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Impact of Macroeconomic Policies on Capture Fishery in Nigeria, (1970-2000)

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Strictly as per the compliance and regulations of :

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Udousung I. J.[α], Umoh, G. S.[σ], & Ekanem, J. T [ρ]

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Keywords : Macroeconomic, policies, capture fishery, Nigeria.

I. Introduction

Prior to the political crisis of 1967 – 1970, agriculture's positive contributions to the economy were instrumental in sustaining economic growth and stability. The bulk of food demand was satisfied from domestic output, thereby obviating the need to utilize scarce foreign exchange resources on food importation (Olayide, 1972).

However, the crisis, which developed in Nigeria agricultural sector during the civil war, became more serious in the 1970's and incidentally coincided with the rising fortunes of the petroleum sector. From that period to 1985, agriculture's contribution to the economy in terms of output growth, employment, food supplies, investments capital and linkages with the rest of the economy became relatively insignificant. This development was reflected in rising food prices, inflation increased imports of food and agricultural raw materials for local industries and deteriorating living conditions of rural dwellers (Essen, 1982). The Nigerian economic development process has suffered from dearth of holistic. The production situation in the fishery sub-sector of the Nigerian agriculture indicates that there was growth in the decade of the 1970's sharp decline in the mid-1980's, a slow recovery in the second half of the 1980 but a declining output since the 1990's (Federal Republic of Nigeria, 1997). The improvement in Nigeria's fishery sub-sector performance to a satisfactory and sustainable level and has been a challenge to policy makers in government and operators in the private sector. Hence, from the 1970 to 2000, government has adopted various policies to improve the fishery output in the country. The macroeconomic policies adopted include monetary, fiscal, exchange rate and price policies. In spite of such policy measures, significant and sustainable increase in fishery output in the country is yet to be achieved (Ukoha, 1999). For example, in the pre-structural adjustment period (1970 – 1985) total agricultural production, staple food crops and fish experienced negative growth. In the few cases where growth rate were positive, the rates were very low, ranging from 1.91 percent per annum for cash crops to 2.2 percent for livestock and -0.65 for fish. This is why Nigerian government over the years had embarked on various policies/programmes to boost the agricultural production, which include crops, livestock and fishery production. Monetary policy: Monetary policy is government guideline on money supply issued periodically to regulate the volume of money in the economy. Monetary policy can be used to stimulate agricultural output growth, increase employment, stabilize prices, moderate inflation, stabilize exchange rate, reduce pressure on external sector, and induce savings as well as agricultural investment (Ele, 1986). Government monetary policy has adverse consequences on the agricultural sector. It influences the availability of credit and the term structure of interest rates. If agricultural credit is readily available to the sector, farmers and other operators can obtain loans to expand output. On the other hand, monetary policy that encourages inflation will raise price of inputs such that cost of production increases. The consequence of this is that the size of operation will be drastically reduced for farmers and other operator that have limited financial resources (FAO, 1991). Fiscal Policy: Fiscal policy is the use of taxation government expenditure to control the level of economic activities. Such guidelines are useful in balancing resources available for public and private sectors such that inflation, unemployment and income

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inequality and pressure on balance of payment are minimized. Over the years, there have been many objectives of fiscal policy. For example, the objectives of fiscal policy in 1990 included the promotion of export of industrially manufactured goods, creating employment opportunities, providing effective protection for the local industries; enhance the use of locally sourced inputs and the reduction of tax burden on individuals and corporate bodies (Heady, 1946). The strategies of fiscal policy included: the introduction of 5% value added tax to replace sales tax; abolition of excise duties; regulation of custom and excise tariff; retention of tariff concession granted to the transport sector and imposition of custom duty and taxes on contracts or project loans.

Exchange Rage Policy: Government exchange rate policy regulates the rate at which the Naira exchanges with other currencies of the world. The objective of this policy is to realign the exchange rate of the Naira vis-à-vis the major world currencies; to create an equilibrium exchange rate for the Naira in a free market economy (Okigbo, 1986). The strategies of the exchange rate policy are: Pegging of Naira exchange rate to a dollar; introduction dual exchange rate between 1995 and 1999 and allowing the forces of demand and supply to determine the exchange rate. Fisheries development policies and programmes pre-dates Nigeria's independence in 1960. A search of the literature (Tobor and Ajayiu, 1992) reveals that, with the replacement of import from Europe owning to Second World War (1939-1945), the colonial government was promoted in 1942 to work out fisheries development policies/programmes for Nigeria. On attainment of independence in October 1960, the country commenced a number of fisheries development policies/programmes within the context of 5 – years National Development Plans in 1974, but with effect from 1975 – 1980 and (1981 -1986) from 1990, the 5 – year development plans were replaced with 3-year rolling plans i.e. 1990-1992, 1993-1995, 1996-1998 and 1999-2001 respectively (Tobor and Ajayiu, 1992).

The fisheries development policy/programmes in Nigeria have spanned the period of 30-years. Nevertheless, the main objective of this development programmes, which is to make Nigeria self sufficient in fish production and supply is still an illusion. Available records show that 40 years of political independence (October 1960-2000), the government of Nigeria changes hands twelve times, some regimes lasting for less than one year. The instability in the political structure or leadership in the country also resulted in frequent changes in the trust of agricultural policy (Jaeger, 1990). Some policies were introduced without any genuine political or economic reasons, but merely because they sounded different from previous ones. Before the commencement of National Development Plans in 1975, there have been a number of programmes during the Gowon regime (1966-1975). This era witnessed the introduction of Marine Fishery Development Project (MFDP) (197), Agricultural Development Project (ADP) (1970), National Accelerated Fish Production Project (NAFPP) (1972) and Nigerian Agricultural, Cooperative & Rural Development Bank Ltd. (1973).

The Marine Fishery Development Project was designed to provide the basic infrastructural facilities to fishing settlements, the National Accelerated Fish Production Project focused on bringing the benefits of modern technology to replace the traditional method of fishing, Nigerian Agricultural, Cooperative and Rural Development Bank Ltd. was designed as a specialized credit and rural development institution while Agricultural Development Projects (ADPs) were extension oriented, saddled with the provision of improved fingerlings and introduction of new techniques of fishing. Records also show that during the period, the country was virtually self-sufficient in food. Ogbe (1984) reported that is was hoped that adequate food would continue to be provided through private initiative with little government intervention. The Commencement of National Development Plan (1975-1980): This period cut across three successive governments – Murtala Mohammed (1975-1976), Olusegun Obasanjo (1976-1979) and Shehu Shagari (1979-1983). This administration introduced quite a number of policies and programmes among which are Operation Feed the Nation (OFN) (1976), River Basin Development Authority (RBDA) and Inshore Fishery Project (IFP), all established in 1977. Operation Feed the Nation (OFN) was to mobilize the public to take active part in fish production. The River Basin Development Authority (RBDA) was saddled with the responsibility of developing the country's land and water resources. Inshore Fishery Project was to up-grade the indigenous fisheries to a modern trawling and the provision of modern size multipurpose fishing boats (Moses, 1989)

The civilian regime of Shehu Shagari (October 1979-December 1983) also withnessed quite a number of policies/programmes in fishery sector in particular and agricultural sector in general some of which were Green Revolution (GR) and Fish Seed Multiplication Project (FSMP). The Green Revolution, which was a mere rechristening of the Operation Feed the Nation (OFN) of the military administration of Obasanjo. It only further articulated the agricultural development project extending to cover the entire country. The programmes involved the provision of improved fingerlings and credit facilities to farmers, appropriate mechanization, and improved marketing system. The target was to make the country self-sufficient in basic food production within five years and to rehabilitate and restore the production of export for seven years. Sea Fisheries and Inland Fisheries Decrees established in 1992 was to include wide provision for regulation of catch species, sizes and fishing zones. Regulations set minimum net size for both finfish and shrimp in order to preserve the fish stock from over fishing. The second National Development Plans (1981-1985) did not have a smooth ending due to military intervention in 1983, with Mohammadu Buhari as the Head. The regime did not produce any reasonable agriculture policy/programmes; rather effort was on River Basin Development Authority. The number of River Basin Development Authority (RBDA) was increased from eleven to eighteen in 1984. From August 1985 to August 1993 Nigeria passed through another military regime headed by Ibrahim Bahangida. This period marked the introduction of 3-year rolling plans, which did not do well in the fishery sub-sector.

Another change occurred (1993-1998) with Sani Abacha as the Head of the regime, this period witnessed two successive rolling plans of (1993-1995) and (1996-1998). Between the Third rolling plans and Fourth rolling plans was the introduction of Sea Fishery and Inland Fishery Decree saddled with the responsibility of regulating species size and fishing zone. 2000 there was establishment of Fish Farm Training Centre to carter for the training of school leavers and fishermen on the new method of fishing to replace traditional methods.

a) *Objectives of The Study*

The general objective of the study is to assess the performance of artisanal fishery in Nigeria from 1970 to 2000.

II. Methodology

a) *Data and Data Sources*

The empirical analysis for this study covers the period 1970 to 2000. Only secondary data were used for analysis. Data were collected on such variables as the quantity and value of fish captured and fish import within the period; government expenditure, credit and the exchange rate in the country for the same period. The choice of time period (1970 – 2000) is based entirely on the availability of data and the need to make allowance for loss of observation.

Data were extracted from the following books of records: Annual Report and Statement of Accounts and Economic and Financial Review of the Central Bank of Nigeria (CBN) from 1970 – 2000; Annual Abstract of Statistics and Nigeria Trade Summary of the Federal Office of Statistics (FOS) and FAO Trade Yearbook (various issues).

b) *Method of Data Analysis*

The study uses trend analysis in presenting variations in quantity and value of fishery output for the period under study. Such statistic as average annual quantity and value of import over the years, difference in means between pre-SAP and SAP period and co-efficient of variation were used to present the analysis. For the empirical analysis, the study employed Error Correction Model (ECM) to analysis fish output in Nigeria. The need to avoid the incidence of spurious regression, which may render the empirical analysis of regression results invalid, necessitated the adoption of recent development in econometric techniques used this study (Engle and Granger, 1987).

Further more, it has been noted that the estimation techniques such as OLS can be applied to estimate a regression model with time series data only when all the data are stationary. In a situation where non-stationary variable (data) are to be included in a regression, first difference forms should be used. This therefore implies that for appropriate modeling of the relationship between economic variables and in order to be able to make valid inference from findings, as well as to investigate the time series characteristics of the variables in the model as to know whether they are stationary or not.

Empirical Model

$Qf_t = f\,(Er_t, Qf_{t-1}, Fimp_t, CR_t, Ge_t + Ui)$

Where:

Qf_t = Quantity of fish capture in presence year – Ft

Er_t = Exchange rate

Qf_{t-1} = Quantity of fish captured previous year

$Fimp_t$ = fish import

CR_t = Credit facilities

Ge_t = Government Expenditure

${}_{t-1}$ = indicates the lagged variables

c) *Estimation Technique*

The equations were estimated using Ordinary Least Square (OLS). The model of the study is a single equation Model made up of a dependent variable and five (5) independent (explanatory) variables. The method of multiple regression analysis will, therefore, be used to evaluate the relationship between the dependent variable and the explanatory variables. Two methods of estimating the coefficients of economic relationship exist namely:

Single-equation techniques, and Simultaneous-equation techniques

Single-equation techniques are applied to one equation at a time whereas the simultaneous-equation techniques are applied to all equations of a system at the same time. This implies that single-equation techniques like Classical Least Square (ILS), Two-Stage Least Square and other mixed estimation methods are used for single-equation models. Simultaneous-equation techniques such as Three-Stage Least Square and Full Information Maximum Likelihood techniques (FIML) are used for system equations.

Ordinary Least Square (OLS) estimation technique become imperative in this study because of the single-equation model since it involved simple phenomenon, which can be satisfactorily approximated with a single-equation model (Koutsoyiannis, 1985). Secondly, the purpose of the study is mainly for analysis and policy making which makes the degree of bias of the estimates very crucial and the Ordinary Least Square techniques satisfies the Guass-Makov Least Square theorem of providing the Best Linear Unbiased Estimate (BLUE) Wanacott & Wanacott, 1972).

Ordinary Least Square (OLS) also has the advantages of simplicity of computation procedure, data requirements are not excessive and hence, it is less expensive and less time consuming. The mechanics of Ordinary Least Square are quite simple to understand and it is component of most other econometric techniques. In fact, with the exception of Full Information Maximum Likelihood technique, all other involver the application of Ordinary Least Square. This technique has produced fairly satisfactory results when used in a wide range of economic relationships and it is most commonly used in estimating relationships in economic models (Koutsoyiannis, 1985).

d) Stationary Test

In this study, the Augmented Dickey –Fuller (ADF) unit root test was used to test for the stationarity of the data (Dickey and Fuller, 1979). The ADF test involves running a regression of the first difference of the series against the series. Using Augmented Dickey Fuller (ADF) test, we run a regression as:

$$\Delta X_t = \beta_1 + \beta_1 t + \delta X_{t-1} + \alpha \sum_{i-1} \Delta_{t-1} + \varepsilon_t$$

and then carry out the t-test to know whether the coefficient is statistically significant or not. Then ADF t-statistics were use to compare the critical values at between 1 and 10 percent in order to determine whether the variable X_{t-1} has a unit root.

e) Co-Integration Test

Co-integration has assumed increased importance in analyses that purport to describe long run or equilibrium relationships. An equilibrium relationship exists when variables in the model are co-integrated. A necessary condition for integration, however, is that the data series for each variable involved exhibit similar statistical properties, that is, be integrated to the same order with evidence of some linear combinations of the integrated series. A variable is integrated of order I(0) when it is stationary in level form. A stationary series X_t for example has a mean, variance and autocorrelation that is constant over time (Tambi, 1998). However, most economic series tend to exhibit non-stationary stochastic processes of their form.

Co-integration test was carried out to avoid spurious regression. For this purpose ADF test was applied to test residuals (u) of the static co-integrating regression as follows:

$$\Delta\mu_t = \beta_o \mu_{t-1} + \beta_1 \Delta \mu_{t-1} + c \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where the t-test of the β_o (parameter of H_{t-1}) is compared to the ADF statistics at the various levels. Co-integration implies that the long-run movements in the variables are related to one another in a long-run equilibrium relationship. The Johansen (1991, 1995) efficient maximum likelihood test is used to examine the existence of a long-term relationship between macro-economic policies on one hand and the capture fishery on the other, at the 5 and 1 percent levels of significance respectively. Studies by Barret and Arcese (1995), among others, provide ample evidence supporting the use of the Johansen approach over alternative tests. From Engle and Granger (1987), it is obvious that an Error Correction situation will arise showing the degree of adjustment towards long-run equilibrium. In other words, the model tells what proportion of the disequilibrium in one variable in one period is corrected in the next period. The Error Correction Model for 2 variables X and Y is generally stated as:

$$\Delta Y_t = \beta_o + \beta_1 \Delta x_1 + \beta_2 :_{t-1} + \gamma_t \quad \ldots \ldots\ldots\ldots\ldots\ldots\ldots\ldots(2)$$

The value of β_1 (coefficient of $:_{t-1}$) shows this degree of adjustment. Given the establishment of stationarity and/or co-integration in the variables, the bivariate Granger causality regressions as shown below are estimated where:

$$\Delta X_t = \alpha_o + \alpha_1 \Delta Y_t + \alpha_2 ECM_{-1} + \textstyle\sum_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(3)$$

Here Y_t and X_t are stationary time series. The causality test shows whether past changes in one stationary variable X_t helps to predict changes in another stationary variable Y_t, apart from the impact of past changes in X_t itself. If so, then X does "Granger cause Y" otherwise, X does not "Granger cause Y". The hypothesis that X does not Granger because Y is rejected if the u_t's are jointly significantly.

f) Error Correction Model

The next procedure is Error Correction Model (ECM) this analysis is used to investigate further whether there is long-run relationship among the variables. This is necessary because economic variables may not be stationary individually, a mechanism could still exists that prevents some of the variables from diverging significantly from each other. This was done using the Johansen (1980) framework for finding whether co-integrating relationship exist among the variables by comparing likelihood ratios against their corresponding critical values at 5 percent. If the various tests performed support the fact that co-integrating relationship exist between dependent and any (or a combination) of its explanatory variable then we need to setup a parsimonious Error Correlation Model (ECM). The ECM is then used to analyze the response of fish import to a stimulus in the explanatory variables in a dynamic setting. The ECM is accepted when the residuals from the linear combination of non-stationary 1(1) series are themselves stationary. The acceptance of ECM implies that the model is best specified in the first difference of

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its variables. Thus the application of co-integration paradigm will guard against the loss of information from long-term relationships in the first differences. The Error Correction Model (ECM), which is a method of dynamic modeling employing co-integrate economic theory useful in characterizing a long-term equilibrium with an observed disequilibrium by building a model that explicitly incorporates behaviour that would restore the equilibrium. A prerequisite of the ECM estimation is the determination of the time series properties of variables in the model so as to ascertain whether they are stationary or non-stationary. The use of the ECM is facilitated when variables are first differenced and co-integrated. Since the estimation method such as "Least Square" can be applied to time series data only when all the data series are stationary, then the first difference forms should be used if non-stationary variables are to be included in a regression exercise. For example, for a random walk or non-stationary variable X_t

$$X_t = X_{t-1} + e_t \quad e_tN(O,S^2) \qquad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(4)$$

The first difference of X_t can be written as : $X_t = e_t$, which is by definition a stationary process is a method of classification for non-explosive processes is that variables that are stationary processes are denoted by I(0), those that become stationary processes by taking first, second differences are designated as I(1), I (2), etc. so the expression I(d) means "integration of order d". The statistical tests to determine whether each of the economic variables is I(0) are 1: the Dickey – Fuller (DF), and 2: the Augmented Dickey – Fuller (ADF) test.

The DF test (Fuller, 1976, Dickey and Fuller, 1979) is carried out by applying a regression such as

$$X_t = ax_{t-1} + C_t + d + U_t \qquad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(5)$$

The variable and comparing the t – value with Fuller (1976) distribution table. If the t-values is significantly negative the variable is regarded as 1(0) instead of I(1) in the ADF test, regression such as:

$$\Delta X_t = \beta_1 + \beta_2 t + \delta X_{t-1} + \alpha \sum_{i-1} \Delta_{t-1} + \varepsilon_t \qquad \ldots\ldots\ldots\ldots(6)$$

A popular past method of attempting to overcome the problem of spurious correlation has been to estimate the relationships between the rates of change of variables rather than between the absolute levels. The effect of looking at the rate of change in a variable is typically to remove any trend element. (Noise or disturbance) that is, many non-stationary economic time series become stationary when they are first-differenced. For instance, while output and prices in most post-war economies have trended steadily upwards, this is not generally true of rate of growth in output or of inflation rates. Unfortunately, when attention is concentrated on relationships between rates of change, there is real danger that valuable information on the long-run relationships between the levels of variables will be lost. For example

$$Y_t = \beta_o + \beta_1 x_1 + \beta_2 X_{2t} + \gamma_t \qquad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(7)$$

Where γ_t is a disturbance, then

$$Y_t - Y_{t-1} = \beta 1 (X_t - 1_{t-1}) + \beta_2 X_{2t} - X_{2t-1} + ;_t \qquad \ldots\ldots (8)$$

Where $;_t = \gamma_t - \gamma_t - 1$

If estimating equation 2, instead of equation 1, then would not obtain information about β_o. equation focuses purely on the short run – relationship between Y and X and, hence, is likely to provide poor forecasts for even a few periods ahead if a long-run relationship exists but is ignored. There is a further problem with first differenced equation 7. If a relationship such as 6 really exists and its disturbance γ_t is non-autocorrelated, then disturbance U_t in eauation 7 is of simple moving average form and hence will be auto correlated. First differencing then is an unsatisfactory method of dealing with spurious correlation problem. A major advantage of Error Correction Models (ECM) is that their result in equations with first-differenced and hence stationary dependent variables but avoids the problem discussed above. When economic time series are co-integrated, their relationship is most efficiently estimated by an Error Correction Model which incorporate short-run impacts as well as feedback effects to indicate the speed of adjustment to long-run equilibrium (Engle and Granger, 1987).

III. Results and Discussions

This chapter examines the performance of capture fishery sector under various macroeconomic policies/programmes in Nigeria.

The major thrust of government policy is the achievement of sustained increase in the quantum of fish output but regrettably the fishery potentials of Nigeria are high, but they are yet to be fully exploited, the current situations indicate that the performance of capture fishery is below the expectation with the consequence that Nigeria now has to import fish in order to feed its population. The capture fishery production in Nigeria fell short in demand of 1.5 million tones by 66%. This in effect means that in order to meet the present demand exclusively from the country resources, domestic production will have to increase to meet the targeted population.

Table 1 : Performance of Capture Fishery Under Different Policy Regimes.

Policy regime		Average output	Change in Output
Period	Acronym		
1970 – 1985	Pre-SAP	125.4	-
1986 – 1993	SAP	77.5	-38.2
1994 – 2000	Post-SAP	94.4	21.81

a) The Pre-SAP Period 1970-1985

Within this period, the average output or quantity of fish capture (in tons) stood at 125.5 tons, judging the performance from the average output, one is convinced to state that the performance was impressing. These impressive performance were probably due to direct monetary control techniques employed until June 1986. The monetary policy in this period featured concessionary interest rates. For example agriculture lending rate was fixed at 0.5 percent points above the minimum rediscount rate and about 2-3 percent point below the prime leading (Balagun and Out, 1991). This policy was aimed at providing incentive to farmers. To execute this policy, banks and other financial intermediates were made to support agricultural sector or sub-sectors activities through credit quotas.

The fiscal policy during this era featured increased Federal Government expenditure on agriculture sector. For example, the average annual real Federal capital expenditure on agriculture was ₦ 210.41 million in the period 1970 – 1974 or 5.91 percent of total Federal Government real capital expenditure on all sectors. But in the period 1980 – 1985, the average annual real Federal capital expenditure to agriculture rose to ₦ 734.92 million or 6.93 percent of total real Federal capital expenditure to all sectors. Part of the allocation to agricultural sector was in form of inputs, subsides. Concessionary tax measures such as tax holidays, removal of export taxes on agricultural commodities and income tax relief for new agricultural ventures were adopted (Ukoha, 2000).

Prior to SAP, exchange rate was usually fixed by the monetary authorities (Central Bank of Nigeria) against major international currencies. Foreign exchange was rationed in order to maintain the exchange rate, the exchange rate policy amounted to over-valuation of the exchange rate and resulted in inflow of cheap import of fish and fish products, which discouraged fishery production. The over-valuation of Naira exchange rate also put agricultural exports at a disadvantage.

b) The SAP Period: 1986-1993

As in the Pre-SAP period, this period also featured the use of monetary, fiscal and exchange rate. During this period, the average quantity or output of fishery sub-sector started to decline from 125.4 tons to 77.5 tons and -38.2 percent (change in output). The decrease in average quantity of capture fish is contrary to a prior expectation in the SAP era, it is believed that most beneficiaries of fishery sub-sector credits might not been actual farmers. This unimpressive performance could also be attributed to the fact that, in the 1986 economic reform, interest rates were deregulated and agricultural loans were granted with higher rates of interest than previously, while agricultural loan terms were liberalized. During this period agricultural output responded positively to agricultural credits, in order words, changes in agricultural output moved in the same direction with changes in agricultural credits in the SAP period.

In this period the Federal Government real capital expenditure on agriculture declined from N 734.92 million in the immediate Pre-SAP period (1980 – 1985) to 392.49 million in the first phase of SAP and finally to N189.80 million in the later phase of SAP (1991 – 1996). As a result, the share of agriculture in Federal Government capital expenditure declined in real terms to 6.49 percent in the first phase SAP and subsequently to 2.2 percent in the later phase. The fiscal policy was not quite favorable to the fishery sub-sector. For instance, from the immediate pre-SAP (1984 – 1985) to the early period of SAP (1986 – 1989), the prices of fishing input rose by 129.77 percent for outboard engine, 389.5 percent for buoy and 2919.05 percent for canoe/boat (Ukoha, 2000). Also, in the SAP period some essential feature of exchange rate was adoption of a flexible exchange rate, the first exchange practice introduced at the inception of SAP in 1986 is the Second – Tier Foreign Exchange Market (SFEM) this market was established by law for buying and selling of foreign exchange at market determined rate. Consequently, single foreign exchange market (FEM) emerged which replaced SFEM (Ndebbio, 1991). The rational for having one foreign exchange market (FEM) was, to encourage among other things the inflow of foreign capital investment into Nigeria. The exchange rate during SAP period also influence the fishery sub-sector positively.

c) The Post-SAP Period: 1994 - 2000

During this period the average quantity stood at 94.4 tons which, shows an increase of 21.81 percent over the preceding period. Monetary, fiscal and exchange rate adopted the post-SAP era also have a spilled over effect during the post-SAP period. This period recorded favourable performance in the fishery sub-sector. However, these policies were distorted by the fiscal operations of the government that involved budget deficits that caused rapid depreciation of the

Naira exchange rate. Foreign exchange practices such as the hoarding of foreign exchange for speculation purposes, etc. also accounted for the rapid increase in the price of imported fish, inputs and increase cost of production (Ukoha, 2000).

IV. Impact of Policy on Capture Fishery

Table 2 : Results of Stationarity Test Critical Value: 5% = 2.971; 1% = 3.685

Variable	t-ADF	% lag	t-lag	Probability
Qf_t	-1.3593	14.451	2	-0.68582
Qf_t	-1.6822	14.297	1	1.4067
Qf_t	-1.3491	14.564	0	
Er_t	-0.16894	1.5269	2	-0.38930
Er_t	-0.49892	1.5205	1	2.9853
Er_t	0.34196	1.7365	0	
$Fimp_t$	-1.6835	5063.9	2	-0.25628
$Fimp_t$	-1.9116	4968.3	1	-1.3091
$Fimp_t$	-2.8699	5036.1	0	
Ge_t	8.3297	41446	2	-3.9193
Ge_t	8.3297	52161	1	-9.263
Ge_t	0.074033	1.0647e	0	
Cr_t	-2.1302	1394.3	2	1.3047
Cr_t	-1.7713	1403.5	1	0.59413
Cr_t	-2.3098	1086.0	0	

Source : Computer printout

The stationarity test result presented in Table 2 shows that quantity of fish, exchange rate, fish import, government expenditure and credit facilities to fishermen are not stationary at levels because the ADF statistics are lower than the critical ADF. Except government expenditure, which shows stationarity at lagged 1 and 2, the ADF statistics is greater than critical ADF. Test of co-integration was also carried out on the data in order to establish the existence or otherwise of equilibrium relationship between the relevant variables.

V. Test of Co-Integration

Table 3 : Results of Co-integration Test (Difference and Lagged-two).

Variable	t-ADF	% lag	t-lag	Probability
ΔQf_t	-2.4073	14.735	2	-1.243
ΔQf_t	-4.0195**	14.901	1	1.2001
ΔQf_t	-4.1809**	15.032	0	
ΔEr_t	-1.8635	1.4923	2	-1.4376
ΔEr_t	-2.9970*	1.5251	1	1.0187
ΔEr_t	-2.8683	1.5263	0	
$\Delta Fimp_t$	-2.9467	5286.9	2	-0.72514
$\Delta Fimp_t$	-5.0099**	5234.4	1	0.81784
$\Delta Fimp_t$	-8.1576**	5199.7	0	
ΔGe_t	2.4884	69084	2	-3.6562
ΔGe_t	0.19030	85042	1	-3.3602
ΔGe_t	-6.5770**	1.0104e	0	
ΔCr_t	-3.2472*	1500.5	2	1.1333
ΔCr_t	-3.1212*	1509.3	1	1.57216
ΔCr_t	-5.3155**	1488.9	0	

Source : Computer Printout

Differencing variables in different lagged length reveals that some of the variables that were not sationary at the zero (0) lagged length became stationary at first differencing. For instance, quantity of fish, exchange rate, fish import and credit facilities. This help to eliminate the problem of spurious regression normally obtained from the regression of two or more non-stationary series.

VI. Results of One-Period Lagged with Difference.

Table 4 : One-Period Lagged With Difference.

Variable	t-ADF	% lag	t-lag	Probability
ΔQf_t	-4.118**	14.410	1	1.1843
ΔQf_t	-4.3068**	14.517	0	
ΔEr_t	-2.6464	1.5247	1	0.71041
ΔEr_t	-2.6308*	1.5106	0	
$\Delta Fimp_t$	-5.0057**	5183.4	1	0.79455
$\Delta Fimp_t$	-8.1720**	5147.9	0	
ΔGe_t	0.71749	83132	1	-4.0684
ΔGe_t	-6.0981	1.0436e	0	
ΔCr_t	-3.2420	1453.9	1	-06441
ΔCr_t	-5.5301	1438.1	0	

Source : Extract from computer output.

Using one – period lagged with difference, the exercise reveals that at 5 percent critical value ΔQf_t and $\Delta Fimp_t$ were statistically significant at one-period lagged. Whereas ΔQf_t, $\Delta Fimp_t$, and ΔGe_t were all significant at 5 percent at 0 – period lagged, whileΔEr_t was significant at1 percent at 0 period lagged. Further test of the variables at different lagged length shows that all variables were significant.

VII. Results of Ols Static Model Estimation

Table 5 : Results of OLS Static Model Estimation.

Variable	Constant	$Fimp_t$	Cr_t
Coefficient	00.1	+ 0.001605	0.006993
STD. Error	8.397	0.0005474	0.002187
t-ratio	11.920	2.932	-3.197
R^2	0.348		
F-Statistic	7.494		
D W Statistic	0.829		

Source : Computer printout

Table 5 shows that the explanatory variables explained 35 percent of the movement i.e there is autocorrelation. Table 5 shows that the explanatory variables explained about 35 percent of the movement. Test for t-statistic shows that fist import ($FIMP_t$) and credit facilities (Cr_t) were the only variables that were significant at 1 percent level. However government expenditure (Ge_t) and exchange rate (Er_t) were not significant. The value of Dubin Watson (DW) statistic also show that there is positive autocorrelation, R^2 shows that only 35 percent of the variations in capture fishery output are explained by the included variables.

VIII. Normalized Co-Integrating Coefficient Equation

Table 6 : Results of Normalized Equation.

Qf_t	$FIMP_t$	CR_t	Constant
100.1	0.001605	-0.006993	100
(9.726)	(0.0007467)	(0.00241)	

Source : Computer printout

Therefore since the results reveal that existence of co-integration among the variables of the model, there is a need to set up a parsimonious Error correction Model (ECM) that will make the model to be dynamic.

IX. Results of Ecm Estimation

Table 7 : Results of Error correction Model.

N/S	Independent variable	Coefficient	t-ratio
1	ΔQf_t	2.8221	26.350
2	$\Delta FIMP_t$	0.059582	0.0736
3	ΔCR_t	0.25244	0.4063
4	ΔEr_t	0.20787	0.3183
5	ΔGe_t	0.71276	1.7486**
6	Constant	0.0065481	0.00699
7	ECM	2.4888	19.307*
8	R^2	0.188923	
9	F-statistics	0.85407	
10	DW-Statistics	2.02	

Source : Computer printout

Using OLS modeling ΔQf_t, ΔGe_t and ECM were statistically significant at 5 percent using two-tailed test. Considering the determinants it is only two (2) variables that are significant.

X. Johansen Co-Integration Test

The result of the Johansen Co-integration test is present in Table 8 comprising the likelihood ratio against the critical the null hypothesis that there is no co-integrating, the researcher then adhered to the alternative hypothesis that co-integration exists.

Table 8 : Results of the Johansen Co-Integration Test.

	Eigen value	Likelihood ratio	5% critical value	Hypothesized nos. of co-integrating equation	Series in the equation
(a)	0.770236	104.4029	94.15	None**	LQTY/LPRC
(b)	0.666182	64.69397	68.52	At most 1	LOTPR LGDP
(c)	0.461938	35.07067	47.21	At most 2	EXR LOTPO
(d)	0.407166	18.33657	29.68	At most 3	
(e)	0.138936	4.219860	15.41	At most 4	
(f)	0.006682	0.181023	3.76	At most 5	

*Note: ** denotes rejection of the null hypothesis at 1% significant level.*

L.R. Test indicates one co-integrating equation at 5% significant level. The rank of this equation is 1 (i.e. r=1). The result of the Johansen Co-integration test is presented in Table 8 comparing the likelihood ratio against the critical value at 5 percent in (a) we reject the null hypothesis that there is no co-integrating vector, but accept the alternative hypothesis that one co-integrating vector exits. The long-run test indicates that one co-integrating equation exist (at 5% significant level) in the set of normalized co-integrating equation which shows the long-run relationship between the variables.

a) *Major Findings*

This study investigated the impact of macroeconomic policies on capture fishery in Nigeria (1970 – 2000). Secondary data were used in this research work and were collected from the Central Bank of Nigeria Statistical Bulletin (various issues) and Federal Office of statistics. The data obtained were analyzed using the Error Correction Model (ECM). The result of the ECM confirmed the existence of long run equilibrium between the dependent and independent variables. Available information reveals policy instability and duplication of programmes under different policy. Analysis also shows fluctuation of capture fishery output over the years. The policy variables included in the model found to explain 34.8% of the variability in fish output.

b) *Policy Recommendations*

In view of the findings of this study, the following recommendations are made. First, the government should increase the credit facilities to the fishermen, since output moved in the same direction with changes in credits.

Second, piecemeal policy measures should be avoided because they might be in conflict with one another.

Third, to cushion the fishermen from the impact of high costs of fishery inputs, the study suggest the provision of subsides on fishery inputs.

Fourth, to improve the real wage of fishermen, the study recommend measures, which will raise their productivity. One of such measures is encouragement of the fishermen to use modern fishing technologies

Finally, to increase fishermen access to credit, banks and agricultural credit extension officers should encourage the formation of formal self-help group (SHGs) and link them to financial institutions.

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References Références Referencias

1. Aschauer, D. A. (1989). Is Public Expenditure Productive? *Journal of Monetary Economics*, 23:177-200.
2. Anon, C. (1990). *Fisheries Statistics of Nigeria* (2nd Edition), Federal Department of Fisheries, Abuja Nigeria, pp 31.
3. Ajayi, T. and J. G. Tobor (1991). Non-availability and high cost of credit and inputs as major disincentive in fish production in Nigeria. Proceeding, 4th Annual Seminar of the Committee of Directors of Research Institutes, (CODR), NIMOR, Lagos pp 32-41.
4. African Development Bank (2000). *Economic and Social Statistics on Africa*, Oxford University Press. New York.
5. African Development Bank (2001). *Fostering Good Governance in Africa*. Oxford University Press. New York.
6. Akah, D. F. (2004) "Input Utilization in Capture Fisheries in Esuk Nisding in Calabar Metropolis of Cross River State". Unpublished B. Agriculture (Agricultural Economics) Degree, University of Calabar, Calabar.
7. Balogun, E. O. and Out, M. F. (1991) "Credit Policies and Agricultural Development in Nigeria." *Economic and Financial Review*, 29(2):138-155.
8. Barret, C. B. and Arcese, P. (1995): Are Integrated Conservation Development Projects Sustainable? On the Conservation of Large Mammals in Sub-Saharan Africa. *World Development*, 23, 1072 -10 84.
9. Bishop, C. C. and Toussaint, W. D. (1985). *Introduction of Agricultural Economics Analysis*. John Wiley and Sons. New York.
10. Claque, C. O. Keefer, S. Knack and M. Olsen (1996) Property and Contract Rights in Autocracies and Democracies. *Journal of Economic Growth* 1(2):243-276.
11. Dickey, D. A. and W. A. Fuller (1979). "Likelihood Ratio Statistics for Autoregressive Time Series with a Unit" *Econometric*, 49:107.
12. Dhonte, P. (1995). Three Propositions on African Economic Growth IMF Paper on Policy Analysis and Assessment PPAA/95/9. IMF, Washington DC.
13. Engle, R. F. and C. W. J. Granger (1978). "Co-integration and Error-correction: Representation, Estimation and Testing". *Econometric* 55:251-276.
14. Essen, A. A. (1982) "Various Types of Canoe Fishery in Ikot Abasi" Proceedings of the 2nd Annual Conference of the Fishery Society of Nigeria (FISON), Calabar, 25-27.
15. Ele, I. E. (1986). "Economic Appraisal of Groundnut Production and Marketing in Nigeria (1969-1984)". Unpublished M.Sc Thesis. University of Ife, Ile-Ife.
16. Easterly, W. and R. Levine (2001). It's Not Factor Accumulation: Stylized Facts and Growth Model. *The World Bank Economic Review* 15(2):177-219.
17. Fuller, W. A. (1976). *Introduction to Statistical Time Series*. J. Wiley & Sons, Inc. New York.
18. Federal Ministry of Agriculture, Water Resources and Rural Development (FMAWRRD) (1988). Agricultural Policy for Nigeria, Abuja.
19. Food and Agricultural Organization (1991). African Fisheries and the Environment FAO, Rome
20. Federal Republic of Nigeria (1997). Federal Republic of Nigeria National Position Paper." In: Shaib B., N. O. Adedipe, A. Aliyu and M. M. Jir. (eds) *Integrated Agricultural Production in Nigeria*: Strategies and mechanisms for food security, "Proceedings of the National Workshop on Nigeria" Position at the World Food Submit. Abuja, July 31 – August 2, 1996, NARP, pp 11-74.
21. Heady, E. O. (1946). "Production Function from a Random Sample of Farms" *Journal of Farm Economics*. 28:989-1004.
22. Heathfield, D. F. (1971). "Production Functions, *Macmillan Studies in Economics*, Macmillan Press, New York.
23. Ita, E. O. (1993). Inland Fishery Resources of Nigeria, CIFA Occasional Paper No. CIFA/OP20 FAO of the UN, Rome, 120p.
24. Jeager, G. (1990). *The Impact of Policy on African Agriculture: An Empirical Investigation African Development Bank*, Washington DC.
25. Johansen, S. and K. Josephine (1990). "Maximum Likelihood Estimation and Inference on co-integration with Application to the Demand for money" *Oxford Bulletin of Economic and Statistic*. 52:169-210.
26. Kusemiji, K. (1991). "Fisheries Development In Nigeria: A Critical Appraisal" Keynote Address Proceeding, 4th Annual Seminar of the Committee of Director's of Research Institutes (CODRI), NIMOR, Lagos pp. 12-17.
27. Koutsoyiannis, A. (1985). *Theory of Econometrics*. Oxford University Press. New York.
28. Koutsoyiannis, A. (1979). *Modern Microeconomics*. Macmillan Publishers Ltd, London.
29. Kwanashie, M. I. Ajilima and A. Garba (1998). *The Nigerian Economy: Responses of Agriculture to Adjustment Policies*. African Economic Research consortium Research Paper No. 78.
30. Leftwich, R. H. (1996). *The Price System and Resource Allocation*. Holt, Rinehart and Winston, New York, Chicago, London.
31. Lowenberg, U. and T. Kunzel (1991). "Investigations on the Trawl Fishery in the Cross River Estuary Nigeria". *Journal of Applied Ichthyology* 7:44-54.
32. Moses, B. S. (1980). "Fisheries of the Cross River State of Nigeria: A Preliminary Report. Fisheries Division, Ministry of Agriculture and Natural Resources, Calabar.
33. Moses, B. S. (1987). "The Influence of Flood Regime on Fish Catch and Fish Communities of the

Cross River Flood Plain Ecosystem, Nigeria". Environmental Biology of Fishes Vol. 18, No. 1 pp 51-65.

34. Moses, B. S. (1988). "Prefeasibility Study Fisheries Pilot Project for Implementation by the Cross River Agricultural Development Project (1989 – 1991)". Cross River Agricultural Development Project, Calabar.
35. Moses, B. S. (1989). "The Status of Artisanal Fisheries and Fish Resource Conservation in South East Nigeria." Inaugural Conference of the Nigeria Society for Biological Conservation of the University of Cross River State, Uyo 28-30 May 1989.
36. Moses, B. S. (1990). Fisheries of the Cross River State of Nigeria: A Preliminary Report. Fisheries Division, Ministry of Agriculture and Natural Resources, Calabar.
37. Ndebbio, J. E. U. (1991). "From SFEM to Foreign Exchange Market (FEM). Autonomous Market, Parallel Market, Interbank FEM, Bureau de change, etc What Implications for the Nigeria Economy?" In: Ekpo, A. H. and I. U. Ndebbio (eds). *The Nigerian Economy at the Crossroads: Policies and their Effectiveness*. University of Calabar Press, Calabar: 303:-309.
38. Nadiri, M. I. and T. P. Mamuneas (1994). The Effects of Public Infrastructure and Capital on the Cost Structure and Performance of US Manufacturing Industries.
39. Ogbe, N. E. (1984). A Review of the Nigeria Economy 1960 – 1983. *Bullion*. Central Bank of Nigerian 15-22.
40. Okigbo, B. N. (1986) In: Joyce, L. Moock (ed), *Understanding Africa's Rural Household and Farming Systems*. West View Press Inc, Colorado.
41. Okon, U. E. (2004). "Economics of Fish Production in Atu Beach, Calabar South L.G.A, Cross River State". Unpublished B. Agriculture (Agricultural Economics and Extension Degree), Thesis. University of Calabar, Calabar.
42. Ojo, M. O; Balogun, E. D. and Evbuomwan, G. O., (1993). "Sustaining Agricultural Production in a Deregulated Economy". *Economic and Financial Review*, 31. (2):71-85.
43. Olayide, S. O. (1972). "Agricultural Productivity and Increased Food Production Under Economic Development in Nigeria." Proceedings of the 1972 Annual Conference of the Nigerian Economic Society, 45-76.
44. Olayide, S. O. and Heady, E. O. (1982). *Introduction to Agricultural Production Economics*. Ibadan University Press, University of Ibadan, Nigeria.
45. Piazolo, M. (1995). Determinants of South Korean Economic Growth 1955 -1999. *International Economic Journal 9(4).*
46. Romer, P. M. 91989). *What Determines the Rate of Growth and Technological Change?* Working paper 279. World Bank, Washington DC.
47. Shepard, R. (1970). *Theory of Cost and Production Functions*. Princeton University Press, Princeton NJ.
48. Stiglitz, J. E. (1998). An Agenda for Development in the 21st Century. In: B. Pleskovic and J. E. Stigilitz Conference Proceedings, Annual World Bank, pp 17-31.
49. Stiglitz, J. E. (2000). Development Thinking at the Millennium. Keynote Address, Annual World Bank Conference. Washington DC.
50. Timber, C. P., Walter, P. F. and Pearson, S. R. 91983): *Food Policy Analysis*. The Johns Hopkins University Press: for the World Bank, Baltimore, 1-20.
51. Tapsoba, E. K. (1990). "Food Security Policy Issues in West Africa: Past Lessons and Future Prospects – a Critical Review". *FAO Economic and Social Development Paper 93*. FAO, Rome.
52. Tatom, J. A. (1991). Public Capital and Private Sector performances. *The Federal Reserve Bank of Saint Louis Review* 73(3).
53. Tobor, J. G. and T. O. Ajayi (1992). *Current Management of Fisheries Resources for Sustainable Development in Nigeria*. NIOMR Technical Paper 77.
54. Tobor, J. G. (1994). A Fishery Policy for Nigeria. Paper Presented at FISON Quartery Public Lecture.
55. Tambi, N. E. (1999). Co-integration and Error-correction Modeling of Agricultural Export Supply in Cameroon. *Agricultural Economics* 20 (1999), 57-67.
56. Ukpong, G. E. (1993). "Some Strategies for the Development of Nigeria Sector in the 1990s" *Economic and Financial Review*, 31(2):86-109.
57. Ukoha, O. O. (1999). Macroeconomic Policy and the Effects on Agricultural Output in Nigeria. Winrock International, USA: 26 – 28.
58. Ukoha, O. O. (2001). Consistency of Agricultural Policy in Nigeria: the Case of Macroeconomic Policies. *Journal of Sustainable Tropical Agricultural Research* 2:105-115.
59. Umoh, G. S. (2003). Macroeconomic Environment and the Perennial Crops. *Global Journal of Agricultural Science* 2:53-61.
60. Wanncott, R. S. and T. H. Wannacott (1972). *Introductory Statistics for Business and Economics*. New York. (85).
61. World Bank (1991). *Global Economic Prospects and the Developing Countries*. World Bank Washington DC.

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Information Brokerage: An Entrepreneurial Approach to Information Services in Nigeria

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Abstract - This article focuses on the genesis of and rationale for information consultancy – also known as information brokerage or independent information profession (IIP) - as a profession in Nigeria. This may not be an easy task since Nigeria is, relatively, a newcomer to this field. This paper takes a look at the possibility and viability of information consultancy as is being practised in some developing and developed countries. It concludes that it is a good venture to be embarked upon. The article also highlights the challenges confronting the profession, especially in the areas of policy formulation, power generation, ICT, skill acquisition, managerial ability, report writing and data analysis, and recommends the way forward for would-be information brokers.

Keywords : Information brokerage, entrepreneur, information services, library and information service profession, independent information profession.

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Strictly as per the compliance and regulations of :

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Abstract - This article focuses on the genesis of and rationale for information consultancy – also known as information brokerage or independent information profession (IIP) - as a profession in Nigeria. This may not be an easy task since Nigeria is, relatively, a newcomer to this field. This paper takes a look at the possibility and viability of information consultancy as is being practised in some developing and developed countries. It concludes that it is a good venture to be embarked upon. The article also highlights the challenges confronting the profession, especially in the areas of policy formulation, power generation, ICT, skill acquisition, managerial ability, report writing and data analysis, and recommends the way forward for would-be information brokers.

Keywords : Information brokerage, entrepreneur, information services, library and information service profession, independent information profession.

I. Introduction

Richard Branson, the Chief Executive Officer of Virgin Group, predicted in 2011 that information brokerage will be among the leading professions hat will emerge in the 21st century. Nigeria has for long been practising librarianship, as a profession, in form of public service, but it is yet to be appreciated in the same manner as professions likel aw, accountancy, medicine, estate management, surveying or even journalism, unlike what obtains in developed countries. Subsequently, because of this lack of respect for the profession, the practitioners are not sufficiently appreciated, most especially in the less developed countries.

With the advent of information and communications technology, librarianship started evolving, expanding librarianship frontier of knowledge into mainstream information science within the world of information society and globalization. Ordinarily, library and information service profession originated as public service, without much prestige. With the revolution in information and communications technology, knowledge society has been expanded, modified, exemplified, and potential within the information society, characterised by ICT, has changed and enhanced the library and information service profession around the world.

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In Africa, there is little empirical research on information consultancy and brokerage, and almost nothing originated from authors in the developing countries despite the upsurge of reasons for involvement in the services provided in the region (Ocholla, 2009). The question is, is there really a market for independent information productionin Africa? Available information shows that it has been going on for 15 years in Botswana, with a market for high-quality, value-added research and information services, even though it thrived under growing and contracting economic cycles.As a way of moving librarians out of the library, the American Society for Information Science (ASIS) was itself a major force in the drive to divorce information from the library. To ASIS members, information is not only recorded items of knowledge; it is also the digitized bits of information that could be moved through computers and telephone lines to where it is needed (Levine, 1998: 5).

II. Origin of Information Brokerage

It is believed that information brokering - the business of buying and selling information as a product- has been around for a long time. It can be traced to the early history of Gutenberg in the middle 1400s, in which church and government prerogative, involving the distribution of ‘‘origin works of art,’’ gave way to mass production and the business of book publishing (Levine, 1998). Another school of thought opines: ``information brokering as we now think of it as a business opportunity for the individual information professional was begun by the French in 1935.Conversely, followed that the concept came from the Societe Fracaise de Radiophone, an organisation of professionals who created the notion of supplying information over the phone for a fee.``

By contrast, we cannot point to the genesis of information brokering in Africa. Africa has still not tapped significantly into the vast field of information, which is yet to be fully appreciated as a field with enormous social, educational and economic benefits.

III. Entrepreneurial Approach to Information Brokering

Regardless of Africa’s approach to information and communications technology in the information age, the business of information brokering is a manifestation of globalization-global village where information is at your fingertips; but how many people- researchers, students, managers, lecturers - are skilful enough in ICT, information retrieval techniques, storage and dissemination? It is from this perspective that finding a solution to everyday problems is the goal of many visionary entrepreneurs; it is a way of developing ideas to address our society's greatest challenges because if Africa does not get it right now in terms of ICT, then the rest of the world will not wait for us.

In considering investment in consultancy and brokerage services in a unique consumer environment such as Africa, it would be fool-hardy to ignore the complexities posed by the coexistence of an information–conscious population, on the one hand, and a semi-literate population, on the other hand. For instance, Nigeria has a literate level of 60% (Ocholla, 2009).

IV. Key Library and Information Services for Entrepreneurship

In this 21st century, Africa as a whole does not haveany record or data of library and information professionals,information brokerage or independent information professionals. Although identifying them may be difficult, Igbeka (2008) opines that there seems to be some confusion sometimes as to what to call someone who provides clients (users) with legally obtained information for a fee. Some go by the title information broker (IB); others, independent researcher, independent information professional (IIP), information consultant, freelance librarian or business librarian. All these termsrefer, more or less, to a person who engages in the business or activity of buying or selling information as a product –an information entrepreneur or technocrat.

V. Literature Review

The recent government policy on the development of entrepreneur skills in all our tertiary institutions aims at reducing the rate of unemploymentamong university graduates. It isan innovative approach to the developmentof a new curriculum for all the universities, so that when students graduate they can become employable instead of looking for white-collar jobs. According to Grimm (2006), innovative milieu is a prominent driving force for promoting start-ups as well as regional economic development. Innovative milieu, as defined by Fromhold-Eisebith(1995) and cited in Grim (2006),is a local environment with specific features: it promotes entrepreneurial innovation, and is characterized by a network of multiple persons who make the best us of informal channels among executive companies, research anddevelopment institutions and regional administration. Putnam(1993) shows that entrepreneurial success not only results from individual attributes like a strongdrive for self-actualization or existentialism butis also determined by the social performance and integration of entrepreneurs within regional public lives and networks.

Flora, Flora & Sharp (1997) developed a three-way modelfor entrepreneurial social infrastructure (ESI) that promotes economic development. They stress:

a. High degree of institutional openness and transparency, which also means the acceptance of controversial opinion and politics;
b. The mobilization of diverse resources (meaning the presence of organizations like public (and private) banks, or venture capitalists with a certain commitment and positive attitude to local and regional investment); and
c. The network qualities of a community which should optimally be inclusive for all community members and linked horizontally to other communities, and vertically to regional, state, and national centres.

A further theoretical analysis of entrepreneur theory and practice by Mitchell (1994) emphasizes the idea that ``entrepreneur use expert scripts to process information differently than novices was first introduced into the literature, there has been considerable development of this branch of research within the larger body of entrepreneurial cognition literature (Englebrecht, 1995; Gustafsson, 2004;Mitchell &Chesteen, 1995; Mitchell Smith, et al, 2002; Mitchell, Smith, Seawright, & Morse, 20000).Igbeka (2008) in her theoretical perspective based on the study of library and information science with other issues related to library and information services.This includes academic studies regarding how library resources are used, how people interact with library systems, and the organisation of knowledge for efficient retrieval of relevant information. She highlights the different roles and duties of librarians, their work places and qualifications,and different types of libraries. She also theorised on the influence of information and communications technology librarianship, which expands the horizon of the profession through modern practice.

Kissel (2003:1) views an information broker as an individual who searches for information for clients. Information brokers use various resources including the Internet, online services that specialize in databases, public libraries, books and CD-ROMs. They also make telephone calls. Some regard the word 'broker' asa misnomer. For others, 'information retrieval consultant' would be more accurate. The issue of name bearing or tag for library and information service professionals is a question of nomenclature.What they do and the contents of information provided to their clients matter to the public, although it might be confusing to construct a business model.

VI. Information Brokerage Business Model

Whether a company sells products or services, or does other businesses, or both, there are many different ways to approach the marketplace and make profit. Business models, of which the brokerage model is one, are used to describe how companies go about this process. They spell out the main ways in which companies make profit by identifying a company's role during commerce and describing how products, information and other important elements are structured. Just as there are many different types of industries and companies, there are also many different kinds of business models. While some are simple, others are very complex. Even within the same industry, companies may rely on business models that are very different from one another, and some companies may use a combination of several different models. As Reyport (2011:8) explains, every e-commerce business is either viable or not viable. They hardly qualify for the paint-by-number prescriptions that business people seem to expect. Business models themselves do not offer solutions; rather, how each business is run determines its success. So the success of e-commerce business will hinge largely on the art of management even as it is enabled by the science of technology.

Lack of basic infrastructure can mar this good model. African countries are yet to make a breakthrough in the provisionof a sustainable environment for this type of project.

VII. Skills Needed to Successfully Operate This Business

These include expertise in researching and accessing public, and in some cases private, information over the Internet through traditional sources such as libraries, microfiche archives, and so on. To update a Website, an individualrequires basic Web publishing skills. Communication skills should be concise and descriptive.

VIII. Cost to Start This Business

Starting this business will require the design, development and hosting of a Web site as well as having a computer, appropriate software and a printer. The approximate start-up cost ranges between $3,000 and $7,500 in advanced countries.The average cost for a would-be Nigerian business man going into information brokerage would be double this amount.

IX. Number of Employees Needed

An experienced and competent individual with superior online researching skills and resources can start this business single-handedly.

X. International Potential

The international potential of this business is unlimited. There is no telling where a client may reside. If you have access to the information they seek, you can e-mail it to them, and this makes the borders of your business purely virtual and governed solely by language.

XI. Important Business Issues to be Addressed

The information brokerage business sometimes infringes on the privacy of others, and whenever this happens there are legal implications. Before entering the business, one should research the liability and risk factors. Sometimes,there are tight deadlines to be met. Somebody has to ensure he/she has done additional research they can resort to in order to provide adequate professional service.Moreover, pricing should be clearly outlined on the company's site.Various services are defined by the nature of information the client is searching for. The costs should be competitive and reflective of the amount of time it takes to conduct each search.

XII. Expectations of Librarians in The 21st Century

Beyond information consultancy or brokering, librarians at this stage of Internet usage and database,should be readily available.Even as the smallest libraries become connected, librarians must also hone their skills in order to determine what can financially be offered in the library. A great development in getting more out of the purchasing power of the library dollar has been the creation of library consortia (Stanley, 2003:134). When considering entrepreneurship in the field of information brokerage, the future of librarianship can be simply summed up: competition. Librarians must learn to focus on self-promotion and review resource allocation in an increasingly competitive field (Bynog, 2003:137). According to Parker–Gibson (2003: 161), an information professional "should be at least a little interested in everything, should read a little, often in professional literature and in other areas, and should be aware of the world around him or her, even as the world becomes more complex.``

XIII. Africa ` s Perspective on Information Brokerage

According to Ocholla, (2009),documented empirical research on information consultancy and brokerage shows almost nothing originated from authors in developing countries despite the upsurge of reasons for involvement in the services provided in the region. Today's information seeker is preoccupied with too many projects, and wants information as fast as possible. He does not have the time to spend long hours in the library looking through huge piles of obsolete books and journals. Ifidon (2004, cited in Igbeka, 2008) argues further that the problem of finance for the maintenance of the library and its services brings into play the idea of fee-based library services. This is often referred to as in-house brokerage. Fee-based library services are services which libraries provide to primary and secondary users either for profit or on cost-recovery basis.

XIV. Library and Business

The type of business idea within librarianship is about selling information. Branson (2011) says that it is not only about having an idea but also making sure that it sells or works. With the business of information brokering, it is necessary to identify which areas of librarianship should be commercialised or turned around for entrepreneurship. Aguolu& Aguolu (2002) categorically state six fundamental roles of libraries: knowledge conservation, information, education, research, culture and entertainment. Put together, these form the bedrock of duties and functions of library and information professionals.In other words, these are the basis of information professionalism. Today, there are academic librarianship, school librarianship, media librarianship, law librarianship, and corporate librarianship.The following fall into information brokering:

1. Gathering competitive intelligence in various sectorssuch as pharmaceutical, financial, telecom munication and energy.
2. Searching patents and trademarks;
3. Creating databases for organisations;
4. Preparing research reports in response to staff requests for specific information;
5. Verifying facts for external and internal reports and duplications;
6. Identifying research done at other organisations to avoid unnecessary duplication;
7. Evaluating and comparing information software and sources of data prior to purchase;
8. training other staff to efficiently and cost effectively use databases (Igbeka, 2008);
9. research, analysis, information services, information management and consulting services(Ocholla, (2009);

The front runners in this type of business in Nigeria are not many, and where they exist they are still referred to as librarians. The British Council in Nigeria sells information in its domain to the public in Nigeria.It is membership-oriented.Photocopies of materials are charged and paid for.Referrals are the only free take-away materials. According to a study carried out by Ocholla (2009), ``the analysis of data and the subsequent results revealed that, while Botswana has information consultants and brokers, there is a need for their services in management mainly but also in information technology, information systems and informal training``. There is no doubt that information brokering is an emerging profession in Nigeria and other African countries.

Where library and information services are free, most especially within academic, public and national domains, library users are not patronising them as expected, apart from paying for registrationor ISSN /ISBN numbers obtained from the National Library. Students go to library just to read. The apathy from clients is due to a number of factors. The question of introducing an entrepreneurial approach may be discouraging. Another angle to it is that many people do not mind paying for those services if good services or products are offered them.

XV. The Nature of Information Brokerage

Information brokering as a profession probably has its roots in the 1960s, when a few individuals and library organisations realized that the computer and the photocopier, harbingers of the significant role to be played by technology in the information revolution,would have an impact on information retrieval. The ability to deliver documents, copies of published articles, and similar material to the academic, business and professional communities, ondemand, presented an opportunity to those with enough foresight and entrepreneurial spirit to turn the need into business.

As a result, information brokers provide their clients with information for a fee. They provide research and other information services. In Nigeria, according to Igbeka (2008), their job cannot be specifically defined since they perform different functions. According to the view expressed by Rugge&Glossbernner (1997, cited in Igbeka, 2008), because information is such a nebulous commodity, those seeking it will have a wide variety of information needs. It will, therefore, not be possible for information brokers to do the same thing or perform the same types of jobs. Consequently, no two information brokers' jobs are exactly alike (Rugge & Glossbernner, 1997).

The role of librarians and information professionals in information brokering, with regards to the nature of their job and the ability to search for information especially on the Internet,hasled to the foray into illegal businesses like peddling confidential information such as credit card records, purchasing information, unpublished phone numbers and phone records, and selling information to private investigators, amongst other vices. Consequently, Frantz (1999, cited in Igbeka, 2008) states: "Even at this early stage the case provides an unusually rich window into the secretive world of information brokers, a new breed of investigators who have grown into a multi-million-dollars industry by trafficking in confidential information obtained through lies and access to the latest public and private computer databases." It therefore means that for information brokers, there should be a code of conduct/ethics before they can practice. According to Igbeka (2008), the following are some of the work information brokers are doing in Nigeria:

- Indexing;
- Abstracting;
- Retrospective conversation;
- Cataloguing and Classification (Contract cataloguing);
- Literature reviews;
- Online literature search;
- Print searches for users;
- Owning a library or bookshop with the cooperation of nearby libraries in the area of interlibrary loan;
- Packaging information;
- Editing and publishing;
- Developing hyper media –products;
- Translation;
- Marketing management of library;
- Organisation of seminars, conferences, and workshops;
- Presentations (e.g. Microsoft Power Point);
- Creating databases and website design.

XVI. Availability of Market for Information Brokerage

Nearly all of the areas of librarianship are practicable in Nigeria. This is because there ishardly any research project that does not require information. It may be the case that the information broker will not be able to find the exact answer toa client's questions: for instance, there is nobody that knows the exact value of all the personal property of Nigerian residents-and yet this is an area worthy of research. However, a good researcher will often find enough information to deduce or extrapolate an answer. In line with the example just mentioned, there should be useful statistics that can be accessed from insurance associations and from the Federal Office of Statistics to enable the client to make an educated guess.

It can be garnered from the above that clients for the information practitioner can be found among:

- Information-hungry professionals, such as speech-writers, competitive intelligence professionals, marketing directors and product managers;
- Organisations that do not have an in-house library but need professional research support;
- Librarians who need to outsource some of their research;
- People with more money than time and a specific research need

In order to successfully carry out the above task,one requires a good qualification and personality.There are some qualities expected from information brokers.Apart from being intelligent,a good educationand skills in all key areas, experience and training are also required. Warnken (1981) cited in Levine (1998) on how to start and operate information fee-based service, provides a list of specific services to be performed by information brokers and fee-based information centres, which aremainly informationgathering and processing. Ocholla (2009) suggests that in addition to research skills, one must know how to run a business: that is, marketing oneself, developing and implementing a business and marketing plan; handling the day-to-day operations of a small business, including invoicing, accounts payable and cash flow, continuous upgrading of information skills through professional development and managing clients. There is the need to have good communication skills, since one will be talking face-to-facewith clients,over the telephone,by email, and writing analyses and seminar reports.

Afolabi (1998, cited in Igbeka, 2008) identifies the information-related careers that library and information science graduates could start and build with specific reference to the African situation. Branson (2011) had said that onewould have to consider a lot of things before thinking about starting a business.

XVII. Benefits of Information Brokering to an Entrepreneur

The recent pronouncement by the federal government of Nigeria to include entrepreneurship in the new curriculum of Nigerian tertiary institutions might serve as a good ground for the take-off of information brokerage. What is required is an enabling environment coupled with the awareness that library and information services as a profession is becoming one of the fastest growing and viable ventures in this age of information telecommunications technology.

There is an international association of information brokers -Association of Independent Information Professionals - with over 700 people who either own businesses or are interested in doing so (Ocholla, 2009). This can be replicated in Nigeria. Membership attracts fees, and the benefits cut across. For information professionals in Nigeria, benefits are in the area of:

- Business opportunities;
- A new focus on info-entrepreneurs;
- Creation of specialised areas;
- Employment in corporate organisations;
- Re-Branding of information profession (different nomenclatures);
- Assisting government in drafting information policy;

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- Strategising for competitive intelligence of an organisation;
- Document delivery;
- Code of conduct and ethical business practice in case of competitive intelligence work;
- Boosting the frontier of entrepreneurship in Nigeria.

According to Aguolu &Aguolu (2000), library is a growing organism, depending on which area of librarianship and information one finds himself or herself.All the aforementioned benefits are peculiar to all of them. Nigerian information professionalsare capable of handling any of the services earlier on mentioned, if given adequate human resources, training and focus.A new area of specialisation is on the way, just as mass communication emanated from library and information.

XVIII. Challenges Facing Information Brokering in Nigeria

It may be difficult to ascertain or identify obstaclesnow facing information brokering in Nigeria, since there is no recognised organisation, either private or public, thatis fully registered with the Corporate Affairs Commission, the body saddled with the responsibility of registering companies in Nigeria. What we have in existence are business centres that carry outall sorts of office activities. In a nutshell, the business atmosphere in the countrydoes not operate along that line and,whatever their nature, these activities cannot be described as information brokering; neither can the practitioners be referred to as information brokers, independent researchers, independent information professionals (IIP), information consultants, freelance librariansor business librarians. All these categories of ventures or entrepreneurship may be operating other sub-groups of companies, but not fully as information brokering.

Librarianship practice in Nigeria is yet to be fully appreciated by the public.The idea of creating a business out of it as a purely public-service-oriented type of professionmight be a stumbling block. The lukewarm attitude of users towards librarians is worrisome and frustrating.An entrepreneurship approach to information service need is a different package.The illiteracy level in Nigeria is high: over 60% of Nigerians cannot read and write.Most especially in the northern part of the country, the educational gap between the North and the South is widening daily (Ocholla, 2009).

In considering investment in Africa, it would be fool-hardy to ignore the complexities posed by the co-existence of an information-conscious population, on the one hand, and a semi-literate population, on the other. Therefore, for this type of entrepreneur – the information broker - to succeed, there is need for a highly educated environment. The type of information society in the world today requires information brokering practice for information development sustainability.

Nigeria is ranked 104th in the usage of ICT in 138 countries by the Global Information Technology Report (GIT) for 2010-2011 at thebriefing ofthe World Economic Forum (WEF). South Africa and Mauritius are 47^{th} and 61^{st}, respectively. Sweden, Singapore, Finland and Switzerlandoccupy the top four slots in the 411-page report (Nwoke, 2011). In this type of environment, Nigeria may not have the requiredbasic ICT infrastructure to excel and leverage on the practiceof information brokering.

ICT in Nigeria is yet to take its pride of place due to the poor state of power in the country. The clamour for entrepreneurship in Nigeria will be mere rhetoric if measures are not taken to tackle the perennialproblem of inadequate power supply, since that is the back bone of any economy. At present, there is no association or body representing the profession of information brokering.Practitioners are doing it within the confines of the Nigeria Library Association and other affiliate bodiesrelated to information technology. It is difficult definitely to tellthe proper direction of information brokering, unlike what obtains in the United States, where thereisthe Association of Independent Information Professionals with nearly 700 members.

XIX. Overcoming the Challenges

There is need for intending information brokerage practitioners to do a feasibility study on commercialisationof the library and information service profession. Perhaps, the best approach will be to register with business consultants who will advise on the viability of the idea. This is called planning, which is a vital part of starting any new business. It is also necessary to have a good consultancy outfit that can recruit good hands. Information brokerage is an instant product that requiresimmediate results because there is hardly any research project for which there is no information. It may be the case that you will not be able to find the exact answer to your client's question. Therefore, there is need for experts in the various aspects of information brokerage.

Coordination, marketing, promotion and publicity of information consultancy and information brokerage activities are essential. The areas identified for consultancy services need to be developed and exploited.Clients' awareness of the usefulness of information management should be created and the consultants and brokers should be readily available when needed.Put together, innovation, productivity and efficiency are the derivatives of technological progress. In order words, the starting point for developmental planning is technology- building up the knowledge base and tools for production of goods and services.

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XX. Conclusion

Nigeria is not yet a force to be reckoned with in thefieldof information brokering. Perhaps the advent of information and communications technologyis takingthe library and information service professionto greater heights. Tracing the history of information brokerage to the 1960s and 1970s, there is ample evidence to show the viability of the profession in Nigeria. More so, the recent policy of the Federal Government of Nigeria on entrepreneurship canencourage people in this noble profession to try their hands at selling information for a fee.

XXI. Recommendation

Information is regarded as the fifth factor of production in the 21st century -after labour, land, capital and entrepreneurship. In Nigeria, the level of unemployment has reached an alarming level and therefore every discipline must be engaged with from the point of view of entrepreneurship, so that more jobs can be created for fresh graduates and those that have been jobless for years.

There is need for adequate infrastructural development in the areas of power supply, good roads, social amenities, credit facilities from financial institutions and private ones. Library and information professionals must strive to develop their information and communication technology capabilities beyond rhetoric and be more proactive in meeting information storage, retrieval and dissemination challenges facing them. Information is critical to development, thus ICT as a means of sharing information is not simply a connection between people but a link in the chain of the development process itself.

References Références Referencias

1. Aguolu & Aguolu (2000) "Libraries and Information Management in Nigeria: Seminal Essays on Themes and Problems." Maiduguri: ED-Linform Services. 34.
2. Branson, Richard (2011) "Getting Good Idea to Start a Business". *Sunday Punch,* April, 3. 60. http://www.dhifo.org.Accessed April 23rd, 2011.
3. Flora, Flora, & Sharp (1997) "Entrepreneurial Social Infrastructure and Locally Initiated Economic Development in the Non-Metropolitan United States". *Sociological Quarterly. 38, 623-645*
4. Grim, Heike (2006) "Do Public Information and Subsidies Contribute to the Entrepreneurial Environment? An Exploratory Transatlantic Study with Local-Global Perspective."*International Journal of Public Administration, 29: 1167-1193*
5. Gustafsson, V. (2004) "Entrepreneurial Decision-Making: Individuals, Task, and Cognitions." *Unpublished Dissertation, Jonkoping International Business School* (JIBS),Jonkoping, Sweden.
6. Igbeka, J.U. (2008) *Entrepreneurship in Library and Information Services*. Ibadan: Stirling-Horden Publishers Ltd. 1-57.
7. Levine, M.M. (1998). "A Brief History of Information Brokering." United States of America. Association of Independent Information Professional Inc. http://www.aiip.org Accessed 20th April 2011.
8. Mitchell, R.K & Mitchell, J.R et al (2009) "Entrepreneurial Scripts and the New Transaction Commitment Mindset: Extending the Expert Information Processing Theory Approach to Entrepreneurial Cognition Research." Baylor University, July.815-840
9. Nwoke, Martins, (2011) ``Global Information and Communications Technology, Nigeria Ranked 104 in the World``. *The Guardian, Thursday, April 14, 2011. 34*
10. Ocholla, N. Dennis (2009). "Information Consultancy and Brokerage in Botswana."*University of Zululand, South Africa. Bates Information Services Inc.*
11. Prichet, Carolyn & Stephens, D. et al (2002) "Competitive Intelligence: Career Opportunity for the Information Professionals in Industry."*Journal of Library and Information Science. 34 (4)*
12. Putnam, R (1993) *Making Democracy Work*. Princeton: University; Princeton,NJ 34.

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Real Exchange Rate Determinants in Nigeria (1971-2000)

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Abstract - Nigeria possesses most of the prerequisites for building a strong and vital economy. However, all this potentials cannot automatically transform the country into prosperous nation. Conscious efforts and policies are required to encourage and attract domestic and foreign investors to improve the competitiveness of a nation's economic base. The study was set to analyze the Exchange Rate determinates in Nigeria (1971 – 2000). Six (6) variables were used in the exchange rate model namely: balance of payment, fiscal deficit, import tax, openness of the economy, trends and exports tax. Data on these variables were obtained largely from Central of Nigeria's publication and empirically analyzed using econometric technique.

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Strictly as per the compliance and regulations of :

Real Exchange Rate Determinants in Nigeria (1971-2000)

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Abstract - Nigeria possesses most of the prerequisites for building a strong and vital economy. However, all this potentials cannot automatically transform the country into prosperous nation. Conscious efforts and policies are required to encourage and attract domestic and foreign investors to improve the competitiveness of a nation's economic base. The study was set to analyze the Exchange Rate determinates in Nigeria (1971 – 2000). Six (6) variables were used in the exchange rate model namely: balance of payment, fiscal deficit, import tax, openness of the economy, trends and exports tax. Data on these variables were obtained largely from Central of Nigeria's publication and empirically analyzed using econometric technique. The result reveals that the coefficient of multiple determination, R^2 became 0.95 percent with Durbin-Watson of 2.00. The result further reveals that import tax, trend, openness of economy and export tax had positive coefficients, implying a direct positive relationship between these variables and the real exchange rate. Hence, measures to improve the competitiveness of the economy should revolve around these four variables. However, openness of the economy, fiscal deficit and import tax were significant at 1 per cent probability level.

I. Introduction

Protectionist trade policies in Nigeria emerged in the early 1960s, following the explicit adoption of an import substitution industrialization strategy as well as the deterioration in the country's terms of trade. There was also the associated balance of payments disequilibrium in the wake of the expiration of the commodity export boom of the post World War II era. Thus, an import – prohibiting tariff structure (comprising mostly duties above 50 per cent) was put in place. The Civil War of the late 1960s appeared to have given further impetus to the protectionist tendencies, as an appreciation of the nominal exchange rate was deliberately permitted.

Apart from its well known spending effect, the oil boom of 1973 – 1980 appears to have influenced changes in the country's external sector policy on three fronts. First, a substantial reduction in tariff rates (with import duties mostly below 50 per cent) was made. Second, a liberalized (and indeed generous) foreign exchanged and import payment policy was implemented. Third, there was a relatively greater use of quantitative restrictions (as opposed to import tariffs) in the period, especially following the first oil glut of 1976 – 1978 and the resulting balance of payments disequilibrium. However, in 1973 – 1978, a deliberate policy of naira appreciation was pursed and given the tremendous fiscal response of the government to the oil windfalls, a real appreciation of the exchange rate resulted. In the context of the Dutch disease phenomenon, such a real appreciation of the exchange rate, in the period of an export boom, was theoretically efficient. The long-run implication of such a development, however, especially in terms of sustainability, appears to have been missed or disregarded in policy circles. The end of the oil boom around 1980 brought about a phenomenal rise in the level of Nigeria's external debt, which grew at an unprecedented annual rate of 76 per cent between 1982 and 1985 (Ogun, 1995 b). Further, tariff rates on a variety of imports were hiked substantially as tariff rates in excess of 150 per cent became a common feature of Nigerian trade policy. In addition, the extent and use of quantitative restrictions in the period were unprecedented in the economic history of the country. In essence, over the period 1960 – 1985, the real exchange rate of the country appears to have been appreciated by restrictions, oil windfalls and external debt.

In the spirit of the structural adjustment programme introduced in 1986, most of the aforementioned policy measures, which were assumed to be quantitative restrictions, became considerably narrowed. An interim tariff structure implemented in 1988 reduced tariff rates on most imports to below 50 per cent and a further review planned for 1994 was to produce a uniform tariff structure for the country. The auction market for exchange rate determination, which was introduced in 1986, appeared to have effectively checked the over-valuation of the nominal exchange rate. However, over 1985 – 1990, the country's external debt stock grew at an approximate average rate of 70 per cent to about US $33 billion. Essentially, therefore, the external debt burden of the country and the burgling balance of payments deficits appear to have constituted the prime factors accounting for changes in the real exchange rate in the post 1985 period.

The real exchange rate, which is commonly defined as the relative price of tradable to non-tradable, is an implicit rather than an explicit price. As a result, its

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definition and measurement procedure can sometimes be a subject of controversy. However, the real exchange rate index is often considered to be representative of international competitiveness and is used as a guide to monetary and exchange rate policies. The real exchange rate has come to be regarded as a very important issue in the current discussions on structural adjustment programme in Sub-Sahara Africa since it sent signals for inter and intra-sectoral resource allocation and long run growth of the economy, (Elbadawi, 1989). It is defined as the relative price of tradables to non-tradables in an economy and it measures the cost of domestically producing tradable goods (Edwards, 1988). Thus, it determines the degree of competitiveness of the economy and its external performance.

Overtime, three different concepts and measurement frameworks have been used for the equilibrium real exchange rate. The first approach is the purchasing power parity doctrine, which associates the equilibrium exchange rate with the value of the nominal exchange rate in a period of external balance (known as the base year), adjusted for inter-country differences in inflation rates between the current year and the base year. Three defects are usually associated with the purchasing power parity example, in Nigeria, external equilibrium could be associated with some years of oil boom. However, using any of these years as a representative equilibrium base year could be misleading since the value of the nominal exchange rate in the period was sustained by a transitory phenomenon. Second, under the purchasing power parity approach, equilibrium real exchange rate is deemed as a constant that does not change. However, in a world in which domestic and foreign goods are imperfect substitutes and there are real stocks to the system, it is desirable to have deviations from purchasing power parity. The reason is that the real exchange rate must adjust to the stock and this will require movements in the nominal exchange rate and domestic and foreign price levels (see Ballassa, 1964; Flood, 1981, Mussa, 1982; McGuirk, 1983; Baldwin and Krugman, 1987). Third, purchasing power parity does not seem to hold very well in the short run and probably not in the long run either (Dornbusel, 1980a; Frenkel, 1989).

II. Methodology

a) Analytical Technique

The model of our study is a single-equation model made up of a dependent variable and six (6) independent (explanatory) variables. The method of multiple regression analysis will, therefore, be used to evaluate the relationship between the dependent variable and the explanatory variables. Two methods of estimating the coefficients of economic relationship exist namely:

Singly-equation techniques, and imultaneous-equation techniques

Single-equation techniques are applied to one equation at a time were as the simultaneous-equation techniques are applied to all equations of a system at the same time. This implies that single-equation techniques like Classical Least Square (CLS) or Ordinary Least Squares (OLS), Indirect Leas Square (ILS), Two-stage Least Squares and other mixed estimation methods are used for single-equation models. Simultaneous-equation techniques such as three-stage least squares and full information maximum likelihood techniques (FIML) are used for system equations.

Even though only one econometric method may be theoretically most appropriate for the problem studied, it may not be application due to non-availability or defects of relevant statistical data and other information. Thus, given the limitation, a less suitable technique may have to be chosen. In which case, results of the estimation should be interpreted with caution taking into account the effects and possible errors introduced in the estimates by the use of the less appropriate technique.

We have used the Ordinary Least Squares (OLS) estimation technique in this study because ours is a single-equation model since we are studying a simple phenomenon, which can be satisfactorily approximated with a single-equation model (Koutsoyiannis, 1985:21). Secondly, the purpose of the study is mainly for analysis and policy-making which makes the degree of bias of the estimates very crucial and the ordinary least square technique satisfies the Guass-Makov least squares theorem of providing the best linear unbiased estimate (BLUE) (Wanacott and Wanacott, 1972).

Ordinary Least Squares (OLS) also has the advantages of simplicity of computational procedure, data requirements are not excessive and hence, it is less expensive and less time consuming. The mechanics of ordinary least square are quite simple to understand and it is a component of most other econometric techniques. In fact, with the exception of full information maximum likelihood technique, all others involve the application of Ordinary Least Square. This technique has produced fairly satisfactory results when used in a wide range of economic relationships and it is the most commonly used in estimating relationships in econometric models (Koutsoyiannis, 1985:20).

In evaluating the theoretical meaning fullness and statistical reliability of our parameter estimates, we used various criteria such as: the economic apriori criteria, statistical criteria and the econometric criteria. The aprori criteria are based on economic theoretical expectations or postulations about the signs of the parameter estimates, which have earlier been stated. In most cases, economic theory gives us information about the sign of the parameters and none on their magnitude or size, yet our evaluation is based on both. We will, therefore, reject a parameter(s) whose sign and size is "wrong" but if we accept it (them), the reasons for such acceptance are clearly stated. Orthodox econometricians see models constructed on aprori assumptions as the only true models irrespective of the results obtained. If these results are "unfavourable" (i.e. if the signs and sizes of the parameters do not confirm to apriori knowledge), the model should not be rejected, rather researcher should explain the results, which in many cases is attributable to data deficiency, (Koutsoyiannis, 1985:21).

The statistical criteria or first-order test is secondary only to the apriori theoretical criteria. It is determined by statistical theory and it aims at evaluating the statistical reliability or significance of the parameter estimates of the model. These include the coefficient of multiple determination (R^2), the standard errors (SE) or standard deviation (SD) of the estimates, the students 't' test and the F-statistic. Our analysis in this study has concentrated on R^2, 't'-test, and the F-statistic. We saw the S.E. test as being unnecessary since it is formally equivalent to the students 't' test (Koutsoyiannis, 1985:89). Finally, our results were validated using the econometric criteria (or second-order test). Econometric criteria determine the reliability of the first-order test and the S.E. of the estimates. This enables us to understand whether our estimates have the desirable properties of BLUE (Best Linear Unbiased Estimates).

III. Model Specification

The estimated equation is give as

$$\log RER_t = a_0 + a_1 \log ToT_t + a_2 \log GEN_t + a_2 \log CF_t +_4 \log CP_t + a_5 \log TP_t + a_6 \log CAM_t + a_7 \log 1 + a_8 \log (Z_t^* - Z_t) + a_9 \log NER + a_{10}\, gdpr + u \ldots\ldots$$

Where ToT = terms of trade
GEN = public sector expenditure non tradable
CF = restriction on capital flows
CP = commercial policies
TP = technical progress
CAM = capital accumulation
Gdpr = gross domestic product
I = Interest rate

Amin *et al* (1997) used this model but the model has to be modified based on the following reasons:

i) It was difficult to measure some of the variables found in this model;
ii) It was modified to accommodate other variables found in other works example (Tsassa, *et al.,* 2001) in which our analytical technique was based on.

Based on reasons stated above, a new model was adapted which draws variable from other models and the analytical framework.

The model is written as:

$$RER = a_0 + a_1 \log BOP + a_2\, TREND + a_3\, OPEN + a_4\, DEF + a_5\, IMP\,TAX + a_6\, EXP\,TAX + u.$$

where RER = The real exchange rate
BOP = Balance of payment
DEF = Fiscal deficit
IMPTAX = Import tax
EXPTAX = Export tax
TREND = period in which the analysis of the data are considered.
OPEN = The degree of openness of the economy.

IV. Measurement of the Variables

The real exchange rate is an indispensable index indicating the degree of competitiveness of a country's economy. As such the statistical measurement ought to include the information which national economic agents would use when they make choices among different types of goods either as producers or consumers (Olopoenia, 1992). This depends on the choices of proxies for tradable and non-tradable (Edwards, 1989).

Given the difficulties of classifying commodities into tradable, and non-tradable, it becomes difficult to identify real world counterparts of prices of tradable and non-tradable. This is because there is a high level of aggregation in national account data and there is no sector in the economy that does not produce both tradable and non-tradable. The inability to classifying exclusively tradable and non-tradable categories make the practical application in finding real world counterparts to price of tradable and price of non-tradable. Furthermore, international comparison based on world price index may be distorted by the use of different weight across countries.

The gross domestic product deflator has been used in some cases to overcome the problems of the world price. Since the gross domestic product deflator is a genuine price index of aggregate production, this indices is not subject to the distortions that come from price controls, a real exchange rate index computed using gross domestic product deflator at home and abroad provides a good indicator of changes in competitiveness in production (Amin, 1993). However, this measure suffers the drawback of being available only for a short period, and as in the case of consumer price index it has a good component of non-tradable goods (Edwards, 1989). In other cases the real exchange rate is computed as the ratio of unit labour cost. This is because this index is a direct measurement of relative competitiveness across countries. It is also argued that the relative labour cost is more stable than the relative goods prices. Unfortunately, this measure has the drawback that quality and availability of wage rate data in many countries are poor that there makes the use of this index virtually impossible for many practical applications. Also this measure takes into account only one factor of production. This index will be biased to the extent that the capital-labour ratio differs across countries. Finally, it is an indicator based sensitive to cyclical productivity changes.

For the purpose of this study, a bilateral foreign exchange rate between Nigeria and United States of America, that is her highest trading partner, has been used as proxy for the real exchange rate. The openness of the economy was proxied as the sum of export and import divided by the gross domestic product for the period under review. While data on import tax, export tax and fiscal deficit were obtained from Central Bank of Nigeria statistical bulletin (Various issues) and Federal Office of Statistics.

V. Discussion of Findings

The results of the multiple regression analysis on the determinants of real exchange rate in Nigeria are presented in this section. Annual data points for thirty years were collected for each of the six variables used in the regression analysis which was done using the Ordinary Least Square (OLS) method of estimation. These variables were balance of payment, openness of the economy, fiscal deficit, import tax, export tax and the trend, which is the period that the annual data points are taken for analysis. Data for balance of payment and fiscal deficit were gotten from the Central Bank of Nigeria Statistical Bulletin while openness of the economy was proxied. Imported tax and export taxes were derived from information bulletin of the Federal Ministry of Statistics.

Table 1 : Estimated Real Exchange Rate Equation.

Dependent Variable - Real Exchange Rate
Method : Least Square
Sample (Adjusted) : 1971-2000
Included Observations : 30

Variable	Coefficient	Std. Error	T-stat.	Prob.
C	-1.162801	1.027222	-1.131986	0.2693
BOP	- 1.39E-05	7.45E-06	-1.869981	0.0743
TREND	0.193499	0.088751	2.180259	0.0397
OPEN	2.658435	0.431103	6.166595	0.0000
DEF	-0.000147	2.03E-05	-7.214830	0.0000
IMPTAX	0.000408	5.56E-05	7.352171	0.0000
EXPTAX	2.62E-06	2.16E-05	0.121059	0.9047
R-Squared	0.963336	S.D dependent var.	9.308388	
Adjusted R-squared	0.953771	Akaike info. criterion	4.426522	
S. E of regression	2.001388	Schwartz criterion	4.753468	
Sum of squared resid	92.12773	F-statistic	100.7189	
Log likelihood	-59.39784	Prob (F-Statistics)	0.000000	
Durbin-Watson stat	2.000600	Mean dependent var.	7.951533	

VI. Discussion of Findings

The result which was estimated through Ordinary Least Square method showed that the coefficient of multiple determination, R^2, shows a reasonably high explanation of the variations in the real exchange rate by the explanatory variables, (i.e. $R^2 = 0.96$). This implies that 96 per cent of the total variations in the real exchange rate is accounted for by the explanatory variables. When R^2 is adjusted for the increase in explanatory variables in the model, the R^2 becomes 95 per cent. This indicated that the regression line is a good fit.In investigating the presence of serial correlation, the value of the Durbin-Watson statistics is taken into consideration. We know that Durbin-Watson statistics (d) determined by the disturbance terms depends not only on the number of observations (n) and the number of explanatory variables (k), but also on the time pattern of these explanatory variables. When there is no serial correlation in the residuals, then the auto-regressive coefficient $\hat{O} = O$ and the Durbin-Watson (d) = 2 and as $\hat{O}$ ranges from its maximum value of +1 (high positive serial correlation) to its minimum value of -1 (negative serial correlation) so the value of d ranges from 0 to 4. In the result of our analysis, the Durbin-Watson statistics (d) = 2.00 indicating a case of no serial correlation at 1% significance level. This is in line with the assertion of Koutsoyiannis (1985) that whenever there is no serial correlation, the value of Durbin-Watson will be 0. In the multiple regression analysis, time trend has been used as one of the variables. There are instances in which economist think there are potentially important but immeasurable or (unmeasured) factors whose effect on the dependent variable is changing fairly steadily overtime. Examples might include tastes (in a demand equation) and the state of technology (in production or supply function). The time trend here captures the changes in the state of technology in the economy over the period of this research. Applying the general results of multiple regression, the multiple regression estimates of b_1, b_2, b_3, b_4, b_5, b_6 arises from the association between the deviations of real exchange rate which is the dependent variable on balance of payment, openness of economy, fiscal deficit, import tax, and export tax from their time trends and not at all from association between time trends.

In the multiple regression for real exchange rate, the coefficients of X_2, X_4 and X_5 are effectively zero (which means that the partial correlation between X_2, X_4 and X_5 and real exchange rate given X_1, X_3 and X_6 are nearly zero). The coefficient of fiscal deficit b_4 shows a negative partial correlation with the real exchange rate. This implies that an increase in this variable would bring about a drop in real exchange rate i.e., its real appreciation and consequently a competitive loss. The coefficient of balance of payment is negatively signed indicating an inverse relationship with the real exchange rate. It has met its economic prior sign. This indicates that an increase in this variable will bring about a loss in the real exchange rate, i.e. its real appreciation and consequently a competitive loss. The coefficient of import tax, export taxes openness and trend all shows a positive relationship with the real exchange rate. This implies that an increase in these variables would raise the real exchange rate and thus trigger its real depreciation and improve its competitiveness. The regression result of our equation showed a negative intercept and result is statistically significant at 1 per cent probability level.

VII. Policy Recommendations

This study attempted to isolate the real exchange rate in Nigerian economy. Six variables were used in the analysis and the behaviour of these variables have been noted, based on the results of the analysis. However, the following recommendations are made for further studies:

1. Further studies on the real exchange rate determinants in the long run should be carried out to ascertain the long-term effects of these variables on the economy.
2. There should be standard measurements of most of the economic variables in order to ensure uniformity across countries of the world. In cases where proxies are to be used, there should equally be uniformity.
3. Research on this subject area should be constantly carried out to ensure the formulation of policy over time that will improve the competitiveness of the economy, based on the variables that will be used.

References Références Referencias

1. Ahlers, T. O. and L. E. Hinkle (1999). "Estimating the Equilibrium Real Exchange Empirically: operational approaches." In Hinkle, Lawrence E., Peter J. Montiel, *Exchange Rate misalignment, Concepts and Measurement for Developing Countries*, Oxford University Press pp. 293 – 358
2. Amin, A A. and W. J. Awung (1997). Determinants of Real Exchange Rate in Cameroon, Congo and Gabon. African Journal of Economic Policy, 4(1).
3. Amin, A. A. (1993). "The effects of exchange rate policy on Cameroon's agricultural competitiveness." African economic research consortium AERC/CKEA Nairobi, Research paper 42; 52.
4. Asiodu, P. C. (2001). "Industrial competitiveness of Nigeria." *A paper presented at 4th Annual Conference* at the Oxford University, London.
5. Baffes, J., I. A. Elbadawi, and A. O'Connel (1999). "Step One: Modeling the Equilibrium Real Exchange Rate, in Hinkle, L. E., Peter J. Montiel, Exchange Rate misalignment, concepts and measurement for developing countries. Oxford University Press 405 – 464.
6. Baldwin, R. and P. Krugman (1987). "The persistence of the United States Trade deficit." Brookings papers on Economic Activity, 2, 1 – 43.
7. Ballassa, B. (1964). "The Purchasing Power Doctrine: A Re-appraisal". *Journal of Political Economy,* 72, 584 – 596.Central Bank of Nigeria (1999). Annual Report and Statement of Accounts.
8. Devarajjan, S. (1999). "Estimates of Real Exchange Rate misalignment with a simple General Equilibrium Model", In: Hinkle, Lawrence E., Peter J. Montiel, Exchange Rate misalignment, concepts and measurement for developing countries, Oxford University Press, 359 – 380.
9. Devarajjan, S. Jeffrey D. Lewis and Sherman Robinson (1993). "External shocks, purchasing power parity, and the equilibrium Real Exchange Rate". *The World Bank Economic Review*. 7 (1) 45 – 63.
10. Deverajjan, S. (1997). "Real Exchange Rate misalignment in the CFA zone" *Journal of African Economics*, Oxford University Press, March. 6 (1): 35-53.
11. Dornbusel, R. (1974). "Tariffs and Non-traded Good", *Journal of International Economics,* 4:177 – 185.
12. Edwards, S. (1988). Exchange Rate misalignment in developing countries. *Baltimore*: Johns Hopkins University Press.
13. Edwards, S. (1989). Real Exchange Rates, Devaluation and Adjustment, the MIT Press, Cambridge MA.
14. Elbadawi, I. (1989). "Terms of trade, commercial policy, and black market for foreign exchange: An

empirical model of Real Exchange Rate Determination." *Discussion paper 570*, Yale University, Economic Growth Centre, New Hauen, con processed.
15. Elbadawi, I. and R. Soto (1997). "Real Exchange Rate Regimes and Macroeconomic Adjustment in Sub-Saharan Africa and other developing countries," African Economic Research Consortium plenary sessions, December 1995 and May 1996, Journal of African Economics Supplement to volume 6 (3), 74 – 120.
16. Flood, R. P. (1981). "Explanation of Exchange Rate volatility and other empirical regularities in some popular models of the foreign exchange market." Carnesie – Rochester Conference Series on Public Policy, 15:219 – 250.
17. Frenkel, J. (1989). The collapse of purchasing power parities during the 1970's European Economic Review, 16:145 – 165.
18. Hinkle, L. E. and F. Nsengiyumua (1996). "The Two-Goods Internal Real Exchange Rate for Tradables and Non tradables," Misalignment, Concepts and measurement for developing countries. Oxford University Press; 113 – 173.
19. Hinkle, L. E. and F. Nsengiyumua (1999a). "External Real Exchange Rates: Purchasing power parity, the Nundel-Fleming, and competitiveness of Traded Goods," In: Hinkle, Lawrence E., Peter J. Montiel (eds) Exchange Rate misalignment, concepts and measurement for developing countries. Oxford University Press 41 – 112.
20. Koutsoyiannis, A. (1985). Theory of Econometrics. Oxford University Press. 182 – 189.
21. Krumm, K. L. (1993). A Medium-Term Framework for Analyzing the Real Exchange Rate, with applications to Philippines and Tanzania*. The World Bank Economic Review*, 7(2): 219 – 245.
22. McGuirk, A. (1983). "Oil price changes and real exchange rate movements among industrial countries." *IMF Staff Papers*. December, 843 – 884.
23. Montiel, P. J. (1999a). "The Long-Run Equilibrium Real Exchange Rate: Conceptual issues and Empirical Research," In: Hinkle, Lawrence E., Peter J. Montiel, *Exchange Rate Misalignment, Concepts and Measurement for Developing Countries*, Oxford University Press, 219 – 263.
24. Mussa, M. (1982). " A model of exchange rate determination. *Journal of Political Economy*. 90:74 – 104.
25. Ogun, O. (1995b). "Export boom regimes and external debt accumulation: Lessons from Nigeria's development experience". *Journal of Economic Management*, 2(1), 37 – 53.
26. Olopoenia, R. (1992). "Determinant of Real Exchange Rate in Nigeria" *African Economic Research Consortium Interim Report*, Nairobi, December 5 – 13.
27. Tsassa, C., Benjamin Yamb and Barthelemy Kouezo (2001). The determinants of Real Exchange Rates and misalignment in the France Zone countries: A comparative analysis; (WIP) African Economic Research Consortium Nairobi.
28. Wannacott, R. S. and T. H. Wannacott (1972). Introductory Statistics for Business and Economies. New York (85).

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Provision and Utilization of Facilties for Entrepreneurial Skills' Acquisition by Universal Basic Education Products in Lagos State, Nigeria

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Abstract - The study was designed to investigate the acquisition of entrepreneurial skills via the provision and utilization of facilities and equipment in Lagos State Public Junior Secondary Schools. Three hypotheses were formulated and tested at 0.05 level of significance. Population for the study included the 288 public Junior Secondary Schools in Lagos State out of which 60 were randomly selected for the study. A questionnaire was developed, validated and used to collect data for the study. Data collected were analyzed through the use of Pearson Product-Moment Correlation Coefficient Analysis. The findings reveal that, from the provision of facilities, students were able to acquire entrepreneurial skills moderately; also that the more the students utilize provided facilities, the more they acquire entrepreneurial skills and finally, that as the facilities are provided so are they utilized by the students.

Keyword : Provision, Utilization, Facilities, Entrepreneurial Skills' Acquisition.

GJMBR-A Classification : JEL Code : L26

PROVISION AND UTILIZATION OF FACILTIES FOR ENTREPRENEURIAL SKILLS ACQUISITION BY UNIVERSAL BASIC EDUCATION PRODUCTS IN LAGOS STATE, NIGERIA

Strictly as per the compliance and regulations of :

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Dr. Oyetola Idowu Olufunke [α], Dr. Kayode, Sunday Joseph [σ], & Okunuga Adedapo Adetayo [ρ]

Abstract - The study was designed to investigate the acquisition of entrepreneurial skills via the provision and utilization of facilities and equipment in Lagos State Public Junior Secondary Schools. Three hypotheses were formulated and tested at 0.05 level of significance. Population for the study included the 288 public Junior Secondary Schools in Lagos State out of which 60 were randomly selected for the study. A questionnaire was developed, validated and used to collect data for the study. Data collected were analyzed through the use of Pearson Product-Moment Correlation Co-efficient Analysis. The findings reveal that, from the provision of facilities, students were able to acquire entrepreneurial skills moderately; also that the more the students utilize provided facilities, the more they acquire entrepreneurial skills and finally, that as the facilities are provided so are they utilized by the students. The study recommends that schools should be provided with more facilities and equipment so that the products of Junior Secondary Schools will be able to acquire entrepreneurial skill for sustainability.

Keyword : Provision, Utilization, Facilities, Entrepreneurial Skills' Acquisition.

I. Introduction

The National Policy of Education of 1977 which was revised in 1981 brought in the 6-3-3-4 system of education in Nigeria. This policy was geared towards making relevant changes in the Nation's future manpower by equipping students at the Junior Secondary School (JSS) level with technical and vocational skills that would sustain them in the society. According to this policy, the first six years in the primary school is free and compulsory just as it was during the preceding policy of Universal Primary Education (UPE) of 1976.

The 6-3-3-4 system soon experienced a reform that came in form of the Universal Basic Education (UBE). The UBE is a Federal Government intervention in the 6-3-3-4 system to salvage the troubling rate of decline of school enrolment and the quality of education experienced across the nation and its attendant adverse consequences on national development.

The Universal Basic Education was flagged-off on the 30th of September, 1999 in Sokoto State by the then president of the nation, Olusegun Obasanjo, who intended the intervention or reform for the achievement of Education For All (EFA) by the year 2015. The UBE provides for free and compulsory education from Primary to Junior Secondary School (that is, first nine years) for children from age six to fifteen. It devotes much attention to producing self-reliant UBE graduates. This is in accordance with one of the objectives of the UBE, that is, "to impart the rudiments of employment creating skills at the Junior Secondary level where technical and vocational education is emphasized" (Federal Republic of Nigeria, 2004). The government plans to provide a large number of schools to take in all children who are eligible for enrolment and provide funds for adequately equipping the schools (Obasanjo, 1990). The equipping of the schools was to ensure the success of the reform by the year 2015.

In the Junior Secondary School, the activities are both pre-vocational and academic. Every student shall offer from three groups that the subjects are put into. Group A subjects are compulsory while those of group B and C are optional. The groups are as follows:

a) Group A (Core)

The subjects here are core and therefore compulsory for all students. The subjects include:

i) English language
ii) French language
iii) Mathematics
iv) Language of the environment (L1)
v) One major Nigerian Language other than that of the environment.
vi) Integrated science
vii) Social Studies with Citizenship Education
viii) Introductory Technology

b) Group B

This is the Pre-vocational subjects group. Students are to choose from the subjects here according to their interest. Subjects here are:

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i) Agricultural science
ii) Business Studies
iii) Home Economics
iv) Local Crafts
v) Computer Science
vi) Fine Arts
vii) Music

In this group, emphasis is laid on practicals because from the study of the subjects students can acquire entrepreneurial skills.

c) Group C

This group has only three optional subjects which the students can choose from. They are:

i) Religious knowledge
ii) Physical and Health Education
iii) Arabic

A study of the UBE shows that its essence is to ensure the self- reliance of its products, therefore, it is incumbent on the Government at all tiers to make adequate preparation in providing for the attainment of the UBE objectives.

According to the UBE curriculum, the first award of Basic Education Certificate (BEC) will commence from the 2009/2010 school year by which time the existing primary school curriculum will be on the verge of being phased out (2012/2013 school year). Against this backdrop, government sent out a data collating team, the UBE Rapid Response Data team. In its result, out of a total of 332, 408 classrooms in 44,292 primary schools in the country, only 140,134 classrooms were in good condition while 157,819 required massive rehabilitation and a total of 285,920 additional classrooms were required to accommodate 511,939 streams of different classes (UBE 2000). This information does not include provision of other basic facilities and equipment.

With sufficient provision and utilization of the appropriate facilities and equipment in each department of the Pre-vocational Technical subjects, the products of Universal Basic Education stand to acquire the following entrepreneurial skills.

II. Vocational Department

In the vocational department where there are subjects like Agricultural Science, Computer Science and Home Economics, students can acquire skills-in-farming:

a) Fishery
b) Piggery
c) Poultry
d) Subsistence farming.

2. Computer literacy:

a) Appreciation
b) Desk-top publishing

3. Home Economics:

a) Home making
 i. Tailoring & Fashion Designing
 ii. Decorating

b) Food and Nutrition
 i. Catering
 ii. Party/Home Food Management

III. Business Department

The only subject in this department is Business studies. Students in this department stand to acquire skills in:

a) Typing
b) Accounting
c) Operation of petty businesses
d) Office management

IV. Art Department

This department parades subjects like Fine Art, Local Craft and Music. Here, students can acquire skills in:

a) Free-hand drawings
b) Textile making (Tie & dye, Batik, Kente etc.)
c) Waste to wealth
d) Weaving/pottery
e) Play acting
f) Music production/composition
g) Use of musical instruments.

V. Technical Department

This department is where there are subjects like Metal Work, Wood Work, Technical Drawing, Electrical Work.

With proper handling and proper use of sufficiently provided facilities and equipment, students in the department can acquire skills in:

a) Block making
b) Petty electrical installation
c) Carpentry
d) Metal usage
e) Draught-man-ship
f) Bricklaying

These and a few others not mentioned here are skills that the Universal Basic Education proposed to give to its products at the end of their sojourn from Basic I to IX.

To what extent then, has the government prepared for the attainment of the UBE objectives, especially in the acquisition of skills for self-employment when the year 2015 is just by the corner. Hence an evaluation of the provision, utilization and management of facilities and equipment for entrepreneurial skills' acquisition by UBE products becomes necessary. This, however, is with particular reference to Lagos State.

VI. Objectives

The objectives of this study are:

i) To identify the basic facilities and equipment provided to achieve entrepreneurial skills for UBE products;
ii) To investigate how much of such facilities and equipment have been put in place;
iii) To investigate the extent to which those facilities and equipment are utilized; and
iv) To examine the extent to which provided facilities and equipment have given entrepreneurial skills to UBE products.

VII. Literature Review

The UBE is designed to be a panacea for lack of creative skills in Junior Secondary School leavers. The National Policy on Education is meant to correct this and achieve other nation's economic agenda as enunciated by the National Economic Empowerment and Development Strategies (NEEDS). The UBE became necessary because the hope of a better future is the cardinal focus of the education policy. It is in the knowledge of self and knowledge of the environment that the development of education is premised so that the national life can be lived to the fullest through a collective national will and consciousness (Campbell, 2002).

The reform is meant to equip those students whose academic abilities cannot see them beyond the Junior Secondary School level to readily fit into appropriate apprenticeship or technical colleges (Olaniyonu, Adekoya and Gbenu 2003). The programme is expected to create all round development for its beneficiaries with due attention to intellectual and non-intellectual objectives of education. The UBE, according to Adu (2004), is seen as a people oriented programme and therefore the entire citizenry have to participate in it and gain from it.

To bring all these programmes to fruition, the Federal Government earmarked 10% of the Federal consolidated fund for the UBE. This simply translates to N30billion. Several foreign aids were also obtained by the Federal Government to assist in the achievement of the goals and objectives of the UBE in 2015. For example, in August 2006, the British Government donated £30million to assist UBE (Olajide, 2006).

VIII. Hypotheses

Ho_1 : There is no significant relationship between provision of facilities and acquisition of entrepreneurial skills in Lagos State Junior Secondary Schools.

Ho_2 : There is no significant relationship between utilization of provided facilities and acquisition of entrepreneurial skills in Lagos State Junior Secondary Schools.

Ho_3 : There is no significant relationship between provision and utilization of facilities for entrepreneurial skills in Junior Secondary Schools in Lagos State.

IX. Methodology

A survey research design was adopted for the study with the independent variables of provision and utilization of facilities and equipment and dependent variable of students' acquisition of entrepreneurial skills in UBE programme.

The 288 Public Junior Secondary Schools in Lagos State constituted the target population of the study. Sixty Junior Secondary Schools were selected on a stratified basis of three schools from each of the 20 Local Governments in the State. Students at the point of writing Junior Secondary Certificate Examination were the study participants. Twenty of them were chosen from each of the sample schools thus giving a total of 1200 sample participants.

A questionnaire was designed and employed to collect pertinent data for the study from the sample students on Provision and Utilization of Facilities and Equipment for Entrepreneurial Skills' Acquisition (PUFEESA) by UBE products in Lagos State.

X. Data Analysis

a) Test of Hypotheses 1

Ho_1 : There is no significant relationship between provision of facilities and acquisition of entrepreneurial skills in Lagos State Junior Secondary Schools.

Table 1 : Summary of Correlation Analysis of provision of facilities and acquisition of entrepreneurial skills

	N	Means	Df	r-cal	r-table	Significance
Provision of facilities	60	34	58	0.502	0.250	Significant
Acquisition of skills	60	51				

b) Hypothesis 2

Ho_2 : There is no significant relationship between utilization of provided facilities and acquisition of entrepreneurial skills in Lagos State Junior Secondary Schools.

Table 2 : Summary of Correlation Analysis of utilization of provided facilities and acquisition of entrepreneurial skills

	N	Means	Df	r-cal	r-table	Significance
Provision of facilities	60	44	58	0.484	0.250	Significant
Acquisition of skills	60	51				

c) Hypothesis 3

Ho_3 : There is no significant relationship between provision and utilization of facilities for entrepreneurial skills in Lagos State Junior Secondary Schools.

Table 3 : Summary of Correlation Analysis of provision and utilization of facilities for entrepreneurial skills

	N	Means	Df	r-cal	r-table	Significance
Provision of facilities	60	34	58	0.895	0.250	Significant
Acquisition of skills	60	44				

XI. Results

Results from the analysis in Table 1 indicate a moderately positive significant relationship between provision of facilities and acquisition of entrepreneurial skills in Lagos State Junior Secondary Schools. The hypothesis is therefore not accepted. This implies that from the provision of facilities the students were able to acquire entrepreneurial skills to a moderate extent and this is not due to chance as the correlation coefficient value is significant, the calculated being greater than the table value. Thus the more facilities are provided the more the students acquired entrepreneurial skills in a moderate way.

Results from the analysis in Table 2 indicate a significant moderately positive relationship between utilization of facilities and acquisition of entrepreneurial skills by the students. The hypothesis is therefore rejected. This shows that the more the students utilize the facilities the more they acquire entrepreneurial skills moderately.

Results from the analysis in Table 3 indicate a highly positive and significant relationship between the provision and utilization for entrepreneurial skills in Junior Secondary Schools in Lagos State. The hypothesis is therefore not accepted. This implies that as the facilities are provided so are they utilized by the students.

XII. Discussion

Entrepreneurial skills have to be acquired, though, interest and talent may speed up the acquisition but then practicals by use of appropriate equipment play a very significant role in the acquisition.

According to the results from the analysis, students will be able to acquire one or more of these entrepreneurial skills (see introduction) if facilities and equipment to facilitate the acquisition are provided. That is, the more the equipment are provided the more skills are acquired.

It can be said from the analysis that if the equipment are used by the students by way of practicals, the students will acquire more skills as practice is said to make perfect.

Result from the test of the third hypothesis seems to be complimenting the earlier ones above because it indicates that the more these facilities are provided the more they shall be put to use by the students under the supervision of the teacher with the sole aim of acquiring entrepreneurial skills by them.

XIII. Conclusion and Recommendations

From the foregoing, the study infers that the more the faculties are made available in the schools, the more they are used and the more the students acquire entrepreneurial skills by their use.

It is therefore important, that, for the products of the Junior Secondary Schools of Lagos State to acquire entrepreneurial skills, the government must continue to provide facilities to that effect and teachers must be further encouraged to utilize them in the teaching process. Also, the students must practise with these facilities so that the end result of acquisition of entrepreneurial skills can be achieved.

References Références Referencias

1. Adu, E.O. (2004). Universal Basic Education: Towards a functional Development of Nigeria Educational System. A Paper Presented at the Annual National Conference of the Nigerian Association of Educational Administration and Planning (NAEAP) at the University of Ibadan.
2. Campbell, O.O. (2002). *Educational Planning, Management and School Organization.* Lagos: Babs Olatunji Publishers.

3. Federal Government of Nigeria (2004). *National Policy on Education.* Lagos: NERDC Press.
4. Federal Ministry of Education (2000). Implementation Guidelines for the Universal Basic Education (UBE) Programme. Abuja:
5. Olajide, S. (2006). Nigeria in search of an appropriate way of installing the 6-3-3-4. *The Nigeria Education Times* August - September 2006.
6. Olaniyonu, S.O.A., Adekoya, S.0.A. and Gbenu, J.P. (2003). *Fundamentals of Educational Planning*. Ibadan: Olu-Akin Publishers.

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Empirical Study of Islamic Banks Versus Conventional Banks of GCC

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Abstract - Numerous precious researches that have been conducted at professional and academia level have established Islamic banking to be superior and a viable manner of banking in terms of profitability and stability. The objective of the study would be to analyze the performance of Islamic banks and conventional banks during the crisis and after the crisis. The study will further focus on finding the steps that have been taken by the banks so as to reduce the effects of crisis. The study will be examined by comparing the performance of Islamic and conventional banks based in the Gulf Cooperation Council (GCC) during the period of 2008 – 2011 by deploying the CAMEL testing factors. A sample of 17 Islamic banks and 10 conventional banks were selected to study the objective. Using the 2 tailed t test, our study found out that after crisis Islamic bank increased their LLR, while conventional banks increased their LLR and EQTA. During the four year period of 2008 – 2011, Islamic banks possessed adequate capital structure but have recorded lower ROAE and poor management efficiency. Asset quality and liquidity for both the modes of banking system have not recorded any significant difference.

Keyword : *Islamic banks, Conventional banks, financial crisis, after crisis, CAMEL.*

GJMBR-B Classification : *JEL Code : G21*

EMPIRICAL STUDY OF ISLAMIC BANKS VERSUS CONVENTIONAL BANKS OF GCC

Strictly as per the compliance and regulations of :

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Keywords : Islamic banks, Conventional banks, financial crisis, after crisis, CAMEL.

I. Introduction

Islamic banking has been a growing globally at a very fast pace. It all started with the early 70's and since then the world has witnessed their enormous growth. Though the foundations of Islamic banking were placed decades ago, researcher termed Islamic banks as a way of banking that would serve the refurbished conventional banking products in a misleading way. However, in the course of time, numerous academia and researchers have believed Islamic banking to be a viable way of dealing in finances. This is evident from the fact that Islamic banks and financial institutions have increased significantly in Middle East, South East Asia, Far East Asia and the European regions. Banks in these regions have not only started operating the full fledge Islamic banks but have also started operating Islamicwindows in a conventional banking framework. Some of these Islamic windows provider are HSBC, Standard Chartered and Citi.

The recent global crisis of 2008 – 2009 have increased the importance of creating a stable and solidifying financial system ensuring that the investors feel safe and do not lose the confidence in the banking industry. Globally, an effort is carried out to reduce the risk that make the banking industry fragile and also set up an efficient way of banking thereby increasing efficiency in the financial process and transaction. Islamic banks and conventional banks have been adopting different strategies that would help them to increase their profitability levels and achieve a higher market share. With the start of the recovery in the financial system, banks are adopting different ways to settle the effects of financial crisis. But an important question arises. With the adoption of different strategies and principles, does this affect the performance of Islamic banks and conventional bank?Therefore, this paper will ahead compare the performance of Islamic banks with conventional banks over the period of 2008 – 2011 in the Gulf Cooperation Council (GCC). Further, the objective of the paper would be to understand and analyze the changes with respect to the behavior of the Islamic and conventional banks after the end of the crisis. This would help us understand the ways that the banks have adapted to offset the criticality that have been developed during the period of crisis.

II. Differences Between Islamic and Conventional Banking

Banks have devised several ways that would assist them in generating profit. Conventional banks have assured strategies and tactics that aid them to generate profit and be competitive in the industry. Mohammad et al (2008) states that conventional banks generate income from the spread amid the interest rate charged to the debtors and the interest rate paid to the depositors. There are other set of conventional banks that indulge in the non-traditional approaches that are in the form of deposit and lending principle. Deposit and lending activities are carried out by institutions such as credit card institutions or mortgages dealing institutions. Earning generated by undertaking such activity is through selling loans and then earning profits by charging the debtors with fees.

In contrast, the Islamic method of banking and its associated ideologies are resulting from the Holy Quran, the traditions of Prophet Muhammad (PBUHP) and through the narrations of followers of different Fiqh. Fiqh is well-defined as the presentation of sharia that is assumed to be of different schools of thought. The maturity of Islam with time led to development of diverse

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schools of thoughts i.e. Hanafi, Maliki, Shafi'I, Hanbali and Ja'afariya. Islamic banking arrangement is a lone and dynamic execution of the Islamic legal code or Sharia. Islamic banks are repeatedly branded as a banking system that forbids interest on loans and deposits. But this is not the only difference between Islamic and conventional bank. Though Islamic bank rejects and disallows the notion of interest on transactions, Islamic banks do not discard the time value of money. It provides the financier the benefits of a suitable income on money. The following explains the idea:

- Firstly, the benefit received by the institution by lending the fund to the borrower for a specific time is not predetermined. This means that the benefit received by the lender will be a share in the revenue that has been earned from the undertaking carried out by the borrower.
- Secondly, in event of financing for acquiring tangible goods by the investor through sales or lease, the investors might compensate themselves for the opportunity sacrificed. Profits that are therefore derived from the sale or the lease reflect the time value.

The fundamental justification of Islamic banking is that individuals are not considered as creditors; relatively they are associates in any undertakings. As per the Islamic code of conducts individuals are refrained from dealing in any kind of transactions that comprise of Riba (interest). Khan (2012) state that Islamic banks lend funds to the debtors on the basis of Profit and Loss sharing system (PLs). Under this arrangement, the associates agree to share the profits and losses on the basis of share in the capital and the efforts undertaken. Hence, PLs concept does not favor the fix rate of return on the asset. This theory therefore rejects the notion of conventional bank system as Islamic banks do not commit any rate of return. It is also important to note that transactions in the Islamic method of banking is supported and backed by tangible assets. Conventional banks on the other hand deal with fiscal transactions with the backing of any assets. (Ali, 2005). However Islamic banking is based on certain ideologies that are mentioned below:

- Islamic banking prohibits the individual to indulge in any transactions that bear interest
- Islamic banks should deal in trading or consumption of activities that are deemed to be allowed (halal) by Islam and should refrain from activities that are forbidden (haram).
- Islamic banking does should not indulge in any transaction that involves in speculation (gharar).
- Islamic financial institutions should abide by financial and accounting standards that are in line with the Sharia.

III. Literature Review

Various studies have been conducted to compare the performance of Islamic banks with that of conventional banks. However, the volume of such researches has been limited. This is due to the fact that the data of Islamic banks have been unavailable due to their recent growth. This section will focus and highlight the recent researches that have been conducted. This will give an idea as to the performance of Islamic and conventional banks in the different regions during the different periods.

Parashar and Venkatesh (2010) compared 6 Islamic banks and 6 conventional banks in the GCC region for a period of 2006 – 2009 utilizing 6 ratios namely capital asset ratio, cost to income ratio, return on average assets, return on average equity, equity to total assets and liquid assets to total assets. Their study shows that during the global crisis Islamic banks suffered more in terms of capital ratio, leverage and return on average equity, while conventional banks exhibited a poor performance in return on average assets and liquidity. Further, during the 4 year period of 2006 – 2009, Islamic banks have outperformed conventional banks in the region.

Zeitun (2012) directed a study on the GCC for a period of 2002 – 2009, to assess the factors that affect the Islamic bank and conventional banks. The study included a sample of 38 conventional banks, and 13 Islamic banks. The factors that were studied were foreign ownership, bank specific variable and macro-economic variables. Some interesting results were found. Cost to income ratio and performance of the banks held a negative correlation for Islamic and conventional banks. Equity was found out to be important factor in maximizing the profitability of Islamic banks. The size of the banks supported the economies of scale utilizing the ROE for Islamic banks. GDP was found to be positively related, while inflation negatively related to the banks performance.

In a study piloted by Jaffar and Manarvi (2011), the authors study a sample of 5 Islamic banks and 5 conventional banks in the Pakistan for a period of 2005 – 2009. The authors found that Islamic banks performed well in capital adequacy and liquidity while conventional banks performed better in earning and management quality. Asset quality remained the same in Islamic banks and conventional banks.

Olson and Zoubi (2008) studied and compared the Islamic and conventional banks in the GCC over a period of 2000 – 2005. Utilizing 26 financial ratios, the authors found that profitability between Islamic and conventional banks is not much different. However, Islamic banks are found to be less efficient and are operating with higher risk. The reason for Islamic banks are risky is Islamic banks uphold funds that are to be used in case of bad loans. Conventional banks on the other hand offer deposits fund that are completely pre-determined by interest rates whereas Islamic banks offer deposit funds that are similar to equity as they share diverse types of risk.

Ansari and Rehman (2011) conducted a study on the performance analysis of Islamic and conventional banks based in Pakistan for the period of 2006 – 2009. By utilizing 18 different financial ratios which represented profitability, liquidity, risk and solvency, capital adequacy, deployment ratio and operational efficiency, the authors found out that in comparison to conventional banks, Islamic banks were highly liquid and less operational efficient. Authors also found out that Islamic banks were less risky than conventional banks.

IV. Methodology and Data

In order to achieve answers to the desired set aims and objectives, it is important that we follow a technique that is useful in gathering and analyzing the data. The paper will deal with the quantitative study. Our paper deals with 6 performance parameters, which will assist us in gauging the performance of Islamic and conventional banks. This performance parameter will be collectively known as CAMEL. The CAMEL framework is a set of variables that include the capital adequacy, asset quality, management quality, earnings and liquidity. It is widely believed that the financial performance of the banks should take into the account the capital adequacy, earnings and liquidity management of the banks. Asset quality can assist the bank in providing and scrutinizing the risk associated with the bank's portfolio. Management quality can be judged by assessing the cost reducing capability of the management and simultaneously increasing profits. The above mentioned are the performance parameters, but to achieve the desired results the paper would be utilizing 6 ratios that define their respective parameters. These are mentioned below:

a) Capital Adequacy :

The measurement of capital adequacy is an important parameter to be measured by the banks. It can assist the bank and it management in understanding the shock captivating capability during times of risk. In our study, capital adequacy will be measured by using the Equity to total assets ratio (EQTA)(Vong & Chan, 2009). EQTA is reflected to be a degree of capital adequacy and will support our study in understanding the safety and financial reliability of the banks. This ratio will help us in defining the magnitude of assets that have been financed by owner's funds. The logic is that high EQTA ratio will aid the bank in providing a strong cushion to increase its credit undertakings and lower the unanticipated risks. Samad (2004) states, that high level of EQTA often supports the organization in charming asset losses. This implies that as the amount of the equity to back the assets of banks depresses, the bankruptcy risk of the bank intensifies. Also, Hassan and Bashir (2003) state that constant lowering of EQTA hints to invitation of risk in the banks and therefore highlight the capital adequacy of the bank. Hence, we assume this ratio to be as higher as possible.

b) Asset quality :

Asset quality will help the bank in increasingly understand the risk with respect to the exposure of a bank to the debtors. Asset quality in our study will be measured by loan loss reserves (LLR). LLR can be defined as an indicator to evaluate the value of loans by a bank. In other words, this performance parameter will benefit the bank in understanding the amount of funds that have been reserved by the banks in event of bad loans. This suggests that LLR is an assurance to cover the bad and doubtful loans of the bank. Since this ratio delivers an image of the sum of the provision that have been kept aside for bad and doubtful loans, banks should focus and ensure that they uphold low provision for bad loans. Banks that maintain high provision for bad loans should be concerned as this will signal towards future losses. Hence, in our study we will assume this ratio to be as lower as possible.

c) Management quality :

This measure of performance will shed light on the superiority of the management. The duty of the management is to safeguard that the banks operation runs in a smooth and decent manner. Very often, the banks superiority in terms of management is decided by the skill and ability of the management to control the cost and increase productivity, ultimately achieving higher profits. Hence, cost to income ratio (COSR) will be utilized to measure the management quality. COSR can be extensively defined as the cost incurred by the organization to generate a dollar of income. COSR is one of the premium ratios to capture the management competence of the bank. By controlling the cost, it is meant to control the overhead cost that is sustained to run a bank. Hence, in our study we expect the COSR to be as lower as possible.

d) Earnings :

Earnings being one of the performance parameters highlights on the banks prevailing and forthcoming activities with respect to its earnings. It essentially aids the bank in concentrating on the loss gripping capacity, determining the level of its earnings and revenue as well as the funds available for rewarding its shareholders. Our study would be employing two performance measures to determine the profitability of the banks. These are return on average assets (ROAA) and return on average equity (ROAE). ROAA fundamentally sheds light and specifies the ways that management exploits its assets to generate earnings. ROAA is also an indicator of operational efficiency

(Petersen and Schoeman, 2008). In simple words, ROAA will deliver us with information on the amount of income generated from the each unit of asset on an average.

ROAE on the other hand is a measurement that contributes in understanding the working of the management of the organization with respect to the earnings or income generated from the owner's equity. ROAE can be defined to measure the returns on the equity holders in order to evaluate the growth on their investments. Petersen and Schoeman (2008) state that the banks maintain sufficient capital to avoid failure, but banks should ensure that they do not hold extra capital. Hence, a association can be established where higher the equity capital, the lower the ROAE.

e) Liquidity :

This parameter of performance can aid the banks and establishments to evaluate the risk faced by the banks in case of an unprecedented and unforeseen circumstance that can be the main reason for an insolvency of bank. To assess the liquidity of the banks, we would be using the net loan to total assets (NLTA). NLTA can be defined as the amount of assets that have been engaged in loans. Hassan and Bashir (2003) found that the NLTA should be as lower as possible. High NLTA will often result in inferior liquidity standards of the bank. The only reason being, that high NLTA indicates that the bank is engaged highly in lending and this may have adverse effects as the bank might face huge risk of defaulters. Hence, in our study, we expect this ratio to be as lower as possible.

The study will apply the t test to test the differences between the mean ratios of Islamic and conventional banks. This t test have been performed using the Microsoft excel. The data utilized for the study will by a pooled times series data. Pooled time series data is a type of data set that contains information on variables that are stretched over a period of time. This study will utilize the data for 5 countries in GCC i.e. Bahrain, Kuwait, Kingdom of Saudi Arabia, Qatar and United Arab Emirates. Oman will not be included in the study as Oman does not engage in Islamic banking at the moment. The study will consist of 17 Islamic banks and 10 conventional banks. Though there is a difference in the sample size, an attempt has been carried out to keep the asset size of Islamic banks as similar as possible with that of conventional banks. The period of the study will be from 2008 – 2011. Alexa at al. (2011) states that though the period of 2010 – 2011 has still been influenced by the effects of global financial crisis, the financial system of the economies has been improved when compared to the period of financial crisis.

Hence, to understand the analysis in depth, this study will be further divided into 2 phases that would comprise of during crisis phase (2008 – 2009) and recovery phase (2010 – 2011). Also, several hypotheses have been developed to test the difference in means for the period of during crisis (2008 – 2009) and recovery phase (2010 – 2011). This will give our study a good idea of how Islamic and conventional banks have controlled their financial situation during the crisis and after the crisis. The data for the study will be acquired from Bankscope. Bankscope is a database that has gathered data for more than 11000 banks under thesupervision of International bank credit analysis limited. The next section will deal with the performance of Islamic and conventional banks over the period of 2008 – 2011.

Table 1: Statistics for banks from 2008 - 2011

Ratios	*Mean (%)*	*p – value* (2 tailed)*	*Ratios*	*Mean (%)*	*p- value* (2 tailed)*
EQTA			*ROAA*		
Islamic Bank	24.38%	0.000	Islamic bank	0.89%	0.052
Conventional bank	13.86%		Conventional bank	1.69%	
LLR			*ROAE*		
Islamic bank	3.55%	0.608	Islamic bank	6.58%	0.017
Conventional bank	3.34%		Conventional bank	11.84%	
COSR			*NLTA*		
Islamic bank	53.62%	0.002	Islamic bank	58.01%	0.704
Conventional bank	34.87%		Conventional bank	59.02%	

*Note : P value of * (p<0.05) refer to statistical significant at 5 percent level respectively*

V. Islamic Bank v/s Conventional Bank : 2008 - 2011

The data exhibited in table 1 describes the performance of Islamic banks and conventional banks over the period of 2008 – 2011. These findings would be interesting as it would bear the effects of the financial crisis. While examining table 1, it is found that three variables namely EQTA, ROAE and COSR are statistically significant. The four year average of EQTA for Islamic banks is 24.38% as compared to 13.86% for conventional banks. This implies that Islamic banks were well capitalized during the 4 year period. Furthermore, the average ROAE for Islamic banks measured at 6.58% which is lower as compared to 11.84% of conventional bank. The finding of COSR is also significant as the COSR for Islamic banks is 53.62% for Islamic banks, which is much higher when compared to 34.47% of conventional banks.Hence, it is concluded that during the four year (2008 – 2011) which takes into account the effects of crisis and the recovery phase, Islamic banks were well capitalized, and were performing with low ROAE. High COSR for Islamic banks indicated that Islamic banks have been not able to control the cost which can be seen as one of the management inefficiencies. It can be also said that high cost of Islamic banks would have led to low profitability. ROAA for Islamic banks have been low on an average measuring at 0.89% when compared to 1.69% for conventional banks. LLR for Islamic banks has been found out to be 3.55% which is marginally higher than that of conventional bank's 3.34%. NLTA for Islamic banks is 58.01% which is lower when compared to 59.02% for conventional banks.

There are no statistical significant differences found in NLTA, LLR and ROAA of Islamic banks and conventional banks. This does not imply that the results can be ignored. However, the liquidity and asset quality of Islamic banks and conventional banks had no noticeable differences. To better understand the performance of Islamic and conventional banks, the study will be further more divided in 2 phases namely during crisis and recovery phase. The next section will analyze the performance of Islamic banks during the crisis (2008 – 2009) and in the recovery phase (2010 – 2011).

VI. Islamic Banks: During Crisis (2008 – 2009) v/s Recovery Phase (2010 – 2011)

The data exhibited in table 2 describes the performance of Islamic banks during the crisis and after the crisis or the recovery phase. As observed in the table 2, applying the paired sample t test, there is only one variable that is statistically significant namely LLR.

Table 2 : Islamic banks during crisis and recovery phase

	2008 - 2009	*2010 - 2011*	*p value* (2 tailed)*
LLR	3.03%	4.07%	0.038
EQTA	24.83	23.93%	0.075
ROAA	1.01%	0.77%	0.706
ROAE	6.64%	6.52%	0.959
COSR	57.81%	49.43%	0.418
NLTA	59.02%	56.99%	0.177

*Note : P value of * (p<0.05) refer to statistical significant at 5 percent level respectively*

LLR has increased from 3.03% during the crisis to 4.07% in the recovery phase. This means that the credit and risk management for Islamic banks has not been to the mark and banks have been forced to increase their reserves so as to compensate the default that has been accumulated during the crisis. Other ratios that have declined are: EQTA (from 24.83% to 23.93%), ROAA (1.01% to 0.77%), ROAE (6.64% to 6.52%), COSR (57.81% to 49.43%) and NLTA (59.02% to 56.99%). While the decline in COSR is a positive indication for Islamic banks which suggest that management efficiency measured in terms of controlling cost has improved. Thus banks can increase their profit margin. NLTA is expected to be as lower as possible as this indicates towards a better liquidity management of Islamic banks. Decline in NLTA suggest that total assets that are tied to loans have improved after crisis denoting a strong defense after the crisis. This can be interpreted as the amount of assets that have been tied in loans has been less. Islamic banks have increased their liquidity.

The reason being that unlike their counter parts, Islamic banks are not allowed to borrow any funds from the central bank. Also, Islamic banks refrain from investing in any financial instruments that are interest related. Hence, in such instances, Islamic banks maintain high liquidity and a strong line of defense. However, it should be noted that high liquidity can leads to lower profits as banks have more of assets that play role of liquid assets and hence results in missing the investment opportunities. This effect is clearly evident from the declining figures of ROAA and ROAE. Thus Islamic banks are paying the opportunity cost of increasing liquidity. However these results are not significant.

VII. Conventional Banks: During Crisis (2008 – 2009) v/s Recovery Phase (2010 – 2011)

The table 3 describes the performance of conventional banks during the crisis and in the recovery phase.The results have been obtained by applying the paired sample t test. It is observed that LLR has increased from 2.95% during crisis to 3.74% in the recovery phase while EQTA has increased from 12.92% during the crisis to 14.80% in the recovery phase. These findings are statistically significant. From the findings it can be said that conventional banks have been better capitalized in the recovery stage when compared to period during the crisis. After the crisis, conventional banks have taken up the task to provide and safeguard their system. When a bank has a strong capital structure that safeguards their position, the bank will have to rely less on external sources of funding. Also, increased EQTA can assist the bank to indulge in lending, which would ultimately increase their profits. Subsequently, it would also lead to increased shock absorbing capacity for the institution. On the other hand, similar to the findings of Islamic banks, conventional banks have also increased their LLR so as to compensate the defaults that have aroused during the crisis. In this way, banks would be able to identify weak loans and possible bad debts that would eventually help them increase their profitability.

Table 3 : Conventional banks during crisis and recovery phase

	2008 - 2009	*2010 - 2011*	*p value* (2 tailed)*
LLR	2.95%	3.74%	0.031
EQTA	12.92%	14.80%	0.003
ROAA	1.69%	1.70%	0.971
ROAE	12.07%	11.61%	0.859
COSR	34.25%	35.49%	0.198
NLTA	59.91%	58.14%	0.058

*Note : P value of * (p<0.05) refer to statistical significant at 5 percent level respectively*

However, the following variables have increased: ROAA (from 1.69% to 1.70%) and COSR (from 34.25% to 35.49%) while the following variables have decreased: ROAE (from 12.07% to 11.61% and NLTA (from 59.91% to 58.14%). These variables do not hold any results that are statistical significant. Hence it can be concluded that after crisis, the LLR for Islamic banks have increased so as to ensure that they are successful in offsetting the financial loss suffered during the period of crisis. While conventional banks have also increased their LLR and have been highly capitalized after crisis. These steps clearly show that conventional banks and Islamic banks are taking preventive measures so as to offset any dangers that act as hindrance to their operations.Our findings do not present any major changes in profitability of both the banks.

Furthermore, the study will test the various hypothesis developed by applying the independent two tailed t test to check the differences in means for 6 financial ratios during the crisis and in the recovery phase. For example, our null hypothesis would state that there haven't been any difference between the meansEQTA of Islamic banks and mean EQTA of conventional banks. Subsequently, our alternate hypothesis would state that there is a significant difference between the mean EQTA of Islamic banks and the mean EQTA of conventional banks. We investigate the capital adequacy using the following hypothesis:

H_0: *Islamic EQTA = Conventional EQTA*
H_1: *Islamic EQTA ≠ Conventional EQTA*

Table 4 : Islamic and conventional banks EQTA during crisis and recovery phase

EQTA	*During crisis*	*Recovery phase*
Mean - Islamic bank	24.83%	23.93%
Mean - conventional bank	12.92%	14.80%
*p-value (2 tailed)**	.006	0.029

*Note : P value of * (p<0.05) refer to statistical significant at 5 percent level respectively*

EQTA assists in measuring the capital adequacy. Table 4 shows that the Islamic bank's EQTA mean declined from 24.83% during crisis to 23.93% in the recovery phase. While the ratio of conventional banks rose from 12.92% during the crisis to 14.80% in the recovery phase. The null hypothesis of mean EQTA of Islamic banks equal to mean EQTA of conventional banks is rejected at 5% alpha during the crisis and the same is also rejected for recovery phase. Subsequently the alternate hypothesis is accepted for both the periods. Our findings show that Islamic banks fared higher than conventional banks for the EQTA measurement. This implies that Islamic banks were well capitalized during the crisis and the recovery phase when compared to conventional banks.

The next set of hypothesis will assist in examining the asset quality. The hypothesis hence formed is:

H_0: *Islamic LLR = Conventional LLR*
H_1: *Islamic LLR ≠ Conventional LLR*

Table 5 : Islamic and conventional banks LLR during crisis and recovery phase

LLR	*During crisis*	*Recovery phase*
Mean - Islamic bank	3.03%	4.07%
Mean - conventional bank	2.95%	3.74%
*p-value (2 tailed)**	0.900	0.555

*Note : P value of * (p<0.05) refer to statistical significant at 5 percent level respectively*

We test the null hypothesis that the mean LLR of Islamic banks equal to the mean LLR of conventional banks. On examining the table 5, we find that the mean LLR of Islamic banks was 3.03% during the crisis and increased to 4.07% in the recovery phase. On the other hand, the mean LLR of conventional banks was 2.95% during the crisis and increased to 3.74% in the recovery phase. Hence, at 5% alpha, we fail to reject the null hypothesis of mean LLR of Islamic banks equal to mean LLR of conventional banks for both the periods. This implies that there is no significant difference in the asset quality of Islamic banks and conventional banks during the crisis and the recovery phase.

We examine the following set of hypothesis to assess the management efficiency:

H_0: *Islamic COSR = Conventional COSR*
H_1: *Islamic COSR ≠ Conventional COSR*

Table 5 : Islamic and conventional banks COSR during crisis and recovery phase

COSR	*During crisis*	*Recovery phase*
Mean - Islamic bank	57.81%	49.43%
Mean - conventional bank	34.25%	35.49%
*p-value (2 tailed)**	0.044	0.000

*Note : P value of * (p<0.05) refer to statistical significant at 5 percent level respectively*

As exhibited in table 5, the mean COSR for Islamic banks was 57.81% during the crisis and declined to 49.43% after the crisis. On the other hand, the COSR for conventional banks stood at 34.25% during the crisis and witnessed an increase resulting to 35.49% after the crisis. The null hypothesis of mean COSR of Islamic banks equal to the mean COSR of conventional banks is rejected at 5% significance for both the periods and subsequently the alternative hypothesis is accepted. It can be therefore implied that the efficiency to control cost was better in conventional banks than in Islamic banks. This indicates that conventional banks were much efficient in controlling cost and from the management perspective during both the periods.

We investigate the profitability of the banks using the following set of hypothesis:

H_0: *Islamic ROAA = Conventional ROAA*
H_1: *Islamic ROAA ≠ Conventional ROAA*

Table 6 : Islamic and conventional banks ROAA during crisis and recovery phase

ROAA	*During crisis*	*Recovery phase*
Mean - Islamic bank	1.01%	0.77%
Mean - conventional bank	1.69%	1.70%
*p-value (2 tailed)**	0.412	0.123

*Note : P value of * (p<0.05) refer to statistical significant at 5 percent level respectively*

In the table 6, we find that the ROAA mean of Islamic banks declined from 1.01% during the crisis to 0.77% in the recovery phase. In contrast, the ROAA for conventional banks witnessed a marginal increase from 1.69% during the crisis to 1.70% in the recovery phases. The two tailed t test signifies that the null hypothesis of the mean ROAA of Islamic banks equal to mean ROAA of conventional banks is failed to be rejected at 5% alpha for both the periods. This further implies that there has been no significant difference in the ROAA for Islamic banks and conventional banks during the crisis or in the recovery phase.

The following set of hypothesis has been formed in order to examine the profitability.

H_0: *Islamic ROAE = Conventional ROAE*
H_1: *Islamic ROAE ≠ Conventional ROAE*

Table 7 : Islamic and conventional banks ROAE during crisis and recovery phase

ROAE	*During crisis*	*Recovery phase*
Mean - Islamic bank	6.64%	6.52%
Mean - conventional bank	12.07%	11.61%
*p-value (2 tailed)**	0.174	0.002

*Note : P value of * (p<0.05) refer to statistical significant at 5 percent level respectively*

Table 7 exhibits the mean ROAE for Islamic and conventional banks during crisis and recovery phase. The mean ROAE of Islamic banks during the crisis stood at 6.64% and marginally declined to 6.52% in the recovery phase. In contrast, the mean of ROAE for conventional banks stood at 12.07% during the crisis and declined to 11.61% in the recovery phase. The two tailed t test signifies that the null hypothesis of mean ROAE of Islamic banks equal to mean ROAE of conventional banks is failed to be rejected at 5% significance level during the crisis and the same is rejected for the recovery phase. This implies that Islamic banks provided the shareholder with increased returns during the crisis as compared to recovery phase since the lower performance of ROAE in the recovery phase is significant as and when compared to ROAE for conventional banks.

We examine the liquidity of the banks through the following set of hypothesis

H_0: *Islamic NLTA = Conventional NLTA*
H_1: *Islamic NLTA ≠ Conventional NLTA*

Table 8 : Islamic and conventional banks NLTA during crisis and recovery phase

NLTA	*During crisis*	*Recovery phase*
Mean - Islamic bank	59.02%	56.99%
Mean - conventional bank	59.91%	58.14%
*p-value (2 tailed)**	0.817	0.762

*Note : P value of * (p<0.05) refer to statistical significant at 5 percent level respectively*

We will test the null hypothesis of the mean NLTA of Islamic banks equal to mean NLTA of conventional banks. On examining the figures in table 8, we find that the mean NLTA of Islamic banks stood at 59.02% during the crisis and declined to 56.99% during the recovery phase. In contrast, the mean NLTA of conventional banks measured at 59.91% during the crisis and declined to 58.14% in the recovery phase. The null hypothesis of no difference between the mean NLTA of Islamic banks and the mean NLTA of conventional banks is failed to be rejected at 5% significance during the crisis and the recovery phase. This indicates that there was no difference in the liquidity of Islamic banks and conventional banks during the crisis or during the recovery phase.

VIII. Conclusion

Our analysis shows that during the four year period of 2008 – 2011, EQTA, ROAE and COSR were found to be significant. While Islamic banks were found to deliver high in terms of EQTA, conventional banks were found to perform well in ROAE and COSR. This indicates that over the four year, Islamic banks were better capitalized but have performed low in terms of profitability. COSR as an indicator of management efficiency was found to be poor for Islamic banks. Consistent high COSR has led to low profitability levels of Islamic banks after the crisis.

Further, we analyzed the performance of Islamic and conventional banks before and after crisis. It was found that for Islamic banks, LLR as a measurement of asset quality has significantly increased indicating a risky portfolio after crisis while on the other hand, LLR and EQTA for conventional banks after crisis have increased indicating of a risky portfolio and improved capital adequacy of conventional banks. The behavior of Islamic banks and conventional banks might have been to increase the LLR so as to offset the default on loans by customers that had been accumulated during the crisis. Increased LLR indicates of banks potential to identify weak loans and hence increasing profitability. However, we find neither Islamic banks nor conventional banks have been able to generate significant increased profits after crisis. Moreover, conventional banks have also increased their EQTA so as to increase their shock absorbing capacity. This would have been again due to increased losses for conventional banks during crisis. The increases in capitalization can also assist the banks in increase their lending activities and ultimately increase their profits.

Comparing the performance of Islamic and conventional banks during the crisis and in the recovery phase, utilizing the hypothesis, our study found that while EQTA fared higher for Islamic banks indicating better capital adequacy during both the periods, COSR fared better for conventional banks during both the periods. The findings of ROAE were found to be significant only in the recovery phase, where conventional banks performed better than Islamic banks in this performance measurement indicating that in contrast Islamic banks performed better with respect to ROAE during crisis than in recovery phase. Other performance indicators were not found to be statistically significant.

Every study has scope for further study. This study has been performed on the banks based in the GCC. To get a better understanding it would be interesting to analyze similar objectives by including banks from other countries. This will simultaneously increase the sample size which would provide a more detailed outlook on the performance of the two banking systems.

References Références Referencias

1. Alexa, I., Dajbog , G and Nistor, C. (2011) "A Macroeconomic Perspective on Crisis Recovery", Fascicle I. Economics and Applied Informatics, 1, pp. 103-110
2. Ali, (2005)" Islamic Banking", Journal of Islamic Banking and Finance, 4(1), pp. 31-56
3. Ansari, A. and Rehman, A. (2011) "Financial Performance of Islamic and Conventional Banks in Pakistan: A Comparative Study", 8th International Conference on Islamic Economics and Finance - Doha. 1 (1), pp. 1-19
4. Hassan, M. and Bashir A. (2003), "Determinants of Islamic Banking profitability", Paper presented at the Economic Research Forum (ERF) 10th Annual Conference, Marrakesh, Morocco, 16-18 December.
5. Jaffar, M., & Manarvi, I. (2011). "Performance comparison of Islamic and Conventional banks in Pakistan", Global Journal of Management and Business Research. Vol 11(1), pp 1-7
6. Khan, O. (2012) "An Examination of the Underlying Rationale of the Profit and Loss Sharing System, With Special Emphasis on the Mudarabah and Musharakah Within the Context of Islamic Law and Banking", Journal Of Finance, Accounting & Management, 3(1), pp. 23-31
7. Mohamad, S., Hassan,T. & Bader, M. (2008) "Efficiency of conventional versus Islamic Banks : international evidence using the Stochastic Frontier Approach (SFA)", Journal of Islamic Economics, Banking and Finance, 4(2), pp. 107-130.
8. Olson, D. and Zoubi, T., (2008) "Using Accounting Ratios to distinguish between Islamic and Conventional Banks in the GCC Region", The International Journal of Accounting, 43, pp 45-65
9. Petersen, M and Schoeman, I. (2008) "Modeling of Banking Profit via Return-on-Assets and Return-on-Equity", Proceedings of the World Congress on Engineering, 2, pp. 1-6
10. Samad, A. (2004) "Performance Of Interest-Free Islamic Banks Vis-À-Vis Interest-Based Conventional

Banks Of Bahrain", IIUM Journal Of Economics And Management, 12(2), pp. 1-15
11. Zeitun, R. (2012) "Determinants of Islamic and Conventional Banks Performance in GCC Countries Using Panel Data Analysis", Global Economy and Finance Journal, 5 (1), pp. 53-72
12. Vong, A. and Chan, H. (2009) "Determinants of Bank Profitability in Macau", Macau Monetary Research Bulletin, 12, pp. 93-113

Appendix A

The following is the list of banks with their assets ending 31st Dec, 2011 that have been used for the study.

ISLAMIC BANKS	City	Assets (in mil US $)	CONVENTIONAL BANKS	City	Assets (in mil US $)
Al Rajhi Banking & Investment Corporation-Al Rajhi Bank	RIYADH	58,884	First Gulf Bank	ABU DHABI	42,881
Kuwait Finance House	SAFAT	48,312	Mashreqbank	DUBAI	21,577
Dubai Islamic Bank plc	DUBAI	24,667	Ahli United Bank BSC	MANAMA	28,330
Abu Dhabi Islamic Bank - Public Joint Stock Co.	ABU DHABI	20,241	Arab Banking Corporation BSC	MANAMA	25,015
Albaraka Banking Group B.S.C.	MANAMA	17,154	Ahli United Bank KSC	SAFAT	9,432
Qatar Islamic Bank SAQ	DOHA	16,013	Al Ahli Bank of Kuwait (KSC)	SAFAT	11,055
Islamic Development Bank	JEDDHA	15,925	Commercial Bank of Qatar (The) QSC	DOHA	19,654
Al Hilal Bank PJSC	ABU DHABI	7,693	Doha Bank	DOHA	14,401
Bank AlBilad	RIYADH	7,394	Riyad Bank	RIYADH	48,237
Qatar International Islamic Bank	DOHA	6,417	Arab National Bank	RIYADH	31,353
Emirates Islamic Bank PJSC	DUBAI	5,850		TOTAL	251,934
Boubyan Bank KSC	SAFAT	5,570			
Sharjah Islamic Bank	SHARJAH	4,829			
Kuwait Finance House	MANAMA	4,089			
Kuwait International Bank	SAFAT	4,014			
Tamweel PJSC	DUBAI	2,731			
Elaf Bank	MANAMA	161			
	TOTAL	249,942			

Appendix B

The ratios utilized in this study are calculated as per Bankscope database. The following are the formulae's of the ratios used:

LOAN LOSS RES / GROSS LOANS (LLR) = LOAN LOSS RESERVE/ (LOANS+ LOAN LOSS RESERVE) * 100

EQUITY / TOT ASSETS (EQTA) = EQUITY/ TOTAL LIAB & EQUITY * 100

RETURN ON AVG ASSETS (ROAA) = NET INCOME/ AVG TOTAL ASSETS * 100

RETURN ON AVG EQUITY (ROAE) = NET INCOME/ AVG EQUITY * 100

COST TO INCOME RATIO (COSR)= OVERHEADS / (NET INTEREST REVENUE+OTHER OPERATING INCOME)* 100

NET LOANS / TOT ASSETS (NLTA)= LOANS/ TOTAL ASSETS * 100

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Assimilation between Bond Market and Stock Market

By Dr. Roopali Patoda & Dr. Kapil Jain
IIPS, DAVV Indore

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Keyword : *Bond Index, Stock Index.*

GJMBR-B Classification : *FOR Code :150202, JEL Code : G17, G12, G17*

ASSIMILATION BETWEEN BOND MARKET AND STOCK MARKET

Strictly as per the compliance and regulations of :

Assimilation Between Bond Market and Stock Market

Dr. Roopali Patoda [α] & Dr. Kapil Jain [σ]

Abstract - The research work deals with studying of the relation between shares and bonds and comparative analysis of stock (shares) which are listed on stock market exchange and bonds (Government Securities) which are listed in NSE Government security index, which issued in whole sale debt market. For evaluating the relation between stock and bond market to study the comparative analyses of both markets and also finds out the correlation and cointegration between both markets, whether these markets correct each other or not. The objective of this paper is to scrutinize the correlation and linkage structure of stock and bond return across different time-phase horizon between stock and Bond Market Indices over a period from January 2005 to Dec 2010. The findings outbuilding some light on the presence of mean deteriorating arrangement of correlation across changed economic environments. During the economic richness, there is an indication of positive and significant correlation between bond and stock returns. An insignificant positive correlation was also observed during the recession period. Conversely, in the course of the recovery period, negative and insignificant relation was observed. Conclusions on co-movement of stock and bond index recommend no evenness relationship with any short-term error correction. Results also indicate that the stock and bond markets of are independent of each other, with most of the variations in indices being explained by past value of each respective market Indian capital market.

Keywords : Bond Index, Stock Index.

I. Introduction

To analyses the co-movement between stock index and bond index varies with the uncertainty of stock market. They use to protect the volatility from equity index options to provide an objective, observable, and dynamic measure to analyses the stock market uncertainty. Here research examines the stock and bond returns tend to move together during periods of lower stock market uncertainty in different era of tenure. Stock and bond returns tend to exhibit which type of relation either positive or even a negative relation during periods of solid economic and pathetic economy i.e. in crises. The authors' findings have implications for understanding joint cross-market price formation. Diversification beneficial decreases the risk of portfolios which comprises of combination of different investment product that mainly includes stocks and bonds. As an investment, stock market typically is viewed as a financial asset that will fluctuate and influence through political, social, or economic distress and company's performance and investors invest in different sectors and bonds to diversify the risk of losses. Comparative analysis of stock (shares) which are listed on stock market exchange and bonds which are listed in bond index, which issued in bond market. For evaluating the relation between stock and bond market to study the comparative analyses of both markets in different economic time horizons and the correlation between both markets that whether these markets correct each other or not. Is there any integration and adoption between stock market and bond market?

Several studies tells about stock market behaviors which are too specific and the market behaves like a completely random walk which cannot be completely predictable with "full knowledge" theories of market where investors knows whole of the information while we may not know whole of it because of these observations we try to extract evidence that may disclose the prejudices and they acts predictably through observe and detect the sequence of past results and try to estimate the probability with approximation to select the number that has the maximum probability of result. The study analyses that whether the stock market uncertainty has some role to understand the comovements in stock market and bond market.

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Macroeconomics analyzes long-run growth as well as the cyclic movements in total output, unemployment and inflation, the money supply and the budget deficit, and international trade and finance. It focused on the movement and trends in the economy as a whole. Economists evaluate the success of an economy's overall performance by how well it attains the

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following objectives: High levels and rapid growth of output and consumption (output is usually measured by the gross domestic product (GDP), which is the total Value of all final goods and services produced in a given year; also, GDP should be close to potential GDP, the maximum sustainable or high-employment level of output). Low unemployment rate and high employment, with an ample supply of good jobs.

In summary rates generally the stock market get boost or lift high in the condition of low interest rate. Correspondingly stock market has a tendency to goes down or slips as the rising of interest rates. It is not to say that this all things take place in perfect co-ordination. Because market takes time for changes in interest rates to work their way over and done with the markets in the manner as defined above. Aimed at an alert investor, though, changes in interest rates suggestion pointers to shift from equity market to the debt investments when interest rates gets rise and vice versa.

II. Literature Review

The objective of this paper is to examine the correlation and linkage structure of stock and bond return across different time-phase horizon and co-integration relationship between stock and Bond Market Indices over a period from January 2005 to Dec 2010. Many studies conducted research on impact of macro-variable with the stocks and bond market. Study of integration of security and debt market is common among developed countries.

a) *Study related to bond market and stock market integration and relation:*

Campbell and Aminer (1991) uses a log-linear asset pricing framework and a vector autoregressive model near to break down movements in stock and bond returns due to cause and changes in hopes of future stock dividends, short-term real interest rates, inflation , and excess returns on stocks and bonds. With the using of monthly postwar U.S. data, they found that excess stock yields are to be driven mostly by news almost about future excess stock yields, although excess of 10-year bond yields are driven mostly through news about future price rises or inflation. These results support to clarify why postwar excess stock and bond yields have been nearly uncorrelated.

Bodart et al. (1999) found many answer such as what and how does the potential effects of the exchange rate on the bond and stock national equity index return series due to cause of conditional market volatilities and international correlations of the countries and here they also tell that if we find any little evidence find in bond index return or wholesale debt market while strong asymmetries in conditional volatility. Though, both bonds and equities reveal asymmetry in conditional correlation.

Reddy (2003) studied Integrated financial market which is playing very essential and necessary role for many years with many reasons. Integrated markets provide a channel for conveying or means of transmitting important price signals to auditors. Financial market integration is to promote the growth or development of being essential or compulsion condition for a countries financial sector to raise or come forth as an international financial center.

Evidence from Bursa Malaysia Cheng et al (2002) are using Johansen Cointegration test, VECM-X and GARCH model through this he finds the linkage between stock and bond market through studies and observe the existence of long-term relation and volatility. He also finds co-movement of stock and bond indices where he suggests an equilibrium correlation with short-term inaccuracy or error correction and as of volatility linkage bond market cannot provide a meaningful or significant explanation for conditional and uncertain volatility in stock market, thus, he is rejecting the mixture of distribution hypothesis and premises. Their finding or results sheds that in the course of the economic prosperity or wealth, there is an indication or evidence of positive, progressive, irrelevant and insignificant correlation between bond and stock returns. A significant positive correlation was also observed in the course of the crisis and disaster period. Though, in the course of the recovery period, negative, irrelevant and insignificant relation was saw or observed.

Chen et al (2009) analyses in situation of high volatility state of the bond market and low volatility state of the stock market, the assessment or estimates of bond-stock correlation in both or in cooperation of high and low connection or correlations states are non-negative. But when both bond and stock markets are in high volatility state, the bond-stock correlation has the maximum correlation predicted and estimate at its high correlation-state and almost lowermost correlation estimate at its low correlation-state.

Fight the Fed Model is very popular model to measure the US market fair value. Where this Fight Model compares the earnings yield (E/P) of stock market's with the long-term government bonds yield. When we compare it with traditional methods, it assesses the stock market only by its own without concern to the level of interest rates. The reason most behind habitually refer to in provision of the Fed Model is that cost will more and stocks should yield less when bond earnings are low, such as bonds and stocks are rival asset. Long term real stock return less when beginning P/E is more, and long term returns are more when beginning P/E is less, irrespective of nominal interest rate.

Clifford S. Asness (2000) suggested that long run difference in instability or volatility among stocks and bond are causal and driven of the difference between stocks yields and bond yields. He tries to explain the presently low stock market dividend and earnings yields. Stock and bond yield are strongly positive correlated and significant due to influence of altering or changing in volatility.

R. P. Berman (2005) studies the European capital markets with European money union (EMU) whether EMU directly or indirectly affect the European capital market. A portfolio should be well diversified and their assets should be well classified so this all things depend on the correct understanding and correlation between bond yield and equity yield across the European country. They emphasis on correlations between both stock and bond markets in the period 1980-2003 among the dominant trends of conditional cross-country. This assessment produces strong evidence of inordinate comovement diagonally the board for both stock markets and government bond markets. Dates of change and speeds of adjustment illustrate a discrepancy widely across the linkage of country. Stock market integration is an additional steady process than bond market integration. The impact of European monetary union (EMU) is rather limited, as it has mainly affected the timing of bond market correlation advantages (but hardly their size) and has had slight apparent consequence on stock market integration.

Sunday Brownson et al are used the some macroeconomic variables like inflation, external debt, domestic savings, nominal exchange rate value of total import, external reserves, industrial capacity utilization and liberalization and see their subjective effect and impact on the government stock, industrial/equities stock and total stock transaction in the Nigerian stock exchange market. He also discloses that inflation; nominal exchange rate of value of total import, domestic savings and liberalization period these all are significant macroeconomic variables which disturbing the value of industrial or equities trading in the stock exchange market of Nigeria. Also, external debt, nominal exchange rate, external reserves, and industrial capacity utilization rate are significant macroeconomic variables that affect the value of government stock transaction in the stock market.

Fama and French et al identifies elements which affect the returns on stocks and bonds; these are five common risk factors which are common factors for the returns on stocks and bonds. There are three factors which are related to stock-market factors as: an overall market factor, factors related to firm size and book-to-market equity. There are two factors which are related to bond-market factors as, related to maturity and default risks. Stock returns have mutual or shared variation due to the stock-market variables, and they are interrelated to bond returns through shared or mutual variation in the bond-market factors. Excluding low-grade corporates, the bond-market factors arrest the shared or common variation in bond yields or returns. The Most essential thing is that these five factors seem like to clarify the average returns on stocks and bond market.

Kenneth L. Smith studies show that world equity markets are gradually and increasingly connected and correlated; people take much interest in equity market. Correlation specifies that the co-movements between government bond markets are decreasing; leading to the decision is that investor's is getting beneficiation from international diversification. Equity markets show that major world equity markets share common factors that drive these markets. Their Outcomes described at this time approve that it is also happen in the situation for government bond markets where it is demonstrating that international diversification potential is lesser and that this information can be used to better forecast government bond market movements than if markets are not cointegrated.

Lingfeng li (Nov 2002) examines the correlation between stock and bond returns. He studied first G7 countries where he finds major trends in stock-bond correlation, which is, follow a similar reverting pattern in the past forty years. Next, he uses an asset-pricing model to show that the correlation of stock and bond yields can be explained with collective disclosure to macroeconomic variables. By using three successively more realistic interpretations of asset return dynamics he is examined relation amongst the stock-bond correlation and macroeconomic variables. Their Observed outcomes show that the major trends in stock-bond correlation are resulted mainly by improbability about estimated inflation. The real interest rate and Un-estimated inflation are significant to some extent. Through using these macroeconomic variables he forecast the stock-bond correlation, which is also, helps to recover investors' asset allocation choices. He also finds link between trends in stock-bond correlation and inflation risk.

b) Study related to effects of macro variables on bond market :

Kaiserstrasse (2001) found that a high degree of correlation take place among the long-term government bond return and the short-term Treasury Bills rate which lay down or tell us that there is significance or relation of the interest rates term structure in capital markets. Due to Integration and cause-effect and relation of the foreign exchange market with the money market and the government securities markets has helped them in liquidity management by the Reserve Bank. However, the equity market has relatively low correlation with other market segments. There is evidence of India's growing international integration through trade and cross border capital flows. India's trade and financial links with Asia are also growing among recent initiatives taken to promote regional cooperation. Emerging Asia has become the 'Growth Centre' of the world due to shifting of production base to the region. Which is likely to stimulate great?

Barr and Priestley (2003) has faith that the benefits of international bond market integration and economic costs are likely to be correlated and significant which is mainly leading to a extra or over cost of fiscal funding for government.

Suk- Jong Km et al (2004) in EU Countries: this paper examines the time-varying level of integration of European government bond markets. We provide evidence for strong contemporaneous and dynamic linkages between existing EU member bond markets with that of 15 Germany. Our results have an important policy implication in that the government bond market convergence requires more than monetary and fiscal policy coordination. That is, bond market convergence requires policies designed specifically to address issues unique to this segment of the financial market.

Mohan (2005) promoting investment, domestic saving and outcome of economic growth these all variables are important vehicles for efficient and financial markets.

Journal of Monetary Economics by Fama, (1990) examines the ability to forecast one-year spot interest rates in the context of forecasting its components: the one-year inflation rate, and the real return on one-year bonds. It is found that the expected values of those two components move opposite to one another. Fama also finds that forecasts of these variables are related to the business cycle.

Xuan Vinh VO investigates the degree of international financial integration in Asia by examining the relationships amongst Asian bond markets by employing the advanced econometric technique of cointegration of error correction vectors. This study has a strong implication for investors paper analysis provides strong implication for international investors and fund managers in relation to international diversification whether they do benefit from investing in Asian bond markets.

c) Study related to effects of macro variables on stock market:

Shahid Ahmed finds out the relationship and effects macro variables on stock prices. This study investigates the environment of the causative relationships among stock prices and the key macro-economic factors demonstrating real and financial sector of the Indian economy. He took the quarterly data from 1995 to 2007. The study tells that the movement and fluctuation of stock prices occurs which is not only the result of behavior and performance of basic macro-economic factors but it is also one of the reasons of movement and fluctuation in other macro measurement in the economy.

Malcolm Baker and Jeffrey Wurgler studied and measure the investor sentiments and its effect on the firms and stock market. And also studies that effect on stock market by speculator when they attract particular stock and get the limited arbitrage opportunity. Sentiments also affect the cost of capitals. So it may have consequences for the corporate firms for allocation of investment capital between safer and more speculative firms.

Jangkoo Kanga et al paper contributes to the evidence on the linkage between financial markets and the macroeconomic. We construct a conditioning variable from a set of macroeconomic variables and address one of the most compelling issues in finance, the time and cross-sectional variations in risk premium based on the suggested variable. We demonstrate that our proposed measure contains important information for predicting future stock returns and explaining the cross-section of average equity returns.

Oliver Bogutha et al identify a novel source of alpha bias that may occur any time uses a conditional risk proxy not entirely contained in the investor information set. This potential empirical problem is the complement of under conditioning, and over conditioning. While the concept is general, we focus on the over conditioning bias generated by using contemporary realized beta as a proxy for conditional beta. All empirical realized betas contain some degree of estimation error, and thus cannot be fully anticipated by investors.

Ologunde et al (2006) examined the relationships between stock market capitalization rate and interest rate in Nigeria. They used the ordinary least-square (OLS) regression method and they found that the prevailing interest rate exerts positive influence on stock market capitalization rate. Also, they are finding that Government development stock rate exerts negative influence on stock market capitalization rate and prevailing interest rate exerts negative influence on government development stock rate. He also studied the volatility behavior of Nigerian insurance stock price. They evaluate the risk volatile and information measures of insurance stock. They are relevant to the investing community as a whole who invest their hard-earned money on corporate insurance business expecting reasonable return.

Kurihara (2006) suggests that stock market capitalization rate is significantly influenced by the macroeconomic environment factors such as gross domestic product, exchange rates, interest rates, current account and money supply.

Evidence from Jordan examines the effect of interest rates on the stock market capitalization rate in Stock Exchange. This study suggests the importance of government intervention to encourage investment in ASE by reducing rate of personal taxation thus, granting incentive for creation of wealth, controlling interest rate so as to aid the growth of the stock market and improving the regulatory environment and decreasing

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red tape because there is significant and positive relationship between government prevailing interest rate and stock market capitalization rate.

Litterman et al (1991) publish Journal of Fixed Income Use principal components analysis to determine the important factors that affect term structure movements.

Vipul Bhatt et al (2005) studied Interest Rate Parity in India: The paper shows that the short-term (up to 3 month) money markets in India are getting progressively integrated with those in the USA even though the degree of integration is far from perfect. Analysis of RBI interventions in response to foreign exchange shocks suggests that these may play a role in the deviations from interest parity.

Wan Mansor et al (2009) deals with four economic factor such as inflation rate, industrial production output, stock prices and foreign exchange rates and also finds there has linkage and dynamic relationship between stock prices and these economic variables in six Asian- Pacific selected countries like Malaysia, Korea, Thailand, Hong Kong, Japan and Australia. He used monthly data for 10 years from January1993 to December 2002. His results explain the long run equilibrium relationship exiting between variables only in four countries like Japan, Korea, Hong Kong and Australia, and short run relationship between all countries except Hong Kong and Thailand they shows some interaction.

Fama (1981) explains that there is negative relationship between stock returns and inflation through a hypothesized chain based on the quantity theory of money and the money.

Ajayi and Mougoue (1996) tells that there is a long-run relationship and significant relationship between stock market and exchange market where we finds have a positive effect exit on domestic currency with increase in stock prices.

Yu (1996) results studied relation between stock market and Tokyo and Hong Kong markets and Singapore market based on the Granger causality test, he explain in his study that the changes we have seen stock prices are affected because of changes in exchange rates in Tokyo and Hong Kong markets. However, no any such causativeness was seen for the Singapore market.

Shih-Jen Lia and Jin Ting Che (2005) focused on the relationship among oil prices, gold prices, and individual Industrial Sub-Indices instead of the popular Taiwan Stock Exchange Capitalization Weighted Stock Index (TAIEX). The authors believe that commodity prices should have different degrees of influences to individual industries instead of the whole market. According to previous research, stock returns have leptokurtic, volatility clustering, and volatility asymmetric characteristics; this research further applies the TGARCH models to describe the relationship among oil prices, gold prices, and individual Industrial Sub-Indices.

Wen-Rong et al (2010) established the understanding of the interactive relationship among the Amex gold BUGS index, the New York gold spot and the New York gold futures in the gold market, as well as the Commodity Research Bureau (CRB) futures price index, the Dow Jones industrial average, the OPEC crude oil spot, and the dollar index. To do so, the study adopted the Vector Error Correction Model (VECM), the Granger causality test, the state space model and several other time series research methods. The research results indicate that co-integration exists among gold futures, gold indices and the overall economy, meaning there is a long-term equilibrium relationship with gold futures.

Cuneyt Aka (2011) investigated the relationships between the stock exchange, gold, and foreign exchange returns in Turkey. The monthly data of the Istanbul Stock Exchange (ISE), foreign exchange and gold prices for the period 1990-2010, are used for the analysis by means of the dynamic conditional correlations GARCH (DCC-GARCH) model. The results show that the conditional correlations between investments are time varying, and the 2001 crisis was a significant turning point in the dynamic relationships between various investment.

Suhana binti Mohamed Alizah binti Ali et al studied a stock market indices movement explains the overall market sentiment and Investors use these to estimate the forthcoming market trend. The aims of this research are to observe the kith and kinship between the consumer product and industrial product index with macroeconomic factors like Inflation rate (consumer price index), interest rate (base lending rate) and Money supply (M2). He studies the Malaysia economy, where the consumer product and industrial product sector play a significant role in driving the development of the Malaysia; whether as a strategic sector or as a mobiliser of funds for investment. They have taken 15 years' time period for sample data collection, which was calculated with the help of SPSS and their results, show that there has significance correlation between all variables and the indices. Whilst BLR and CPI have negative relationship with consumer product and industrial product index in Bursa Malaysia. Results also show that M2 has a positive relationship with consumer product and industrial product index in Bursa Malaysia it means that all variables and factors have significant correlation with the stock market indices.

Doong et al (2005) studied the six Asian countries (Malaysia, Indonesia, South Korea, Thailand, Philippines and Taiwan) over in the era of 1989-2003 to analyses and finds that dynamic relationship among stocks and exchange rates. According to their work, these financial factors are not cointegrated. He used Granger causality test which shows that in Malaysia, Indonesia, Thailand, and Korea bidirectional causality can be identified and also, there has found significantly negative relation among the contemporary variation in the exchange rates and the stock returns for all countries excluding Thailand.

This research work deals with studying the relation between shares and bonds and comparative analysis of stock (shares) which are listed on stock market exchange and bonds, which issued in bond market. Is there any integration and adoption between stock market and bond market? How closely the equity return and bond return are related with each other in India.

III. Objective

To find out the correlation or bonding among stock market and bond market, whether one markets corrects another or not and study the comparative analysis of bond index return and stock index return in different economic time horizons, either they move together or not and their impact on index. Study the closeness between the equity return and bond return are related with each other in India.

a) Rationale of Study

Rationale of Study to analyzes the relationship between Indian Bond Market and Stock Market. As an investment, stock market typically is viewed as a financial asset that will fluctuate and influence through political, social, or economic distress and company's performance and investors invest in bond market to diversify the risk of losses. There are several studies tells about stock market behaviors which are too specific and the market behaves like a completely random walk which cannot be completely predictable with "full knowledge" theories of market where investors knows whole of the information while we may not know whole of it because of these observations he try to extract evidence that may disclose the prejudices and they acts predictably through observe and detect the sequence of past results and try to estimate the probability with approximation to select the number that has the maximum probability of result. The study analyses that whether the stock market uncertainty has some role to understand the comovements in stock market and bond market in comparative time horizons.

The research work deals with studying of the relation between shares and bonds and comparative analysis of stock (shares) which are listed on stock market exchange and bonds which are listed in bond index, which issued in bond market. For evaluating the relation between stock and bond market to study the comparative analyses of both markets in different economic time horizons and also finds out the correlation between both markets. This study also analyzes that, whether these markets correct each other or not. How closely the equity return and bond return are related with each other in India. The price of Indian government bonds tends to increase, relative to stocks or not. To compares the trends and prize fluctuation in stock market and bond market. The utility of this research is to know the relationship of Indian stock market and Indian bond market and to find how much the Stock Market linked with the bond market of India. Thus paper analyze that there is any impact of stock market on bond market of India and vice a versa. How much theirs comovement follow each other or not. If there are any relation exists, then it is positive relation or negative relation. Here I took dependent variable is stock market of India and the independent variable are government securities index return, treasury bill index return, below 3 year maturity period bond index return, between 3 and 8 year maturity period index return, above 8 year maturity period bond index return and whole government NSE bond index return in correlation and regression.

The element of the Stock Market is the Index of stock market 'S & P CNX Nifty index' and the element of the Indian Bond Market is the Index of Indian bond market 'NSE Bond index'. We take the secondary data of the stock index return; treasury bills index return, government security index return, different maturity period of bond index return and overall bond index return. The Stock Market is the dependent variable and treasury bills index return, government security index return, different maturity period of bond index return and overall bond index return of India are the dependent variable.

IV. Research Methodology

Secondary Data is used in this research, because we used the historical data. The sources of the Indian stock Market data is 'S & P CNX Nifty index' and the source of the Indian Government Security Market is the Index of Indian bond market 'NSE Bond index 'of NSE web sites. The data is unobtrusive data because the sources of the data are the historical data. So we get the real data. The technique is used for data collection in the research is observational studies, because we use the secondary data for the research.

The Data of Indian Stock Market is collected from http:// www.nseindia.com, the data of Bond Market is collected from http://www.debtonnet.com, http:// www.nse_bondindex.com and http://www.rbi.org.in etc.

a) Data sources

The indices provided are: Composite (overall NSE govt. index), TB index, GS index and Data for S&P CNX NIFTY for the period 01-01-2006 to 31-12-2010.

1) Total returns index of Government securities for India- Jan 2006 to Dec 2010- Source: NSE.
2) Total returns index of T-Bills for India- Jan 2006 to Dec 2010- Source: NSE
3) Total returns index of products all NSE govt. index for India- Jan 2006 to Dec 2010- Source: NSE

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4) Total returns index of S&P CNX NIFTY for India- Jan 2006 to Dec 2010- Source: NSE

This Research paper takes monthly data of the Indian Stock Market Index from 'S & P CNX Nifty index' as stock index return and Indian Government Security Index from 'NSE Bond index as treasury bills index return, government security index return, and overall bond index return from 1st of Jan 2006 to 31st of December 2010.

NIFTY is taken as representing Index of Indian Stock Market and NSE Bond Index is taken as representing Index of Debt Market. The sample size for this research is the data of Stock Market Index return and Government Security index return of India on monthly basis for 5 year that is the Jan 2006 to December 2010. The research consist the monthly data of variables because it helps to make it more manageable.

In Research first of all finds the skewness and kurtosis of the Data, through it we can find that our data is normally distributed or not. If the skewness and Kurtosis of the data is between -1 to +1, it represent that our data is normal distributed. Then we apply the parametric test on the data and will find correlation between Stock Market Index return and Indian Bond Market index return of India. For Data analysis the research uses SPSS software for regression and correlation.

b) Tools for Data analysis

Various statistical tools can be applied to study the relation of Indian stock Market and bond market. In this study, Data is analyzed using tools like Correlation, Regression, T-test and Durbin Watson test and software used for the analysis is SPSS. Monthly Data of 'S & P CNX Nifty index' as stock index return and 'NSE Government Security Index' of India as treasury bills index return, government security index return, different maturity period of bond index return and overall bond index return is taken for this study from 1st of Jan 2006 to 31st of December 2010. Correlation is applied to find the relation between stock market and bond market, and find the coefficient (r) between these two.

To study and analyses the impact of bond market on stock market of India. NSE Government security index return is taken as independent variable and S&P CNX NIFTY index return taken as the dependent variable. Regression Model is applied to find the impact of bond market on stock market of India. Following Regression equation is used to find the impact.

$$\Delta Ni = a_0 + a_1 \Delta Bi + e$$

Where,

a- represents the coefficients

ΔNi - refers to change in monthly index return of NSE securities of India

ΔBi - refers to change in monthly movement of index return of NSE Government securities index of India.

e- Represents the error term

c) Hypothesis

The research begins with the assumption that the null hypothesis (H_0) is true. The goal is to determine whether there is enough evidence to infer that the alternative hypothesis (H_1) is true.

There are two possible decisions:

Conclude that there is enough evidence to support the alternative hypothesis. Conclude that there is not enough evidence to support the alternative hypothesis. So hypothesis of the research are:

H_0 : No bonding effect on return configuration among Stock Market and Bond Market of India in Pre-recession Period.

H_1 : Bonding effect on return configuration between Stock Market and Bond Market of India in Pre-recession Period.

H_0 : No bonding effect on return configuration among Stock Market and Bond Market of India in Recession Period.

H_1 : Bonding effect on return configuration among Stock Market and Bond Market of India in Recession Period

H_0 : No bonding effect on return configuration among Stock Market and Bond Market of India in Post-recession Period.

H_1 : Bonding effect on return configuration among Stock Market and Bond Market of India in Post-recession Period.

V. Data Analysis

Tables Presents the result of the correlation and regression of stock and Government bond index returns during the period of January 2006 – December 2006. The period of analyses is divided into three sub-periods, the first Pre-recession period starts from Jan 2006-Dec2007, and the second Recession period is Jan 2008-Dec 2008, and lastly third Post-recession start from January 2009-Dec 2010.

Regression of Stock Market and Bond Market in India Pre-recession Period: Jan 2006- Dec 2007

Correlations

		ΔNi	ΔBi
Pearson Correlation	ΔNi	1.000	.479
	ΔBi	.479	1.000
Sig. (1-tailed)	ΔNi	.	.009
	ΔBi	.009	.
N	ΔNi	24	24
	ΔBi	24	24

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.479	.230	.195	1.97545	1.159

a. Predictors: (Constant), ΔBi
b. Dependent Variable: ΔNi

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.108	.462		.233	.818
	ΔBi	.003	.001	.479	2.561	.018

a. Dependent Variable: ΔNi

Data has been taken for this pre-recession period from Jan 2006 to December 2007. From the output table it is observed that there is a positive correlation between government bond market and stock market. The correlation between these two comes out to be 47.9%, which means these two have weak correlation, because the value of the Pearson correlation is 0.479 that is lower than 0.5, that government bond market and stock market are 47.9% correlated in Pre-Recession Period. It means there is weak correlation between Stock market and Bond market.

Regression Model for Pre- Recession Period
ΔNi = 0.108+ 0.462ΔBi+ e

The value of R-square is 0.23 and the t-value of is 2.561 at 0.018 as level of significance. It has suggested that the independent variable reveals 23.0% of the reason for change in dependent variable due to independent variable. Level of significance is at 0.018, so it can be concluded stock market has impact on bond market.

Beta value of change in security index return i.e. ΔNi is positive; this shows that stock market has positive impact on bond market. Both these markets are in-depended market and they both are influenced by their individual existence i.e. depended and correct on each other by some.

Recession Period: Jan 2008 - Dec 2008

Correlations

		ΔNi	ΔBi
Pearson Correlation	ΔNi	1.000	.243
	ΔBi	.243	1.000
Sig. (1-tailed)	ΔNi	.	.224
	ΔBi	.224	.
N	ΔNi	12	12
	ΔBi	12	12

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.053[a]	.003	-.043	3.35125	1.994

a. Predictors: (Constant), ΔBi

b. Dependent Variable: ΔNi

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.137	.791		.173	.864
	ΔBi	ΔBi	.002	-.053	-.247	.807

a. Dependent Variable: ΔNi

Data has been taken for this recession period from January 2008 to December 2008. From the output table it is observed that there is a positive correlation between government bond market and stock market. The negative correlation between these two comes out to be 5.3%, which means these two have negative and insignificant correlation.

Regression Model for Pre -Recession Period:

$$\Delta Ni = 0.137 + 0.791\Delta Bi + e$$

The value of R-square is 0.003 and the t-value is -0.247 at 0.807 as level of significance. It has suggested that the independent variable reveals only 0.3% of the reason for change in dependent variable due to independent variable in Post-Recession Period. Beta value of change in security index return i.e. ΔNi is negative; this shows that stock market has negative impact on bond market.

VI. Findings and Discussions

From the output of various tools applied on variables, it is found that:

There is positive correlation between stock market and bond market of India. But this relation is very weak between stock market and government bond market.

Study of correlation and regression presents correlation structure of stock and bond return over the period from Jan 2006 to Dec 2010 both at weekly and monthly observation. Findings show some interesting mean-reverting pattern in the correlation structure of stock and bond indices across different economic setting from small positive to negative correlation. The results confirm that there exists positive and significant correlation between stock and bond return during economic booming (pre- recession period). In contrast, correlation during the Recession period appears to be relatively lower positive recording 0.243 and Insignificant. Lastly correlation structure for Post-recession period appears to be negative and insignificant, recording -–0.053 for monthly return series. As we can see from the findings that there is a clear pattern in correlation structure of stock and bond returns. Positive and stronger correlation for pre-recession period is followed by positive and weaker correlation for during recession and finally reporting negative and insignificant correlation for post-recession period. This outbuilding some significant light about mean-reverting pattern of correlation between stock and bond returns. The exhibition of negative correlation for post-recession period provides vital vision about the careful allocation of fund across stock and bond that may increase portfolio performance.

The value of R- square is 23% higher in economic booming (i.e. pre-recession period) and in contrast value of R-square during recession period appears to be relatively lower recording 5.9%. Lastly the value of R-square for post-recession period appears to be relatively very low recording 0.3% for monthly series of bond return indices and stock return indices. As we seen from the findings that there is clear pattern in value of R-square structure of stocks and bond returns. Stronger impact of stock market on bond market for prerecession period is followed by lower and negligible impact for post-recession period.

VII. Conclusion

The objective of this paper is to scrutinize the correlation and linkage structure of stock and bond return across different time-phase horizon and co-integration relationship between stock and Bond Market Indices over a period from January 2005 to Dec 2010. The findings outbuilding some light on the presence of mean deteriorating arrangement of correlation across changed economic environments. During the economic richness, there is an indication of positive and significant correlation between bond and stock returns. A significant positive correlation was also observed during the recession period. Conversely, in the course of the recovery period, negative and insignificant relation was observed. Conclusions on co-movement of stock and bond index recommend no evenness relationship with any short-term error correction. Results also indicate that the stock and bond markets of are independent of each other, with most of the variations in indices being explained by past value of each respective market Indian capital market, therefore hypothesis of cointegration test has not been rejected therefor, No long term equilibrium exist between stock market and debt market.

VIII. Limitation

The limitation is that the number of observations has taken is low i.e. only 60 that is monthly observation from year Jan 2006 to Dec 2010 in these study which shorter span of time and in data of bond market through which analysis of correlation between bond market and stock market of India. Only NSE Government Securities Index of whole sale debt market has been taken and there has no consideration of bonds of retail debt market and corporate debt market.

Bibliography

1. Adlai Fisherb, , Mikhail Simutin, Murray Carlson and Oliver Bogutha (2009), “Conditional risk and performance evaluation: Volatility timing, overconditioning, and new estimates of momentum alphas”, Journal of financial economics (JFE)
2. Akpan, Chukwu Emeka Inya-agha, Ebirigor Aya Aya, and Sunday Brownson, “Empirical Relationship between Stock Exchange Transactions and Key Macroeconomic Variables in Nigeria” Journal of

Economics and Sustainable Development www.iiste.org ISSN 2222-1700.
3. Ali Ahmed Cheng, Huson Joher and J. and R. Ryan (2009),"The Equilibrium Relations between Stock Index and Bond Index: Evidence from Bursa Malaysia", International Research Journal of Finance and Economics ISSN 1450-2887 Issue 30 (2009) EuroJournals Publishing, Inc.
4. Arjan Kadareja Bruno Gérard, Lorenzo Cappiello, and Simone Manganelli (2006) "FINANCIAL INTEGRATION OF NEW EU MEMBER STATES" WORKING PAPER SERIES NO 683
5. Brian M. Lucey Eliza Wu and Suk-Joong Kima, (2004) "Dynamics of Bond Market Integration between Existing and Accession EU Countries", Institute for International Integration Studies, University of Dublin, Trinity College, Dublin 2, Ireland
6. Byoung-Kyu, Minc Changjun Leeb Jangkoo, Kanga and Tong Suk Kima, (2011), "Macroeconomic risk and the cross-section of stock returns" Institute of Financial Analysis, University of Neuchatel, Neuchatel, Switzerland
7. Chen, Runquan (2009), "Regime Switching in Volatilities and Correlation between Stock and Bond markets" Financial Markets Group, London School of Economics and Political Science, London, UK
8. Clifford S. Asness (2002), "Fight the Fed Model: The Relationship between Stock Market Yields, Bond Market Yields, and Future Returns" AQR Capital Management, LLC
9. Clifford S. Asness (2000), "Stocks versus Bonds: Explaining the Equity Risk Premium" Financial Analysts Journal Vol. 56, No. 2
10. Elumilade, D.O Ologunde A.O., and Obafemi Awolowo (2006) "The relationships between stock market capitalization rate and interest rate", International Research Journal of Finance and Economics ISSN 1450-2887 Issue 4
11. Eugene, F Fama (1989), "Business conditions and expected returns on stocks and bonds" Journal of financial economics, North-Holland
12. Fama, Eugene F (1990), "Term Structure Forecasts of Interest Rates, Inflation, and Real Returns" Journal of Monetary Economics. Volume (Year-1990) Issue (Month-January)
13. Litterman and Scheinkman (1991) "Common Factors Affecting Bond Returns", Journal of Fixed Income
14. John Aminer and John Y. Campbell (1991), "What moves the stock and bond markets? A variance decomposition for long-term asset returns", NATIONAL BUREAU OF ECONOMIC RESEARCH 1050 Sachusetts Avenue Cambridge, MA 02138, Journal of Finance 48(1): 3-37.
15. Kenneth L. Smith (2002), "Government Bond Market Seasonality, Diversification, and Co-integration: International Evidence" Journal of Financial Research Volume 25, Issue 2
16. Malcolm Baker and Jeffrey Wurgler (2007), "Investor Sentiment in the Stock Market", National Bureau of Economic Research (NBER), National Bureau of Economic Research (NBER)
17. Ologunde et al, "Modeling and Forecasting the Volatility of the Daily Returns of Nigerian Insurance Stocks Robert-Paul Berben and W. Jos Jansen (2005), "Bond Market and Stock Market Integration in Europe", DNB Working Paper
18. Shahid Ahmed (2008),"Aggregate Economic Variables and Stock Markets in India", International Research Journal of Finance and Economics, No. 14
19. Xuan Vinh Vo (2007), "INTERNATIONAL FINANCIAL INTEGRATION IN ASIAN BOND MARKETS", Corresponding Author School of Economics, University of New South Wales, NSW 2052, Australia
20. James G. MacKinnon, Alfred Haug, and Leo Michelis, (1999) "Numerical Distribution Functions of Likelihood Ratio Tests for Cointegration", Journal of Applied Econometrics, Vol. 14, No. 5, pp. 563-577

Sites-

1. http://www.rbi.org.in
2. http://www.debtonnet.com/newdon/files/MarketInformation/NSEReports.asp
3. http://www.nseindia.com/archives/archives.htm#top
4. http://www.nseindia.com/content/debt/debt_monthlyprices.htm
5. http://www.nseindia.com/content/debt/debt_listsecurities.htm

Annexure

Date	Total Returns Index of GS index	Total Returns Index of T-bills index	Total Returns Index of 1-3 yrs. maturity bond index	Total Returns Index of 3-8 yrs. maturity bond index	All Products of NSE Govt. index	change in all products of NSE bond index	Historical Data for S&P CNX NIFTY period 01-01-2006 to 30-11-2011	change in S n P CNX Nifty index
1-Dec-05	245.46	205.51	197.21	240.48	241.44		3271.45	
1-Jan-06	246.38	210.73	197.74	241.04	242.35	0.9	3420.60	149.15
1-Feb-06	244.66	207.17	197.35	238.29	240.83	-1.51	3573.20	152.61
1-Mar-06	244.18	208.04	197.81	238.25	240.48	-0.36	3831.14	257.94
1-Apr-06	244.38	209.78	199.99	240.87	240.79	0.32	4106.94	275.79
1-May06	242.77	210.73	200.89	240.64	239.38	-1.42	4094.11	-12.83
1-Jun-06	238.6	211.39	200.51	238.89	235.62	-3.76	3450.48	-643.63
1-Jul-06	235.28	212.74	200.41	235.05	232.72	-2.9	3684.34	233.86
1-Aug-06	238.05	213.86	201.74	236.87	235.35	2.64	3942.45	258.11
1-Sep-06	242.88	214.97	204.39	239.8	239.98	4.63	4172.65	230.20
1-Oct-06	245.35	215.92	202.34	240.44	242.2	2.22	4362.38	189.73
1-Nov-06	250.13	217.59	204.34	243.13	246.66	4.46	4626.26	263.88
1-Dec-06	250.98	218.33	204.42	243.46	247.5	0.85	4680.27	54.00
1-Jan-07	250.36	219.72	206	244.89	247.09	-0.42	4843.87	163.60
1-Feb-07	248.26	220.78	205.43	229.35	245.3	-1.79	4930.35	86.49
1-Mar-07	245.38	222.7	206.31	241.71	244.02	-1.27	4491.18	-439.17
1-Apr-07	246.87	223.45	206.8	242.13	244.32	0.3	4760.05	268.87
1-May07	247.71	224.83	207.69	243.03	245.22	0.9	5051.22	291.17
1-Jun-07	248.93	226.45	210.13	244.92	246.48	1.25	5103.70	52.48
1-Jul-07	254.22	228.31	213.7	250.32	251.38	4.9	5422.80	319.10
1-Aug-07	254.88	229.32	212.51	250.44	252.1	0.73	5211.95	-210.85
1-Sep-07	256.05	230.69	214.3	251.28	253.33	1.23	5653.88	441.92
1-Oct-07	257.44	232.09	214.87	254	254.73	1.4	6623.03	969.15
1-Nov-07	258.51	233.32	215.23	253.71	255.86	1.13	6979.90	356.87
1-Dec-07	260.62	234.77	216.5	254.64	257.9	2.04	7243.10	263.20
1-Jan-08	268.11	236.62	219.88	260.98	264.84	6.94	6997.18	-245.92
1-Feb-08	269.37	237.9	220.46	261.93	266.13	1.3	6329.39	-667.79
1-Mar-08	254.43	227.14	209.88	248.93	251.6	-14.53	5804.92	-524.46
1-Apr-08	263.41	240.5	221.73	259.7	260.93	9.33	5967.00	162.08
1-May08	265.45	241.77	222.32	260.56	262.91	1.98	6125.13	158.13
1-Jun-08	260.6	242.7	221.74	257.11	258.63	-4.28	5443.44	-681.69
1-Jul-08	249.84	244.25	219.6	248.71	249.05	-9.58	5037.39	-406.05
1-Aug-08	252.1	246.1	220.96	251.62	251.29	2.24	5403.50	366.11
1-Sep-08	262.88	248.19	224.72	258.76	261.26	9.97	5155.47	-248.03
1-Oct-08	272.89	250.45	229.43	266.92	270.58	9.32	3971.71	-1183.7
1-Nov-08	280.73	252.45	233.46	274.36	277.94	7.36	3477.28	-494.44

1-Dec-08	302.33	254.73	238.61	289.49	297.77	19.83	3553.82	76.55
1-Jan-09	313.31	256.73	243.49	297.42	305.13	7.36	3507.78	-46.04
1-Feb-09	303.75	257.77	242.89	293.92	299.26	-5.87	3471.02	-36.76
1-Mar-09	297.08	258.64	242.13	288.13	293.29	-5.98	3451.00	-20.02
1-Apr-09	301.13	260.24	244.97	291.51	297.08	3.79	4137.90	686.89
1-May09	303.45	261.21	244.79	293.24	299.25	2.16	4875.10	737.20
1-Jun-09	300.7	262.04	243.45	291.14	296.72	-2.52	5471.42	596.33
1-Jul-09	300.07	263.27	244.66	291.45	296.2	-0.52	5369.89	-101.53
1-Aug-09	296.17	264.14	243.29	287.2	292.72	-3.49	5659.29	289.40
1-Sep-09	295.09	264.74	242.81	287.57	291.77	-0.94	6022.16	362.86
1-Oct-09	295.88	265.87	244.04	288.87	292.59	0.81	6193.72	171.57
1-Nov-09	298.9	267.01	247.01	291.93	295.46	2.87	6147.06	-46.66
1-Dec-09	297.52	267.81	246.7	290.68	294.24	-1.21	6329.41	182.35
1-Jan-10	296.4	269.29	246.54	289.3	293.31	-0.94	6401.53	72.12
1-Feb-10	296.44	269.91	247.6	290.48	293.37	0.07	6010.85	-390.69
1-Mar-10	296.57	271.04	249.93	290.81	293.43	0.06	6432.60	421.75
1-Apr-10	297.88	272.13	251.03	291.84	294.87	1.44	6579.90	147.30
1-May10	305.61	272.96	252.66	298.04	302.08	7.21	6284.77	-295.14
1-Jun-10	302.5	273.11	252.97	302.63	299.17	-2.91	6471.67	186.90
1-Jul-10	300.95	273.65	251.77	302.47	297.81	-1.36	6699.86	228.19
1-Aug-10	299.34	274.48	250.11	300.52	296.38	-1.43	6827.73	127.87
1-Sep-10	298.92	275.91	251.1	301.52	296.15	-0.23	7279.92	452.19
1-Oct-10	299.97	277.42	251.46	300.56	298.79	2.64	7640.11	360.19
1-Nov-10	301.76	278.85	252.71	302.78	298.79	0	7594.98	-45.13
1-Dec-10	301.41	280.18	252.9	302.9	298.71	-0.08	7491.35	-103.63

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An Indepth Analysis of Variables Affecting Post Purchase Cognitive Dissonance

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Abstract - The research paper emphasizes on the need of assessing those variables which are responsible for affecting the levels of cognitive dissonance in the consumer behaviour. The paper signifies the impact that the family and friends have in the post purchase dissonance levels of the consumer. The results revealed that more the influence of family and friends in the decision making process, more degrees of dissonance will be felt by the consumer. The paper also depicts that the personality of the shopper would also affect the levels of dissonance. The confident shopper would experience lesser level of dissonance whereas a confused shopper would experience lower level of dissonance. Likewise, the purpose for which the product is to be used will also have an impact on the levels of dissonance. If the product is being purchased for some special purpose, then the dissonance level would be higher.

GJMBR-A Classification : JEL Code : D11

AN INDEPTH ANALYSIS OF VARIABLES AFFECTING POST PURCHASE COGNITIVE DISSONANCE

Strictly as per the compliance and regulations of :

An Indepth Analysis of Variables Affecting Post Purchase Cognitive Dissonance

Uzma Hasan [α] & Dr. Reshma Nasreen [σ]

Abstract - The research paper emphasizes on the need of assessing those variables which are responsible for affecting the levels of cognitive dissonance in the consumer behaviour. The paper signifies the impact that the family and friends have in the post purchase dissonance levels of the consumer. The results revealed that more the influence of family and friends in the decision making process, more degrees of dissonance will be felt by the consumer. The paper also depicts that the personality of the shopper would also affect the levels of dissonance. The confident shopper would experience lesser level of dissonance whereas a confused shopper would experience lower level of dissonance. Likewise, the purpose for which the product is to be used will also have an impact on the levels of dissonance. If the product is being purchased for some special purpose, then the dissonance level would be higher.

For ages, consumer behaviour has been analysed and studied in great detail to understand and assess the minds of the consumers as they embark on to purchase goods for their consumption. Companies world over have been spending million of rupees on advertising and other promotional strategies to lure the undecided customers towards themselves. The whole consumer decision making process is quite complex for the companies to comprehend and each of them tries to lay down a structural pattern which they feel the consumers follow while deciding which product to purchase. However, for the companies the first task always remain to inform their customers about their products and to keep the information interesting and attractive enough to make them purchase the product.

As the customers are targeted by the producers educating them about the positive qualities of their products, they get confused about which producer to follow and which not to follow. This confusion about making a right purchase decision and deciding the right product to buy has been defined as 'cognitive dissonance' by the researchers.

I. Introduction

Cognitive dissonance is being defined as the result of the tension which occurs when there is found to be a discrepancy between what the consumer believes in and information which contradicts that belief (Festinger, 1957). The review of the merits and demerits of the product post its purchase is a natural phenomena of human buying behaviour. Hence once the goods are purchased and if they don't adhere to the satisfaction levels the consumers had expected from them that would create contradictory thoughts in the minds of the consumer regarding the performance of the products leading to dissonance. A consumer is bound to be dissonant if there is a discrepancy between the satisfaction levels he had expected from a product and between the satisfactions; he actually received from the product. It has also been argued that cognitive dissonance not only comprises of cognitive elements but emotional elements as well (Sweeney, Hausknecht and Soutar, 2000). The consumers can find themselves to be emotionally dissonant as well if they are emotionally connected to the product. Many researchers have argued that cognitive dissonance is mainly experienced through psychological discomfort (Elliot and Devine, 1994). After the purchase gets completed, the consumer might feel that he didn't require the product in the first stage and he could have done without purchasing it (Sweeney, Hausknecht and Soutar, 2000). This thought arises when the consumer starts questioning his own wisdom that whether or not he made the right decision by purchasing the product. The entire process will end up with the consumer feeling dissonant over his purchase. However, it has also been noted by many researchers that when the purchase gets completed and the consumer starts assessing the negative attributes he purchased along with buying the product and positive attributes which he forgo of the products he dint purchase create dissonance in his mind (Kassarjian and Cohen ,1965). Many consumers are also supposed to be susceptible to the feelings of post purchase dissonance if they feel that their purchase decisions have been influenced by the arguments given by the salespersons which made them buy the product (Cummings & Venkatesan, 1976). If the consumers have a certain preconceived notions about a product and if they come back home after buying a product which they feel was entrusted upon them by the salesperson, their level of dissonance felt might be higher. However, a number of researchers argued against this and stated that ultimately it is a buyer's decision to make the final purchase, so claiming that a consumer's purchase decision which gets influenced by salespeople creates more dissonance cannot be correct in a long run (Oshikawa, 1970). It has also been studied that the greater the number of alternatives available with the consumer where he can weigh the positive and the negative attributes of the products, the greater the

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dissonance experienced. Once the consumer starts experiencing the pangs of cognitive dissonance, he tries to reduce it by providing himself with such information which can be used to reducing dissonance, e.g. a dissonant consumer can approach his friends and family to get assured that the purchase he has made is indeed the correct purchase.

Many researchers have also claimed the presence of the cognitive dissonance not only in the post purchase stage but in the pre purchase stage as well where the myriad of product options which are provided to the customer through the various advertising tools and promotional strategies instill confusion in him regarding which product to purchase and which not to purchase (Koller and Salzberger, 2007). Cognitive dissonance has proved to be a major marketing obstacle for the marketers all over the world as well. They seem to be having difficult time coping with the changing variations in the degree of dissonance felt by the consumers as they move from the pre purchase stage to the post purchase stage. Keeping a tab on the dissonance levels of the consumers remain a prerogative of the marketers as they feel that they can lose their loyal clientele to the effects of dissonance. The companies need to assure their customers that they have indeed made the right purchase from time to time to avoid the risk of them doubting their decisions. One of the most imperative tasks being hurled at the after sales team of any company is to keep the dissonance levels of the consumers in control so that they don't switch to other brands.

II. The Hypotheses

A number of researches have been conducted by researchers worldwide to analyze the impact of cognitive dissonance on the decision making behaviour of the consumers. This paper will also try to identify those variables through constructive hypotheses which affect the variations of dissonance felt by the consumers.

Many a times consumers complain that post purchase of their buying transactions, they might feel higher levels of dissonance if their peer group i.e. family and friends don't approve of their purchases. If the family or friends suggest that the purchase made by the said customer is not up to the mark, then the consumer might feel that he has made the wrong purchase. However, there have been contradictions in this claim as well and many researchers have also observed that many a times the consumers don't get suspicious about the purchases they have made even if their peer group doesn't approve of their purchases.

H_1 : If my family and friends influence my purchase, I would experience lower levels of post purchase dissonance

Cognitive dissonance has always been linked with the psychological complexities being faced in the consumer behaviour. Although, the personality trait of the shopper is also linked with the fact that whether or not, he experiences dissonance post his purchase transaction. A number of researches have observed that the level of cognitive dissonance is also based upon the type of a shopper, the consumer is. As per the researchers working on the topic of cognitive dissonance, it has been claimed that a confident shopper won't doubt his choice of purchase post transaction as well as he would remain confident of the prior interrogation he has conducted before buying the product whereas, a confused shopper will experience higher levels of post purchase dissonance and would keep on questioning his decision. However, studies also prove that personality of a shopper cannot be linked with the variations of cognitive dissonance felt by him.

H_2 : A confused shopper remains confident about his purchase post transaction and experiences lower degree of cognitive dissonance

Utility of the product also plays a significant role when it comes to affecting the dissonance levels of a consumer. The purpose for that the product is used for has an influence on the levels of dissonance being felt by the consumer. If the product bought is to be used for some significant usage, the dissatisfaction arising from its non performance would be very difficult to overcome whereas if the purpose attached with the usage of the product is not very significant then the feeling of dissatisfaction arising from its non performance would be controllable. E.g. a commodity like a saree bought for mother would give more dissonance than an expensive watch which was bought to be gifted to a colleague in an office. Though saree would cost less than the watch but its value increases due to the purpose it is being used for. However, many researchers don't go by this logic as well, hence this hypotheses is being tested in this paper.

H_3 : The product purchased for significant purpose is likely to give lower levels of dissonance to the consumer

III. Research Methodology

The research was conducted with the help of the questionnaire. Around 120 respondents were surveyed from New Delhi who were asked various questions regarding the levels of cognitive dissonance they go through. The sample size was selected using the non probability sampling technique known as Quota sampling. The questionnaires were distributed among the respondents and they were explained the proper procedure of getting the questionnaires filled. The respondents were given adequate time to fill the questionnaires and any confusion pertaining to a question was solved on the spot for them. Hence the following quotas were made on the basis of gender, age, education and income to authenticate the research.

Gender Quota	Age Quota	Education Quota	Income (p.a.) Quota
Male	18-25 years	Undergraduate	Less than 1,00,000
Female	26-30 years	Graduate	1,00,000 - 3,00,000
	31-40 years	Postgraduate	4,00,000 - 6,00,000
	41-50 years		More than 6,00,000
	More than 50 years		

The data collected from the respondents was checked twice in order to discard any incomplete forms. In order to make sure that the results obtained from the research are accurate to the maximum possible level, SPSS 16 Software package was used to derive the main values so as to accept or reject the formed hypotheses.

IV. Analysis and Interpretation

The above hypotheses were tested with the help of the questions framed in the questionnaire. The first hypothesis was upright rejected. The survey conducted revealed that those consumers who get influenced from their family and friends while making the purchase decision experience higher levels of post purchase dissonance.

Kruskal Wallis test was conducted and the hypothesis that when consumers make decision under the influence of their family and friends, they feel lower levels of cognitive dissonance has been rejected. The Table 1 shows that the there is a direct correlation between the consumers getting influenced from their family and friends during decision making process and them feeling higher levels of cognitive dissonance. Since the value of p was found to be less than .05, it could be rightly stated that post purchase dissonance is highly linked to the fact that whether the consumer made the decision on his own or under the influence of somebody else.

Table 1

Kruskal-Wallis Test

Test Statistics[a,b]

	i get most influenced from family & friends
Chi-Square	13.755
Df	3
Asymp. Sig.	.003

a. Kruskal Wallis Test
b. Grouping Variable: think more about my purchase post transaction

The above table shows that the hypothesis which says that consumers who get influenced by family and friends don't think more about purchase post transaction has been rejected.

H_1 : if my family and friends influence my purchase, I would experience lower levels of post purchase dissonance

Dissonance has always been a significant part of assessing consumer behaviour. The survey conducted revealed that the personality of the consumer is also responsible for experiencing varied degrees of post purchase cognitive dissonance. The hypothesis that the confused shopper experiences lesser levels of post purchase dissonance has been uprightly rejected. The Table 2 establishes with the help of the Kruskal Wallis test that the confused shopper is likely to experience higher levels of post purchase dissonance.

Table 2

Kruskal-Wallis Test

Test Statistics[a,b]

	confused type of shopper
Chi-Square	11.499
Df	3
Asymp. Sig.	.009

a. Kruskal Wallis Test
b. Grouping Variable: think more about my purchase post transaction

Since the value of p is found to be less than .05, it can be rightly established that the confused shoppers think more about their purchase decision post transaction and are supposed to experience higher levels of dissonance.

H_2 : a confused shopper remains confident about his purchase post transaction and experiences lower degree of cognitive dissonance

It has also been observed by many researchers that the varied degrees of post purchase dissonance felt are also related to the purpose for which the product is to be used. The utility of the product affects the level of post purchase dissonance to be felt by the consumer. The survey conducted revealed that if the product is purchased to be used for some special and significant purpose, then its purchase would infuse higher levels of dissonance in the consumer as against a product whose purchase doesn't accompany any special reason along with it. Hence the hypothesis that if the product is purchased for special purpose, it would give lower levels of post purchase dissonance has been rejected. The mentioned hypothesis was checked using the Kruskal Wallis test, where it was observed that the value of p was found to be less than .05 and it could be established that if the product is purchased for some special purpose, then the consumers are likely to feel higher levels of dissonance.

Table 3

Kruskal-Wallis Test

Test Statistics[a,b]

	Special purpose of purchase
Chi-Square	8.984
Df	3
Asymp. Sig.	.029

a. Kruskal Wallis Test
b. Grouping Variable: think more about my purchase post transaction

H_3 : The product purchased for significant purpose is likely to give lower levels of dissonance to the consumer

V. Conclusion

The survey conducted revealed that cognitive dissonance remains to be a significant aspect of consumer behaviour affecting the way a consumer decides on to his decision process of buying a certain product. The results from the survey conducted revealed that the cognitive levels of the consumer after the purchase can get increased if the family and friends of the consumer don't approve by it. Moreover, if the goods are purchased under the influence of family and friends, then the consumer would keep on thinking about his purchase and would remain constantly worried that if he made the right purchase since the purchase is made as per the suggestions given by the family and friends of the consumer. Personality of the consumer is also supposed to play a significant role while he experiences the pangs of cognitive dissonance. A confident shopper would remain confident about his purchase post his buying transaction as well and would not experience post purchase dissonance as much as a confused shopper would. A confused shopper would experience higher levels of post purchase dissonance as it his personality trait to remain confused about purchase afterwards as well. Cognitive dissonance is also related with the purpose for which the product is to be used. If the product is being bought for some significant and special purpose, then the consumer would attach more importance to it and would experience higher levels of post purchase dissonance. If the product is being bought for some special purpose and it is to be used for some special reason, then the consumer would feel higher levels of dissonance post his purchase transaction. Likewise, if the product is being purchased for not so special reason and the consumer doesn't attach much importance to it, then the consumer will not experience higher levels of post purchase dissonance. Cognitive dissonance is closely related to the way a consumer plans his purchase behaviour and accordingly post purchase behaviour.

VI. Future Research

Cognitive dissonance in marketing has got immense scope and depth. Many interesting researches have been done on cognitive dissonance but there are still a good number of topics being left which can be studied so that more constructive results could come out of the studies on dissonance. This research paper has tried to analyze the various variables which are responsible for causing cognitive dissonance among the consumers. The paper has identified that the consumer's family and friends have an influence on the levels of cognitive dissonance being felt by the consumers, the future researchers can study that in what degree does the family and friends affects the levels of dissonance being felt on part of the consumers.

References Références Referencias

1. Sweeney, J.C., Hausknecht, D. & Soutar, G.N. 2000, 'measuring cognitive dissonance : A Multi dimensional scale', *Psychology and Marketing,* vol. 17, no. 5, pp. 369–86.
2. Elliot, A.J. & Devine, P.G. 1994, 'On the motivational nature of cognitive dissonance: Dissonance as psychological discomfort', *Journal of Personality and Social Psychology,* vol. 67, no. 3, pp. 382–94.
3. Kassarjian, H.H. & Cohen, J.B. 1965, 'Cognitive dissonance and consumer behaviour', *California Management Review,* vol. 8, no. 1, pp. 55–64.
4. Cummings, W.H. & Venkatesan, M. 1976, 'Cognitive dissonance and consumer behaviour: A review of the evidence', *Journal of Marketing Research,* vol. 13, no. 3, pp. 303–08.
5. Festinger, L. 1957, *A Theory of Cognitive Dissonance,* Stanford University Press, Stanford, CA.
6. Oshikawa, S. 1970, 'Consumer pre-decisional conflict and post-decision dissonance', *Behavioral Science,* vol. 15, no. 1, pp. 132–40.
7. Koller Monika and Salzberger Thomas (2007), "Cognitive Dissonance as a Relevant Construct throughout the Decision-Making and Consumption Process: An Empirical Investigation Related to a Package Tour", *Journal of Customer Behavior*, Vol. 6, No. 3, pp. 217-227.

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Factors Considered by Opinion Leader (One Form of Reference Group) in Recommending Brand to Customers: A Case Study on Cement

By Md. Reajul Alam Chowdhury, Mohammad Sohrab Hossain & Sayed Ahmed
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Abstract - This paper explores the role of opinion leader (one form of reference group member) in customer/consumer decision making on cement product purchasing. The study has focused on pertinent literature, quantitative and qualitative studies to assess how opinion leaders make the brand choosing decision and recommend cement brand to customers. Cement is a semi-engineering and high involvement product and therefore customers need to go through an extensive information search process. In such case opinion leader and reference group largely influence the decision making process of customers. This paper is an attempt to investigate the variables that influence the brand choosing decision of the architects- a major opinion leader group in cement industry. The qualitative research reveals some variables (BUET Test, Price, Availability, Delivery of order, Raw material, Goodwill, Initial setting time, Commission and Gift) that are considered when architects make suggestion for choosing the cement brand.

GJMBR-A Classification : JEL Code : L61

FACTORS CONSIDERED BY OPINION LEADER ONE FORM OF REFERENCE GROUP IN RECOMMENDING BRAND TO CUSTOMERS A CASE STUDY ON CEMENT

Strictly as per the compliance and regulations of :

Factors Considered by Opinion Leader (One Form of Reference Group) in Recommending Brand to Customers: A Case Study on Cement

Md. Reajul Alam Chowdhury [α], Mohammad Sohrab Hossain [σ] & Sayed Ahmed [ρ]

Abstract - This paper explores the role of opinion leader (one form of reference group member) in customer/consumer decision making on cement product purchasing. The study has focused on pertinent literature, quantitative and qualitative studies to assess how opinion leaders make the brand choosing decision and recommend cement brand to customers. Cement is a semi-engineering and high involvement product and therefore customers need to go through an extensive information search process. In such case opinion leader and reference group largely influence the decision making process of customers. This paper is an attempt to investigate the variables that influence the brand choosing decision of the architects- a major opinion leader group in cement industry. The qualitative research reveals some variables (BUET Test, Price, Availability, Delivery of order, Raw material, Goodwill, Initial setting time, Commission and Gift) that are considered when architects make suggestion for choosing the cement brand. Finally, these eight variables have been factorized into four factors namely; *technical aspects, goodwill and brand image, distribution coverage and service aspect and financial aspect* of the cement brand.

I. Introduction

Studies in consumer behavior reveal that decision making process of the consumers/customers is comprised of a complex set of activities. The decision making process even gets more complex in case of technical product. In such cases, consumers/customers to a large extent depend on the people who are regular users of the product or have sufficient knowledge about the product. These groups of people who influence the decision making and brand choosing process of the customers are commonly referred as reference group. There are remarkable numbers of studies on the influence of reference group on consumer decision process. Unfortunately and of course unintentionally there has been very little focus on how the reference group makes their own brand decision process. More specifically, there is a gap in existing literatures in studying the factors that reference group consider in recommending a specific brand to general consumers/customers.

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This study is an attempt to investigate the factors that opinion leaders (one kind of reference group) consider in recommending brands to customers. Keeping this purpose in mind, the cement industry in Bangladesh has been taken as case in this study and the brand decision process of architects (opinion leader group in this case) has been investigated. The rationales of taking the cement industry as case are two. First, cement is a semi-engineering product and thus influence of opinion leaders on customer decision process is much high. Second, in the competitive cement industry of Bangladesh, marketers are now undertaking different promotional strategies targeting the opinion leaders; architects and masons. Therefore, understanding the decision making process of architects will help the marketers to formulate effective strategies to communicate the reference group.

II. Objectives of the Study

The broad objective of this study is to identify and determine factors or variables which influence the engineers, the most influential reference group in cement industry, to prescribe particular brand of cement to customer.

III. More Specifically

The specific objectives of the study include;

- To investigate the decision making process of architects in recommending cement brands to customers.
- To identify the most prominent factors/variables that determines the particular brand choice.
- To factorize the correlated variables under some dimensions.

IV. Literature Review

From consumer-behavior perspective, it appears that product and brand choosing behavior of consumers/customers can largely be influenced by their reference groups (Bearden and Etzel 1982).

A reference group is defined as “an actual or imaginary individual or group conceived of having significant relevance upon an individual’s evaluations, aspirations, or behavior” (Park and Lessig, 1977, p. 102). Bearden and Etzel (1982) defined a reference group as a person or group of persons that significantly influence the behavior of an individual, and argued that the reference group concept (Hyman 1942) provides a way to comprehend why many individuals do not behave like others in their social group. The persasive use of spokespeople in product and service endourcements reflcets the widely held belief that individuals who are admired or who belong to a group to which other individuals aspire can exercise an influence on infromation processing, attitude formation, and purchase behavior (Bearden, Netemeyer, and Teel 1989). Consumers frequently rely on word of mouth and referrals and observational learning from other consumers when making a purchase decision (Dichter 1966). In some cases, the referral has a positive impact on their purchase decision, and in other cases, it does not alter their decision.

Reference groups are usually conformed by the social network of an individual: family members, friends and colleagues, and inspirational figures (Bachmann, John, and Rao, 1993), and experts who have an expertise in certain areas. Reference groups have basically two functions (Kelley, 1965): a *normative* function that sets and enforces standards for the individual, and a *comparative* function that serves as a comparison point against which an individual evaluates himself and others (Cocanougher and Bruce, 1971). Park and Lessig (1977) further elaborated the Kelley's (1965) model and described three dimensions of reference groups: informational, utilitarian, and value-expressive. According to Bearden and Etzel (1982), informational influence occurs when, facing uncertainty, an individual searches for information and counts on sources with high credibility or high experience in order to help him make a decision; utilitarian influence occurs when an individual acts according to the desires of others that are important to him in order to obtain a reward or to avoid some punishment; and value-expressive influence is characterized by the individual's acceptance of certain external standpoints given his psychological need to associate with a person or group. Basically only one reason reference influences the purchase decision of the consumer that is power. Different forms of power are used by the reference groups. They are coercive power, social power, referent power, reward power, expert power, information power, legitimate power etc.

Reference group influence on individuals' behavior depends on the nature of individual and product type, means individuals who have little information and few experiences about a particular product seek out advice from the expert or knowledgeable person. Moreover product type and involvement in product purchase also factors for taking perception from reference group.

Buyer decision process consists five stages (Figure1 Appendix), these are, Problem recognition, Information search, Evaluation of alternatives, Purchase decision, Post purchase behavior. The buying process begins with recognition on the part of an individual or organization that they have a problem or need. After defining the problem buyer have to collect information's about this particular product, and then buyer have to analyze collecting information based on buyer buying characteristics and preference. Analyzing information ultimately conclude with taking purchase decision.

Most of the time problem could be recognized by customer individually, but information collection depends on reference group. When the customer has no prior experience about particular product he has to collect expensive information then they went to the reference group for collecting information, moreover when product purchase in high risk situation consumer likely engaged extensive information collection, where reference group exert themselves. After collecting information customer required to analyze this information. Basically consumer used evoked set in their evaluation process, means known brand by the consumers. If customer have limited knowledge, experience information about particular brand then they are influenced by the reference group members, who have certain experienced about particular product. As well as when products are technical and product perceived risk is high then evaluation process depends on expert's perception and references.

Cement a building material made by grinding calcined limestone and clay to a fine powder, which can be mixed with water and poured to set as a solid mass or used as an ingredient in making mortar or concrete. It is an important building structure material and at this reason house builder face a complexity for purchasing this particular product.

Cement made by some raw material which is so complex that customers never identify which quality is good and which one is bad, moreover buyer has a limited knowledge about product type and its brand. Due to this complexity cement buyer generally depends on experts' such as engineers' recommendation to select the brand of cement to be used.

Cement Manufacturers, facing an increasing competitive marketplace, are finding it difficult to differentiate their cements on the basis of quality, price, promotion or location (Huda, Faruq and Sharmin 2007). Quality, including performance, conformance, reliability, and durability and price are treated as key variable influencing brand selection (Hildebrandt 1988; Mazursky and Jacoby 1986) and customer satisfaction. Additionally, service quality evaluations are critical inputs to the customer decision making process (Dodds, Monroe and Grewal 1991; Zeithml 1988). Thus literature suggests that there are linkages between quality, price, experience and promotion and brand selection.

After analyzing the many literature and expert opinion, we identified several independent variables which lead engineers to refer particular brand of cement to individual house builders. These variables include: BUET Test, Price, Availability, Delivery of order, Raw material, Goodwill, Initial setting time, Commission and Gift.

V. Methodology

This study followed mixed approach where both qualitative and quantitative research methods have been used. First, qualitative research technique namely in-depth interview has been conducted to identify the variables that architects consider in choosing cement brands. 6 in-depth interviews were conducted with the primary purpose of identifying the characteristics that are considered by architects as determinants of quality cement. Besides, we attempted to investigate the perception of the architects about various cement brands, identify their preferred brands and investigate the underlying causes behind preferring those brands. A semi-structured questionnaire was used in conducting the in-depth interviews; issues arose out from a given interview were successively used as a basis for further inquiry in subsequent interviews. The architects from govt. institutions, private consultancy firms and real estate companies were selected for the in-depth interviews.

After developing an understanding of the brand-choosing decision process of the architects and identification of the variables, a survey was conducted to measure the relative importance of the identified variables in choosing cement brands. Besides, the correlations among the variables have been investigated and then factor analysis has been performed to reduce the variables into some factors. A structured questionnaire was administered in the survey where the importance of the variables (identified in the qualitative research) was measured on 9 point Likert-scale. In the scale, 'extremely important' was coded as 9 and 'not important at all' as 1. Architects form private consultancy firms, real estate companies and govt. institutions such as Public Works Department (PWD) and Roads and Highways Department.

Making conclusion or generalizing the findings from a survey to the population requires a statistically significant sample size and sound research methodology. There is a wide range of recommendations in the existing literature regarding the optimum sample size required for conducting factor analysis. Everitt (1975) recommended a minimum of 10 subjects per item to obtain an adequate sample size for factor analysis. Gorsuch (1983), on the other hand, recommended five respondents per variables, with a minimum of 100 subjects, regardless of the number of items. Guilford (1954) argued that sample size for factorization should be at least 200, while Cattell (1978) recommended three to six subjects per item, with a minimum of 250. From the qualitative research (in-depth interviews), we identified eight variables, and therefore, following the recommendations of Everitt and Gorsuch, the sample size determined for this study was 100.

VI. Findings From Qualitative Research

As mentioned in the methodology section, we conducted a number of in-depth interviews with some architects to identify the factors that they consider in recommending cement brands to individual house builders and organizational customers (i.e., real estate companies, builders, contactors, etc.). The in-depth interviews helped us uncover a number of variables. Architects usually consider the technical aspects of the cement when they choose a cement brand. Among the technical aspects initial and final setting time, test result and raw materials of the cement etc. are considered most. However, while asked how they judge whether the cement brand meets the optimum combination of the raw materials or will set in the desired time, almost all of the respondents mentioned that they rely on the BUET certification. For instance, Mr habibur Rahman (Project Engineer in Asset Development) said "Brand that satisfy PSI (one of the format of testing of the cement followed in BUET test) according to the design criteria, ensure initial & final setting time is considered as a good cement*"*. Md. Ziaul Hoque (Sub divisional Engineer in Public Work Development) mentioned availability of cement, presence of adequate level of clinker and other materials, and quick delivery as the major factors that he consider in recommending cement brand in a construction work. Mr Ashique Kadir (Assistant Engineer in Public Worker Development) brought up some variables which are considered as the determinants of quality cement and the variables include; consistent result in laboratory test, ratio of raw material and initial and final setting time of the cement. However, the architects from the real estate companies and private consulting firms especially pointed out the availability, quick delivery, price and laboratory test result as the important variables considered in choosing cement brand. Providing gifts and commission to architects is a well known promotional strategy of cement companies in Bangladesh. Though the gifts and commissions from cement companies influence the architects in recalling and recommending the brands of those cement companies, architects denied to put much importance on this issue as a determinants of recommending cement brands. However, almost all of the architects acknowledged that they received gift items from different cement companies on several occasions.

Based on the in-depth interviews, we identified the following variables that architects consider in choosing or recommending a specific cement brand:

- Availability
- Price

- Initial setting
- Test Result
- Delivery
- Goodwill of brand
- Raw Material, and
- Gift & Commission

In the next section, it has been attempted to empirically test whether there is high correlation among the above mentioned variables and if found, the highly correlated variables will be factorized to identify some factors which can subsequently be used in future research.

a) Factor Analysis as a Research Technique

Factor analysis is the name given to a group of statistical techniques that can be used to analyze interrelationships among a large number of variables and to explain these variables in terms of their common underlying dimensions (factors) (Hair, Anderson, Tatham, & Black, 1998). This analysis is usually conducted to reduce the number of attributes or variables used in the research. As in our research, eight independent variables were used; thus, through factor analysis, the eight attributes have been reduced to some factors. Each factor includes only those attributes, which are correlated with each other. But the factors extracted are not correlated with each other. The hypothesis used in factor analyses is that each variables or attributes are perfectly correlated with it but has no correlation with other variables. If this hypothesis is not accepted, factor analysis can be possible.

For conducting factor analysis there are several methods which include: *principle component analysis, common factor analysis, unweighted least squares, generalized least square, maximum likelihood, alpha method and image factoring.* In this paper, to conduct the factor analysis, we have used principle component analysis because a primary concern of this approach is to determine the minimum number of factors that will account for maximum variance in the data for use in subsequent multivariate analysis (K. Malhotra, Naresh 2008). Where other methods are complex and are not recommended for inexperienced users.

VII. Factor Analysis of the Data

As the first step, in order to establish an appropriateness of the factor analysis application, Kaiser-Meyer-Olkin sampling adequacy test and Barlett's test of spherincity were performed. Table 1 reports the results of these tests.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.610
Bartlett's Test of Sphericity	Approx. Chi-Square	43.28
	Df	28
	Sig.	.033

Table 1 : KMO and Barlett's Tests

The KMO sampling adequacy test statistic is 0.610, which is higher than the threshold value of 0.5 (Hair, Anderson, Tatham, & Black, 1998). The Barlett's test of spherincity statistic is 43.28. This indicates that the null hypothesis that the correlation matrix is an identity-matrix is rejected at the 0.05 level of significance. Thus, these results support the appropriateness of the factor analysis use for the purposes of this study.

Table 2 reports communalities for selected items. Communality indicates how much of the variance in the selected items has been accounted for by the extracted components. For example, 81.7 percent of variance in the "Availability" item is accounted by the extracted factor(s) while the percent of variance accounted by the extracted factor(s) in the "Price" item is 82.5.

Items	Communalities
Availability	.817
Price	.825
Initial setting	.721
Test Result	.728
Delivery	.801
Goodwill of brand	.705
Raw Material	.610
Gift & Commission	.911

Table 2 : Communality

Table 3 reports initial eigenvalues of the components. According to the latent root criterion (Cattell, 1966), a component with eigenvalue greater than one should be considered for further analysis. The factor analysis in this study identified four (4) components which had eigenvalues greater than the benchmark value. These four components cumulatively explain 76.47percent of total variance.

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	2.28	28.50	28.50
2	1.63	20.46	48.96
3	1.18	14.80	63.77
4	1.01	12.70	76.47
5	.67	8.40	84.87
6	.49	6.18	91.06
7	.42	5.36	96.43
8	.28	3.56	100.00

Table 3 : Total Variance Explained

Next, Table 4 reveals the result of the rotated component matrix. The main purpose of the rotation is to reduce the number of the components on which the items have a higher factor loading. This is expected to reduce the number of variables and produce a clear structure for the interpretation of results.

	Component			
	1	2	3	4
Availability	-.02	.01	.89	-.13
Price	-.49	.13	.12	-.74
Initial setting	.64	.15	-.48	-.25
Test Result	.77	.22	.27	-.07
Delivery	-.05	-.10	.88	.08
Goodwill of brand	.29	.74	.27	.07
Raw Material	.73	.24	.36	.28
Gift & Commission	-.03	.18	.01	.94
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.				

Table 4 : Rotated Component Matrix[a]

Experts' perception about Raw materials of the cement has 0.73 loading on the factor 1 which means that this attribute is highly correlated with the factor 1. The Initial setting time is highly correlated with the same factor having the coefficient of 0.64 and test result of the cement in BUET test is 0.77 which also is highly correlated with the factor 1. Goodwill of brand is highly correlated with the factor 2 having the factor loading of 0.73.Availability and Delivery of the cement are correlated with the factor 3 with the relative coefficients of 0.89, and 0.88 respectively. The remaining two Price and Gift & Commission setting by the company are highly associated with the factor 4 with the coefficients of 0.74 and 0.94 respectively.

The identified factors and their associated variables are presented in the following table.

Factor	Attributes	Factor Name
Factor 1	Initial setting time, Test Result and Raw Material	Technical aspect of the product
Factor 2	Goodwill of brand	Goodwill and brand image
Factor 3	Availability, Delivery	Distribution coverage and services
Factor 4	Price, Gift & Commission	Financial aspect of the product

The findings of the factor analysis helped us identify four factors namely; technical aspects, goodwill and brand image, distribution coverage and service aspect and financial aspect of the cement brand. Under the *technical aspect*, the architects mainly consider the initial setting time, laboratory test result, and raw materials. Therefore, a cement brand with optimum setting time, consistent good laboratory result, and necessary raw materials is expected to be recommended by architects to the customers. *Goodwill or brand image* of cement brand is another factor which is considered in choosing a cement brand. The third factor has been named out by *distribution coverage and service aspect of the cement* and this factor includes availability and timely delivery of the cement. *Financial aspect of the cement*, the fourth factor, includes the price of the brand and the gift and commission provided by the cement companies.

VIII. Research Implications

Cement is a technical and semi-engineering product. Customers (individual house builders and organizational buyers), because of their lack of product knowledge, largely depends on architects who can be termed as opinion leaders in this case. In this paper it has been attempted to investigate the decision making process of the architects and identify the factors that they consider in recommending cement brands to customers. Though there have been numerous studies on the influence of reference group or opinion leaders on customers' purchase decisions, study on the factors that the opinion leaders consider in recommending specific cement brands to their customers is missing. This study is an attempt to fill this research gap. However, the factors identified in this study can subsequently be used in future researches to identify the relative importance of the factors as determinants of architects' recommending specific cement brand to customers.

IX. Conclusion

Customer/consumer decision making depends on their product knowledge. If they have deficient knowledge then reference group plays significant role for assisting customer/consumer taking final decision. The study focuses on how engineers (one form of reference group member) suggest the customer/consumer for choosing cement product. Fundamentally, architects value some factors in choosing and recommending cement brand, which include technical aspects of the product, brand image, distribution coverage and financial aspect of the company. Findings of this paper will be of use to managers, to look at how reference group take their decision, what factors they consider in recommending a cement brand.

References Références Referencias

1. Bachmann, Gwen R., Deborah R. John, and Akshay R. Rao, (1993) "Children's Susceptibility to Peer Group Influence: An Exploratory Investigation," Advances in Consumer Research, Vol. 20, ed. Leigh McAlister and Michael L. Rothschild, Provo, UT: Association for Consumer Research, 463-468.
2. Bearden, William O. and Michael J. Etzel, (1982). Reference Group Influence on Product and Brand Purchase Decisions, *Journal of Consumer Research*, 9 (September), pp. 183-194.
3. Cattell, R. B. (1978), *the Scientific Use of Factor Analysis*. Plenum, New York.
4. Cattell, R.D. (1966): "The Scree test for the number of factors", in: *MultivariateBehaviouraResearch* 1, pp. 245-276.
5. Cocanougher, A. Benton and Grady D. Bruce, (1971). Socially Distant Reference Groups and Consumer Aspirations, *Journal of Marketing Research*, 8 (August), pp. 379-381.
6. Escalas, Jennifer Edson and James R. Bettman, (2003). You Are What You Eat: The Influence of Reference Groups on Consumers' Connections to Brands, *Journal of Consumer Psychology*, 13 (3), pp. 339-348.
7. Everitt, B. S., (1975), Multivariate analysis: the need for data and other problems, *British Journal of Psychiatry*, 126, pp. 237-240.
8. Gorsuch, R. L. (1983), *Factor Analysis* (2nd. Ed). Hillsdale, NJ: Erlbaum.
9. Guzmán, Francisco. Montaña, Jordi. Sierra, Vicenta. "Reference Group Influence: A Cross Cultural COMPARISON OF Public Services".
10. Guilford, J. P., (1954), *Psychometric methods*, 2nd edition, McGraw Hill, New York.
11. Hair, J.F., Jr. /Anderson, R.E./Tatham, R.L./Black, W.C. (1998): *Multivariate data analysis* (5th Edition), Prentice Hall, Inc, New Jersey.
12. Hyman, Herbert H., (1942) "The Psychology of Status," Archives of Psychology, 269, pp. 94-102.
13. Kelley, Harold H., (1965) "Two Functions of Reference Groups," in Basic Studies in Social Psychology, ed. Harold Proshansky and Bernard Siedemberg, New York, NY: Holt, Rinehart, and Winston, pp. 210-214.
14. Park, C. Whan and V. Parker Lessig, (1977). Students and Housewives: Differences in Susceptibility to Reference Group Influences, *Journal of Consumer Research*, 4 (September), pp. 102-110.
15. V. Kumar, J. Andrew Petersen, & Robert P. Leone "Driving Profitability by Encouraging Customer Referrals: Who, When, and How".

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Analysis on Status of Developing Low Carbon Economy and Selection of Evaluation Index in China

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Keywords : China; low carbon economy; status and development model; selection of evaluation index.

GJMBR-B Classification : JEL Code : C52

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Strictly as per the compliance and regulations of :

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Peixiao Qi [α] & Pro. Xiaoyan Hao [σ]

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I. Introduction

With the China's economy rapidly growing and industrialization and urbanization accelerating, climate changes caused by a large number of fossil fuels consumption has brought about serious losses of social and economic development. Thus, for China, developing low carbon economy is a only way to achieve sustainable development.

Kyoto Protocol promulgated as a legislation in 1997 referred to "Low Carbon" for the first time in human history. After that, every country in the world has been starting to strive to solve global climate problem while they develop their economy. China attaches great importance to global climate changes as the second largest energy producer and also the second largest emitter of carbon dioxide and has successively promulgated three programmatic documents: *Outline of Nation's Long-term Scientific and Technological Development Plan*, *National Assessment Report on Climate Change* and *the Eleventh Five-Year Plan of State Environmental Protection* and clearly has proposed that it is very essential to put the energy and environmental protection issues etc. on the first position of scientific & technological development. Soon after, China has formulated *National Program on China's Response to Climate Change*, which manifests China's efforts of developing low carbon economy.

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In 2006, *Stern Report* written by Nicholas Stern, a former chief economist in World Bank, indicated that 1% inputs of GDP per year will make the world avoid 5%-20% losses of GDP per year in future (Chen Ying, Pan Jiahua & Zhuang Guiyang, 2007, pp.114-119).

In 2005, according to International Energy Agency (IEA) statistics, the global CO_2 emissions was about 27.136 billion tons and 99.7% were from the burning of fossil fuels, of which China accounted for 18.8% (IEA, 2006).

In 2007, the fourth assessment report of IPCC showed that the main source of greenhouse gases was the burning of fossil fuels, which had led to the result: the proportion of CO_2 emissions in the total carbon emissions was nearly 95.3% in 2004 (excluding CO_2 increase caused by deforestation and reduction of biomass). In this year, China's consumption of coal was about 2.3 billion tons, CO_2 emitted by carbon-based fuels was 5.43 billion tons, its ranking was No.2 around the world. Besides, compared with other countries, carbon emissions intensity per GDP (that is CO_2 emissions per economic outputs) in China is very high. In 2002, the intensity was 605 tons/million GDP U. S. dollar, this number was 1.86 times of India, 1.69 times of Japan and 1.6 times of developed countries in Western Europe (shown in Table 1). Svante Arrhenius, a Nobel laureate, had predicted the greenhouse gases (mainly is CO_2) concentrations will reach 550 PPM by 2050, it will disrupt delicate balance of natural ecosystem.

Table 1 : CO_2 intensity of major countries in the world (or areas) from 1970 to 2025 (Unit: t/million GDP USD, USD in 2000)

Countries or Areas	Historical data				Forecast data				mean	
	1970	1980	1990	2002	2010	2015	2020	2025	1990-2002	2002-2025
China	2560	1943	1252	605	570	500	436	375	-4.4	-2.1
India	286	312	346	324	272	242	212	185	0.4	-2.4
America	1117	917	701	571	501	459	423	393	-2.1	-1.6
Canada	1046	883	691	612	562	527	495	481	-1.7	-1
Japan	627	497	348	359	310	291	274	259	-1.7	-1.4
Western Europe	695	624	471	377	333	307	281	264	-1.9	-1.5

Data source : The Energy Information Administration (EIA), International Energy Outlook 2005 (IEO2005)

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The term "Low Carbon Economy" first appeared in the UK Energy White Paper (a government document): *Our Energy Future: Creating a Low Carbon Economy*, this book pointed out low carbon economy can gain more economic outputs and also create opportunities for development, application and export of advanced technology through less consumption of natural resources and less environmental pollution (Li Huifeng, 2010, pp.40-42). Therefore, low carbon economy is a economic development model whose characteristics are lower energy consumption, lower pollution, lower emission and higher performance, higher efficiency, higher benefit. It is the fifth industrial revolution after steam engine, electrification, atomic energy space technology and new energy and also the game rules of ecological civilization society in future (Fan Dejun). It will be bound to profoundly affect the way of production and life in today's and future society. For China, "low carbon" is a new growth point and turning point to develop its economy much better and also a emerging power to further achieve sustainable development, which has important practical significance.

Thus, how to better develop low carbon economy has become a greatly significant issue of developing economy stably which China and even the world are facing.

II. The Research Status of Low Carbon Economy in China

With low carbon age coming closer, competition among countries must be accompanied by competition of low carbon technologies. As the largest developing country, China is being faced with a major task of economic development, energy and climate changes.

Scholars He Juhuang, Shen Keting etc. (2002, pp.39-47) pointed out that too early decreasing CO_2 emissions will certainly affect China's economic development. Chen Wenying, Gao Pengfei etc. (2004, pp.744-747) also pointed out that when the carbon reduction rate is 0%-5%, the loss rate of GDP is 0%-25%. Wang Zheng, Li Huaqun etc. (2007, pp.3718-3726) studied the relationship between reduction of CO_2 emissions and China's economic development by establishing model. Jin Hongguang and Zhang Xiaosong (2007, pp.27-36) expounded integrated energy systems theory on controlling carbon dioxide by applying Energy System Integration Method. He Jiankun (2009, pp.46-50) thought that the key to developing low carbon economy is low carbon technology innovation, such as developing carbon sequestration technique and technological innovation about coal-based liquid fuel, and forms industrial system as soon as possible.

Zhuang Guiyang (2005, pp.79-87) thought the essence of low carbon economy is energy efficiency and clean energy structure, the key is to enhance energy technological innovation and institutional innovation. Pan Yue (2009) proposed that it is important to develop low carbon energy technologies and establish low carbon development and consumption patterns. Bao Jianqiang (2007, pp.91-94) pointed out carbon emissions will become a new mark to measure human's economic development pattern. Zhou Hongchun (2009, pp.65-68) thought developing low carbon economy need to optimize the industrial structure and build low carbon city. Ren Li (2009, pp.47-50) proposed a number of measures about how to develop low carbon economy, such as adjusting the industrial structure and energy consumption structure, strengthening low carbon technological & institutional innovation, establishing a carbon trading market and so on. Sun Gefei (2010, pp.9-10) pointed out that how to change industrial structure, adjust attracting-investment strategy, enhance low carbon technological innovation, establish a carbon trading market and so on has become problems of China's sustainable development that are to be solved.

Jin Yueqin (2009, pp.100-101) pointed out that low carbon economy is a new economic development model, China's strategy and technological innovation should be well prepared for transition. Li Huifeng (2010, pp.40-42) summarized the progress of low carbon economy at home and abroad, analyzed the development status of China's low carbon economy and severe challenges China faces and proposed the general frame of China's low carbon economy model and implementation strategy. Cheng Wandu (2008, pp.33-37) pointed out "carbon finance" directly related with the low carbon economy has begun to appear and rapidly develops, which has brought great development opportunities for the world's financial businesses. Wang Li (2009, pp.17-21) thought that China must quickly establish the policy & legal system which is conducive to the development of low carbon economy. Wang Lijin and Yi Qihong (2010, pp.16-19) also thought the government should improve laws and regulations in order to provide system specification and security for the development of low carbon economy, promote the adjustment of economic development mode and economic structure, make efforts to save energy and reduce emissions and improve energy efficiency, develop clean energy and optimize energy structure, increase carbon sequestration and actively advocate low carbon life-style.

Hu Angang etc. (2008, pp.26-28) expounded "Green Cat" mode of low carbon economy and proposed development strategy of low carbon economy. Niu Wenyuan's research (2009, p.19) showed that low carbon economy is a newly economic growth point of social & economic development. Wu Xiaoqing etc. (2008, p.5) proposed that China should study and formulate national strategies of low carbon economy as soon as possible. Liu Xiliang (2009, pp.26-27) stressed low carbon economy is a rational cognition about harmonious relationships of human and nature, human and society and human and human. Wu Xiaojiang (2008, pp.19-22) also stressed that low carbon economy is a national sport and people must form a low carbon life-style.

China attaches great importance to climate changes and has carried out lots of research work. In addition to representative studies above, Tsinghua University's Institute of Nuclear Energy Technology (INET) had studied the scenario of China's social & economic development, energy consumption and CO_2 emissions in 2030 by using energy system optimization model (the year of 1990 as the base year) in *Climate Change Country Study Report* in 1996. The result is shown in Table 2.

Table 2 : The baseline scenario of social and economic development, energy consumption and CO_2 emission in China

	1990	2010	2030
Population (one billion persons)	1.1433	1.386	1.560
Urbanization (%)	26.4	42.4	58.4
GDP (a hundred million, price in 1990)	17681	99010	317486
GDP per capita (USD/person, price in 1990)	324	1495	4257
Industrial structure			
Agriculture	28.4	18.0	14.0
Industry	43.6	42.0	39.0
Services	28.0	40.0	47.0
Total demand of primary energy (MtCeq)	987	2235	3685
Energy structure (%)			
Coal	75.7	72.3	65.3
Petroleum	17.0	16.2	15.0
Natural gas	2.1	3.8	5.2
Hydro-energy	5.1	5.6	6.5
Nuclear energy	0.0	1.9	6.6
New energy	0.1	0.2	1.3
Elasticity ratio of energy consumption	0.47	0.46	0.40
Saving rate per year (%)	4.8	4.0	3.4
CO_2 emissions from energy consumption (MtC)	567.2	1319.7	1980.8

Information source : China Climate Change Country Study Group, 2000.

For the current literature, research on China's low carbon economy mainly focuses on six aspects: (1) the relationship between CO_2 emissions and China's economic growth; (2) study on technological innovation of low carbon economy; (3) importance and strategic choice to develop low carbon economy; (4) model of low carbon economy and financial support; (5) legal protection, institutions and norms about low carbon economy; and (6) conversion in consumption pattern and developing low carbon economy. However, the literature about how to evaluate low carbon economy development level is very few, so author studies the evaluation index system.

III. Analysis on Existing Problems and Development Model

In recent years, China's advanced productive forces have been greatly improved. In 2007, energy consumption per GDP was lower 3.27% than 2006, chemical oxygen demand and SO_2 emissions both fell at the same time for the first time, compared to 2006, decreased by 3.14% and 4.66%. According to USA Energy Agency's forecast, in 2020, carbon emissions in China will be more than the United states and reach 8.145 billion tons, by that time, China will become the world's largest carbon dioxide emitter (Li Huifeng, 2010, pp.40-42). China's president Hu Jintao put forward a proposition: "develop low carbon economy, research and develop low carbon energy technology, promote the development of carbon sequestration technologies" in APCE Meeting in September 2007. Before Copenhagen Meeting, China's government promised: by 2020, China's carbon emissions will fall to 40%-50% of 2005 (Wang Lijin and Yi Qihong, 2010, pp.16-19).

Therefore, to accomplish this challenging goal, developing low carbon economy is the only way. But as the largest developing country, developing low carbon economy in China is bound to be a great challenge.

a) *Existing problems*

First, energy consumption structure of coal-dominated is a major issue that China is facing in order to develop low carbon economy. Reserves of petroleum and natural gas in China only account for 1.3% and 1.2% in world's total reserves. As the main energy, reserves of coal is 114.5 billion tons, accounting for 11.02% in world's total reserves, its proportion is up to 70% in energy structure, but the greenhouse gas emissions caused by coal is about 80%. And China's extensive mining model makes resources waste seriously and the utilization rate is low efficiency. The total utilization rate of energy of China is around 33%, lower about ten percentage points than developed countries (Wang Lijin and Yi Qihong, 2010, pp.16-19).

China has been the world's largest coal consumer and the second largest petroleum consumer, the petroleum depends on foreign is up to around 50%. For a long time, China's technological system on the basis of coal, petroleum etc. fossil energy and technological innovation and institutional innovation based on that system make China form a " Carbon Lock-in" state (Sun Gefei, 2010, pp.9-10).

According to China's energy conditions, by 2020, the proportion of coal will still keep above 60% in energy structure. Natural gas' CO_2 emission coefficient is only equivalent to 60% of coal's, so the proportion of coal consumption is bigger, the intensity of CO_2 emissions is higher, which will make the feature of " high carbon" very obvious in the process of economic development in China.

Second, China's industrial structure exists unreasonable phenomena. China's mainstay economy is still secondary industry, services industry is comparatively lagging behind, thus, this industrial structure is extremely unfavorable. According to related statistics, China's energy intensity increased to 4.77 ton of SCE /10000 yuan in 2007 from 4.21 ton of SCE/10000 yuan in 2001, energy consumption level is higher and higher (Li Huifeng, 2010, pp.40-42).

From 1990 to 2003, China's GDP growth accounted for 10% in the world, but energy consumption growth accounted for 27% and greenhouse gas emissions growth accounted for 34% (Huang Dong and Li Huaixia, 2009, p.48). In 2007, the proportion of coal in primary energy was only 27.8% in the world, coal consumption ratio in most developed countries were less than 20%, but coal consumption ratio in China was up to 69.5% (Du Feilun, 2009, p.30). So China's "high carbon" structure is a great challenge to the development of low carbon economy.

Third, China is being in a extraordinary period of rapid development of industrialization, urbanization and modernization, which makes lots of high-carbon gases emissions difficultly avoid. As the largest developing country, China's theme is still development in half of the 21st century, much more infrastructure makes energy demand increasing. Total energy consumption in 2007 rose to 2.656 billion ton of coal equivalent from 1.386 billion ton of coal equivalent in 2000, the average growth rate per year was 9.7%. By 2020, total energy demand will reach above 5 billion ton of coal equivalent (Li Huifeng, 2010, pp.40-42). In this period, market shows a seller's market characteristic, so enterprises are less aware of low carbon economy technological innovation and product innovation, these phenomena further aggravate China's energy demand and "high carbon" feature.

Fourth, New China established is not a long time, so comparatively backward total technological level also hampers low carbon economy development. At present, China's energy production & utilization, industrial production technology, technological innovation & development capacity and manufacturing capacity of key equipment have a wide gap compared with developed countries. Strictly speaking, China's market economy started from 1992, only 18 years until 2010, own capital accumulation is not sufficient, so China must make efforts to increase opening-up to attract foreign investment. It was estimated that calculated by GDP in 2006, China needs 25 billion USD funds every year in order to step into "low carbon" from "high carbon".

Based on above four aspects, author thinks China needs to establish a low carbon economy development model which adapts to its own situation and a index system which objectively evaluates its low carbon economy development level.

b) *low carbon economy Development model*

Considering existing problems of developing low carbon economy in China, the scholar Li Huifeng (2010) thought China's low carbon economy model is different from free-market economic model and environmental governance model absolutely controlled by government but an interactive model which government, market and micro-economic subjects (enterprises and residents) participate together. Shown in Figure 1.

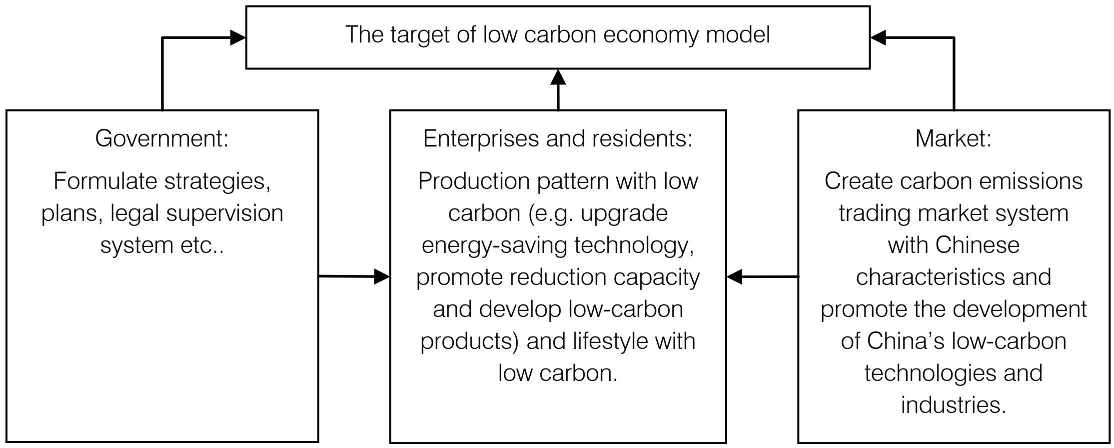

Figure 1. Low carbon economy model in China

However, author thinks China's low carbon economy model should be a linkage model which makes government be at the centre and micro-economic subjects and market be two wings (shown in Figure 2), and the status and role of government, micro-economic subjects and market should not be a simple linear parallel relationship shown in Figure 1.

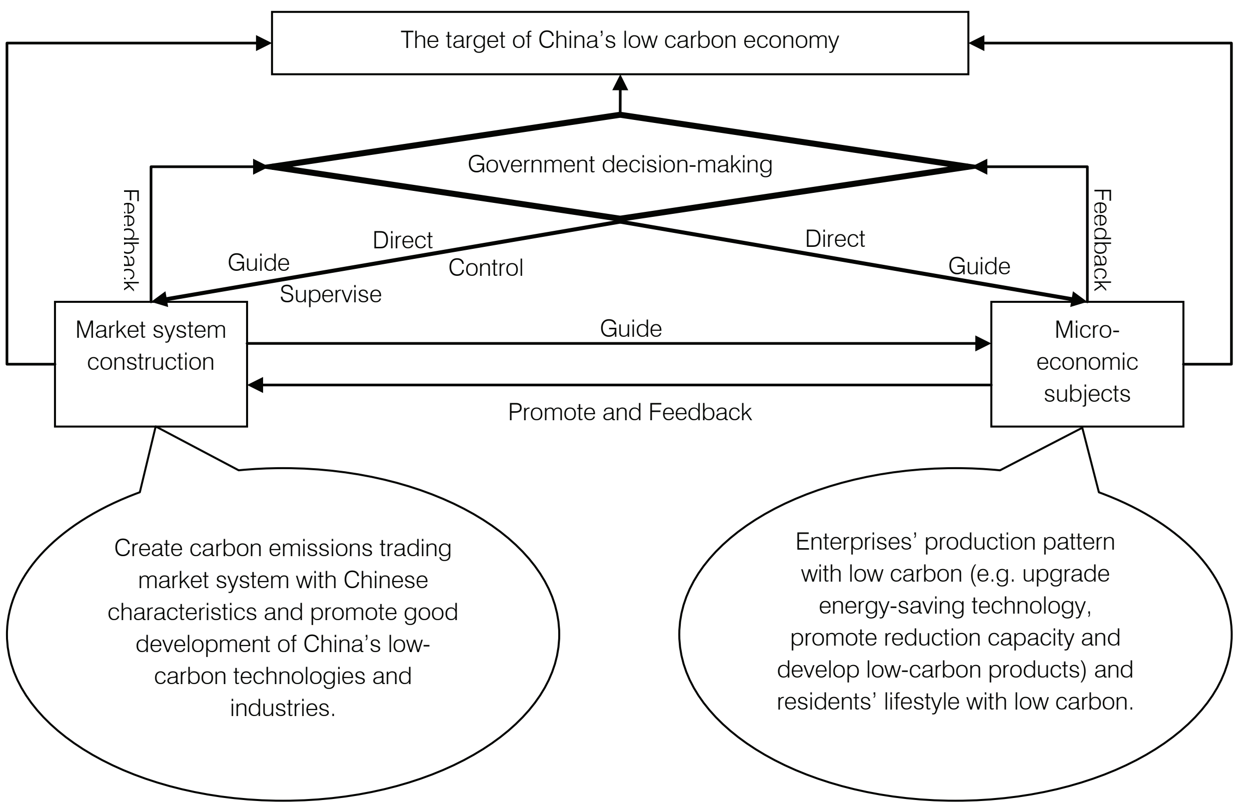

Figure 2 : The basic model of developing Low Carbon Economy in China

First, in the model shown in Figure 2, government need to guide and direct market system construction and micro-economic subjects behavior and also must formulate low carbon economy strategies, plans and related legal systems to supervise and control low-carbon market in order to make the market stably and orderly develop. At the same time, low-carbon market and micro-economic subjects provide timely feedback to government. This interactive and linkage model can make the low carbon economy development more effective.

Second, low-carbon market system should include the carbon emissions trading market with Chinese characteristics which promotes better development of low-carbon technologies and industries and purposefully guides low-carbon awareness and behavior of micro-economic subjects. At the same time, micro-economic subjects provide timely feedback to market system to make the low-carbon market system further improve and develop.

Third, "visible hand" and invisible hand" both together guide micro-economic subjects to approach to low-carbon patterns to make enterprises upgrade industrial energy-saving technologies and form the low-carbon technological development and innovation system. Besides, developing low-carbon products plays an important role in guiding consumers' lifestyle with low-carbon.

The model shown in Figure 2 more greatly emphasizes the force formed by government, market and micro-economic subjects and breaks the shackles that overemphasizes government's role. They of three can promote and coordinate each other.

In order to implement the linkage model, some effective strategies must be formulated:

1. Government need to actively "digest and absorb" the development concept of low carbon economy and formulate the national strategy and corresponding legal security system as soon as possible. At the same time, government also strengthens international cooperation and learns from foreign experience in environmental regulations. Considering the pressure of RMB appreciation and the rising prices of raw material, China's manufacturing should concentrate on upstream industrial chain (strategic decision-making, R&D, etc.) and downstream industrial chain (brand-building, customer service, etc.) and transfer the middle parts to surrounding low-cost countries to resolve financing obstacles etc.. Besides, all local governments must do "carbon budget" from now and consider the income & expenditure of funds and carbon emissions and absorption.

Article 22 in *the Central Authority Recommendations on Formulating the Twelfth Five-Year Plan* says that actively responding to global climate change, greatly reducing energy consumption intensity and CO_2 emissions intensity as binding indicators and effectively controlling greenhouse gas emissions.

2. Establishing a carbon trading market in China by using of market mechanism. *Kyoto Protocol* establishes three compliance mechanisms: Emissions Trading (ET), Joint Implementation Mechanism (JI) and Clean Development Mechanism (CDM). These three mechanisms' purpose is to try to transfer and trade carbon credits among countries as a commodity, the transaction object is the remaining carbon credits. And the ultimate means to obtain the remaining carbon credits is to use of low-carbon technologies, but low-carbon technology innovation and progress need to use of market incentives.

At present, only Beijing, Tianjin and Shanghai have established environmental trading agencies but still in the primary stage and not real financial transaction platform. Establishing the carbon trading market can attract more international forces to participate in China's Clean Development Mechanism Project and businesses also can profit through the sale of carbon emission rights.

3. Enterprises and residents need to advocate low-carbon production, life and consumption patterns. Low carbon is an effective way of consuming less resources and improving the ecological environment and also a new way of life. Now, some commodities in the supermarket are clearly marked "carbon footprint" (carbon emissions label), which is the most widely labeling system in developed countries. China also should establish this labeling system as soon as possible to advocate low-carbon lifestyle of "reasonable material consumption".
4. In order to develop low carbon economy, China also must develop clean energy, e.g. solar energy, hydro energy and nuclear energy etc.. Statistics show China's nuclear power generating capacity was 68.4 billion kwh in 2008, compared with thermal power generating capacity by coal, reducing CO emissions more than 80 million tons. Developing new energy and optimizing the energy structure are significant measures to gradually change the coal-dominated energy structure. In addition, China need to enhance forest carbon sequestration capacity (Wen Jiabao, 2009) (Forest carbon sequestration is that forest eco-system absorbs CO_2 in the atmosphere and fixes CO_2 in vegetation or soil which excludes CO_2 released into the atmosphere by soil & vegetation-themselves respiring). Forest is a huge storage of CO_2, increasing 1% of forest cover can absorb and fix carbon 60 million tons to 710 million tons.

Wang Yan and Li Quanxiu (2009) thought based on the practical needs of economic development, the natural carbon sequestration activities driven by agriculture, forestry and other land use (AFOLU) will become an extremely important topic of developing low carbon economy on condition that carbon emissions caused by fossil fuels still inevitably continue to increase all over the world. Pan Jiahua, Zhuang Guiyang and Chen Ying (2003) thought the reduction capacity of China's forest carbon sequestration exists regional differences, however, if there is financial security, its reduction potential will be huge.

Table 3 : The reduction potential and cost of forest carbon sequestration in China

Reduction methods of carbon sequestration	Reduction potential of carbon sequestration (tC/hm^2)	Input cost of per ton carbon (USD)
North and Northwest in China		
Blockade mountains and cultivate trees	13.0	1.3
Artificial fast growing forests	55.0	1.3
Agriculturalization and forestry industrialization	15.0	16.3
South, Southwest and Northeast in China		
Blockade mountains and cultivate trees	13.9	3.5
Artificial fast growing forests	71.0	5.0
Agriculturalization and forestry industrialization	6.0	9.8

Notes : (1) The reduction potential of carbon sequestration is permanent carbon storage capacity; (2) Carbon input cost is the investment calculated by discounting in two to three years in early time of blockading mountains and cultivating trees.

Information source : Sathaye and Ravindrana, 1998.

IV. Establishing the Low Carbon Economy Evaluation Index System

a) The principle of selecting indexes

These selected indexes must be able to objectively evaluate the China's low carbon economy development level, so selecting indexes must follow necessary principles and consider some major factors affect China's low carbon economy development.

These necessary principles are included: (1) conform to the objective laws and development requirements of low carbon economy to provide objective evidence for scientific decision-making; (2) consider the comprehensiveness of these selected indexes to include enough information; (3) conform to the logic and hierarchy when selecting indexes to reflect the major characteristics and the development trends of low carbon economy; (4) according to the dynamic principle of low carbon economy development, these selected indexes can be made the timely adjustment with economic and social development but must be relatively stable in a certain period. So these indexes can reflect the status and the dynamic changes of low carbon economy development; and (5) these selected indexes can be well quantified to qualitatively and quantitatively analyze.

b) Selecting indexes

When selecting indexes, author mainly considers the source of CO_2 emissions. CO_2 comes mainly from the burning of fossil fuels. Based on data in 2005, China's primary energy consumption was 2.2 billion ton of SCE, of which the proportions of coal, petroleum, gas and hydro-power were 68.7%, 21.2%, 2.8% and 7.3%. The estimated CO_2 emissions reached 5.1 tons, of which about 50% came from energy conversion sectors (main power sector), about 35% came from industrial setcors, about 15% came from agricultural sectors, transport sectors, services and residents living. According to *IEA CO_2 Emissions Report of 2009*, in 2007, the proportions of CO_2 emissions coming from different emission sources were 41% (thermoelectricity), 23% (transport), 20% (industry), 10% (other sectors including business sectors, public service agencies and other energy sectors) and 6% (residents living).

Indexes evaluating low carbon economy development level in *IEA CO_2 Emissions Report of 2009* and usually used by scholars in other countries generally include the proportion of clean energy in primary energy consumption, carbon-productivity level, elasticity of carbon emissions, carbon emissions level per capita, technological level, import & export trade and so on.

Based on the above analysis, author divides indexes into three levels: the first level index is the low carbon economy development level; the second level indexes include energy structure, transport sector support, industrial development level, agricultural development level, technological level and resident lifestyle; the third level indexes include 28 items (shown in Table 4).

Table 4 : The evaluation index system of low carbon economy development level

The first level index	The second level index	The third level index
Low carbon economy development level	Energy structure	The proportion of clean coal in total coal energy
		The proportion of new energy and renewable energy in total energy
		The proportion of fossil energy in total energy
		The utilization efficiency of total energy
	Transport sector support	The proportion of new energy vehicles in all vehicles
		The proportion of buses in all vehicles
		The proportion of private cars in all vehicles
		The proportion of walking and cycling in all people
		Carbon emissions of motor-vehicles per 10,000 km
	Industrial development level	Carbon emissions of industries per 10,000 yuan GDP
		The low-carbon transformation rate of traditional industries
		The proportion of high-tech industries' GDP
		The proportion of environmental protection industries' GDP
		The proportion of renewable energy industries' GDP
	Agricultural development level	The coverage rate of vegetation
		Carbon emissions per unit area
		The universal rate of good varieties
		The usage rate of pesticides and fertilizers
	Technological level	The proportion of expenditure on R&D funds in GDP for developing low-carbon technologies
		Efficient energy-saving technology level
		High-performance electric power storage technology level
		Heavy pollution industries' clean production technology level
		CO_2 capture and sequestration technology level
	Resident lifestyle	Each household carbon emissions per year
		The level of low carbon awareness
		The proportion of residents with low-carbon travel
		The usage rate of energy-saving products in home appliances each household
		Community energy-saving service management system

c) Calculating low carbon economy development level

Author chooses the formula (1) to calculate the China's low carbon economy development level. The "L" (Level) means low carbon economy development level, so

$$L = \Sigma \alpha_{ij} I_{ij} . \quad (1)$$

In formula (1), α_{ij} means the weight of each index, I_{ij} means index value without dimension; "i" means the serial number of the second level index, "j" means the serial number of the third level index.

The weight of each index can be calculated by Principal Component Weights Definition or Delphi Method (must consult 15-20 experts at least).

V. Conclusion

By summing up the previous research achievements, author improve the China's low carbon economy development model and establish the evaluation index system which can evaluate China's low carbon economy development level and provide a general calculation method. Besides, considering China's actual situation, further improving the statistical methods and unifying the assessment criterion are very important, which makes the evaluation system more scientific and objective.

In short, as a newly economic development model, low carbon economy is the only way of achieving sustainable development for China. But in practice, government, market and micro-economic subjects must coordinate each other in order to achieve a win-win for China's economic development and low carbon goal.

References Références Referencias

1. CHEN Ying, PAN Jiahua and ZHUANG Guiyang, "Stern Report and its possible effects on Post-Kyoto Negotiations," Climate Change Research Progress, 3(2), pp. 114-119, 2007. (in Chinese)
2. IEA. World energy outlook. 2006.
3. LI Huifeng, "Research on China's low carbon economy development model," Journal of Finance and Economics, (5), pp. 40-42, 2010. (in Chinese)
4. YUAN Dejun, "To establish the carbon financial system adapting to low carbon economy development," http://finance.jrj.vnet.cn/people/2009/09/1410256047032.shtml, 2009-09-28.
5. HE Juhuang, SHEN Keting and XU Songling, "Carbon tax and carbon dioxide emission reduction

CGE model," Quantitative & Technical Economics Research, (10), pp. 39-47, 2002. (in Chinese)
6. CHEN Wenying, GAO Pengfei and HE Jiankun, "The effects of carbon emission reductions on China's future GDP growth," Journal of Tsinghua University (natural science edition), 44(6), pp. 744-747, 2004. (in Chinese)
7. WANG Zheng, LI Huaqun, ZHANG Huanbo and GONG Tie, "GDP spill simulation of carbon dioxide emission reduction in China and America," Journal of Ecology, 27(9), pp. 3718-3726, 2007. (in Chinese)
8. JIN Hongguang and ZHANG Xiaosong, "Innovative technologies to control greenhouse gases—system integration innovation on energy and environment compatible coordination," Frontier Science, (2), pp. 27-36, 2007. (in Chinese)
9. HE Jiankun, "The key to developing low carbon economy is low-carbon technology innovation," Journal of Green Leaf, (1), pp. 46-50, 2009. (in Chinese)
10. ZHUANG Guiyang, "Analysis on the approach and potential of developing low carbon economy in China," International Technical and Economic Research, 8(3), pp. 79-87, 2005. (in Chinese)
11. PAN Yue, "Low carbon economy is a breakthrough for constructing ecological civilization," International Energy Network, 2009-02-01. (in Chinese)
12. BAO Jianqiang, "Reconstructing the traditional economic process with circular economy concept," Nature Dialectics Research, (4), pp. 91-94, 2007. (in Chinese)
13. ZHOU Hongchun, "Development focus of China's low carbon economy," Journal of Green Leaf, (1), pp. 65-68, 2009. (in Chinese)
14. REN Li, "Low carbon economy and China's sustainable economic development," Social Scientists, (2), pp. 47-50, 2009. (in Chinese)
15. SUN Gefei, "Low carbon economy and China's sustainable economic development," Economic Research Guide, (14), pp. 9-10, 2010. (in Chinese)
16. JIN Yueqin, "China how to rationally deal with the trend of low carbon economy," Economists, (3), pp. 100-101, 2009. (in Chinese)
17. CENG Wandu, "China develops "carbon finance" at the right time," Shanghai Investment, (7), pp. 33-37, 2008. (in Chinese)
18. WANG Li, "Low carbon economy: the basis on China's sustainable development in future—and discussion on improving relevant laws and policies," Journal of Chizhou College, (2), pp. 17-21, 2009. (in Chinese)
19. WANG Lijin and YI Qihong, "Necessity and measures on developing low carbon economy in China," Journal of Zhengzhou Aeronautical Industry Management College, 28(3), pp. 16-19, 2010. (in Chinese)
20. HU Angang, "Low carbon economy is in the ascendant: the new content of Green Cat Model and low carbon economy," World Environment, (2), pp. 26-28, 2008. (in Chinese)
21. NIU Wenyuan, "Low carbon economy is an important breakthrough for implementing Scientific Concept of Development," China Science and Technology Awards, (3), p. 19, 2009. (in Chinese)
22. WU Xiaoqing, "Research and formulate low carbon economy development strategies," Innovation and Science & Technology, (5), p. 5, 2008. (in Chinese)
23. LIU Xiliang, "Low carbon economy and development of human society," Xinhua Digest, (1), pp. 26-27, 2009. (in Chinese)
24. WU Xiaojiang, "Shift to low carbon economy lifestyle," Social Watch (Shanghai), (6), pp. 19-22, 2008. (in Chinese)
25. HUANG Dong and LI Huaixia, "Discussion on government policies to improve low carbon economy development," China Administration Management, (5), p. 48, 2009. (in Chinese)
26. DU Feilun, "Thinking of developing low carbon economy in China," China Economics and Trade Guide, (10), p. 30, 2009. (in Chinese)
27. Central Authority Recommendations on Formulating the Twelfth Five-Year Plan, http://news.qq.com/a/20101027/001797.htm, 2010-10-28.
28. WEN Jiabao, "Consensus to strengthen cooperation and improve the historical process of response to climate change," People's Daily(overseas edition), (04), 2009-12-19.
29. WANG Yan and LI Quanxiu, "Outlook and policy recommendations of carbon sequestration market based on AFOLU activities of China in Post-Kyoto era," Social Science of Guangdong, (6), 2009. (in Chinese)
30. PAN Jiahua, ZHUANG Guiyang and CHEN Ying, "Economic analysis on mitigating climate change," Beijing: Meteorological Press, 2003. (in Chinese)
31. IEA CO2 Emissions from Fuel Combustion Highlights 2009 Edition[EB/OL].http://www.iea.org/publications/free_all.asp, 2009-09-28.
32. Johan A, Delphine F and Koen S. A, "Shapley Decomposition of Carbon Emissions without Residuals," Energy Policy, 30, pp. 727-736, 2002.
33. Auffhammer M and Carson R.T. , "Forecasting the path of China's CO2 Emissions using province-level information," Journal of Environmental Economics and Management, 55(3), pp. 229-247, 2008.

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The Mediating Role of Organizational Justice Components in the Relationship between Leadership Styles and Job Satisfaction

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Abstract - The main purpose of this study is to examine the relationship between leadership styles, organizational justice and job satisfaction. Studying this relationship is limited. Therefore, this study focuses on the relationship between leadership styles, organizational justice and job satisfaction in industrial firms in Amman - Jordan. A total of 150 questionnaires have been sent out to the managerial staff in the selected industrial companies. Participants in the study consisted of middle and senior management staff of Sahab Industrial City in Amman- Jordan. The results showed that the transformational leadership and job satisfaction are negatively associated and also there is a positive relationship between transactional leadership and job satisfaction. The distributive justice has a positive correlation with job satisfaction, procedural justice has a negative correlation with job satisfaction, and interactional justice is the only has a significant and positive relationship with job satisfaction.

Keywords : *leadership styles, organizational justice, job satisfaction.*

GJMBR-A Classification : *JEL Code : J28*

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Abstract - The main purpose of this study is to examine the relationship between leadership styles, organizational justice and job satisfaction. Studying this relationship is limited. Therefore, this study focuses on the relationship between leadership styles, organizational justice and job satisfaction in industrial firms in Amman - Jordan. A total of 150 questionnaires have been sent out to the managerial staff in the selected industrial companies. Participants in the study consisted of middle and senior management staff of Sahab Industrial City in Amman- Jordan. The results showed that the transformational leadership and job satisfaction are negatively associated and also there is a positive relationship between transactional leadership and job satisfaction. The distributive justice has a positive correlation with job satisfaction, procedural justice has a negative correlation with job satisfaction, and interactional justice is the only has a significant and positive relationship with job satisfaction.

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I. Introduction

To date, there has been an explosion in establishing pertaining to leadership styles, organizational justice and job satisfaction among several business groups. Employees play an important in determining and leading the factors that find out the organization success in a competitive environment. Fry et al. (2005) documented that the basic of the performance excellence has been highlighted the important as well as the need to go ahead of reporting financial metrics to comprise non-financial predictors of financial performance such as the satisfaction of the customer, organizational outputs such as quality and delivery, process or internal operating measures, and employee commitment and growth. Job satisfaction considers a very important aspect which can commonly be measured by organizations.

The condition of organization can easily effect the economic. However, the performance of the organization can be hamper by the organization if it loses the knowledge and experience for the organization. Hence, it does not consider the loss of resources and money only (Ramlall, 2004; Acton et al. 2003). The dissatisfaction with the work consigned is an important factor to determinant of the employee's failure rates to remain them intact with the present job.

The structure of any work can be considered one of the most important determinants of leadership styles, organizational justice and job satisfaction of employees with their works (Mulinge and Muller, 1998). The employee can be effected by job satisfaction in term of their provided that of the quality as well as the services (Crossman and Abou-Zaki, 2003). Moreover, a high degree of workplace spirituality and spiritual leadership, as a driver of organizational justice and productivity, is necessary to optimizing the performance of organizational (Fry and Matherly, 2006).

Evidence concerning the relationship between leadership styles, organizational justice and job satisfaction is based on a wide range of indicators that differ across studies and are in some cases are contradictory. There are many studies have investigated the link between job satisfaction and organizational justice, and also several studies investigate the relationship between leadership styles and employees satisfaction, however, that studies have concentrated on large organizations, telecommunication sector, and service sector. This could give a light on recognizing that the relationship between leadership styles, organizational justice and job satisfaction in industrial sector is limited. Therefore, this study focuses on the relationship between leadership styles, organizational justice and job satisfaction in industrial companies in Amman - Jordan.

II. Literature Review

a) Job Satisfaction

Job satisfactions is defined as the situation of how the feeling of the people (employee) move on towards work, in more details, the definition of job satisfaction can be as the people's feelings and approach about diversity of intrinsic and extrinsic fundamentals towards their jobs and the organizations they perform their jobs in. The fundamentals are aspects related to shell out, promotion, benefits, work nature, supervision, and connection with colleagues (Mosadeghard, 2003). There are a sheer number of theories which attempt to give details as well as investigate why the human resources are somehow satisfied or dissatisfied on their occupation in the

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organization, and such theories are in a few words clarify below. The main idea of discrepancy theory is that the desires is different according to people. In other words, people have dissimilar desires from each other. Lawler (1994) disagreed with others by stated that there should be such a comparison that should be made between what an individual be given and the level of the outcome.

Past documented literature reviews about leadership which has shown that it is observed as a personal capability. However, based on the opinion of Messick and Kramer (2004), that the level to which individuals' discloses leadership depends on the abilities as well as the characteristics of the personal. However, the characteristics of the environment and location in which he finds himself. According to London (2001), one of the criteria that support the managers in performing leadership roles is objectives, by given the basis for uniting the efforts of the employees within the organization. It was supplementary stressed that the objectives that will be achieved will for sure help to give identity to an organization as well as status and recognition.

b) Leadership Styles and Job Satisfaction

Different theories have adopted different styles of leadership. However, the style that belongs to individual can be applied according to a combination of their values, preferences and beliefs, as well as the culture of the organizational. This present study used leadership styles which namely are transactional leadership and transformational leadership.

c) Transformational Leadership and Job Satisfaction

According to Northouse (2001), transforma tional leadership is defined as the procedure that changes and transforms individuals. Furthermore, the transformational leadership is defined as the ability to get people to get better, to modify and to be led. It involves assessing associates motives, satisfying their needs and valuing them (Frances and Cohen, 1999). Hence, a transformational leader will possibly develop the performance of the company and make also more successful of the company's objectives. Sidani (2007) documented that there are four aspects to transformational leadership which are idealized influence, intellectual stimulation, inspirational motivation, and individual consideration. Each of these factors can help managers to use this approach in the workplace.

Transformational leadership and transactional leadership help in forecasting subordinates' satisfaction with their leaders (Bennett, 2009). Therefore, a positive relationship between transformational leadership and job satisfaction is expected and also has been supported (e.g., Bennett, 2009).

H1a : Transformational leadership behavior is positively related to the job satisfaction.

d) Transactional Leadership and Job Satisfaction

Schneider (2002) mentioned that there charismatic leaders are different with non-charismatic leaders. Although, transformational leaders motivate outstanding performance, transactional or non-charismatic leaders wish for to achieve solid, consistent performance that meets agreed upon goals. Bass (1985) documented that transactional leaders provide rewards and penalty to encourage performance, making the leader association essentially an economic transaction.

The high level of satisfaction and organizational recognition as compared to transformational leadership style is given by transactional leadership style (Wu, 2009; Epitropaki and Martin, 2005) regardless of the reason transactional leaders have an important effect on the followers (Boseman, 2008). Therefore, a positive relationship between transactional leadership and job satisfaction is expected and also has been hold up empirically (Riaz et al. 2010).

H1b : Transactional leadership behavior is positively related to the job satisfaction.

e) Mediating Role of Organizational Justice Support

Over the past forty years, organizational justice has been the topic that researchers dedicated their work to (Choen-Charash & Spector, 2001; Colquitt et al., 2001; Cropanzano and Greenberg, 1997). The three types of organizational justice maybe similar to each other (Adams, 1965; Deutsch, 1975), but studies reveal that they are distinct in their relation with employee's job attitudes.

Shore and Shore (1995) provided the conceptual justification for the relationship between the fairness of treatment provided by an organization. Distributive justice is the most commonly acknowledged type of justice (Zainalipour et al., 2010). It primarily deals with the perceived fairness of the outcome (Cohen-Charash & Spector, 2001). Theories formulated regarding distributive justice incorporate the justice judgment model (Leventhal, 1980), the distributive justice theory (Homans, 1961), the allocation preference theory (Leventhal et al., 1980) and the equity theory (Adams, 1963). Distributive justice presence is evident in the comparison between the acquisition proportions obtained based on each group's balance of inputs and outputs (Paterson et al., 2002). Moreover, the employees' perceptions concerning payment, promotion and similar outcomes are determined in this type of justice (Kursad & Murat, 2009), while the procedural justice is referred to as the fairness of methods, techniques and processes utilized to gauge the outcomes (Folger and Cropanzano, 1998; Zainalipour, et al., 2010). These procedures are characterized by activities such as promotions, performance assessment, rewards and opportunities sharing. According to Cathleen et al. (2010), if the procedural justice is present in any organization, the staff will have a say in decision making and the organization will support this participation. Consequently, their commitment and risk-taking will be maximized and their motivation for entrepreneurship in the promotion and permanency of the organization will show an increase (Rutherford & Holt, 2007). In addition, the third organization justice dimension was proposed by Bies and Moag in 1986 and is commonly known as interactional justice. They defined this type of justice as the fairness of the interpersonal treatment of the employees by the authority figure (Zainalipour et al., 2010). Interactional justice is invaluable in the workplace owing to the impacts of fair or unfair treatment (Frey, 1997). It can also be defined as the method in which the administration treats its employees with justice and it is related to the human element of the organizational practices (Cathleen, et al., 2010).

Sheer numbers of studies have found that organizational justice components are positively related to job success as well as perceived organizational support (Cropanzano, Hayes, Grandey, & Toth, 1997; Cropanzano, Prehar, & Chen, 2002;Masterson, Lewis, Goldman, & Taylor, 2000; Moorman, Blakely, & Niehoff, 1998; Tekleab et al.,2005; Wayne, Shore, Bommer, & Tetric, 2002). Therefore, a positive association between distributive justice, procedural justice, interactional justice and job satisfaction is expected.

H2a : There is a positive relationship between transformational leadership and distributive procedural & interactional justice.

H2b : There is a positive relationship between transactional leadership and distributive procedural & interactional justice.

H3a : There is a positive relationship between distributive justice and job satisfaction.

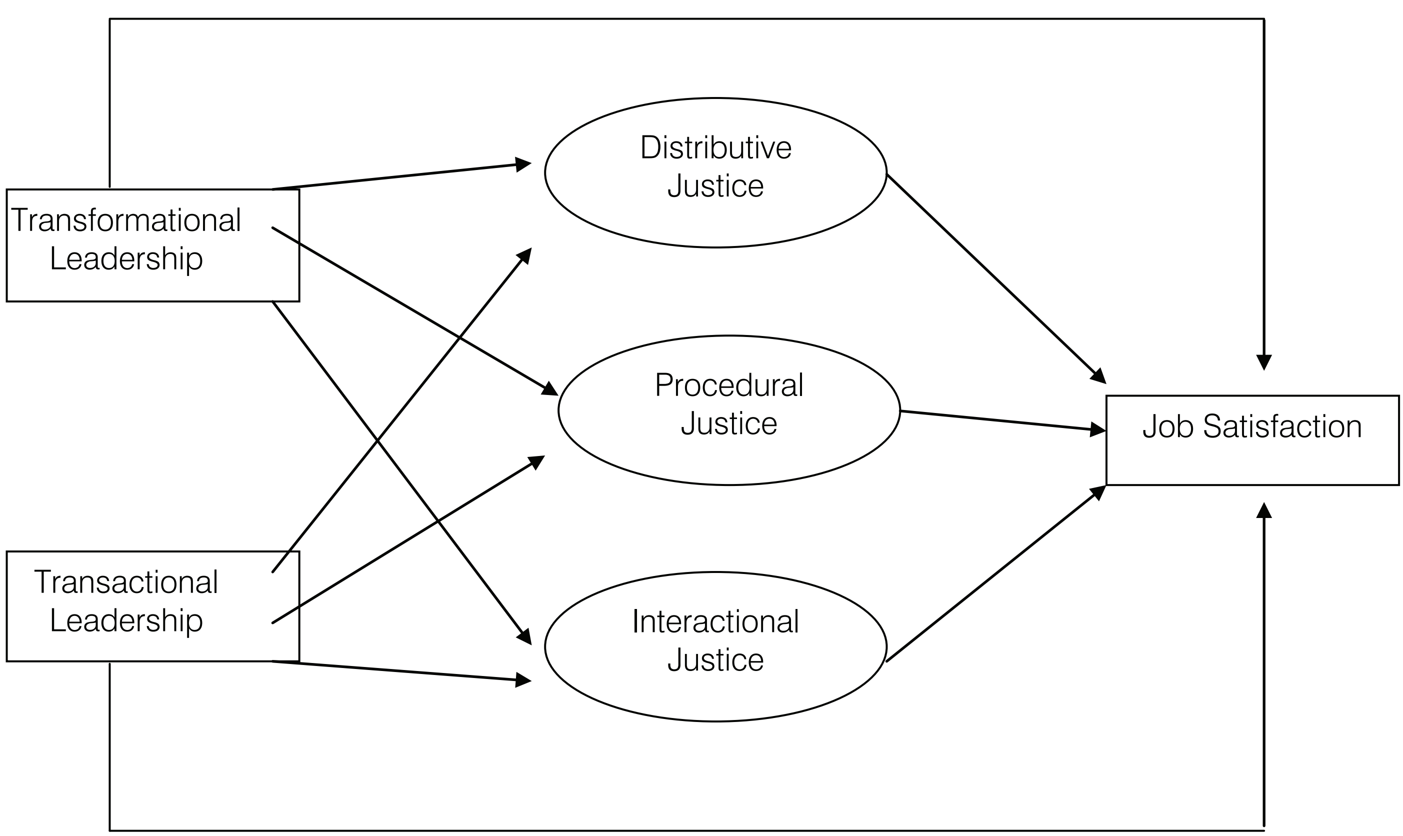
H3b : There is a positive relationship between procedural justice and job satisfaction.

H3c : There is a positive relationship between interactional justice and job satisfaction.

III. Theoretical Framework

The review of the literature on the status of the relationship between leadership styles, organizational justice and job satisfaction has been analyzed in order to see the impact of leadership styles on job satisfaction with the organizational justice as mediating factors. The analyses are carried out by applying several factors which provide a sufficient understanding of the context within which the issue studied and analyzed. The discussion provides an important framework for this study in term of the variables that are going to be used. Figure 1 illustrates the framework of this study.

Figure 1 : Framework of this Study



IV. Research Method

a) Sample and Procedure

Participants in the study consisted of middle and senior management staff of Sahab Industrial City in Amman- Jordan. A total of 150 questionnaires were sent out to the managerial staff in the selected industrial companies. The selection of the respondent was based on the simple random sampling method. Respondents were given 2 weeks to answer the questionnaires. In all, a total of 134 useable questionnaires were used in the statistical analysis.

b) Measurement of the Variables

The independent variable of this study is leadership styles. The leadership styles questionnaire was employed based on a developed instrument by Montore (2007), the questionnaire is contains 12 items. The mediating variable of this study is organizational justice. The organizational justice questionnaire was employed based on a developed instrument by Neihoff and Moorman (1993), the questionnaire is contains 20 items. The dependent variable of this study is job satisfaction. The job satisfaction questionnaire was employed based on a developed instrument by Dawis et al. (1967), the questionnaire is contains 20 items. All questionnaire are based on the 5 point Likert scale ranging from 1 for strongly disagree to 5 for strongly agree was used to measure leadership styles, organizational justice, and job satisfaction.

V. The Results and Hypotheses Testing

a) Respondent Profile

The personal information of the respondents is shown in table 1. There are 83 (61.9%) male respondents and 51 (38.1%) female respondents. In term of the age of the respondents, it can be observed that most of the respondents are between 31 - 40 years old and few respondents are more than 50 years old. Furthermore, most of the respondents have good experience in the organization, it can be seen that most of the managers have experience between 6 – 10 years. Finally, the results showed that 79 of the respondents are married and 55 respondents are single.

Table 1

Summary of profile respondents

		Frequency	*Percent*	*Cumulative Percent*
Age	21-30	22	16.4	16.4
	31-40	63	47	63.4
	41-50	41	30.6	94
	Above 50	8	6	100
Experience	1-5	40	29.9	29.9
	6-10	51	38.1	67.9
	11-15	30	22.4	90.3
	Above 15	13	9.7	100
Gender	Male	83	61.9	61.9
	Female	51	38.1	100
Status	Married	79	59	59
	Single	55	41	100
	Total	134	100	

b) Correlation Matrix for Testing the Hypotheses

Table 2 illustrates the Pearson's correlation coefficients of the study variables. It can be observed that there is a negative and significant relationship between transformational leadership and procedural justice that has a significant value (- 0.197) at level 0.05. Moreover, the results showed that transformational leadership has a positive relationship with distributive and interactional justice that has positive value (0.077) and (0.132) respectively. The transactional leadership is appeared to have a significant and positive relationship with distributive justice and procedural justice, but negative relationship with interactional justice that have the correlation value of (0.389), (0.259) and (-0.059).

Organizational justice components appeared to have interesting results with job satisfaction; the distributive justice has a positive correlation with job satisfaction (0.078). The procedural justice has a negative correlation with job satisfaction (-0.008), and the last component, the interactional justice is the only has a significant and positive relationship with job satisfaction (0.171).

Additionally, the results showed that there is a negative relationship between transformational leadership and job satisfaction (-0.147). Moreover, it is obvious that there is a positive relationship between transactional leadership and job satisfaction (0.036)

Table 2

Correlation between all variables

		Transformational	Transactional	DJ	PJ	IJ	JS
Transformational	Pearson Correlation	1.000					
	Sig. (2-tailed)						
	N	134.000					
Transactional	Pearson Correlation	-.037	1.000				
	Sig. (2-tailed)	.673					
	N	134	134.000				
DJ	Pearson Correlation	.077	.389**	1.000			
	Sig. (2-tailed)	.378	.000				
	N	134	134	134.000			
PJ	Pearson Correlation	-.197*	.259**	.178*	1.000		
	Sig. (2-tailed)	.022	.002	.040			
	N	134	134	134	134.000		
IJ	Pearson Correlation	.132	-.059	-.031	-.048	1.000	
	Sig. (2-tailed)	.129	.500	.726	.583		
	N	134	134	134	134	134.000	
JS	Pearson Correlation	-.147	.036	.078	-.008	.171*	1.000
	Sig. (2-tailed)	.089	.675	.371	.930	.049	
	N	134	134	134	134	134	134.000

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

VI. Conclusion

The main purpose of this study is to examine the relationship between leadership styles, organizational justice and job satisfaction. The findings of the study were in the hypothesized direction as leadership styles and organizational justice are related to job satisfaction. The main contribution of this paper is that there are many studies have investigated the link between leadership styles and job satisfaction and few studies in organizational justice, however, that studies have concentrate on large organizations, and that could give a light on recognizing that the relationship between leadership styles, organizational justice and job satisfaction in industrial sector is limited. Therefore, this study focuses on the relationship between leadership styles, organizational justice and job satisfaction in industrial companies in Amman - Jordan. Interested parties can develop model of the relationship between leadership styles, organizational justice and job satisfaction on publicly traded firms rather than focusing on industrial sector.

References Références Referencias

1. Adams, J. S. (1965). Inequity in social exchange. In L. Berkowitz (Ed.), Advances in experimental social psychology. Vol. 2, pp 267-299.
2. Acton T, Golden W (2003). “Training the knowledge worker: A descriptive study of training practices in Irish software companies”. J. Eur. Ind. Train., 27(4), 137-146.
3. Bass, B., M. (1985). “Leadership and Performance Beyond Expectation”. NY: Free Press.
4. Bennett, P. (2009). “How can We Reduce the Distress Associated with Health Screening?”. *From Psychological Theory to Clinical Practice*.
5. Cathleen, L.M. and Philip H.S. and Alan R. (2010)."Auditor and non-mentor supervisor relationships Effects of mentoring and organizational justice". *Managerial Auditing Journal*, Vol. 26 No. 1, 2011, pp. 5-31.
6. Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C. O., & Ng, K. Y. (2001). “Justice at the millennium: A meta-analytic review of 25 years of organizational justice research”. *Journal of Applied Psychology*, 86, 425– 445.
7. Cropanzano, R., & Greenberg, J. (1997). “Progress in organizational justice: Tunneling through the maze. In C. Cooper & I. Robertson (Eds.”), *International review of industrial and organizational psychology*. 317-372.
8. Crossman A, Abou-Zaki B (2003). “Job satisfaction and employee performance of Lebanese banking staff”. Manage. Psychol., 18(4), 368-376.

9. Deutsch, M. (1975). "Equity, equality, and need: What determines which value will be used as the basis of distributive justice?". *Journal of Social Issues*, 31, 137-150.
10. Epitropaki, O. and Martin, T., 2005. "The moderating role of individual differences in the relation between transformational/transactional leadership percep tions and organizational identification". *Leadership Quarterly Journal*, Vol. 16, No. 4, pp.569-589.
11. Frances H,. and Cohen M,. (1999). "Leader to Leader. San Francisco". CA: Jossey-Bass Publishers.
12. Folger, R. & Crpanzano, K. (1998),"Organizational Justice and Human Resource Management ", Sage Publications.
13. Fry, L.W., Vitucci, S., & Cedillo, M. (2005). "Spiritual leadership and army transformation: Theory measurement and establishing a baseline". *The Leadership Quarterly,* 16(5), 835-862.
14. Fry, L. W. & Matherly, L. L. (2006). "Spiritual leadership as an integrating paradigm for positive leadership development". Paper presented at the Gallup International Leadership Summit, Washington, D.C. Available from http://www.iispiritualleadership.com/index.htm.
15. Kursad, y. and Murat, T. (2009). "Organizational citizenship and organizational justice in Turkish primary schools". *Journal of Educational Administration,* vol 47, pp: 108-126.
16. Ramlall S (2004). "A Review of employee motivation, employee retention within organization". J. Am. Acad. Bus. Cambridge, 5, 52.
17. Sidani, Y (2007). "Perceptions of Leader transformational ability: the role of leader speech and follower self esteem". *Journal of Management Development* , 26:8, 710-722
18. Messick, D. M. & Kramer, R. M. (2004). "The Psychology of Leadership: New Perspectives and Research". Lawrence Erlbaum Associates, Publishers. New Jersey.
19. Mosadeghrad, A.M. (2003). "The Role of Participative Management (Suggestion System) in Hospital Effectiveness and Efficiency, Research in Medical Sciences". Vol. 8 No. 3, Isfahan, pp. 85-9.
20. Mulinge M, Muller CW (1998). "Employee Job Satisfaction in Developing Countries: The Case of Kenya". World Dev., 26(12), 2181-2199.
21. Northouse, Peter G. (2001). "Leadership Theory and Practice", second edition. Thousand Oaks, CA: Sage Publications, Inc.
22. Niehoff, B., & Moorman, R. H. (1993). "Justice as a mediator of the relationship between methods of monitoring and organizational citizenship behavior". Academy of Management Journal, 36(3), 527-556.
23. Paterson, J.M., Green, A. and Cary, J. (2002). "The measurement of organizational justice in organizational change programs: a reliability, validity and context-sensitivity assessment". *Journal of Occupational and Organizational Psychology*, Vol. 75 No. 4, pp. 393-408.
24. Riaz, A,. Haider, M, H, (2010). "Role of transformational and transactional leadership on job satisfaction and career satisfaction". *Business and Economic Horizons* , Vol. 1(1). 29-38.
25. Rutherford, M.W. And Holt, D.T. (2004). "Corporate entrepreneurship an empirical look at the innovativeness dimension and its antecedents". *Journal of Organizational Change Management,* Vol. 20, pp. 429-446.
26. Shore, L. M., Barksdale, W. K., & Shore, T. H. (1995). "Managerial perceptions of employee commitment to the organization". *Academy of Management Journal,* 38. 1593 - 1615.
27. Wu, F., (2009). "The Relationship between leadership styles and foreign English teachers job satisfaction in adult English cram schools: Evidences in Taiwan". *The Journal of American Academy of Business*, Cambridge, Vol. 14, No.2.
28. Dawis, RV., England, G.W., & Lofquist, L.H. (1967). "Manual for the Minnesota Satisfaction Questionnaire". Industrial Relations Center, University of Minnesota.
29. Zainalipour, H. & Sheikhi fini, A. and Mirkamali S. M, (2010). "A study of relationship between organizational justice and job satisfaction among teachers in Bandar Abbas middle school". *Procedia Social and Behavioral Sciences,* 5, pp: 1986-1990.

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Is Recruitment and Staffing Decision Are Crucial to Success ?

By Dr. Naheed Sultana & Amir Razi
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Abstract - The aim of this paper is to provide an overview of the proposed research into business staffing and recruitment decision. The introduction of our research was recruitment and selection is the process by choosing the most appropriate person for a job. The success of any business depend on the quality of its staff, requirement employee with the correct skill can be added value to the business. The objective of our study was to find out the, developing a strategic staffing solution that meets the needs of internal and external customers requires an analysis of organizational competencies and quite possibly external vendor capabilities .This study was conducted from April 2012 to June 2012. A group of 200 employees was take part in this study through a predesigned questionnaire which consists of five portions according to objectives, which was collected from the employees of PEPSI. Regression technique was applied to check the impact of cost, recruitment and staffing decision in an organization. The result shows the significant relationship between an organization and its cost, recruitment and staffing decision.

Keywords : *Staffing decision, personal selection, recruitment, cognitive mapping.*

GJMBR-A Classification : *JEL Code : O15*

IS RECRUITMENT AND STAFFING DECISION ARE CRUCIAL TO SUCCESS?

Strictly as per the compliance and regulations of :

Is Recruitment and Staffing Decision Are Crucial to Success?

Dr. Naheed Sultana [α] & Amir Razi [σ]

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Keywords : Staffing decision, personal selection, recruitment, cognitive mapping.

I. Introduction

Requirement and selection is the process by choosing the most appropriate person for a job. The success of any business depend on the quality of its staff, requirement employee with the correct skill can be added value to the business. According to the *tom peter* has no doubt that the recruitment and staffing decision are crucial to success of any business. The wrong hiring people not only cause the stress and amenity for both management and employee also affected the company primary goals. Once businesses research this development stage, no one person, or limited team, can possibly hope fulfill all required function around the clock.

So the people you hire while you are a joint venture or global corporation are the life blood of any business. Staffing decision is another important part of any business because staffing decision is to achieving a goal of any business. Effecting staffing decision plays a crucial role in the short term as well as long term performance, growth, vitality, and success of the organization. Developing a strategic staffing solution that meets the needs of internal and external customers requires an analysis of organizational competencies and quite possibly external vendor capabilities.

Small firms are often cited in academic literature as the key to vibrant economies and their perceived contribution to employment generation has made them a focus for policy makers forever 30 years. A frequently used measure of small firm growth, and perhaps the most obvious to the casual observer, is in terms of employees. The initial decision to recruit is the first threshold in the employment growth of micro business and yet it is one which many micro-firm owner managers choose not to cross. It is this little understood stage in the management of a micro-firm which this research will focus on.

You will want to work with department heads on this, as partnership with them is very important in achieving the goal. You will also need to discuss the list with your organization's employment attorney, particularly if separation agreement, none compete or confidentiality agreements will be offered.

II. Objectives

There are number of recession why recruitment and staffing decision are crucial to any business these include are.

- How will be impact on the cost of the business?
- What will be impact on business performance if wrong people are hired?
- What will be impact on the internal and external plan of the business?

III. Literature Review

The literature review is divided into three parts, each to cover an issue raised by their search questions. The purpose of the literature review is to discover what has been published about the issues;

The resource-based perspective suggests that competitive advantage is gained if the resources small firms have are hard to imitate and heterogeneous *(Carter and Jones-Evans, 2000).*

In the context of the initial recruitment decision, this would suggest that a rational search approach is the most appropriate. However, literature suggests that small businesses do not act in this way, instead taking a

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much more informal approach to staffing issues *(Heneman ETal.2000).*

Our knowledge of this social world is therefore also dynamic, often partial and fallible.

Although the research maintains a commitment to the socially constructed nature of the world, it rejects the notion that it is *merely* that *(Ackroyd and Fleetwood, 2001).*

In the context of the initial recruitment decision, this would suggest that a rational search approach is the most appropriate. However, literature suggests that small businesses do not act in this way; instead taking a much more informal approach to staffing issues *(Matlay Baron 2003).*

Understanding the various philosophical assumptions upon which research is based enables a researcher to adopt a critical eye. Without questioning differing research paradigms a researcher could be accused of blindly following methodological rules rather than engaging in scholarly activity *(Billing, 2004).*

This suggests that whilst a purely psychological approach to the research area may help indicate some attributes that influence a micro-firm owner manager's recruitment decisions, they will also have been socially and culturally influenced *(Zahra et al., 2005).*

There may be fundamental difficulties faced by owner managers which deter them from

Considering recruiting. These include cash-flow uncertainty individualism and reluctance to delegate and a fear of legislation associated with becoming an employer. Following the interviews, and because of the recognition that this is an open and fluid field of investigation, an iterative approach to data analysis will take place. The researcher will seek linkages and comparisons within the data, seeking to form plausible relationships among concepts. *(Jack et al., 2006).*

As with many other qualitative studies, the data collection and analysis will go "hand in hand" throughout the study *(Jack, S., Hyman, J., & Osborne, F. 2006).*

The majority of small business recruits come from the personal networks of the owner manager. Although there may be benefits such as shared values and a "common ground" it may decreases the potential heterogeneity of the firm. *(Barrett, R., & Mayson, S. 2007).*

In an exploratory study, found that owner managers were influenced to recruit either by necessity (to meet business needs in order to survive) or aspiration (recruiting as a strategic growth step). Suggest that, in addition to internal resource or aspiration influencers, there may be time dependant, external influences. *(Blackburn, R., Kitching, J., Hart, M., Brush, C., & Ceru, D2008)*

A third option for owner managers seeking to fill resource needs is to form a team. Increasingly academics are considering the 'entrepreneurial team' as a unit of study. Although this structure fails to take account of the power relationship between owner manager and 'worker' there may be useful comparisons to be drawn from the way in which new member additions are sought and selected. *(Brannback, M., & Carsrud, A. 2009).*

IV. Methodology

This cross sectional study was conducted from April 2012 to June 2012. A group of 200 employees was take part in this study through a predesigned questionnaire which consists of four parts to meet the objectives, which was collected from an organization. The first related to cost, second part related to staffing decision, third part related to recruitment and fourth part related to internal and external goals of the organization. Simple random sampling was used in our survey and 200 samples were selected from the population of an organization named PEPSI. We also check the reliability test for cost, staffing decision and recruitment.

V. Hypothesis

There is H1 (significant relationship) between cost, recruitment and staffing decision on an organization.

VI. Results

As our first objective was to see the effect of cost and its impact on employees a lot of related questions were asked to investigate the objective. In which 38% people were strongly agreed that can cost satisfy all needs of any organization. 34% people were neutral is staffing disrepute effect on organization cost? 33% people were strongly agreed that can money change organization life style? 34 % people were strongly agreed that does staffing decision have negative impact on cost? And 29 % people were strongly agreed can money give opportunity to respect in any organization?

And the result of other questions of our first objective related results are display in *Table 1.*

Table 1 : Cost Effect on an Organization :

	Designation	SD		DA		N		SA		A	
		F	%	F	%	F	%	F	%	F	%
1	Can cost satisfy all needs of any organization?	15	7.5	32.0	19.0	34	17.0	64	38.0	49.0	24.5
2	Is staffing disrepute effect on organization cost ?	13	6.5	29	14.5	68	34.0	54	27.0	36	18.0
3	Can money change organization life style?	5	2.5	31	15.5	58	29.0	66	33.0	40	20.0
4	Does staffing decision have negative impact on cost?	10	5.0	51	25.5	42	21.0	68	34.0	29	14.5
5	Can money give opportunity to respect in any organization?	4	2.0	52	26.0	48	24	58	29.0	38	19.0

Our second objective was staffing decision; the first question was related to be the staff is the life blood of any organization? The result of that question was 35 % people were strongly agreed. 38% people were strongly agreed that can staff decision disrepute to employee? Can small organization benefits from the use of staffing decision? The result of that question was 34 % people were strongly agreed.33% people were strongly agreed that is the privacy issue rise in organization of staffing decision? And 26.5% people were strongly agreed that can owner of the organization depend staffing decision?

The results of all related questions are display in *Table 2.*

Table 2 : Staffing decision effect on organization

	Designation	SD		DA		N		SA		A	
		F	%	F	%	F	%	F	%	F	%
1	Is the staff are the life blood of any organization?	8	4.0	34	17.0	40	20.0	70	35.0	48	24.0
2	Can staffing decision disrepute to employee?	1	.5	38	19.0	50	25.0	76	38.0	35	17.5
3	Can small organization benefits from the use of staffing decision?	8	4.0	27	13.5	40	20.0	68	34.0	57	28.5
4	Is the privacy issue rise in organization of staffing decision?	8	4.0	25	12.5	37	18.5	66	33	64	32
5	Can owner of the organization depend staffing decision?	8	4.0	37	18.5	62	31.0	53	26.5	40	20.0

Our third objective was to see the element of recruitment effect on an organization; in this the first question was Is recruitment key to success of any organization in which 36% people were neutral. 29.5% people were strongly agreed that does poor hiring can effect organization plans?

30% people were strongly agreed that Does recruitment affect organization goals? 27.5% people were strongly agreed that Is recruitment change organization structure? 33% people were strongly agreed that Can poor hiring lost opportunity?

The related result of all questions are shown in *Table 3.*

Table 3 : Recruitment effect on Organization:

	Designation	SD		DA		N		A		SA	
		F	%	F	%	F	%	F	%	F	%
1	Is recruitment key to success of any organization?	1	.5	38	19.0	72	36.0	52	26.0	37	18.5
2	Does poor hiring can effect organization plans?	9	4.5	38	19.0	48	24.0	59	29.5	46	23.0
3	Does recruitment affect organization goals?	21	10.5	39	19.5	43.0	21.5	60	30.0	36	18.0
4	Is recruitment change organization structure?	10	.7	45	20.5	15	17.0	25	27.5	35	22.5
5	Can poor hiring lost opportunity?	7	3.5	35	17.5	52	26.0	66	33.0	40	20

For our research purpose we derived a model where cost, recruitment and staffing decision were assumed as independent variable and an organization was made a dependent variable. After all mentioned results of all the independent variables we also evaluated alone the element of an organization and a separate section was allocated for this purpose and the results of an organization are shown in *Table 4.*

Table 4 : Factors effect on an organizations

	Designation	SD		DA		N		SA		A	
		F	%	F	%	F	%	F	%	F	%
1	Can organization need quality staff?	9	4.5	43	21.5	46	23.0	60	30	42	21
2	can friendship and expediency employee helpful for organization?	13	6.5	29	14.5	36	18.0	59	29.5	63	31.5
3	can advertisement effect assessment of employee?	11	5.5	37	18.5	39	19.5	68	34.0	45	22.5
4	Can quality of a product or services speak volume of an organization?	20	10	39	19.5	30	15.0	67	33.5	44	22.0
5	Can advertisement play very important role in the overall staffing strategy?	7	3.5	43	21.5	45	22.5	62	31.0	43	21.5
6	Can friendship and expendicy employee helpful for organization?	9	4.5	31	15.5	42	21.0	66	33.0	52	26.0
7	Does excess of involvement of staff have positive impact on organization?	8	4	24	12	22	11	85	42.5	61	30.5
8	Can organization structure change through compensation?	11	5.5	20	10	45	22.5	85	42.5	39	19.5
9	Does different staffing strategies support different business strategies?	22	11	27	13.5	51	25.5	67	33.5	33	16.5
10	can effective decision making lead to effective performance?	9	4.5	23	11.5	42	21.0	68	34	58	29
11	Can organization need quality staff?	6	3	30	15	31	15.5	86	43.0	47	23.5

VII. Model Prediction

Below is the model summary of our model and result showing the relationship between independent variable (cost, staffing decision and recruitment) and dependent variable (an organization). As the value of R is .410which is less than 1. So there is weekly correlation between dependent and independent variable. R square stands for predictive power of model which means that .168 of information is generated through value of independent variable for dependent variable. Adjusted R square value is .155 which is less then R square. So the model is insignificant.

Table 5

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.190[a]	.890	.155	5.17339

Our overall model is significant because the p value is significant which is 0.000 .

Table 6

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1318.706	3	439.569	13.862	.000[a]
	Residual	6215.049	196	31.709		
	Total	7533.755	199			

a. Predictors: (Constant), recruitment, Cost, staffing decision

Table 7

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	20.325	2.566		7.919	.000
	Cost	.499	.117	.298	4.272	.000
	Staffing decision	.380	.136	.202	2.800	.002
	Recruitment	.007	.081	.006	.082	.005

a. Dependent Variable: Factors effect on an organization

VIII. Conclusion

According to the responses from the respondents of an organization it is clear that cost, staffing decision and recruitment effects on an organization. According to our survey Economic and cultural changes make organizational success and survival dependent on staffing, but many organizational decision makers and even organizational scholars fail to recognize staffing values. Managers always often try to select and hire better people. Multi-level staffing research and models were offered as one mechanism for conveying business unit value. Every single organization in the world uses some form of staffing procedure, but there is no guarantee they use them optimally or even appropriately. This is unfortunate but is likely to continue unless research-practice gaps are closed to show the business unit strategic value of staffing.

References Références Referencias

1. Carter, S. & Jones, A. D. (2000). *Enterprise and Small Business.* Harlow Prentice Hall. (pp. 409-433).
2. Heneman, R. L., Tansky, J. W., & Camp, S. M. (2000). *Human Resource Management Practices in Small and Medium-Sized Enterprises*. Unanswered Questions and Future Research Perspectives. *Entrepreneurship Theory and Practice*, 11-27.
3. Curran, J., & Blackburn, R. (2001). *Researching the Small Enterprise.* London: Sage Publications.
4. Baron, R. (2003). *Human resource management and entrepreneurship*. Some reciprocal benefits of closer links. Human Resource Management Review, *13*, 253 - 256.
5. Billing, M. (2004).*In C. Searle, Social Research Methods.* Methodology and Scholarship in Understanding Ideological Explanation.(pp. 11-13).
6. Zahra, S., Koori, J., & Yu, J. (2005).*Cognition and international entrepreneurship.* Implications for research on international opportunity recognition and exploitation. International Business Review, *14*(2), 129-146.
7. Mayson, S., & Barrett, R. (2006). *The 'science' and 'practice' of HRM in small firms*. Human Resource Management Review, *16*(4), 447-455.
8. Jack, S., Hyman, J., & Osborne, F. (2006). *Small entrepreneurial ventures culture, change and the impact on HRM.*A critical review. Human Resource Management Review, *16* (4), 456-466.
9. Barrett, R., & Mayson, S. (2007). *Human resource management in growing small firms*. Journal of Small Business and Enterprise Development, 14(2), 307-320.
10. Blackburn, R., Kitching, J., Hart, M., Brush, C., & Ceru, D. (2008). *Growth Challenges for Small and Medium-sized Enterprises*. A UK-US Comparative Study. Kingston upon Thames.
11. Branback, M., & Carsrud, A. (2009). *Cognitive Maps in Entrepreneurship, Researching Sense Making and Action*. In A. Carsrud & M. Brannback, Understanding the Entrepreneurial Mind. Opening the Black Box (pp. 75-96).

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- All figure and table must be adequately complete that it could situate on its own, divide from text

Discussion:

The Discussion is expected the trickiest segment to write and describe. A lot of papers submitted for journal are discarded based on problems with the Discussion. There is no head of state for how long a argument should be. Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implication of the study. The purpose here is to offer an understanding of your results and hold up for all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of result should be visibly described. Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved with prospect, and let it drop at that.

- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
- Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work
- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
- Submit to generally acknowledged facts and main beliefs in present tense.

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Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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