controls" (Reeves, May 6, 2005). Renjilian also testified that the government's expert witness used "accounting fictions" when trying to show that Scrushy used money from the fraud to make lavish purchases (Reeves, May 6, 2005). This accounting expert testified that Scrushy's stock options had value before the fraud, implying that Scrushy would have a lot to lose by participating in the fraud (Reeves, May 9,2005).Renjilian testified that his firm was paid $1.2 million by the defense (Reeves, May 6, 2005).

Another expert witness for the defense, Wayne Guay, testified that Scrushy's compensation was in line with CEOs of other companies. Guay also testified that Scrushy was entitled to the multimillion dollar compensation packages and that there was nothing wrong with Scrushy selling stock and exercising his stock options (Reeves, May 12, 2005).Scrushy was acquitted in 2005 on criminal charges of directing an accounting fraud. In 2009, Scrushy was convicted on civil charges and ordered to pay $2.8 billion in damages.

CONCLUSION

The goal of this paper was to examine the role of the expert witness in accounting fraud cases. This paper looked at two accounting frauds in detail, Enron and HealthSouth. This is an important topic because in these weak economic times, financial frauds may continue to rise. Considering the definite accounting and financial matters involved in financial fraud cases, and in order to have a better performance in defending clients who were accused by committing fraud, the demand for accountants, especially CPAs, who can assist attorneys and/or act as expert witnesses, will likely be strong. This paper explored tax fraud, the role and qualifications of an expert witness, and then the two cases in detail.

Recommendations for expert witnesses include, in addition to appropriate technical knowledge, someone who testifies well and is credible and likeable to juries (Coenen, 2007). Accountants should also keep themselves in a continuing learning process, for example, being more familiar with the relevant code and sentencing guidelines, in order to give attorneys analytical suggestions based on their expert knowledge. This paper looked in detail at two high profile cases, Enron and HealthSouth. The role of the expert witness was very important in these newsworthy cases and expert witnesses were used by both the prosecution and the defense. Expert witnesses were used to testify about accounting treatments as well as compensation issues. A limitation of this paper is that we only examined two cases in detail. Expert witnesses are used in a large amount of cases. Future research in can examine other accounting fraud cases in detail.

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THE AMERICAN GROWTH OPPORTUNITY ACT IMPACT ON U.S. TRADE WITH KENYA

Yvan Nezerwe, California Miramar University

ABSTRACT

The American Growth Opportunity Act legislations provide duty-free access of selected African products into the US market. Kenya became eligible for participation in the year 2000. This study analyzes trade creation in Kenya after the legislation`s implementation. The available literature shows that trade increases after the implementation of free trade agreements. The data included historical trade data, historical exchange rate data and US tariffs data. The study used a regression model and the results showed that positive trade was created after the implementation of the legislations.

JEL: F13, F14

KEYWORDS: Kenya, AGOA, Trade Creation

INTRODUCTION

The American Growth Opportunity Act (AGOA) is a United States legislation that provided duty-free access to selected products from eligible African countries into the US market. The first AGOA was signed into law in 2000 by US President Bill Clinton. Subsequent amendments were signed in 2002, 2004 and 2006 by US President George Bush. The eligible goods included textile, agricultural and chemicals products. These goods were chosen because they do not compete with US products. The textile and apparel industries considerably expanded with hundreds of thousands of jobs created in Africa since 2000. Kenya officially became AGOA-eligible in 2000. Table 1 shows the Kenyan exports to different trade partners from 1999 to 2006.

Table 1: Kenya`s exports with trade partners, 1999-2006 (In million of Kenya Shillings)

Year	1999	2000	2001	2002	2003	2004	2005	2006
Europe	39,741	41,804	42,499	49,478	56,579	60,933	66,451	71,415
USA	2,761	2,804	3,414	3,377	2,790	4,502	12,053	20,326
Canada	433	473	359	440	435	461	492	606
Africa	57,320	61,930	72,513	83,085	84,653	101,853	120,790	101,305
Asia	20,754	22,241	25,351	25,914	27,781	33,038	38,692	37,915
Australia	654	615	835	559	747	618	894	723
Other	798	4,345	2,093	6,009	6,635	12,335	20,335	11,630
Total exports	122,559	134,527	147,590	169,250	183,154	214,593	260,422	250,993

This table shows the different trade partners of Kenya. Kenya`s main trade partner is Africa. The second trade partner is Europe. The USA-Kenya trade has increased during the period 1999-2006. Source: Kenya Bureau of National Statistics

Before the AGOA, Kenya was an eligible country of the United States Generalized System of Preferences (GSP). The US government instituted the GSP in an effort to promote economic growth in developing countries. The program provided duty-free treatment for over 3400 products from 131 countries. The eligible products include agricultural and fishery products. Textile and apparel products were not included in the GSP program. Lair and Sapir (1987) found a significant increase of exports from developing countries to the US, because of GSP. Table 2 shows selected Kenyan exports to the US from 1996 to 1999: The AGOA legislations liberalized market access to the US and were widely cheered in African countries because of the anticipated benefits. Table 3 shows the Kenyan exports (AGOA-eligible products) to the US from 2000 to 2007. Table 4 shows the Kenyan exports (AGOA-eligible products) to the US from 2000 to 2007. This study attempted to analyze the trade creation in Kenya after the implementation of the AGOA legislations. A trade creation model was used in this study. The results showed that the AGOA created positive trade between Kenya and the US. The rest of this paper is as follows: Section 2 covers the literature review on the research topic. Section 3 describes the data and methodology used in this research study. Section 4 provides the research results and finally Section 5 concludes the study.

Table 2: Kenyan exports to the US (In thousand dollars)

Year	1996	1997	1998	1999
Agriculture Exports to US	34,252	38,508	41,442	42,371
Chemicals Exports to US	1,393	3,744	670	773
Textile Exports to US	27,908	31,554	33,561	39,460

This table shows the Kenyan exports to the US before the implementation of the AGOA. Agricultural and textile exports have increased during the period 1996-1999. Agricultural exports continuously increased from 1996 to 1999. The growth rates are as follows: 12% in 1997, 7.6% in 1998 and 2.2% in 1999. Textile exports continuously increased as well from 1996 to 1999. The growth rates are as follows: 13% in 1997, 6.3% in 1998 and 17.5% in 1999 Source: www.census.gov

Table 3: Kenyan exports to the US, 2000-2003 (In thousands of US $)

Year	2000	2001	2002	2003
Agriculture Exports to US	31,856	62,067	45,482	54,274
Agriculture Duty-Free AGOA	4,564	8,845	6,730	8,483
Chemicals Exports to US	1,956	2,162	4,820	5,381
Chemicals Duty-Free AGOA	751	1,308	2,591	2,733
Textile Exports to US	44,048	64,682	125,904	187,561
Textiles Duty-Free AGOA	41,074	62,896	100,001	152,466

This table shows Kenya`s exports to the USA for the period 1999-2003. Agricultural, textile and chemical products are AGOA-eligible products. Source: Kenyan Ministry of Trade

Table 4: Kenyan exports to the US, 2000-2003 (In thousands of US $)

Year	2004	2005	2006	2007
Agriculture Exports to US	47,508	45,012	58,300	52,204
Agriculture Duty-Free under AGOA	6,149	4,983	6,490	3,796
Chemicals Exports to US	2,945	4,944	5,251	5,112
Chemicals Duty-Free under AGOA	1,445	3,073	3,323	813
Textile Exports	277,325	278,043	284,074	290,894
Textiles Duty-Free AGOA	265,991	256,082	257,896	260,685

This table shows Kenya`s exports to the USA for the period 2004-2007. Agricultural, textile and chemical products are AGOA-eligible products. Source: Kenyan Ministry of Trade

LITERATURE REVIEW

The AGOA was cheered in Africa because of anticipated trade benefits. Accordingly, some research studies have analyzed the benefits and changes in trade volumes between the US and African eligible countries. Ikaria (2003) noted that, within only two years of qualifying for AGOA, Kenya`s exports of clothing and investments in the textile sector experienced remarkable growth. Shapiro (2003) also found that many African countries were successful in taking advantage of the US market opportunities through AGOA. Nove (2003) analyzed if the AGOA would indeed increase African agricultural exports to the US. The study showed that the predicted increase of agricultural exports is unlikely.

Economists such as Krugman (1991) and Kruger (1999) agree that trade liberalization lowers tariffs and therefore creates trade between partners (trade creation). The country's national welfare will be raised with the increased trade. There is an extensive literature on the benefits of trade liberalization. The general model used in these studies looks at the trade volumes before and after the implementation of the free trade agreements. Klausing (2001) studied the Canada-US Free Trade agreement and showed strong evidence of trade creation of about $42 billion increase in US imports from Canada for the period 1989-1994. Other economists have researched trade creation from the North American Free Trade Agreement (NAFTA). Krueger (1999) found that Mexico experienced a tremendous increase of exports to the US and Canada in the first five years of the treaty. Sunsato (2006) said that the US started importing more agricultural products from Mexico after implementation of NAFTA. Daeber (2010) found significant trade creation between the US and Mexico after implementation of the NAFTA.

DATA AND METHODOLOGY

The data included monthly trade data from the Kenyan National Bureau of Statistics and the Kenyan Ministry of Trade. US Tariffs historical data were pulled from the US Trade Commission Harmonized Tariffs database. Table 5 shows the summary statistics of the data used in this study.

Table 5: Summary Statistics data

	Mean	SDev	Monthly observations
Kenya`s Exports to USA (Million US $)	17.51	9.09	107
Kenya`s Exports to other countries (Million US $)	322.04	14.56	107
US Tariff rate	5.4	9.15	107
Other countries tariff rate	6.1	24.60	107
Exchange rate Kenya Shilling – US Dollar	73.69	14.21	107

This data is for years 1999-2007. The tariff rate is the duty paid relative to the value of the commodity in the year. The data was pulled from various resources including the US Harmonized tariff system, Kenya`s Ministry of Trade and the Kenya Central Bank database.

The trade creation model analyzed the change of Kenya`s exports to the US after implementation of the AGOA legislation in 2000. The regression equations were developed from import-demand schedules and export-demand schedules (US import-demand schedules and US export-demand schedule). The import-demand supply is:

$$Di = \gamma d + \delta dp \; ln\, Pi + \delta dz\, E \qquad (1)$$

Where δdp is negative so that a higher price implies a lower import demand; E is the exchange rate and Pi is the price

The export supply is:

$$Si = \gamma s + \delta sp \; ln\, Pi + \delta sz\, Z \qquad (2)$$

Where δdp is positive so that export supplies increases with higher prices and Pi is the price

Tariffs increase the price paid by consumers of imports and reduce the prices received by producers of exports. By adding the tariff Ti, the price becomes Pi (1+ Ti). The demand curve becomes:

$$Di = \gamma d + \delta dp \; ln\, Pi + \delta dp \; ln\,(1 + Ti) + \delta dz\, Z$$

By setting the supply and the tariff-inclusive demand equal, we can determine the equilibrium price and the quantity traded (in presence of tariffs).

$$Ln\, Di = Constant\, term + B\, ln\,(1 + Ti) + CZ$$

Where B is a term that depends on price elasticity of import demand and export supply (δdp δsp / δsp - δdp). C also depends on this elasticity.

The change in trade is measured as follows:

$$Ln\, Di,t - ln\, Di,t-1 = B\,(\,ln\,(1 + Ti,t) - ln\,(1 + Tt - 1)\,) + C\,(\,Zi,t - Z\,i,t-1)$$

Or

$$\%\, Change\, Imports\, i,t = \alpha + \beta i\, Change\, Tariffs\, i,t + \beta t\, E$$

RESULTS

Table 6 shows the change of trade (between Kenya and the US) after the implementation of the AGOA. Change is imports were measured from a base year.

Table 6: Change of Trade after AGOA I

Tariff Change	**0.1072** **(0.475)**
Year dummy 2000	0.1971 (0.271)
Year dummy 2001	0.1410 (0.260)
Year dummy 2002	0.1377 (0.258)
Year dummy 2003	(0.0362) (0.347)
Year dummy 2004	0.1211 (0.280)
Year dummy 2005	0.1431 (0.291)
Year dummy 2006	(0.1555) (0.288)
F Stat	69.20
Probability (F)	0.00
R-2	0.017

This table shows the results of the study. Standard errors are in parentheses. For every 1% tariff change, there is a 10.72% increase in Kenya`s exports to the US. In the year 2000, US imports from Kenya increased by 19.71% after the change of tariffs; In the year 2001, US imports from Kenya increased by 14.10% after the change of tariffs; In the year 2002, US imports from Kenya increased by 13.77% after the change of tariffs; In the year 2003, US imports from Kenya decreased by 3.62% after the change of tariffs; In the year 2004, US imports from Kenya increased by 12.11% after the change of tariffs; In the year 2005, US imports from Kenya increased by 14.31% after the change of tariffs; In the year 2006, US imports from Kenya increased by 15.55% after the change of tariffs.

The implementation created positive trade between Kenya and the US. A 1% tariff change created 10.72% of Kenya`s exports to the US. At the exception of year 2003, US imports from Kenya have significantly increased.The review of the Pre-AGOA and Post-AGOA trade statistics showed a significant increase in trade volumes. The trade volume increase was more significant for textile products. The results showed that a 1% tariff change created an extra 10.72% Kenyan export to the US. After the implementation of the AGOA, the research results also showed positive growth in terms of trade volumes.

CONCLUSIONS

The AGOA legislations provided duty-free access for selected African products into the US market. Kenya became AGOA-eligible in the year 2000. The goal of this paper was to analyze the impact of the AGOA legislation on the trade between Kenya and the US. The data used included Kenyan monthly trade data, historical exchange rate data and historical US tariffs data. The regression analysis focused on the change of trade patterns after the implementation of the AGOA legislations. The results showed that a 1% tariff change created an extra 10.72% Kenyan export to the US. This research study is a contribution to the literature on Trade Creation and Diversion. At this time, more FTAs are being negotiated and/or enacted. We recommend future potential research to analyze the trade created after the implementation of newer FTAs such as the East African Community (EAC) and Common Market of Eastern and Southern Africa COMESA in Africa.

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E-BUSINESS MODELS AS A TOOL TO INCREASE MÉXICO SMALL AND MEDIUM SIZE ENTERPRISES' SALES

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ABSTRACT

Due to the growing incursion of electronic media in the commercial environment, identifying factors that improve competitiveness is important. The need for timely information that allows for effective decisions, as well as allowing for effective use of time and resources is paramount. To achieve this objective business models based on information and communication technologies, known as e-business models, have been developed. This study examines 189 web pages of organizations as well as the review of bibliographical and research material. The aim is to recognize business models that organizations use and to describe them. A compilation of data related to the sales of e-commerce B2C enterprises established in Mexico was carried out. The goal is to identify business models used in México and quantify increase sales via Internet of experienced by Mexican organizations. This knowledge is important to further develop e-businees models. The results demonstrate that imports and exports are increasing, new markets are emerging and confidence of the Mexican market is consolidating.

JEL: 030, O54

KEYWORDS: Business models, e-commerce, e-business, electronic business)

INTRODUCTION

The advent of the Internet in the enterprise sector has transformed the course of commercial relations between Mexico and the world. Information and communication technologies represent a tool for the purchase and sale of goods and/or services that overcome geographical barriers and barriers related to time and human or financial resources. In addition these technologies bring about more direct relations with the suppliers, clients and investors, including competitors. Before the global economic crisis, Mexico faced various problems, among them a decrease in economic activity.

According to the Summary of Indicators of the Department of Estate and Public Credit (2009), for the first six months of 2009, the trade balance was an accumulated deficit of $1,207 million. The value of exported goods was $19,364 million in June this year, which is 26.6% lower than the year before.

With the arrival of the current economic crisis, the struggle to obtain a competitive advantage over others is increasingly difficult. Clients and consumers have the freedom to choose the most satisfying supplier. Customers select on the basis of quality products, speed of service and competitive pricing. The internet offers tools that ease barriers of time and distance disappears. It also offers a series of advantages like the expansion and diversification of global markets.

Organizations seek to develop new business models on the Internet, as the Internet is already considered as new line of sales, displacing other forms of trade; therefore PROFECO (2006) considers electronic sales as an alternative to reducing costs, a fundamental tool for increasing the sales of a country, to boost the economic activities toward economic growth and development resistant to global crisis.

The remainder of the study is organized in the following manner. In the literature review, the relevant literature, such as basic concepts of electronic commerce, its regulatory framework and basic concepts of e-business models, are presented. In the methodology section, the method used to achieve the goal of this study is introduced. In the results section, the information demonstrated by the investigation that was carried out is presented and analyzed to formulate the conclusions.

LITERARY REVIEW AND BACKGROUND

Jeffrey Reyport (2005) defined the term e-commerce as the "exchanges mediated by the technology between several parties (individuals, organizations or both), as well as the electronic activities inside and between organization that facilitate these exchanges".

From the company point of view the advantages of ecommerce include: access to the global market; the integration of different resources (multimedia), diversification of products offered, and reduction of costs of sales. It allows maintaining direct contact with the client and reducing costs of distribution. Retailers can use the net to initiate the traditional wholesale or retail points of sale, it encourages the autosegmentation and autopositioning in the market and it saves in the publicity costs It is possible to gain additional income by selling advertisements or by designing web pages, and also it is available 365 days per year, 24 hours per day.

From the consumer's point of view ample information about the product can be obtained through the internet allowing the comparison of alternatives offered by different companies. This information allows the consumer to make a better and a more convenient decision, thereby broadening the possibilities of choice. Electronic commerce has several disadvantages. In Mexico, many people do not yet have access to the Internet. Similar access problems are present in many countries. The costs of the Internet are different in every country, which is the reason for differences in infrastructure between countries. Some consumers mistrust this medium for purchasing because it is open for deception, the connections lack quality, it does not facilitate the search of the needed product, as well as hacker and fraud issues.

Business to Consumer (B2C): an Important Category of E-commerce

This kind of business to the customer is about the interchange between companies and final consumers through electronic means. The main initial development involved e-mail as a means to substitute catalog business. This implies there is cost reduction because vendors do not invest in producing, printing and shipping costs. There are two additional reasons for the success of this business: First is cost reduction and second is that everyone who owns a computer with Internet access has the ability to purchase in this way.

E-business Models

"Business model" is one of the latest buzzwords in the Internet and electronic business world (Dubosson-Torbay, Osterwalder, Pigneur, 2002). Delta advisor's article "business model", establishes that a business model is the mechanism by which a business tries to generate income and benefits. It is a summary about how a company plans its client's services. Imply strategy concept and implementation. A business model is the way to interact with clients. It should specify the client and the way to cover a market, why it is attractive, how it is supported, which is the strategy for mixing products and sales in such a way to guaranty the actual customer fidelity and the fidelity of new customers. The client definition allows focus on the activity and effort that really allow added value to the customer.

Rappa (2005) states: "In the most basic sense, a model is the method to do business by which the company can be maintained and generate incomes. The business model talks about how the company makes money identifying its place on the chain value".

Functions to Be Complied-Mexican Business Model

According to Chesbrough and Rosenbloom (2001), the specifications for a complete and actual market are: Articulate the value proposition, is the value created to users of the product model (good and / or service) offered using technology; identify a market segment, for those users the use of technology should be useful and the company should earn money by offering the same; define the structure of the value chain that the company needs to create and distribute your product and determine the complementary assets needed to support the position of the company; estimate the cost structure and potential benefits to offer its product, taking into account the value proposition and the structure of the chosen value chain; describe the position of the company within the value system, linking suppliers and customers; formulate the competitive strategy through which the innovative firm will be more competitive and achieve sustainable advantage.

DATA AND METHODOLOGY

Amitt and Zott (2001) state "…the model suggests that the value creation potential of e-businesses hinges on four interdependent dimensions, namely: efficiency, complementarities, lock-in, and novelty", but in this case, in agreement with Rappa (2005), for the creation of a business model it is important to consider a series of factors from creation to implementation. This investigation was based on the following factors: A) How to select clients, B) How to define and differentiate product offers, C) How to create utility for clients, D) How to get and conserve clients, E) How to launch to the market (Publicity strategy and distribution), F) How to define the activities to be executed, G) How to configure the resources, H) How to get the benefit.

The types of investigation carried out in this section are applied, exploratory and the conclusive. First, specific questions can be determined about the problem. Second, an exploratory investigation with the intention of finding solutions to assumptions raised about the problem will be carried out.

The following information was obtained from a study by the Mexican Association of Internet in 2008 using 189 of its members. This study used questionnaires of those companies which using websites to sell products. The results include sales, percent of sales using the internet, product categories, and services. Since sales using the internet are relatively new and increasing in size, it is necessary to analyze if it is an effective way to increase sales.

Companies that sell using traditional methods face the challenge of defining their presence and reaching virtual markets. They need to determine when and how to use the internet. The presence of an electronic marketplace that provides rapid access to information that buyers and sellers can use to make decisions and become more efficient, new models of businesses based on the Internet have been developed. The data that follows comes from a study of electronic commerce in Mexico AMIPCI (2009). AMIPCI was founded in 1999 with the mission to build an internet based economy in Mexico.
The sectors included in the study include tourism and travel, department stores, entertainment, virtual businesses, and businesses with specialized products.

RESULTS

Business Models

Thanks to the development of electronic commerce, new forms have arisen to sell tangible goods as well as intangible goods, reducing costs and barriers.

The brokerage model connects sellers and buyers. The ¨broker¨ who operates the site, facilitates the transactions, and usually receives a commission for each sale. The following types of markets can be identified: Vertical markets, B2C (B2C or buy/Sell fulfillment) involve intermediaries who maintain and manage information, reducing costs to consumers. Vertical markets B2C (B2B or Market Exchange) consist of intermediation between companies. Business trading Communities are sites that collect data provide contact between the agents of a business sector. Purchase groups (Buyer Aggregator) aggregate buyers that have an interest in the same product, concentrating the demand in order to obtain better conditions of sale from the supplier. Distributors (Distributing) publish on line catalogues of products. Virtual commercial centers (Virtual Mall) are collections of electronic stores under the same distributor enriched with means of common and guaranteed payment. Usually they become a market for the industry when they specialize in a sector. These web pages can include forums of discussion, closed groups of users, etc. Members of e-malls have reduce their costs of presence in the Internet, and payments and traffic can be generated from other virtual stores. The metamediaries (Metamediary) are virtual commercial centers which managed transactions and guarantee payments, protecting consumer and reporting satisfaction with salesman. Auction Brokers supply all types of products for sale, the sellers can be either particulars or companies. Inverted auction (Reserve Auction) sites, consists of an intermediary who negotiates the sale of a product or service as the buyer that fixes the price, later the salesmen realize their supplies adjusting to the predefined conditions. The classified ones (Classifiends) are ready of items corresponding to the supply or demand of products. The quota of the intermediary usually pays attention by announcement, more not by transaction. Search agents locate products or services that are being offered for the best price. The software that drives these sites searches through data bases and contains algorithms to account for variation in the description of products in different databases. These services may also create personal pages so that buyers can see information on what interests them, and can create links between people with common interests, often sending them electronic mail to alert them of changes in product availability.

Publicity on-line or the Advertising Model) consist on a web site that shows payments and no payments contents to tangibles and intangibles goods. This includes services associated for example the e-mail, publicity messages by mean of banners and blogs. Some examples are: Generalized Portal, which is a site that receives the user at the moment that gets access to internet. This site is financed by announcement and sponsorships. Specialized Portal, is the same concept as General portal, but it is more specialized as indicated in the name, and is focused to restricted audience cause of the specific topics. Thanks to this feature, it allows realizing better publicity segmentation. The Incentive marketing (Attention marketing) model get in contact with announcers and consumers, the clients perceive an economic compensation by visualization on web pages, formulary complementation, opinion formulation and others. Free model, consist of a Web site that offers clients different free services. Bargain Discounter, is an organization that sells the model at a price.

The Informediaries (Informediary Model) consist of companies that give free Internet services with goal of obtaining user information. Information on pages visited, items purchased, etc are collected and may be used to make decisions or passed on to other firms. There are two kinds of informedaries: First, the recommender system is a site to provide users information about the quality of products and/or services, giving advice about purchasing and can facilitate the application to interchange of purchase experiences between. It is a service with free content with access allowed after some information is provided. The firm uses the data obtained to create a data base which is exploited commercially.

The Merchant Model: works as a complement for traditional business. This project is based uniquely on Internet (cybertraders). In this business model incomes comes from the sale of products and services. There are several subsets of this model. Virtual merchants work only with Internet. Catalog Merchants, sell person to person by mean of a catalog which shows products and services. The vendor on-off (Surf-and-Turf), is the way that companies use traditional models and decide to sell by Internet. The Vendor

Bit, is discussed by Del Águila (2001). He states "It is about companies that commercialize digital products (for example electronic magazines) and services. The sales and distribution is through web…"

The Productor (Manufacturer Model) involves products, goods and services, sold with the goal of reducing or eliminating distribution channels so that the product and/or service arrives to the client with a more economic price and the contact is directed between the producer and consumer in a way that is beneficial for both.

The Affiliation (Affiliate Model) involves organizations that develop a member net. In this way if a potential client gets to the vendor page through a member site and makes a purchase income splitting arrangements are activated.

The attractiveness of the Community model is based on users loyalty. People invest their time and economic resources in the project and can be identified into two categories: Voluntary Contributor Model, which Águila (2001) defines as a user community that sponsors a site through voluntary donations. Knowledge Networks, according to Del Aguila, involves user experts who assist others with solving problems without getting any payment.

The Suscription Model consists of incomes obtained by access, content and bye connection time. Some sites combine the free model with the subscription model which it allow clients access to information.

According Michael Rappa (2005) the utility model request is based on measured use and the immediate payment method. The difference between this and the subscription model, is that the measured use is based on real rates. Traditionally, the measurement has been used by basic services like electricity services, water and long distance calls.

<u>Totals Sales and Sales Areas</u>

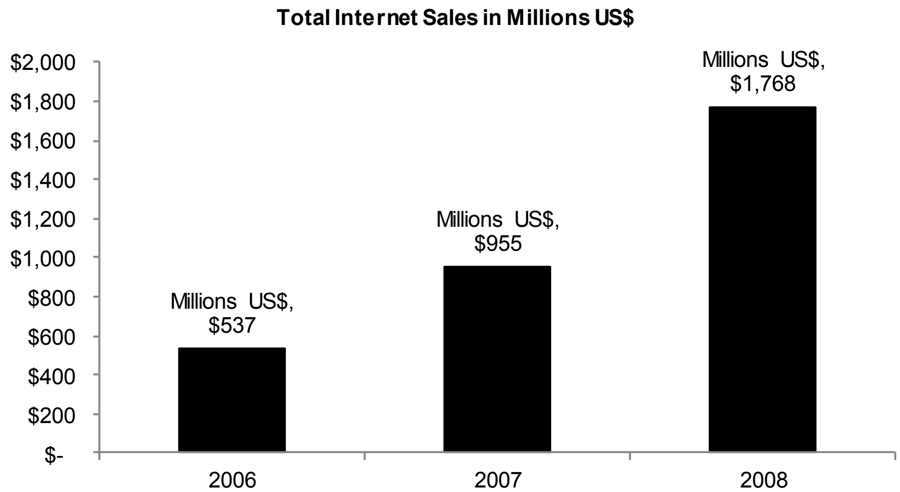
In this section we report the amount of sales of electronic commerce based on the Internet. In 2006, sales made by this method total $537 million dollars, in 2007, $955 million dollars, and in 2008, $1,768 million dollars. Figure 1 summarizes this data.

Sales were recorded in three areas: International, inside the republic, and metropolitan. The results are presented in Table 1. In 2006 sales conducted in the metropolitan area, are picking up significantly (61%), followed by the sales of inside the republic (35%), and the foreign sales involving the little fraction (4%). In 2007, metropolitan area sales decreased (51%), but are still picking up principally, followed by inside the republic sales, which increased (44%), and foreign sales continue to represent the smallest element at 5%, but did register an increase.

In 2008, changes in metropolitan area sales fell to second place at (36%); inside republic sales increased significantly moving to first place at (50%), and foreign sales, despite continuing to be the smallest element also registered a very substantial increase to approximately (14%).

Consumer sales are represented by cell phones, electronics and audio products, pets, vehicles, clothes, watches, sunglasses, tickets, computers and accessories, etc. In 2006 these sales represented $183 million dollars, in 2007, $267 million dollars, and in 2008, $389 million dollars. Tourism sales include airline tickets, hotel nights, travel packages, among others. In 2006 these sales represented $354 million dollars, and in 2007, $688 million dollars, and in 2008, $1,379 million dollars.

Figure 1: Total Sales for Internet Based in Electronic Commerce from 2006 to 2008



In the table clearly shows the gradual increase in the amount of Internet sales, representing a raise of 75% from 2006 to 2007, and 85% from 2007 to 2008.

People´s confidence to buy on-line: According to research by AMIPCI (2009), the level of people´s confidence is positive, and 55% claim to have a lot confidence, while 39% are indifferent, that means, the people don't trust, don´t distrust; the 6% have a lot or a lot distrust.

CONCLUDING COMMENTS

Interactive sites for commercial transactions provided by the Internet, are critical for development and growth of organizations in a globalized world where the flow of information needs to be made quickly and effectively through new Internet business models.

The goal of this paper was to identify business models used in México, and recognize and to identify the increase sales via the Internet that Mexican organizations have experienced. The study provides knowledge for firms that wish to position themselves in the México technological areas.

The methodology involved the exploration of 189 organization web pages. The analysis considered factors like how clients are attracted, how product offers are defined and differentiated, creating utility for clients, obtaining and maintaining clients, market launches, defining activities to be executed, configuring resources, how to benefit; and the revision of bibliographical and research material. The results are dynamic and indicate that businesses must be in constant evolution adaptation to new and evolving technologies.

Table 1: Origin of E-commerce Sales Based on Internet on the Three Areas during 2006-2008.

AREAS	2006 % SALES	2007 % SALES	2008 % SALES
International	4%	5%	14%
Inside the republic	35%	44%	50%
Metropolitan area	61%	51%	36%

This table shows the percentage sales conducted in the metropolitan area, inside the republic, and the foreign, during a period of time 2006-2008.

The data show that domestic and international sales on the Internet are increasing. Sales on the internet have increased by 75% from 2006 to 2007, and 85% from 2007 to 2008. Clearly internet sales are covering new markets and territories, aimed at obtaining profits for SMEs. This is an important source of income to improve the Mexican economy. The amount of sales by e-business models, were attractive. This shows that further development and implementation as an everyday practice in SMEs, may be of benefit.

The paper has some limitations. Some difficulty was experienced in this study detecting factors for classifying Mexican web pages. In some cases the web pages were made without any system. To resolve this, we created some specifications to classify webpages into a business model. Another limitation is the webpages examined crossed all economics sectors. Because of this fact this study is very generalized. Future studies should examine industry specific data.

In conclusion it is recommended that SMEs invest in training to learn how to implement new electronic business models. Internet business is potentially very profitable and flexible, because people don´t need large amounts of money to begin their own business. Internet businesses can be operated out of a home with standard equipment. This represent a great opportunity for individuals to be their own boss and generate more jobs, thereby contributing to the country´s economy.

To follow up this work, we future research that addresses new models for social and labor areas of internet business. There is a need to generate employment in many countries that have severe unemployment problems. Another future research avenue might involve analyzing web pages from various economic sectors.

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