A STUDY OF FACTOR AFFECTING THE DEMAND FOR HEALTH INSURANCE IN PUNJAB

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ABSTRACT: The economic status of a country is directly related to the health status of its people. Good health is one of the most important pre-requisite to human productivity which in turn leads to overall development of a society. Health is understood as the indispensable basis for defining a person’s sense of well-being. It is an important resource for a nation to pursue national development goals. It raises the productivity of the labor force and enhances economic growth. It plays a critical role in supplementing government effort in ensuring the availability and accessibility of health care services to the population. The objective of the present paper is to know the awareness of health insurance and the factors affecting the demand for health insurance in Punjab. For the analysis of data descriptive statistics and factor analysis have been applied. The sample size is 200 residents of Jalandhar chosen according to convenience approach. The study highlighted that majority of the people aware of the health insurance, Only 11.5 \% of the total sample has subscribed for health insurance scheme and five factors i.e. formalities bottlenecks, agent related problems, coverage issues, awareness, negative feedback are main barriers in the success of health insurance in Punjab.

Keywords: Awareness; Coverage Issues; Formalities Bottleneck; Health Insurance; Negative Feedback.

INTRODUCTION

Human resources are the real wealth of nation. An increase in national income does not always lead to human welfare. Economic development coupled with human development should be the primary goal of a nation. Though India is one of the fastest growing economies with expected growth rate in 2012-2013 is 7.5, +/-0.25, despite high growth rate, its rank is 134 on Human development index (HDI). The HDI provides a composite measure of three dimensions of human development: living a long and healthy life, being educated and having a decent standard of living. Total public expenditure on health in the country as percentage of GDP now stands at around 1.1 per cent. However, health related expenditure like clean drinking water, sanitation, and nutrition has a major bearing on health and if expenditure on these is counted the total public health spending reaches around 2.5 per cent of GDP. Even so, it is strongly felt that public expenditure on health needs to be increased. On the other hand, the country is gripped with communicable and non-communicable diseases resulting of changing of life styles, while on the other hand, health care costs are escalating making access to quality health care difficult (Bharati, 2011). Ill health not only leads to financial bankruptcy but also gives a lot of suffering to the affected individual and also his/her family. A suitable coverage by way of health insurance is all that is required to cope up with such situations. It would be an arrangement that helps to defer, delay, reduce or altogether avoid payment for health care incurred by individuals and households. Health care is always been a problem area for India, a nation with a large population and large percentage of population living in urban slums and rural areas, below the poverty line. Before independence the health structure was in dismal condition, since independence emphasis has been put
on primary health care and we have made considerable progress in improving the health status of the country, given the situation, there are few issues of concern or barriers towards the implication of health insurance schemes in India (Sahoo and Das).

**REVIEW OF LITERATURE**

Aust. J. (2002) found that 75% of health resources and health infrastructure is concentrated in urban area where only 27% of the population lives. The problem of rural health is to be addressed both at macro and micro level. A paradigm shift from the current biomedical model to socio culture model is required. There is a current need of a health policy which will address the existing inequalities and work in promoting long term perspective plan for rural health. Ghuman and Mehta (2005) explains the two important factors that cause a poor health status in Punjab, one factor is ignorance among the free treatment in the government hospitals second is cumbersome procedure for getting and renewing of the yellow cards are constraining the access of the poor to public health care services and emphasized the role of health insurance in meeting the health care needs in the state. Bhat and Jain (2006) highlighted the factor affecting the demand for health insurance in a micro insurance .The demand for health insurance has been analyzed at two levels. First the factor affecting the decision to purchase health insurance and second factors that determine the coverage of health insurance, Income, age, knowledge about insurance, perception regarding future healthcare expenditure and no. of children in a family are the factors which were found to affect eh purchase of health insurance scheme. Siddhartha (2007) examined several health insurance schemes with regard to extending health insurance coverage to poor house hold and those working in informal sectors. He has compared various existing schemes on no. of parameters like coverage provided, annual subscription fee, no. of members etc. According to him community based health insurance is more useful but there is need for special approach for people below the poverty line. Chandhok (2009) highlighted the role of MFT’s in giving protection to the poor against various risks like life, illness, death and health etc, the micro insurance can eradicate poverty and can lead to development of the country. Through her study she founded that people become conscious about the health insurance in age of 41 – 50 years. Kundu Soma (2009) through his journal has tried to explore the different financial avenues that are available to the patients for meeting their healthcare expenditure. But because of increase in healthcare expenses, healthcare treatment is becoming unaffordable for poor. With the increase in the demand of healthcare services from the low income group, health insurance can prove to be efficient tool for financing healthcare in a county. Bawa and Ruchita (2011) have concluded the presence of seven key factors which are acting as barriers to subscription to health insurance. These were lack of funds, lack of willingness and awareness, lack of intermediaries, lack of reliability and lack of accessibility to services. Also they have concluded that significant relationship exists between age, gender, education, occupation and income of the respondents and their willingness to pay for health insurance while no significant relationship was found between marital status and their willingness to pay for health insurance.

**SCOPE OF STUDY**

The study will be confined to Jalandhar and it will be conducted on a sample of 200 residents over a period of six months in between from 2011-2012.

**OBJECTIVES OF STUDY**

- To know the awareness of health insurance in the sampled area.
- To study the factors affecting the demand for health insurance.

**RESEARCH HYPOTHESIS**

$H_{01}$: There is no association between the age of respondents and awareness of health insurance.

$H_{02}$: There is no association between the gender of the respondents and awareness of health insurance.
RESEARCH METHODOLOGY
In the present paper descriptive research design has been applied. The data was collection structured questionnaire was formed on the issues relevant to the research objective. The sample size is 200 respondents and convenience sampling technique has been used. For the analysis of data descriptive statistics, factor analysis and chi-square have been applied.

ANALYSIS AND INTERPRETATION

i. Demographic profile of respondents.
Following table shows the demographic profile of the respondents. It includes Gender, Age, Marital Status, Education Level, Occupation and annual income of the respondents along with frequency and their percentage out of 200 respondents.

<table>
<thead>
<tr>
<th>Table 1: Personal Profile of the Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 25</td>
<td>37</td>
<td>18.5</td>
</tr>
<tr>
<td>25-35</td>
<td>77</td>
<td>38.5</td>
</tr>
<tr>
<td>35-45</td>
<td>49</td>
<td>24.5</td>
</tr>
<tr>
<td>45-55</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>55 above</td>
<td>17</td>
<td>8.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>57</td>
<td>28.5</td>
</tr>
<tr>
<td>Married</td>
<td>143</td>
<td>71.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matric</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>SSC</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Graduation</td>
<td>86</td>
<td>43</td>
</tr>
<tr>
<td>Post-Graduation</td>
<td>93</td>
<td>46.5</td>
</tr>
<tr>
<td>Phd.</td>
<td>5</td>
<td>2.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
<td>97</td>
<td>48.5</td>
</tr>
<tr>
<td>Self-employed</td>
<td>25</td>
<td>12.5</td>
</tr>
<tr>
<td>Housewife</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Unemployed</td>
<td>32</td>
<td>16</td>
</tr>
<tr>
<td>Professional</td>
<td>21</td>
<td>10.5</td>
</tr>
<tr>
<td>Family owned business</td>
<td>17</td>
<td>8.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annual Income (Rs.)</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1,00,000</td>
<td>45</td>
<td>22.5</td>
</tr>
<tr>
<td>1,00,000-3,00,000</td>
<td>64</td>
<td>32</td>
</tr>
<tr>
<td>3,00,000-5,00,000</td>
<td>66</td>
<td>33</td>
</tr>
<tr>
<td>Above 5,00,000</td>
<td>25</td>
<td>12.5</td>
</tr>
</tbody>
</table>
From the data shown in table 1 we can examine that 73.5% of the total sample was male and rest 26.7% were female. It can be observed from the data that highest percentage of respondent’s i.e. 46% respondents were post-graduate, followed by 43 percent graduate. As far as level of income is concerned a major portion have income between Rs. 3,00,000 – Rs. 5,00,000 followed by income between Rs. 1,00,000 – Rs. 3,00,000.

ii. *Awareness, Exposure, and knowledge of Respondent for Health Insurance:* Although health insurance is not a new concept and people are also getting familiar with it, yet this awareness has not reached to the level of subscription of health insurance products.

<table>
<thead>
<tr>
<th>Table 2: Awareness Level and Sources of Awareness for Health Insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Particulars</strong></td>
</tr>
<tr>
<td>Not aware</td>
</tr>
<tr>
<td>Aware but not subscribed</td>
</tr>
<tr>
<td>Aware and subscribed</td>
</tr>
<tr>
<td><strong>Sources of Awareness</strong></td>
</tr>
<tr>
<td>Newspaper</td>
</tr>
<tr>
<td>Radio</td>
</tr>
<tr>
<td>TV</td>
</tr>
<tr>
<td>Internet</td>
</tr>
<tr>
<td>Agents</td>
</tr>
<tr>
<td>Family</td>
</tr>
<tr>
<td>Friends</td>
</tr>
<tr>
<td>Doctor</td>
</tr>
</tbody>
</table>

The above table shows the various sources of awareness and its significant effect on the people. It is clear from the table 2 that people had already heard about health insurance yet a significant portion of the respondent i.e. 73% are still without any form of health insurance. Moreover there are number of sources creating awareness about health insurance. Mainly the source of awareness is newspaper followed by TV and Radio, Agents etc.

iii. *Factor Affecting Demand for Health Insurance:* There are numerous reasons for not having health insurance i.e. there are number of factors which act as barrier in the subscription of health insurance. All these reasons were taken in the form of variables and respondent who are without health insurance were ask to give their response on five point likert scale ranging from strongly agree to strongly disagree. Where 1 signifies strongly agree, 2 signifies agree, 3 signifies neutral, 4 signifies not agree, 5 signifies strongly disagree. Thereafter factor analysis was done in order to reduce the variables. All these factors along with their description are shown in table 3.
Table 3: List of Variables Along with their Description

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>Not aware about it</td>
</tr>
<tr>
<td>V2</td>
<td>Investing money in other area is better</td>
</tr>
<tr>
<td>V3</td>
<td>Lack of comprehensive coverage</td>
</tr>
<tr>
<td>V4</td>
<td>Hidden cost is involved</td>
</tr>
<tr>
<td>V5</td>
<td>Complex process for claims</td>
</tr>
<tr>
<td>V6</td>
<td>Difficult to approach insurance agent</td>
</tr>
<tr>
<td>V7</td>
<td>Insurance agents are not well aware of polices</td>
</tr>
<tr>
<td>V8</td>
<td>Behaviour of insurance agent was not satisfactory</td>
</tr>
<tr>
<td>V9</td>
<td>No one told me to buy it.</td>
</tr>
<tr>
<td>V10</td>
<td>More deductible applicable</td>
</tr>
<tr>
<td>V11</td>
<td>Negative feedback about health insurance claim process</td>
</tr>
<tr>
<td>V12</td>
<td>If some contribution will be employer made</td>
</tr>
<tr>
<td>V13</td>
<td>If available with least formalities</td>
</tr>
<tr>
<td>V14</td>
<td>All disease are not covered</td>
</tr>
<tr>
<td>V15</td>
<td>All hospitals are not covered</td>
</tr>
</tbody>
</table>

Before the application of factor analysis the reliability of scale items were tested by applying cronbach’s alpha. The value came out to be .794, which states that scale is reliable and appropriate. Further to test the sampling, Kaiser-Meyer-Olin measure of sampling adequacy is computed which is found to be 0.660. It indicates that sample is good enough for sampling. Moreover the overall significance of correlation matrices has been tested with Bartlett Test (approx. Chi-square = 983.204 and significant at 0.000) at 136 degree of freedom which provided as well as support for the validity of data for factor analysis. All this provided that we can proceed with factor analysis and the result of factor analysis over 15 factors shown that there are 5 key factors, which was determined by clubbing the similar variables and ignoring the rest, which majorly consider being most affecting barriers in the subscription of health insurance. The table 4 shows the respective percentage of variance of all these factors derived from factor analysis.

Table 4: The Total Variance Explained by Various Factors

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
<th>Rotation Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8.007</td>
<td>26.716</td>
<td>20.915</td>
</tr>
<tr>
<td>2</td>
<td>2.652</td>
<td>8.979</td>
<td>9.046</td>
</tr>
<tr>
<td>3</td>
<td>1.834</td>
<td>6.191</td>
<td>6.191</td>
</tr>
<tr>
<td>4</td>
<td>1.266</td>
<td>4.481</td>
<td>4.481</td>
</tr>
<tr>
<td>5</td>
<td>1.056</td>
<td>3.507</td>
<td>3.507</td>
</tr>
<tr>
<td>6</td>
<td>.971</td>
<td>3.163</td>
<td>3.163</td>
</tr>
<tr>
<td>7</td>
<td>.886</td>
<td>1.588</td>
<td>1.588</td>
</tr>
<tr>
<td>8</td>
<td>.606</td>
<td>1.201</td>
<td>1.201</td>
</tr>
<tr>
<td>9</td>
<td>.571</td>
<td>.750</td>
<td>.750</td>
</tr>
<tr>
<td>10</td>
<td>.540</td>
<td>.558</td>
<td>.558</td>
</tr>
<tr>
<td>11</td>
<td>.471</td>
<td>.355</td>
<td>.355</td>
</tr>
<tr>
<td>12</td>
<td>.388</td>
<td>.252</td>
<td>.252</td>
</tr>
<tr>
<td>13</td>
<td>.342</td>
<td>.183</td>
<td>.183</td>
</tr>
<tr>
<td>14</td>
<td>.226</td>
<td>.101</td>
<td>.101</td>
</tr>
<tr>
<td>15</td>
<td>.185</td>
<td>.069</td>
<td>.069</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis
We can observe from the table 4 that only 5 factors are there which have Eigen value more than 1 and the variance explained by these 5 factors is 26.716%, 13.679%, 10.893%, 8.333% 7.037% respectively and cumulative variance explained by all these six factors is 66.658%. Rest of the variance is due to other factors which are beyond the scope of study.

Table 5: The Rotated Component Matrix of Factor Analysis

<table>
<thead>
<tr>
<th>Component</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not aware about it</td>
<td>.245</td>
<td>- .085</td>
<td>-.125</td>
<td>.796</td>
<td>.044</td>
</tr>
<tr>
<td>Investing money in other area is better</td>
<td>.649</td>
<td>-.092</td>
<td>.045</td>
<td>-.423</td>
<td>.075</td>
</tr>
<tr>
<td>Lack of comprehensive coverage</td>
<td>.763</td>
<td>.251</td>
<td>.033</td>
<td>.040</td>
<td>.054</td>
</tr>
<tr>
<td>Hidden cost is involved</td>
<td>.736</td>
<td>.105</td>
<td>.238</td>
<td>.073</td>
<td>.107</td>
</tr>
<tr>
<td>Complex process for claims</td>
<td>.614</td>
<td>.245</td>
<td>.223</td>
<td>.023</td>
<td>.295</td>
</tr>
<tr>
<td>Difficult to approach insurance agent</td>
<td>.048</td>
<td>.755</td>
<td>-.003</td>
<td>.289</td>
<td>.381</td>
</tr>
<tr>
<td>Insurance agents are not well aware of polices</td>
<td>.158</td>
<td>.684</td>
<td>.173</td>
<td>-.300</td>
<td>.053</td>
</tr>
<tr>
<td>Behaviour of insurance agent was not satisfactory</td>
<td>.182</td>
<td>.790</td>
<td>.169</td>
<td>-.195</td>
<td>-.197</td>
</tr>
<tr>
<td>No one told me to buy it</td>
<td>-.315</td>
<td>-.146</td>
<td>.010</td>
<td>.769</td>
<td>-.048</td>
</tr>
<tr>
<td>More deductible applicable</td>
<td>.181</td>
<td>.048</td>
<td>.083</td>
<td>.310</td>
<td>.684</td>
</tr>
<tr>
<td>Negative feedback about health insurance claim process</td>
<td>.020</td>
<td>.117</td>
<td>.153</td>
<td>-.175</td>
<td>.815</td>
</tr>
<tr>
<td>If some contribution will be made by employer</td>
<td>.256</td>
<td>-.109</td>
<td>.015</td>
<td>-.081</td>
<td>.345</td>
</tr>
<tr>
<td>If available with least formalities</td>
<td>.464</td>
<td>-.403</td>
<td>.430</td>
<td>.043</td>
<td>.346</td>
</tr>
<tr>
<td>All disease are not covered</td>
<td>.122</td>
<td>.031</td>
<td>.897</td>
<td>-.078</td>
<td>.201</td>
</tr>
<tr>
<td>All hospitals are not covered</td>
<td>.214</td>
<td>.325</td>
<td>.819</td>
<td>-.066</td>
<td>.003</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

The table 5 shows that each statement corresponding to the highlighted factor loading is correlated with the factor corresponding to that factor loading. Higher the factor loading, stronger is the correlation between the factors and statement. On the basis of rotated component matrix the factor extraction table has been prepared which is as:
## Table 6: Factors Extracted Percentage of Variance and Loading on the Variables

<table>
<thead>
<tr>
<th>Factor</th>
<th>% Variance</th>
<th>Factor Interpretation</th>
<th>Variables included in the factors</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>23.933</td>
<td>FORMALITY BOTTLENECK</td>
<td>Investing money in other area is better</td>
<td>.649</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lack of comprehensive coverage</td>
<td>.763</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hidden cost is involved</td>
<td>.736</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Complex process for claims</td>
<td>.614</td>
</tr>
<tr>
<td>F2</td>
<td>12.477</td>
<td>AGENT RELATED PROBLEM</td>
<td>Difficult to approach insurance agent</td>
<td>.755</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Insurance agents are not well aware of polices</td>
<td>.684</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Behaviour of insurance agent was not satisfactory</td>
<td>.790</td>
</tr>
<tr>
<td>F3</td>
<td>9.889</td>
<td>COVERAGE ISSUES</td>
<td>All disease are not covered</td>
<td>.897</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>All hospitals are not covered</td>
<td>.819</td>
</tr>
<tr>
<td>F4</td>
<td>9.217</td>
<td>LACK OF AWARENESS</td>
<td>Not aware about it</td>
<td>.796</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No one told me to buy it.</td>
<td>.769</td>
</tr>
<tr>
<td>F5</td>
<td>6.861</td>
<td>NEGATIVE FEEDBACK</td>
<td>More deductible applicable</td>
<td>.684</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Negative feedback about health insurance claim process</td>
<td>.815</td>
</tr>
</tbody>
</table>

The above stated factors are in the order of degree of importance i.e. factor 1 is more important than factor 2; factor 2 is more important than factor 3 and so on. The factor 1 and has 26.716% of variance which is the
highest variance as compared with factor 2, 3, 4, and 5 where % of variance is 13.679, 10.893, 8.333, 7.0737 respectively. From above we can conclude that Formalities bottlenecks, Agent related problems, Coverage Issues, Awareness, Negative feedback are main barriers in the health insurance.

iv. Association between Age and Awareness of Health Insurance.
In this test, an attempt is made by applying cross tabulation test to check that is there any relation between Age of the respondent and Awareness about health insurance. Following hypothesis was taken: 
$H_0$: There is no association between Age and Awareness of health insurance.

Table 7: Relationship between Age and Awareness level
(Chi-Square Tests)

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>2.758a</td>
<td>4</td>
<td>.599</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>3.138</td>
<td>4</td>
<td>.535</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>2.721</td>
<td>1</td>
<td>.099</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>200</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$a. 4$ cells (40.0%) have expected count less than 5. The minimum expected count is .16.

From the above results of Chi-Square test, we can see that value of Pearson Chi-Square is coming out to be .599 which is greater than 0.05, which mean that null hypothesis is accepted i.e. there is no significant relationship between Age and Awareness about health insurance.

4.2 Association between Gender and Awareness about health insurance
In this test, an attempt is made by applying cross tabulation test to check that is there any relation between Gender of the respondent and Awareness about health insurance. Following hypothesis was taken: 
$H_0$: There is no association between Gender and Awareness of health insurance.

Table 8: Relationship between Gender and Awareness Level
(Cross tabulation test results)

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>2.026a</td>
<td>1</td>
<td>.155</td>
</tr>
<tr>
<td>Continuity Correction$^b$</td>
<td>1.445</td>
<td>1</td>
<td>.229</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>2.208</td>
<td>1</td>
<td>.137</td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>2.016</td>
<td>1</td>
<td>.156</td>
</tr>
<tr>
<td>N of Valid Cases$^b$</td>
<td>200</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$b. Computed only for a 2x2 table
From the above results of Chi-Square test, we can see that value of Pearson Chi-Square is coming out to be .155 which is greater than 0.05, which mean that null hypothesis is accepted i.e. there is no significant relationship between Gender and Awareness about health insurance.

**FINDINGS**
- Five Factors i.e. Formalities bottlenecks, Agent related problems, Coverage Issues, Awareness, and Negative feedback are main barriers in the health insurance.
- Only 11.5 of the total sample has subscribed for health insurance scheme.
- There is no significance relation between Age and Awareness about health insurance.
- There is no significance relation between Gender and Awareness about health insurance.

**LIMITATIONS OF THE STUDY**
- Due to time constraints, limited numbers of respondents were catered.
- The survey was concluded on a specific region of Jalandhar only.

**CONCLUSION**
Although the health insurance is not a new concept and the people are also getting aware about it, which mainly comes from newspaper followed by radio, TV, agents etc, but this awareness has not yet reached the level of subscription. As the results shown that just 11.5% are being covered by some form of health insurance and large chunk of the population is still financing health care expenditure without health insurance. Moreover it was observed that there are 5 key factors by clubbing the related variables under it which are acting as barrier in the subscription of health insurance. These are Formalities bottleneck, Agent related problem, coverage Issues, Awareness, Negative feedback. Besides this the association between the various variables linked with the respondents has been determined with awareness about health insurance and the results proved that there was no significant relationship between age, gender and awareness about health insurance.

**REFERENCES**
INFLUENCE OF JOB SATISFACTION AND DEMOGRAPHIC FACTORS ON ORGANIZATIONAL COMMITMENT AMONG OF TEACHERS OF FEDERAL GOVERNMENT GIRLS’ COLLEGE, ZARIA, NIGERIA

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ABSTRACT: One of the major concerns of many employers and human resource management practitioners (HRMPs) is to make their employees highly satisfied in order to retain them as well as to make them productive and committed to their organization. Unfortunately, many cases of turnover and poor attitudes to work have been frequently reported by many surveys and news media. One significant reason that the cost of turnover in the secondary school remains high are due to the poor pay, limited promotion opportunities, poor supervision, poor communication among others. The objective of the study was to investigate the influence of job satisfaction and demographic characteristics on organizational commitment among teachers of Federal Government Girls’ College, Zaria, Nigeria. A cross-sectional survey was conducted on a sample of 52 teaching staff of Federal Government Girls College, Zaria. Correlational and regression analyses techniques were used to analyze the data collected. The study revealed that (1) there significant positive relationship between job satisfaction and organizational commitment (2) there was a significant positive relationship between age and organizational commitment; and (3) there was significant negative relationship between education and organizational commitment. Based on the findings, it is recommended that in order to ensure a high level of job satisfaction of teachers there is a need to enhance their salary. This is needed to satisfy the pay need of the teachers and also improve the public image and self esteem of teachers. Teachers’ working conditions should also be improved also in order to ensure that highly qualified and very experienced teachers are retained in the schools.

Keywords: Job satisfaction; demographic characteristics; organisational commitment; job attitudes; Nigeria

INTRODUCTION

For many years, industrial and organizational psychologists have been trying to better understand work-related attitudes and behaviours that affect the well being of an employee as well as the effective functioning of an organisation (Chughtai, 2008; Laffaldano & Muchinsky, 1985; Mauno, Kinnunen, & Ruokolainen, 2007; McDonald & Makin, 2000; Saks, 2006). Two forms of work-related attitudes that have been the central focus of researchers in the field of organisational behaviour are job satisfaction and organisational commitment. In his seminal work, Steers (1977) defined organizational commitment as “the relative strength of an individual's identification with and involvement in a particular organization” (p.46). Because of its theoretical importance, several factors have shown to be good predictors of organizational
commitment. To date, some of these factors that have been considered include personality traits (Erdheim, Wang, & Zickar, 2006; Matzler & Renzl, 2007; Panaccio & Vandenberghe, 2012), psychological contract breach (Bal, De Lange, Jansen, & Van Der Velde, 2008; Cassar & Briner, 2011; Zhao, Wayne, Glibkowski, & Bravo, 2007), perceived organisational support (Aube, Rousseau, & Morin, 2007; Panaccio & Vandenberghe, 2009; Rhoades, Eisenberger, & Armeli, 2001), leadership styles (Emery & Barker, 2007; Lok & Crawford, 2004; Walumbwa, Orwa, Wang, & Lawler, 2005), job satisfaction (Gaertner, 1999; Lumley, Coetzee, Tladinyane, & Ferreira, 2011; Samad, 2011), job involvement (Ho, Oldenburg, Day, & Sun, 2012; Kuruüzüm, Çetin, & Irmak, 2009; Sjöberg & Sverke, 2000) and demographic characteristics (Azeem, 2010; Brimeyer, Perrucci, & Wadsworth, 2010) among others.

Despite these aforementioned empirical studies, however, it is surprising that most of them were conducted mainly in information and technology (IT) industry, banking sector, hospitality industry and manufacturing sector, thereby paying less attention to the educational setting, particularly post primary schools in Nigeria. Hence, there is a need to further explore the issue of job satisfaction and organizational commitment in Nigerian educational setting. Two main reasons justify the need to explore the the issue of job satisfaction and organizational commitment in Nigerian educational setting. Firstly, the findings of the previous studies cannot be generalized to the Nigerian education system as they only investigated the relationship between job satisfaction and organisational commitment predominantly in other context rather than educational context. Secondly, given that education plays a pivotal role in progress and prosperity of every country and the role of teachers are critical in this regard. Hence, the issue of a teachers’ job satisfaction becomes even more importance since it would raise the productivity of the the teachers as well as the standard of the school.

Additionally, in an effort to attain the objectives of the Nigeria Vision 20:2020 President Goodluck Jonathan further initiated Transformation Agenda for Nigeria. The main objective of this national programme is to transform Nigeria into a developed nation to the position of one of the world's top 20 economies by year 2020 (Ardo, 2012). One of the key components of Nigeria transformation agenda is human capital development. According to Jonathan (2012) “education has been identified as a major role in unlocking the nation’s huge potentials and as a major ingredient for realizing the administration’s transformation agenda”. While, education has been identified as major ingredient for actualizing the Nigeria transformation agenda, however, it is difficult to achieve this programme, if teachers are not satisfied with their job because commitment to their schools will be low. Thus, there is a need for a study to job satisfaction and organisational commitment among the teachers of post primary schools in Nigeria given the critical role teachers play in driving the Nigeria’s economic future.

2. LITERATURE REVIEW

2.1 Organizational commitment

For the past several years, organizational commitment has been a criterion variable in organizational research (Allen & Meyer, 1990; Dick, 2011; Lok & Crawford, 2004; Somunoglu, Erdem, & Erdem, 2012; Steers, 1977). Uygur and Kilic (2009) defined organizational commitment as “the overall strength of an employee’s identification and involvement in an organization” (p. 113). Several researchers have long recognized three dimensions of organizational commitment - affective commitment, continuance commitment and normative commitment (e.g., Allen & Meyer, 1990; Chang, Chi, & Miao, 2007; Chen & Francesco, 2003; Cheng & Stockdale, 2003; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). Affective commitment refers to the
perceived emotional attachment to, identification with, and involvement in the organization (Meyer & Allen, 1984). Continuance commitment refers to the employee’s perception relating to the costs associated with leaving his organization (Meyer & Allen, 1984). Normative commitment refers to the employee’s perception relating to his obligation to remain in his organization (Allen & Meyer, 1990).

Extant employee-attitude literature indicated the link between organizational commitment with various work-related outcomes. For example, in a meta-analysis Meyer, et al (2002) found that all three dimensions of commitment (affective commitment, continuance commitment and normative commitment) were negatively related to withdrawal cognition and turnover, and affective commitment was be more strongly related to with organization-relevant (i.e. attendance, performance, and organizational citizenship behavior) and employee-relevant (i.e. stress and work-family conflict). In a similar study, Khatibi, Asadi, and Hamidi (2009) found a significant negative relationship between job stress and organizational commitment (i.e., affective commitment and normative commitment), but no significant relationship was found between job stress and continuance commitment. Despite the theoretical importance of organizational commitment, however, it is surprising few studies were conducted on the relationship between organizational commitment and job satisfaction in educational setting, particularly post primary schools in Nigeria.

2.2 Job satisfaction

Job satisfaction is defined by Locke (1976) as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (p. 1304). A review of the literature on work-related attitudes indicated that job satisfaction is a multidimensional construct consisting of many dimensions. For example, Spector (1997) identified nine (9) dimensions of job satisfactions as follows: pay, promotion, supervision, fringe benefits, contingent rewards operating procedures (required rules and procedures), coworkers, nature of work, and communication. Okpara (2004) suggested five (5) dimensions of job satisfaction: pay, promotion, supervision, work itself and co-workers. Hence, his study adopted Spector’s (1997) typology of job satisfaction because is broader and the most widely used by researchers. Job satisfaction has been found to be related with various work-related outcomes and behaviours such as counterproductive work behaviour (Nasir & Bashir, 2012; Omar, Halim, Zainah, & Farhadi, 2011), organizational citizenship behaviour (Foote & Tang, 2008; Koys, 2001; Li, Liang, & Crant, 2010) and turnover intentions, among others (Ghiselli, La Lopa, & Bai, 2001; Lambert, Lynne Hogan, & Barton, 2001; Nadiri & Tanova, 2010).

2.3 Empirical studies on the relationship between job satisfaction and organizational commitment

Several empirical studies have examined the relationship between job satisfaction and organizational commitment. However, the findings of these studies were mixed. For example, Tsai, Cheng and Chang (2010) conducted a study to investigate the relationship between job satisfaction, organizational commitment and job performance. The study included 604 employees from 13 well-known hospitality companies in Taipei City, Taiwan. The path coefficients of the Structural Equation Modeling (SEM) analysis showed that job satisfaction was positively related to organizational commitment, but was not directly related to job performance. In another study, Gunlu, Aksarayli and Perçin (2010) also extended research on work-related attitudes to the hospitality industry by examining the effects of job satisfaction on organizational commitment among 123 hotel managers in Turkey. The findings from the multiple regression analysis indicated that overall job satisfaction was was positively related to both normative and affective commitment. However, overall job satisfaction did not have significant relationship with continuance commitment. The authors argued that the non-significant relationship between job satisfaction and continuance commitment was due to the mobility characteristics of the hospitality industry where employees find it much easier to work in many
different hotels. Warsi, Fatima and Sahibzada (2009) also conducted a study to examine influence of work motivation and job satisfaction on organizational commitment among 191 private sector employees of Pakistan. Using Pearson correlation and multiple regression analyses, findings of this study indicated that both work motivation and overall job satisfaction were positively related organizational commitment. In a similar study, Tella, Ayeni and Popoola (2007) investigated the relationship among work motivation, job satisfaction and organisational commitment among 200 library personnel in Academic and Research Libraries in Oyo State, Nigeria. The findings of this study revealed that both perceived work motivation and job satisfaction were significant predictors of organizational commitment.

2.4 Empirical studies on the relationship between demographic factors and organizational commitment

Several empirical studies have been conducted to examine the relationship between demographic factors (e.g., age, gender, marital status, education level and job tenure) and organizational commitment. However, the findings of these studies were mixed. For example, Popoola (2009) conducted a study to investigate the effects of demographic factors, job satisfaction and locus of control on organizational commitment of records management personnel in Nigerian private universities. The findings of this study indicated that job satisfaction, locus of control and all the demographic factors (i.e. gender, age, marital status, education and job tenure were positively related to organizational commitment. Salami (2008) conducted a study to investigate the influence of demographic factors (i.e. age, marital status, gender, job tenure, and educational level), emotional intelligence, work-role salience, achievement motivation and job satisfaction on organizational commitment among 320 employees from service and manufacturing organizations in Nigeria. Using Hierarchical multiple regression analysis, the findings of this study revealed that emotional intelligence, work-role salience, achievement motivation, job satisfaction and all demographic factors were significant predictors of organizational commitment, except gender that was not a significant predictor of organizational commitment. In another study, Chughtai and Zafar (2006) investigated the influence of trust, job involvement and demographic factors (i.e. marital status, age, tenure and education level) on organizational commitment among Pakistani university teachers. The findings of this study indicated that trust, job involvement and all the demographic factors were not significant predictors of organizational commitment.

3. METHOD

3.1 Procedure and sample

The participants were teaching staff from Federal Government Girls’ College, Zaria, Nigeria. Surveys were distributed to a total number of 60 academic staff, and 45 staff completed the surveys there obtaining a response rate of 75 %). Self-rating was applied on all the items adapted in the questionnaires. Majority of the sample was female (66.7% female, 33.3% male), marital status (40.0% married, 24.4% single 15.6%, 22.2% divorced, 11.1% widowed, 2.2% separated), educational level (44.4% Bachelor’s degree, 22.2% Masters degree, 20.0% N.C.E., 11.1% Diploma, 2.2% Grade II Certificate) and age (35.6% between 18 and 25 years, 24.4% between 26 and 35 years, 24.4% between 36 and 45 years, 15.6% between 46 and 55 years. Most participants worked for (68.9% between 1 and 5 years, 15.6% between 6 and 10 years, 13.3% between 11 and 15 years and 2.2% between 16 years and above).
3.2 Measures

Organisational commitment. Organisational commitment was measured using Allen and Meyer’s (1990) 18-items Organizational Commitment Questionnaire (OCC). This questionnaire requires individuals to indicate their level of agreement with the extent to which they are identified with and involved in their organization. The responses of all items in the questionnaire were made on a 5-point scale ranging from 1 strongly disagree to 5 strongly agree. An example item of the item that was asked for organizational commitment questionnaire is “I do not identify with the teaching profession.”

Job satisfaction. Job satisfaction was measured using 36-items Job Satisfaction Survey (JSS) developed by Spector (1997) that asks employees to indicate the extent to which they are satisfied with their job. The responses of all items in the scale were also made on a 5-point scale ranging from 1 strongly disagree to 5 strongly agree. An example item of the item that was asked for JSS is “There is really too little chance for promotion on my job.”

Control variables. Five demographic factors (i.e., age, gender, marital status, education level and job tenure) were measured in this study because of their relationship with various job related attitudes, particularly job satisfaction and organisational commitment. For example, education was controlled for because employee who is highly educated is less likely to be committed to his organization because he may not have any barrier when leaving the organization for another job (Chughtai & Zafar, 2006).

4. RESULTS

4.1 Reliability analysis

In an attempt to determine the internal reliability of the instruments used, cronbach alpha co-efficient were calculated. Table 1 shows that the cronbach alpha co-efficient for job satisfaction survey and organisational commitment scale were 0.97 to 0.63 respectively. According to Sekaran (2003), a cronbach’s alpha coefficient greater than 0.5 is deemed to be acceptable. Thus, we conclude that the instruments adapted in this study are reliable since the cronbach alpha for each variable is greater than 0.5.

<table>
<thead>
<tr>
<th>Name of Instrument</th>
<th>No. of Items</th>
<th>Cronbach Alpha</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Satisfaction Survey</td>
<td>36</td>
<td>0.97</td>
<td>Reliable</td>
</tr>
<tr>
<td>Organisational Commitment Questionnaire</td>
<td>18</td>
<td>0.63</td>
<td>Reliable</td>
</tr>
</tbody>
</table>

4.2 Hypothesis testing and discussion: In the present study, Pearson correlation and simple regression were both utilized to test the relationship between job satisfaction, organizational commitment and demographic variables. Correlation analysis was employed to test hypotheses 1, 2, 3, 4, 5 and 6. It is worth noting that correlation is not causation. It does not indicate whether one variable predicts other variables. Hence, correlation only indicates the relationship between variables. In the course of conducting correlation and regression analysis, we transformed all the items for each construct using SPSS version 16. Subsequently, we performed the Pearson correlation and simple regression analysis separately. The interpretation of correlation coefficient in table 2 was based on Cohen (1988) guideline.
### Table 2: Correlations matrix

<table>
<thead>
<tr>
<th></th>
<th>JSS Pearson Correlation</th>
<th>OCC Pearson Correlation</th>
<th>Age Pearson Correlation</th>
<th>Gender Pearson Correlation</th>
<th>Education Pearson Correlation</th>
<th>Status Pearson Correlation</th>
<th>Tenure Pearson Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSS</td>
<td>1</td>
<td>.341*</td>
<td>.006</td>
<td>.405**</td>
<td>.036</td>
<td>-.079</td>
<td>.016</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.022</td>
<td>.967</td>
<td>.006</td>
<td>.817</td>
<td>.606</td>
<td>.919</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>OCC</td>
<td>.341*</td>
<td>1</td>
<td>.373*</td>
<td>.021</td>
<td>-.205*</td>
<td>-.137</td>
<td>-.017</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.022</td>
<td>.012</td>
<td>.891</td>
<td>.176</td>
<td>.369</td>
<td>.912</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>Age</td>
<td>.006</td>
<td>.373*</td>
<td>1</td>
<td>-.078</td>
<td>.126</td>
<td>-.117</td>
<td>-.178</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.967</td>
<td>.012</td>
<td>.610</td>
<td>.408</td>
<td>.443</td>
<td>.242</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>Gender</td>
<td>.405**</td>
<td>.021</td>
<td>-.078</td>
<td>1</td>
<td>.207*</td>
<td>-.031</td>
<td>.231*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.006</td>
<td>.891</td>
<td>.610</td>
<td>.172</td>
<td>.839</td>
<td>.126</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>Educat</td>
<td>.036</td>
<td>-.205*</td>
<td>.126</td>
<td>.207*</td>
<td>1</td>
<td>.037</td>
<td>.335*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.817</td>
<td>.176</td>
<td>.408</td>
<td>.172</td>
<td>.810</td>
<td>.025</td>
</tr>
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<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>Status</td>
<td>-.079</td>
<td>-.137</td>
<td>-.117</td>
<td>-.031</td>
<td>.037</td>
<td>1</td>
<td>.400**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.606</td>
<td>.369</td>
<td>.443</td>
<td>.839</td>
<td>.810</td>
<td>.007</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>Tenure</td>
<td>.016</td>
<td>-.017</td>
<td>-.178</td>
<td>.231</td>
<td>.335*</td>
<td>.400**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.919</td>
<td>.912</td>
<td>.242</td>
<td>.126</td>
<td>.025</td>
<td>.007</td>
</tr>
<tr>
<td></td>
<td>N</td>
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<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
</tr>
</tbody>
</table>
As can be seen from Table 2 above, there were eight (8) significant correlations as follows:

1. Job satisfaction and organizational commitment
2. Gender and job satisfaction
3. Age and organizational commitment
4. Education and organizational commitment
5. Education and tenure
6. Status and tenure
7. Gender and tenure
8. Education and gender

There was a moderate positive correlation between job satisfaction and organizational commitment at the level of 0.341. Hence, the result supported hypothesis 1 (H1) which predicted that job satisfaction was positively related to organizational commitment. In other word, employees who are satisfied with their job tend to be committed to their organization and verse versa. Similarly, the correlation between age and organizational commitment was moderate at the level of 0.373. Hence, the result supported hypothesis 2 (H2) which predicted that age was positively related to organizational commitment. This implies that, employees who are older tend to be committed to their organization and verse versa. There was a weak negative correlation between education and organizational commitment at the level of -0.205. Hence, the result supported hypothesis 4 (H4) which predicted that education was negatively related to organizational commitment. This means that employees who are highly educated are less likely to be committed to their organization and verse versa.

Table 3: Regression analysis

<table>
<thead>
<tr>
<th>Model Summary</th>
<th>ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
<td><strong>R</strong></td>
</tr>
<tr>
<td>Regression</td>
<td>.608</td>
</tr>
</tbody>
</table>

Significance α < 0.05 a. Predictors: (Constant), Tenure, JSS, Age, Education, Status, Gender b. Dependent Variable: OCC

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variables/Predictors</strong></td>
<td><strong>B</strong></td>
<td><strong>Std. Error</strong></td>
</tr>
<tr>
<td>(Constant)</td>
<td>.803</td>
<td>1.301</td>
</tr>
<tr>
<td>JSS</td>
<td>.478</td>
<td>.183</td>
</tr>
<tr>
<td>Age</td>
<td>.429</td>
<td>.133</td>
</tr>
<tr>
<td>Gender</td>
<td>-.186</td>
<td>.314</td>
</tr>
<tr>
<td>Education</td>
<td>-.336</td>
<td>.144</td>
</tr>
<tr>
<td>Status</td>
<td>-.144</td>
<td>.142</td>
</tr>
<tr>
<td>Tenure</td>
<td>.398</td>
<td>.256</td>
</tr>
</tbody>
</table>

a. Dependent variable: Organizational commitment.
H1: Job satisfaction is positively related to organizational commitment.
Simple regression was performed to examine the relationship between job satisfaction and organizational commitment. As can be seen from Table 3, there significant positive relationship between job satisfaction and organizational commitment ($\beta = 0.371$, $t = 2.615$, $p < 0.013$). The implication of the finding is that the employee perceives that he is satisfied with his job is likely to be committed to his organization and verse. However, this finding is not surprising because it is in line the previous studies such as Tsai, et al. (2010) and Warsi, et al. (2009). These studies established a significant positive relationship between job satisfaction and organizational commitment.

H2: Age is positively related to organizational commitment.
As can be seen from Table 3, there was a significant positive positive relationship between age and organizational commitment ($\beta = 0.432$, $t = 3.219$, $p < 0.003$). This implies that, employees who are older are likely to be committed to their organization and verse versa. However, this finding is in line with the findings of Salami (2008), who found that there is a significant positive positive relationship between age and organizational commitment.

H3: Gender is positively related to organizational commitment.
Table 3 also shows that gender was not statistically significant having a very weak standardized estimate and low t-value of less than 1.96 ($\beta = -0.088$, $t = -0.592$, $p < 0.558$). However, this finding is not surprising because is in line with the findings of Chughtai and Zafar (2006), who found that there is no significant relationship between gender and organizational commitment. The lack of significant relationship between gender and organizational commitment could perhaps be as a result of personality characteristics such as self-efficacy defined as individual ability to perform a tasks or activities (Bandura, 1986). This implies that an employee who is low in self-efficacy is less likely to be committed to his organisation.

H4: Education is negatively related to organizational commitment.
There was significant negative relationship between education and organizational commitment as shown in table 3 ($\beta = -0.331$, $t = -2.334$, $p < 0.025$). This means that an employee who is highly educated is less likely to be committed to his organization and verse versa. However, this finding is also in line with the study of Salami (2008), who found that there is a significant negative relationship between education and organizational commitment. The implication of this finding is that teachers who are highly educated may not find it difficult in securing another teaching job at other schools or in industry and are, therefore, less likely to be committed to their organisation because they don’t have any barrier when leaving the organization.

H5: Marital status is positively related to organizational commitment.
The next hypothesis which postulates a positive relationship between marital status and organizational commitment was not supported. As can be seen from Table 3, there was no significant relationship between marital status and organizational commitment ($\beta = -0.145$, $t = -1.015$, $p < 0.317$). This finding suggests that an employee who is not married is less likely to be committed to his organisation and verse versa. It is not surprising that this finding support previous empirical studies such as the study of Chughtai and Zafar (2006), who found no significant relationship between marital status and organizational commitment.
H6: Tenure is positively related to organizational commitment.

Table 3 also shows that tenure was not statistically significant having also very weak standardized estimate and low t-value of less than 1.96 (β = 0.243, t = 1.556, p < 0.128). However, this finding is not surprising because it is in line with the findings of Chuhtai and Zafar (2006), who found no significant relationship between tenure and organizational commitment. The lack of significant relationship between between tenure and organizational commitment could perhaps be as a result of the fact that, employee who stay longer with the organisation may find the workplace boring and therefore develop the feeling of leaving the organisation.

Finally, Table 3 shows that R² was 0.369, which indicates that 36.9% of the variance in organizational commitment can be explained by the employees’ perception of job satisfaction, age, gender, education, marital status and tenure. On the other hand, the remaining 63.1% of the variance is unexplained.

5. MANAGERIAL IMPLICATIONS AND CONCLUSION

This study attempted to explore the relationship between job satisfaction and organisational commitment among teachers of Federal Government Girls College, Zaria (β = 0.371, t = 2.615, p < 0.013). This implies that a teacher who perceives that he is satisfied with his teaching job is likely to be committed to his organization, thereby willing to exert considerable effort on behalf of the organisation and have a desire to maintain membership of the organisation. Furthermore, investigating the influence of job satisfaction on organizational commitment has practical significance for the school administrators, since a highly satisfied employee is likely to be committed to his organisation, thereby making him to also be highly productive. In conclusion, the results of the present study support the social exchange theory that the extent to which employees are committed to their organisation is often a function of their job satisfaction (Blau, 1964). Hence, the findings of the study suggest that job satisfaction may be a significant antecedent of organisational commitment.

6. LIMITATIONS AND SUGGESTIONS FOR FUTURE STUDIES

Four major limitations of the present study need to be acknowledged; hence drawing conclusions from the findings ought to be made with caution. First, drawing from a single school was a major limitation of the study. Although Federal Unity Schools have much in common, each school has its own special characteristics in terms of staff, management and the nature of the environment. Thus, drawing only from a single school limits the generalizability of findings. The second limitation of the present study is the low R-square that was reported. It could be recalled that this study reported 36.9% R² indicating that the remaining 63.1% of the variance is unexplained. This implies that there are many other variables that were not captured in this study.

Therefore, future studies should incorporate other personality traits, particularly the recently introduced honesty-humility construct as determinant of organisational commitment. Third, this study is limited in scope, because only teaching staff were included in the survey. Therefore, future studies should include non-teaching staff in their sample as well as replicating the study in different schools (both private and public) primary schools in order to generalize the findings. The fourth, limitation of the present study is that it was cross-sectional in nature. Hence, conclusions regarding the causal nature of the research model cannot be made. Therefore, future studies should also be conducted using longitudinal study in order to confirm the findings of this study.
7. REFERENCES


ABSTRACT: This is a conceptual study that proposes examining a mediated model of organizational citizenship behavior (OCB) among employees of Power Holding Company of Nigeria (PHCN) Plc. The PHCN Plc is a sole producer and distributor of electricity in Nigeria and plays a vital role in supporting the socio-economic development of Nigeria. If performance of OCB is enhanced among employees of this utility organization, effective functioning of the organization and ultimate realization of its goals and objectives will also be enhanced. Extensive review of relevant literature was done for better understanding of the current development of research involving OCB, servant leadership and psychological ownership that constitute the model of this study. Cross sectional and survey study will be employed as methods for data collection. One stage cluster sampling technique will be employed to obtain representative response from a sample of 322 lower and middle level employees of Kano PHCN Distribution Company. A combination of both descriptive and inferential statistics will be employed to test the hypothesized model. Structural equation modeling (SEM) will be used in the analysis because of its analytical power of testing several relationships simultaneously and reducing measurement error.

Keywords: organizational citizenship behavior, servant leadership, psychological ownership, Nigeria.

1. INTRODUCTION
One central area of concern among organizational theorists and practitioners is organizational effectiveness. One of the good mechanisms for achieving organizational effectiveness is the employees’ willingness to perform their duties beyond the formal specifications of job roles often described as extra-role or discretionary behaviors (Organ, 1990). Increasing number of research on employee’s discretionary work behaviors signifies the importance of this construct for the success of organizations. Multiple conceptualizations of discretionary employee work behaviors exist in the literature (e.g., pro-social organizational behavior, extra role behavior, contextual performance and organizational citizenship behavior (OCB). Organ’s (1988) conceptualization of OCB has received major research attention as compared to other conceptualizations of discretionary employee behaviors (Van Dyne, Cummings & Parks, 1995).

Organizational citizenship behaviors (OCBs) are behaviors that are not mandatory on the employees to carry out, but are helpful to the organization’s effectiveness and goal attainment (Organ, 1988). In his words, Organ (1988, p. 4) defines organizational citizenship behavior (OCB) as “behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and in the aggregate promotes the efficient functioning of the organization”. Organizational citizenship behaviors are usually performed by employees to support the interests of the organization even though they may not directly lead to employee benefits (Moorman &
Blakely, 1995). However, Organ (1988) acknowledges that OCB could have a beneficial cumulative effect for an individual employee and that the employee might be considering the long-term benefits.

Employee OCB also benefits organizations directly or indirectly. Direct organizational benefits include volunteerism, assistance between coworkers, and unusual employee attendance to an important meeting, employee’s punctuality and active participation in organizational affairs (Farh, Podsakoff, & Organ, 1990). While the indirect benefit involves lubricating the social machinery of the organization (Smith, Organ, & Near, 1983). Also Katz (1964) considered such discretionary behavior essential for strong organizational social systems. He posited that the organizations gain a measure of systemic resiliency from the small, spontaneous acts of selfless sensitivity, cooperation, and uncompensated contribution.

Employees exhibit OCBs in various situations. They exhibit OCBs when they help fellow workers who have difficulty in performing their work; when they exhibit endurance and perseverance in performing their jobs; when they avoid doing things or saying things that tarnish the image of their organization; when they spend extra time to achieve objectives; when they perform their job beyond requirements; and generally when they show extra concern about success of their organizations (Organ, 1988). From these scenarios it is clear that OCB could contribute to organizational performance in many ways. Podsakoff, Ahearne and MacKenzie (1997) argue that OCB has potential to enhance organizational performance through lubricating the social machinery of the organization, reducing friction, and increasing efficiency. OCB may also contribute to organizational success by enhancing co-worker and managerial productivity, promoting better use of scarce resources, improving coordination, strengthening the organization’s ability to attract and retain better employees, reducing variability of performance, and enabling better adaptation to environmental changes (Podsakoff, Mackenzie, Paine & Bachrach, 2000). It has also been reported that OCB increases job satisfaction among employees (Mohammad, Habib, & Alias, 2011). Furthermore, research demonstrates that OCB can be an important resource to improve organizational performance in complex work environments demanding team oriented work practices (Organ, Podsakoff & MacKenzie, 2006).

Despite the extant OCB literature, more studies are still warranted. OCB studies are still needed because organizations need to continuously understand different mechanisms for achieving and enhancing organizational effectiveness. Consistent with the need for more OCB studies, Ahmadi (2010) revealed that successful organizations depend on employees who will do more than their usual job duties and provide performance that is beyond expectations. Hence, in line with the need for continuous OCB research, the present study attempts to extend the literature by exploring the role of servant leadership on employee via the mediating influence of psychological ownership.

This study extends previous research (Organ et al., 2006) by examining the mediating process underlying the relationship between servant leadership and employee OCB. Organ et al. (2006) revealed that the relationship between servant leadership behaviors and organizational citizenship behaviors could be enhanced by considering mediating factors. Therefore, this study attempts to further investigate the relationship of servant leadership and OCB via the mediating effect of subordinates’ psychological ownership.

Figure 1: Proposed Model of Servant Leadership, Psychological Ownership and OCB
3. SOCIAL EXCHANGE THEORY

Social exchange theory (Blau, 1964) was widely used to underpin OCB by most researchers (Cohen & Kol, 2004; Jawahar, & Carr, 2007; Skarlicki, & Latham, 1997; Zoghbi-Manrique de Lara, 2008). The fundamental basis of social exchange theory is that relationships providing more benefits than costs will yield enduring mutual trust and attraction (Blau, 1964). These social transactions encompass both material benefits (i.e. salaries, bonuses, and allowances) and psychological rewards (i.e. status, loyalty and approval) (Yukl, 1994). Central to both social exchange theory and the norm of reciprocity is the concept of unspecified obligations. Unspecified obligations denote human behavior that when one individual party does a favor to another, there exists an expectation of some future return from the other individual party. These obligations maybe enacted in the form of citizenship behaviors and over time, a pattern of reciprocity evolves, resulting in perceived balance in the exchange relationship (Blau, 1964; Gouldner, 1960; Rousseau, 1989). Citizenship behaviors are more likely to be under an individual’s control, and hence more likely to be a salient mode of reciprocation (Organ, 1990).

Exchange relationships with the organization and with one’s immediate supervisor are of great significance to subordinate employees (Jawahar, & Carr, 2007). Based on the previously mentioned theorem of unspecified obligations which is central to both the social exchange theory and the norm of reciprocity, employees’ exchange relationship with the organization is influenced greatly by unspecified obligations. Some good mechanisms for these unspecified obligations to develop for employees are through servant leadership and psychological ownership for the organization. Specifically, with reference to employees’ exchange relationship with one’s supervisor, perceptions of unspecified obligations could develop through servant leadership. Additionally, with respect to employees’ exchange relationship with the organization, perceptions of unspecified obligations could develop through the feeling of ownership for the organization (psychological ownership for the organization). Therefore, employee OCB can be as a result of satisfaction with organizational leadership style and the sense of ownership for the organization employees experience in the course of their normal day-to-day relationships with organization. This study is concerned with investigating these symbiotic relationships between the organization and employees.

4. METHOD

4.1. Participants

Data for this study will be obtained from a sample consisting of 322 employees of Kano PHCN Distribution Companies. Expected participants include all middle and lower class workers who report to another superior. This is important because this study is about testing servant leadership abilities of superior workers and how they influence employee OCBs. Participants will be personally contacted and be requested to anonymously complete a four-page questionnaire that consists of 54 items. The researcher and employed assistants will go back for collection of the completed questionnaires at intervals of time.

4.2. Measures

4.2.1. Organizational citizenship behaviors

The engagement in extra role activities by members of the organization will be measured using the Williams and Anderson’s (1991) instrument that consists of 14 items. Internal scale reliabilities of .78 and .74 have been reported regarding OCB-I and OCB-O respectively (Shin, 2012). A sample item is I help others who have heavy workloads and I assist supervisor with his/her work (when not asked).
4.2.2. Servant leadership
Leadership that values people, develops people, builds community, displays authenticity, provides leadership and shares leadership (Laub, 1999) will be measured using Liden et al.’s (2008) servant leadership instrument. The instrument has internal scale reliability of .89 (Liden et al., 2008). A sample item is my manager makes my career development a priority and my manager is interested in making sure that I achieve my career goals.

4.2.3. Psychological ownership
Developing feelings of ownership for a variety of objects, material and immaterial in nature, psychological ownership will be measured using Van Dyne and Pierce (2004). The internal scale reliability of .83 has been reported for the psychological ownership instrument (Chi & Han, 2008). A sample item is I sense that this is MY Company and I feel a very high degree of personal ownership for this organization.

5. CONCLUSION
Primarily, this study is an attempt to respond to previous studies’ call for testing additional mediators on the relationship between servant leadership and OCB. At a secondary level, this study is an attempt to establish the enhanced effect of servant leadership on employee OCB. The study has both practical and theoretical significance. For the first time this study will investigate the mediating effect of psychological ownership on the relationship between servant leadership and OCB. Practically, the study will provide insight to professional managers about additional techniques of influencing employee positive behaviors such as OCBs without necessarily mandating them formally by their job requirements.

REFERENCES
KAIZEN FOR STANDARDIZING EDUCATIONAL INSTITUTIONS

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ABSTRACT: Teaching, scientific and technological innovations are the most important key factors and heart of an educational institute. It is necessary to monitor and focus the entire aspects of an institute to bring overall improvements. Effective teaching–learning process, quality, resource management and other improvement can be achieved in a short period of time using Kaizen. This is a Total Employee Involvement (TEI) technique which brings together all the employees of an organization right from top management to workers for bringing continuous improvement in an academic organization.

Keywords: Kaizen; Higher education; teaching; feedback; Continuous improvement.

1. INTRODUCTION

Kaizen is definitely appropriate for educational institutions [10]. Kaizen would be independent of the formal administrative performance evaluation process for professors. Kaizen can help higher education institutions compete more effectively against both traditional non-profit and newer for-profit sources of higher education [1]. Kaizen (Kai = Change; Zen = for the better) means continuing improvement involving everyone in the organization from Top management to workers. Kaizen is a continuous improvement technique by utilizing the knowledge and not by investing money. Kaizen focuses on the basic way that we can work for standardization. Implementing Kaizen principles involves more attention to details and practical ways to do things better and more efficiently using feedback techniques [9]. Kaizen – “A Japanese philosophy that focuses on continuous improvement through all aspects of life” [7]. It was first implemented in several Japanese businesses after the Second World War, influenced in part by American business and quality management teachers who visited the country. It has since spread throughout the world and is now being implemented in many other venues besides just business and productivity [2].

According to Kaizen “If there is No Action there can be No Success.” So the attitudes of employees, right from top management to workers must be changed for successful implementation of Kaizen and continuous improvement of an organization. The five main elements of kaizen are Teamwork, self-discipline, improved morale, Quality circles and Suggestions for improvement. It is a useful tool to coordinate continuous improvements.
2. WORLD-CLASS QUALITY IN TEACHING INSTITUTIONS

Education is a lifelong process of progress and development. World-class quality education is to be continued in teaching institutions. The effectiveness of an institution depends upon its infrastructure, learning resources, curriculums, quality of teacher, Classroom-management, practical use of methods, teaching technologies and skills in teaching-learning process. Quality education is possible only through quality teachers who come out from the quality institutions (Prasad, 2004) [6].

If a student did not succeed, it was viewed as the student's own failure. The continuous quality improvement mindset requires a clear understanding that the student is the customer, along with the student's parents and the organizations that hire our students. [5]. The role of faculty members in providing an undergraduate educational experience is to serve those customers. If a student fails, then the system may have failed and the faculty should make suggestions to change or improve the system for reducing failures. So the faculty must be involved in a continuous improvement process in teaching and learning. Effective teaching process of an institution depends upon proper Planning, Organizing, Directing and Controlling. Teachers must acquire new and effective teaching skills and upgrade their teaching competencies, so as to ensure that maximum learning takes place. Students are demanding for more practical exposures and high performer teachers. Hence teachers have to take responsibilities beyond their traditional roles. Educational management comprises the basic concept of management, organization, administration and skills in instructional planning. So it is important to analyze the failure of a student for improving the effectiveness in the existing education system. To improve the quality of teaching and learning process, periodic assessment of students and faculties are to be made to determine their skills, attitudes, knowledge, problems faced, outcomes and feed backs for better improvement.

Assessment can be made in the following ways
a) It must be clear, constructive, joyful and motivating without any sort of stresses.

b) It must provide opportunity for an individual to assess himself with clear thought.

c) It must promote self-development capacity in students.

So without better visibility into assessment of academic activities across the institution, the faculties’ will lags to apply best practices, strengthen results and conserve resources. Student feedback must be used as an assessment tool for assessing the gap between the actual level and the reference level to accelerate the quality of teaching and learning [3]. Criticism and decisions without good proper data kills the initiative and empowerment [8], so create a blame-free, non-judgmental culture.

3. KAIZEN DUTIES FOR DIFFERENT LEVELS IN MANAGEMENT

3.1. Kaizen process

Kaizen is an on-the-job learning process where people at all levels in an organization analyze and perform corrective actions for achieving the improvements quickly in a short period of time. Observation, data gathering, analysis, and critical thinking are mostly required for the implementation of kaizen process. The Faculties and staff members must identify and suggest the low cost and highly effective solutions for achieving better results in day to academic activities. Thus, kaizen promotes teamwork and most improvements can be made by kaizen activity. According to Masaaki Imai [7] the kaizen style of operations has three pillars:

a) Concepts that involves the way of thinking.
b) Systems to implement the work.
c) Tools to affect the process.
Masaaki Imai [8] lists the following kaizen duties for the different levels in management:

3.1.1. Top management
1. To be determined to introduce kaizen as a corporate strategy.
2. To build systems, procedures and structures conducive to kaizen.
3. To make employees kaizen-conscious through intensive training programs.
4. To build systems, procedures ad structures conducive to kaizen.
5. Adopt Kaizen philosophy of continuous improvement and sustain the Kaizen culture.
6. Continue to develop new leadership skills.
7. Perform Presidential Diagnosis reviews.

3.1.2. Middle management and staff
1. Learn KAIZEN fundamentals and understand the need for change.
2. Set challenging improvement goals for targeted processes.
3. Deploy and implement kaizen goals as directed by top management through policy deployment and cross-functional management.
4. Support top management in reaching the decision to proceed.
5. Conduct workshops and Train staffs and supervisors to lead workshops.
6. Help employees to develop skills and practice analytical problem solving tools.

3.1.3. Workers
1. To engage in self-development trainings to become a better problem solvers.
2. To engage in kaizen through the suggestion system and small group activities.
3. To practice 5S in the workshop, libraries and laboratories in the institute to achieve total organization, cleanliness, and standardization.

4. KAIZEN IMPLEMENTATION
Kaizen implementation promotes teamwork, self-disciplined, 5S, training, quality and continuous improvements for overall success of an organization. It is a step-by-step approach by developing employee skills through training and increased involvement.

The basic principles behind Kaizen implementation are:
1. Human resources must be considered as the most important asset of an organization.
2. Improvements must be made gradually rather than radical changes based on assessment and evaluation of performance.

Improvement can be broken down between innovation and Kaizen. Innovation involves a drastic improvement in the existing process and requires large investments. Kaizen signifies small improvements as a result of coordinated continuous efforts by all employees [4].

4.1. Planning and Preparation: Plan and select where kaizen application is required for an organization either in administrative or in academic process. Next focus on the specific area (i.e. quality in teaching, institutional development, resource management etc).

4.2. Problem definition and Implementation: The Kaizen implementation team must have a clear understanding of the "current state" of the defined problem so that all team members will be aware of the problem they are working to solve. Once team members identified the root-cause of the defined problem, suggestions must be collected from various levels of people in management and appropriate solution must be implemented.
4.3. Check or Follow-up and Act: Follow-up of kaizen events are required to assess the performance and identify the improvements required for continuous improvement in the system. Team members must evaluate and review the performance of the system whether the proposed changes have brought desired results or not? And suggest suitable plans to assure implementation. Apply the concept of Plan, Do, Check, Act or implement (PDCA) Cycle (Fig.1) in day to day academic activities and determine the root Cause of an issue using fishbone (the proposed system as shown in (Figure.2)).

![PDCA Cycle](image)

![Fish Bone Analysis](image)

5. IMPROVEMENTS USING KAIZEN

Kaizen should be linked to personal development and enablement. Kaizen process must be trained to bring awareness to people in all levels of management before practicing and implementing it. Senior management experts in kaizen must create awareness to every employee the benefits of implementing kaizen.

The following members must be associated with the Kaizen implementation team.
1. Senior management, Middle management, Staff’s and workers;
2. Faculty member’s expertise in kaizen; management and engineering.

Like every other service organization, educational institutions’ administrative and other management processes include a high proportion of non-value adding activities. The Kaizen philosophy, tools and techniques helps everyone in the organization to continuously improve everything they do every day [10].

The following guidelines can be utilized to implement kaizen in an institution
a) Have a passion to train faculties, staff and administrators to implement kaizen.
b) Top management commitment is required for successful implementation.
c) Every faculty and staff must be encouraged to come up with new ideas that could bring improvement in the teaching process within a short period of time.
d) Facilitate brainstorming processes - Eliminate communication barriers between the management and staff members to share the Success and Failures in the academic activities to gain feedback and suggest for continuous improvements.
e) Standardize the teaching learning processes in day to day academic activities to achieve international standards and quality.
f) Easily translate the basic subject concept into a simple practical application in such a way that it must be interesting and understood easily by the students.

g) Encourage Experimental lectures and demonstration projects to give practical application of the academic subjects that students undergo.

h) Collaborate with industries to strengthen the research activities of the institution and also to give practical exposure to students in R&D projects.

i) Monitor the results, gain feedback and suggest for continuous improvements.

j) Suggest possible solutions to improve the quality and standards.

k) Render Mutual Support and conduct periodic Trainings Programmes periodically to staffs.

l) Practice analysis tools like **Cause-and-effect or fishbone diagram** and to look over an issue by considering the **4 M’s (Manpower, Methods, Machines, Materials), 4 P’s (Place, Procedure, People, Policies) and 4 S’s (Surroundings, Suppliers, Systems, Skills)** associated with the day to day academic activities.

m) Implement **5S (Seiri, Seiton, Seiso, Seiketsu, Shitsuke)**, which means (Sort, Clean, Set in order, Standardize and Progress) in class rooms, offices, laboratories, workshops, hostels, campus environment, stores and in other maintenance departments of the institution to ensure standardization.

n) Implement a web based campus management solution like **Enterprise Resource Planning (ERP)** System for quick access of overall information & to reduce the wastage of papers, time, and money.

Table 1: Implementing Kaizen for various issues that arises in an academic institution

<table>
<thead>
<tr>
<th>Cause - Problem definition</th>
<th>Solution - Improvements that can be made using cause &amp; Effect and Fish –Bone technique</th>
</tr>
</thead>
</table>
| First year students are not clear in getting basic ideas of the academic Programme that they had opted. | Determine the degree to which the institutional goal & curriculum meets the industrial and global expectations.  
Describe the purpose and learning objective of each course that they will undergo during studies.  
Conduct orientation Programmes to give a brief outline of the course content, objective, outcome and carrier path. |
| Students requires more practical exposure in applying the technical skills                 | Demonstrate the subject concept with an appropriate technology.  
Evaluate the feed back to determine the current level to the expected level of the student.  
Relate the subject concept practically and describe how the basic concept is applied practically with end to end applications. |
<table>
<thead>
<tr>
<th>Issue</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students find difficulty in interacting with one another and also with faculties</td>
<td>Create a student friendly environment.</td>
</tr>
<tr>
<td></td>
<td>Encourage technical fest, cultural, seminars, symposiums, conference &amp; educational tours.</td>
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<td></td>
<td>Nominate student welfare officer and counsel them using counseling forms to solve issues.</td>
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<tr>
<td>Students dislike more assignments and not satisfied with theoretical lectures.</td>
<td>Student should be empowered to the role as a feedback giver.</td>
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<tr>
<td></td>
<td>Assess the student’s feedback and practice analysis tools like Cause-and-effect or fishbone diagram to solve the issues by identifying corrective actions.</td>
</tr>
<tr>
<td></td>
<td>Arrange more guest lectures by industrial experts to give more practical exposures.</td>
</tr>
<tr>
<td></td>
<td>Motivate and encourage student’s involvement in the R&amp;D Projects.</td>
</tr>
<tr>
<td>Only a very few students gets placed in core industries.</td>
<td>This may be due to more theory oriented lectures by faculty members. It will not help the students for better survival in industries.</td>
</tr>
<tr>
<td>(Students are not capable to meet industrial requirements.)</td>
<td>Recruit personnel’s from industrial and R&amp;D sectors as faculty members. This will give a broader practical exposure to students in such a way that handling subjects with practical knowledge yields good results than theory oriented.</td>
</tr>
<tr>
<td></td>
<td>When industrial personals are recruited as faculties they will not only teach, they will also train students as real engineers during their course of study with code of ethics.</td>
</tr>
<tr>
<td>Lagging in Students Placement</td>
<td>Students must be ensured to have attained the outstanding academic and breadth of transferable skills during their final year of studies.</td>
</tr>
<tr>
<td></td>
<td>This can be assessed by pre-placement activities, to be carried out by internal members of the institute.</td>
</tr>
<tr>
<td></td>
<td>Excellent institute – industry rapport enhances job opportunities for students in reputed industries and business firms.</td>
</tr>
</tbody>
</table>
6. CONCLUSION

Senior management commitment and involvement in kaizen implementation are more essential to demonstrate the benefits of kaizen to every employee in the organization. Continuous assessment of students, faculties and academic system are more essential to ensure the quality of an educational management system. The quality of the outcome of an educational institute is determined by the creative potential and skills possessed by the students to meet the global requirements. So implementing kaizen in academic activities will bring changes and leads to improvement.

Kaizen focuses on continuous improvement using knowledge based tools like Pareto and Ishikawa diagrams. Kaizen must be daily practiced in the working areas and the better ways for achievement must be well defined to each employee in the organization. It is essential to identify a cause of a problem and to eliminate it as soon as possible.

Kaizen also integrates all the departments and functions in an academic institution for maximal utilization of available resources in a better way to bring better changes.

When both employees and management of an organization start to admit that the improvement of work quality is an important activity then Kaizen is said to have implemented.

6.1. Scope for future work: The present work was focused to implement kaizen in small primary schools to professional institutions which will make gradual changes through small improvements to meet international standards in Education, Teaching, and Research & Development.

7. ACKNOWLEDGEMENT

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8. REFERENCE


DETERMINANTS OF MEDICLAIM POLICYHOLDER SATISFACTION

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ABSTRACT: Insurance sector in India has undergone a sea-change, specifically after liberalisation. In India, before opening up of the insurance sector, public sector general insurance companies alone offered health insurance products and thereby enjoyed the monopoly status in the country. After liberalisation, more number of private players with foreign alliances have entered into the Indian health insurance market and offers variety of policies, which results in increased competition. As a result, public players are slowly loosing their market share to private insurers in the country. In this backdrop, it is imperative to find out the variables that determine the policyholder satisfaction on service quality of public general insurers. An attempt has been made in this paper to ascertain the variables that determine policyholder satisfaction on service quality of public sector general insurers in Coimbatore District. Step-wise regression analysis, used to ascertain the prominent variables that contribute for the piling up of service quality satisfaction, shows that, ‘Awareness on Mediclaim Insurance’, ‘Premium Amount’, ‘Period of Awareness’, ‘Gender’, ‘Sources of Awareness on Mediclaim Policy’, ‘Occupation – Professional’ and ‘Level of Education – Illiterate’ are the prominent variables that determine policyholder satisfaction. The results of the study reveal that Public Sector General Insures have to concentrate more on spreading awareness as high level of satisfaction is associated with awareness on mediclaim insurance.

Keywords: Mediclaim Insurance; Public Sector General Insurance Companies; Variables Determining Satisfaction on Service Quality.

INTRODUCTION

The fact that the development of human resource depends on health of the citizens is a universally accepted phenomenon. Good health, when protected, not only adds benefit to an individual but also aids the well-being of the family, the community, the society and the country at large. People prefer not only basic amenities, but also social goods, education and healthcare (James, 2004). Today, expenditure on healthcare is highly inflationary all around the world. Therefore, it is absolutely necessary to ensure that one is adequately equipped to meet medical expenses. For the past one decade, there has been an increasing incidence of lifestyle diseases coupled with rising medical costs. Even though awareness on health issues is high, there is an evidence of paucity of saving for unforeseen medical emergencies. According to a survey by National Sample Survey Organisation (NSSO), 40 per cent of the people, who are hospitalised, borrow money or sell assets to meet their medical expenses. The number of such people is rising at 16 per cent per annum (Binay Agarwala, 2008). Thus, in India, health insurance is regarded as the most cost-effective route to tackle health care expenses. The primary objective of health insurance is to provide protection against financial losses caused by unforeseen health problems and at the same time relieve anxiety and mental agony. Health insurance is alternatively called as “Healthcare Insurance” or “Mediclaim Insurance”.

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REVIEW OF LITERATURE

Manivannan and Senthil Kumar (2007) observe that age, sex, educational status, occupation, gross monthly income, period of buying or usage and after sales service significantly influence the policyholder satisfaction. Insurance Regulatory and Development Authority (2007) discloses that customers are dissatisfied due to conditions laid down with regard to pre-existing diseases, renewal procedures, excluded diseases and poor disclosure of policy details. J. D. Power and Associates (2008) identifies that coverage and benefits is the highly significant factor in determining the customers satisfaction followed by choice of doctors, hospitals and pharmacies, information and communication and the like. Latha (2008) infers that product, price, place, promotion, claim process, physical evidence and employees’ response influence the level of satisfaction of consumers. Sunitha and Dhanabhakyam (2008) observe that policyholders are dissatisfied with the delay in settlement of claim amount, huge formalities followed, inaccurate and insufficient disclosure of information provided. Aloeke Gupta (2008) portrays that customers of health insurance are dissatisfied mainly due to the claims settlement disputes arising out of pre-existing diseases. Sushil Shah (2008) discloses that customers are dissatisfied with health insurance providers due to unethical practices adopted by hospital, as recommended by the insurance company. National Survey of Medigap Policyholders (2009) finds that customers are more satisfied with policy features such as consultation of doctors as customer desires, easy and quick reimbursement of medical expenses incurred and less paper work.

STATEMENT OF THE PROBLEM

Health insurance is in its infant stage and is dominated by the public sector general insurance companies. Before opening up of the insurance sector, the four general insurance companies - National Insurance Company Limited, The New India Assurance Company Limited, The Oriental Insurance Company Limited and United India Insurance Company Limited - collected a mediclaim premium of Rs. 25 crore in 1986, the first year of the scheme’s operation (IRDA Annual Report, 2003-04). After liberalising the insurance sector, the four public sector insurance companies were able to mobilise insurance premium of Rs. 1,427.9 crore accounting for 82 per cent, while the eight private players collectively obtained a premium of Rs. 304.27 crore accounting for 18 per cent in 2004-05 (Jagendra Kumar, 2006). During 2010-11, out of the total Rs. 11,480 crore health premium earned, the PSU insurers alone transacted about Rs. 6,913 crore which accounted for 60 per cent and the private sector along with the three standalone health insurance companies collected about Rs. 4,567 crore that accounted for 39 per cent (IRDA Annual Report, 2010-11). This shows that, though the market share of PSUs is high, slowly they are losing it to the private insurance players. Does this anyway indicate a change in the level of policyholder satisfaction? What are the variables that influence policyholder satisfaction?

To seek answers to the questions raised above, the present study has been undertaken.

OBJECTIVES OF THE STUDY

The following are the objectives:
1. To identify the determinants of mediclaim policyholder satisfaction and
2. To offer suggestions to enhance service quality of public sector general insurers
RESEARCH METHODOLOGY

The study depends on both primary and secondary data. Primary data have been collected with the help of an interview schedule which contains questions relating to the personal profile of respondents and satisfaction on service quality. A pilot study was conducted with 50 policyholders to ascertain the relevance of questions. Further, company officials and academic peers have also been contacted to obtain their views on the interview schedule and thereby a well-structured interview schedule has been formulated. Secondary data have been collected from various facets of Insurance journals, magazines and websites. General Insurance Companies’ websites revealed that there were 33 public sector general insurance offices which were in operation in Coimbatore District as on 31st March, 2010. A sample of 462 respondents, 14 each from 33 offices, has been selected using convenient sampling method. Data collected have been analysed using (i) Correlation Analysis (ii) Multiple Regression Analysis (iii) Step-wise Regression Analysis and (iv) Path Analysis.

VARIABLES TESTED FOR ASSOCIATION WITH SERVICE QUALITY SATISFACTION

Customer satisfaction is the prime yardstick used to measure the quality of services provided by any business establishment. The insurance companies have been providing various services since the inception of the policy. To ascertain the policyholders’ level of satisfaction towards service quality offered by public insurance companies, a service quality satisfaction index is computed by considering variables, which are briefly explained in the paragraphs that follow.

i) Procedures followed while taking up the Policy

No documents are insisted while purchasing health insurance. But, the policyholder, whose age is above 40 or 45, has to produce the medical certificate from a competent authority, confirming that no diseases are existing at the time of availing policy.

ii) Motivation Given by the Officials to Purchase the Policy

Development officers and agents are the prime authority in marketing health insurance policy across the length and breadth of country. The duty of the officials, at the time of marketing, is to motivate the policyholder by explaining the importance and benefits of availing the policy, especially during hospitalisation.

(iii) Guidance Rendered by the Officials at the Time of Taking up Policy

The Development officer and / or agents have to guide their customers in selecting the apt policy based on their requirements and affordability and assist them in filling up the application too.

(iv) Time Taken for Issuing the Policy

The policy document is issued by the insurer within a day, on the date of submission of application form along with premium. The policy comes into existence immediately after remitting the premium amount.

(v) Information Available in the Brochure

Brochure is a booklet or pamphlet, which is given to the customers before and / or after availing a policy. It contains a brief detail about the importance of availing mediclaim policy, coverage and exclusions under the policy, procedures for availing mediclaim policy and claim amount and premium to be charged over different aged persons. To highlight the important aspects of the policy, a simple language is used.
(vi) **Terms and Conditions of the Policy Agreement**

The terms and conditions stated in the policy are presented by the insurer in a user understandable and non-ambiguous manner.

(vii) **Premium Payable**

The premium amount to be paid is based on the age and sum insured chosen by the policyholders. Young age group policyholders have to pay less amount of premium than old age group, due to high risks involved.

(viii) **Time Taken for Issue of ID card**

Third Party Administrators issue identity card to an insured to avail cashless facility in the network of hospital, immediately after obtaining the necessary documents and authorisation from the insurance company.

(ix) **Choice of Policies**

Apart from individual mediclaim insurance policy, a number of health-related plans are offered by the insurance companies such as, mediclaim insurance policy for groups, senior citizens, students, people below poverty line, overseas travellers and the like. Thus, people may choose the policy as per their requirements and affordability.

(x) **Issue of Error-free Policy Document**

Policy document issued by an insurer is to be of error-free comprising name of the insured, address of insured, the nature of occupation, the period of insurance, the amount of premiums, the limit of sum insured, the policy number and reference to any special exclusions, conditions or aspects of cover (Anand Ganguly, 2004).

(xi) **Expenses Covered under the Policy**

There are different benefits that can be claimed under the mediclaim insurance policy in the event of hospitalisation. They are,

- Room, Boarding expenses as provided by the hospital or nursing home
- Nursing expenses
- Surgeon, Anaesthetist, Medical Practitioner, Consultants, Specialist’s fees
- Anaesthetist, Blood, Oxyen, Operation Theatre Charges, Surgical appliances, Medicines and Drugs, Diagnostic Materials and X-ray, Dialysis, Chemotherapy, Radiotherapy, Cost of Pacemaker, Artificial Limbs and Cost of Organs and similar expenses (Rakesh Agarwala, 2009)

(xii) **Exclusions under the Policy**

Exclusions are diseases and conditions for which medical expenses are not covered by the health insurance policy. The policy has a three set of exclusions:

- Permanent exclusions are never covered by the policy such as, Cost of Spectacles, Contact Lenses, Hearing Aids, Dental Treatment, Surgery unless it requires Hospitalisation, Convalescence or Rest Cure, Congenital External Diseases, Sterility, Venereal Diseases, Condition directly or indirectly related to AIDS, Pregnancy, Circumcision, unless it is necessary under certain circumstances alone
- First year or temporary exclusions are ailments which are not covered for the first year of health insurance cover, but are covered in subsequent years. They are, Cataract, Benign Prostatic Hypertrophy, Hysterectomy for Menorrhagia or Fibromyoma, Hernia, Hydrocele, Congenital Internal Diseases, Fistula in Anus, Piles and Sinusitis and related disorders. These diseases are only excluded from cover only for the first year of the policy and not afterwards
• The injuries and diseases not covered under certain circumstances are Intentional self-injury, Use of intoxicating alcohol and / or drugs, diseases or injuries arising in the first 30 days from the commencement of policy - this does not include the diseases excluded in the first year of operation of the insurance policy - however if a medical practitioner named by the insurance company states that the policyholder had no knowledge of the existence of the disease, then it will be covered, this also does not apply if the insured had been covered under this policy or group insurance scheme with any Indian Insurance Company, in the immediately preceding 12 months.

(xiii) Treatment Outside City Permissible

The claim is payable when the treatment is taken in a hospital or nursing home which is located even in the outskirts of the city, implies that the treatment can be taken at anywhere in India but it should not be outside the country.

(xiv) Domiciliary Hospitalisation Benefit

Domiciliary Hospitalisation means the medical treatment is taken at home on the recommendation of a medical practitioner for a period exceeding three days for any ailment or injury, which in the normal course would require care and treatment at a hospital or nursing home. This is normally applicable when the patient cannot be moved to a hospital or nursing home on account of condition or lack of accommodation.

(xv) Reimbursable Pre-Hospitalisation Expenses

Relevant medical expenses incurred during period up to 30 days prior to hospitalisation for any disease or injury sustained will be considered as part of claim. These expenses can be reimbursed by the insured on production of relevant medical bills (Sethu, 2007).

(xvi) Reimbursable Post-Hospitalisation Expenses

Post hospitalisation expenses are relevant medical expenses incurred during period upto 60 days after hospitalisation for any disease or illness or injury sustained will be considered as part of hospitalisation claim (Sethu, 2007).

(xvii) Family Discount on Premium

A discount of 10 per cent on the total premium is allowed for a family comprising of the insured and any one or all of the following: a) Spouse b) Two dependent children i.e. legitimate or legally adopted children c) Dependent Parents (Sethu, 2007).

(xviii) Special Discount on Premium

A special discount of 10 per cent is allowed, if the insured persons opt for restricting his / her claim on bed charges or room rent to the extent of one per cent of the sum insured. The decision to restrict the claim on bed charges or room rent would have to be taken at the time of proposal.

(xix) No Claim Discount

No Claim Discount is a discount on the basic premium, if there is a claim free year of the policy. If the insured does not make any claim on the policy, then insured gets a discount from 5 per cent to 25 per cent on basic premium for every claim free year.

(xx) Cost of Health Check Up

The insured shall be entitled for a free medical check-up to be carried out by the company authorised TPAs once at the end of block of every four underwriting years provided there are no claims reported during the block and renewal of insurance without break is essential (Sethu, 2007).
(xxi) Grace Period Allowed for Renewal

A further period of thirty days from the date of expiry will be permissible in exceptional cases subject to health certificate from medical practitioner. But, any disease contracted during the period of those days extensions will be excluded from the date of renewal in addition to other diseases excluded in the expiring policy, whereas other benefits will be permissible (Rakesh Agarwala, 2009).

(xxii) Timely Issue of Renewal Notice

Renewal notice is sent by the insurance company before fifteen or thirty days from the date of expiry of the policy. There is no obligation to issue notice, but in order to retain or increase their market share, companies may send reminder notice to their policyholders in time.

(xxiii) Promptness in Issuing the Renewed Policy

The renewed policy is issued to the policyholders immediately after remitting the premium amount.

(xxiv) Introducing New Schemes

Public Sector General Insurance Companies introduce new schemes, from time to time, based on the prevailing economic conditions, disease pattern in the country and customers’ expectation.

(xxv) Information about New Policies

The company intimates their policyholders about the new policies launched, their features and benefits. They may intimate it through e-mail or by sending pamphlets.

(xxvi) Processing Procedures

Mediclaim policy includes many procedures and it is followed in every stage of the policy operation. The procedures are included in the activities like cost and premiums, eligibility, enrollment, coverage, filing a claim, termination and conversion of coverage.

(xxvii) Mode of Premium Payment

The desire to pay the premium may differ from individuals to individuals. Hence, insurance companies offer facility for remitting premium through cash, cheque, demand draft, credit cards, on-line payment and the like.

(xxviii) List of Hospitals with Cashless Service Facility

Each policyholder is provided with a list of empanelled hospitals, by Third Party Administrator, wherein policyholder can avail cashless hospitalisation (Rakesh Agarwala, 2009).

(xix) On-line Services

The company offers on-line service facility, which contains information about the company, policies and their features, location of the branches, on-line premium payment facility, feedback on service offered, grievance redressal form and so on.

( xxx) Employee-Policyholder Relationship

Harmonious relationship is maintained between employee and the insured to attract new customers as well to retain existing customers. Thus, the employees are more attentive in carrying out the customers’ request.

( xxxi) Feedback Assessment

Feedback is essential for insurers, through which the insurance company could know their insured’s pulse and perception about the policies offered and satisfaction level of insured, which assists company to increase their quality of service.
(xxxii) Grievance Redressal

The Grievance Redressal Cell of the Insurance Regulatory and Development Authority looks into complaints from policyholders. This Cell plays a facilitative role by taking up complaints with the respective insurers. Policyholders, who have complaints against insurers, are first required to approach the Grievance / Customer Complaints Cell of the insurer concerned. If customers have not received a proper response from insurer(s) within a stipulated period of time or are dissatisfied with the response from the company, they may approach the Grievance Cell of the IRDA as their last resort. (www.irdaindia.org)

(xxxiii) Location of the Company

Offices located at a prominent place may enable their policyholders to have access to branches frequently for clarifications, renewal, premium remittance and the like.

SERVICE QUALITY SATISFACTION INDEX

The mediclaim policyholder satisfaction on service quality of public insurers in Coimbatore district has been measured by assigning scores to questions relating to the satisfaction on service quality offered by the public insurers. Thirty-three such questions are included in the interview schedule. Answers to the questions have been rated on three and five-point scale. Thus, the maximum score a policyholder would get is 145. Score obtained by each policyholder is divided by 145 and multiplied by 100 to convert it into an index. This index is termed as “satisfaction index”.

FINDINGS OF THE STUDY

Nature of Association of Select Variables

In order to scrutinise the nature and quantum of association of variables with policyholder satisfaction, correlation analysis is employed. Partial correlation co-efficients have been found out first to finalise the variables that can be taken up for correlation analysis. Variables with negligent partial correlation co-efficients are omitted as they are likely to have very thin association with policyholder satisfaction. Leaving out such variables resulted in the following: Awareness on Mediclaim Insurance, Gender, Age, Level of Education – Illiterate, Occupation namely Agriculture, Business, Professional and Home maker, Number of Earning Members, Monthly Income, Family Income Per Month, Family Expenditure Per Month, Family Expenditure on Healthcare Per Month, Period of Awareness on Mediclaim Policy, Sources of Awareness on Mediclaim Policy and Premium Amount. These are the variables used in correlation, multiple regression, step-wise regression and path analysis. Variables like Illiterate, Agriculture, Business, Professional and Home maker are introduced as dummy variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>r</th>
<th>r²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness on Mediclaim Insurance</td>
<td>0.22</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-0.031</td>
<td>0</td>
</tr>
<tr>
<td>Age</td>
<td>-</td>
<td>0.02</td>
</tr>
<tr>
<td>Level of Education - Illiterate</td>
<td>-0.063</td>
<td>0</td>
</tr>
<tr>
<td>Occupation - Agriculture</td>
<td>-</td>
<td>0.02</td>
</tr>
<tr>
<td>Occupation – Business</td>
<td>-0.008</td>
<td>0</td>
</tr>
<tr>
<td>Occupation - Professional</td>
<td></td>
<td>0.02</td>
</tr>
<tr>
<td>Variables</td>
<td>r</td>
<td>r²</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>------</td>
<td>-----</td>
</tr>
<tr>
<td>Occupation - Home maker</td>
<td>-0.086*</td>
<td>0.01</td>
</tr>
<tr>
<td>Number of Earning Members</td>
<td>0.03</td>
<td>0</td>
</tr>
<tr>
<td>Monthly Income</td>
<td></td>
<td>0.03</td>
</tr>
<tr>
<td>Family Income Per Month</td>
<td></td>
<td>0.02</td>
</tr>
<tr>
<td>Family Expenditure Per Month</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Family Expenditure on Healthcare Per Month</td>
<td></td>
<td>0.01</td>
</tr>
<tr>
<td>Period of Awareness on Mediclaim Policy</td>
<td>0.046</td>
<td>0</td>
</tr>
<tr>
<td>Sources of Awareness on Mediclaim Policy</td>
<td>-0.013</td>
<td>0</td>
</tr>
<tr>
<td>Premium Amount</td>
<td></td>
<td>0.02</td>
</tr>
</tbody>
</table>

* Significant at ten per cent level ** Significant at five per cent level *** Significant at one per cent level

Out of sixteen variables selected for correlation analysis, nine variables have been found to be significant. Of them, Awareness on Mediclaim Insurance, Age, Occupation namely Agriculture and Professional, Monthly Income, Family Income Per Month and Premium Amount are found to be significant at one per cent level. Family Expenditure on Healthcare Per Month is found to be significant at five per cent level and Policyholders belonging to Home maker category is significant at ten per cent level. The co-efficient of determination (r²) shows that select variables account for its respective per cent of the variation in the level of satisfaction.

**Determinants of Policyholder Satisfaction on Service Quality**

In order to find out the variables that determine policyholder satisfaction, all the variables included for correlation analysis have been regressed on satisfaction index.

The following regression equation has been framed to ascertain the impact of the variable on Policyholder Satisfaction:

\[
\text{SQSI} = a + b_1 \text{AMI} + b_2 \text{GEN} + b_3 \text{AG} + b_4 \text{ILLI} + b_5 \text{AGR} + b_6 \text{BU} + b_7 \text{PROF} + b_8 \text{HM} + b_9 \text{NEM} + b_{10} \text{MI} + b_{11} \text{FI} + b_{12} \text{FE} + b_{13} \text{FEHC} + b_{14} \text{PAW} + b_{15} \text{SAW} + b_{16} \text{PA} + e
\]

where,

- **SQSI** = Service Quality Satisfaction Index
- **a** = Intercept Term
- **b₁...b₁₆** = Regression Co-efficients
- **AMI** = Awareness on Mediclaim Insurance
- **GEN** = Gender
- **AG** = Age
- **ILLI** = Illiterate
- **AGR** = Agriculture
- **BU** = Business
- **PROF** = Professional
- **HM** = Home maker
- **NEM** = Number of Earning Members
- **MI** = Monthly Income
Of the 16 variables introduced, ten variables are found to significantly influence policyholder satisfaction namely, Awareness on Mediclaim Insurance, Gender, Policyholders belonging to Illiterate category, Occupation namely Business and Professional, Family Expenditure Per Month, Family Expenditure on Healthcare Per Month, Period of Awareness on Mediclaim Policy, Sources of Awareness on Mediclaim Policy and Premium Amount. Only these variables are explained in the paragraphs that follow.

i) **Awareness on Mediclaim Insurance**

The regression co-efficient indicates that awareness on mediclaim insurance positively influences the policyholder satisfaction. This impact is found to be highly significant. The value of regression co-efficient indicates that awareness on mediclaim insurance increases, the level policyholder satisfaction tends to increase.

(ii) **Gender**

The regression analysis shows that there exists a negative influence between the policyholder gender and their level of satisfaction. The impact is found to be significant at five per cent level. The value of regression co-efficient indicates that female policyholders are more satisfied than male policyholders.

(iii) **Level of Education – Illiterate**

The regression co-efficient indicates that level of education – illiterate positively influences the level of satisfaction. The impact is found to be significant at five per cent level. The value of regression co-efficients indicates that illiterate policyholders are more satisfied.

(iv) **Occupation – Business**

The regression analysis shows that there exists a positive influence between the policyholders belonging to business category and their level of satisfaction. The impact is found to be significant at five per cent level. The value of regression co-efficients indicates that businessmen possess high level of satisfaction than other category of policyholders.

(v) **Occupation – Professional**

The regression co-efficient indicates that there exists a positive influence between the policyholders belonging to professional category and their level of satisfaction. The impact is found to be significant at five per cent level. The value of regression co-efficients indicates that policyholders belonging to professional category are more satisfied than other category of policyholders.

(vi) **Family Expenditure Per Month**

Family expenditure per month positively influences the level of policyholder satisfaction and the impact is also found to be highly significant. The value of regression co-efficients indicates that policyholders with high family expenditure per month are found to be with high level of satisfaction.
(vii) **Family Expenditure on Healthcare Per Month**

The regression coefficient shows that the family expenditure on healthcare per month has a negative impact on the policyholder level of satisfaction. The value of regression coefficient reveals that family expenditure on healthcare per month decreases by a unit, the level of policyholder satisfaction increases by 0.001 units.

(viii) **Period of Awareness on Mediclaim Policy**

Period of awareness on mediclaim policy negatively influences the level of policyholder satisfaction and the impact is also found to be highly significant. The value of the regression coefficient indicates that period of awareness on mediclaim policy increases, the level of policyholder satisfaction tends to decline.

(ix) **Sources of Awareness on Mediclaim Policy**

Sources of awareness on mediclaim policy negatively influence the level of policyholder satisfaction and the impact is also found to be highly significant. The value of the regression coefficient indicates that policyholders who refer more number of sources for gathering information on mediclaim policy are with low level of satisfaction.

(x) **Premium Amount**

The regression coefficient shows that premium amount paid by the policyholders has a negative impact on the level of satisfaction. The value of regression coefficient indicates that one unit of decrease in premium amount paid, increases the level of policyholder satisfaction by 0.001 units.

The value of $R^2$ is found to be significant at one per cent level. This shows that regression equation framed is a good fit. Around 37 per cent of variation in level of policyholder satisfaction is due to the selected variables.

### Table 2: Determinants of Service Quality Satisfaction - Multiple Regression Analysis

<table>
<thead>
<tr>
<th>Variables</th>
<th>Regression coefficient</th>
<th>Standard error</th>
<th>T (df = 445)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness on Mediclaim Insurance</td>
<td>0.304***</td>
<td>0.025</td>
<td>12.400</td>
</tr>
<tr>
<td>Gender</td>
<td>-2.490**</td>
<td>1.044</td>
<td>-2.386</td>
</tr>
<tr>
<td>Age</td>
<td>-0.056</td>
<td>0.040</td>
<td>-1.402</td>
</tr>
<tr>
<td>Level of Education – Illiterate</td>
<td>5.203**</td>
<td>2.323</td>
<td>2.240</td>
</tr>
<tr>
<td>Occupation – Agriculture</td>
<td>1.811</td>
<td>1.231</td>
<td>1.472</td>
</tr>
<tr>
<td>Occupation – Business</td>
<td>1.774**</td>
<td>0.842</td>
<td>2.106</td>
</tr>
<tr>
<td>Occupation – Professional</td>
<td>3.125**</td>
<td>1.336</td>
<td>2.338</td>
</tr>
<tr>
<td>Occupation - Home maker</td>
<td>2.751</td>
<td>1.782</td>
<td>1.544</td>
</tr>
<tr>
<td>Number of Earning Members</td>
<td>0.833</td>
<td>0.752</td>
<td>1.108</td>
</tr>
<tr>
<td>Monthly Income</td>
<td>0.000</td>
<td>0.000</td>
<td>1.196</td>
</tr>
<tr>
<td>Family Income Per Month</td>
<td>0.000</td>
<td>0.000</td>
<td>1.412</td>
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<tr>
<td>Family Expenditure Per Month</td>
<td>0.001***</td>
<td>0.000</td>
<td>-3.045</td>
</tr>
<tr>
<td>Family Expenditure on Healthcare Per Month</td>
<td>-0.001*</td>
<td>0.000</td>
<td>-1.750</td>
</tr>
<tr>
<td>Period of Awareness on Mediclaim Policy</td>
<td>-0.319***</td>
<td>0.112</td>
<td>-2.859</td>
</tr>
<tr>
<td>Sources of Awareness on Mediclaim Policy</td>
<td>-0.965***</td>
<td>0.328</td>
<td>-2.952</td>
</tr>
<tr>
<td>Premium Amount</td>
<td>-0.001***</td>
<td>0.000</td>
<td>-4.108</td>
</tr>
</tbody>
</table>

* Significant at ten per cent level  ** Significant at five per cent level  *** Significant at one per cent level  
Constant: 60.611; Std. Error of Estimate: 7.09563;  $R^2$: 0.348;  $R^2$: 0.370***

**Variables Prominently Associated with Policyholder Satisfaction - Step-wise Regression Analysis**

To find out variables that are prominently associated with policyholder satisfaction, step-wise regression is carried out.
In the first step, the variable ‘Awareness on Mediclaim Insurance’ has been introduced. This variable contributes 21.5 per cent to the variation in the satisfaction of the policyholders. ‘Premium Amount’ is the variable introduced in step two. This variable, along with ‘Awareness on Mediclaim Insurance’, accounts for 27.8 per cent variation in the satisfaction of the policyholders. The contribution has increased by 6.3 per cent. ‘Period of Awareness on Mediclaim Policy’, a third variable, has increased the total contribution from 27.8 per cent to 29.4 per cent with an individual contribution of 1.6 per cent. The contribution gets further increased by 1.3 per cent to 30.7 per cent, with the introduction of the fourth variable ‘Gender’. The variable ‘Sources of Awareness on Mediclaim Policy’ is introduced in the fifth step. The total contribution has increased to 31.8 per cent with the variable’s merely contribution of 1.1 per cent. The sixth variable ‘Occupation – Professional’ has been introduced, which has an individual contribution of 0.9 per cent with a total contribution of 32.7 per cent. ‘Level of Education – Illiterate’ is the last variable introduced in the step seven and the total contribution has increased from 32.7 to 33.4 per cent.

The $R^2$ value of the multiple regression amounts to 37.0 per cent. The difference of 3.6 per cent is due to contribution by other variables.

**Direct and Indirect Effect of the Selected Variables on Policyholder Satisfaction**

In order to find out the direct and indirect effect of the variables – included in correlation and multiple regression analysis – on service quality satisfaction, path analysis has been carried out. The results of the analysis are presented in Table 4.

The diagonal values in Table 4 show the direct effect of each of the variables on Service Quality Satisfaction. Of the sixteen variables selected, ‘Awareness on Mediclaim Insurance’ has the highest direct effect on Service Quality Satisfaction while ‘Family Expenditure Per Month’ has the least direct effect. Apart from direct effect, each variable, along with other variables, has an indirect effect. However, only substantial indirect effects of the variables are discussed in the following paragraphs. While doing so, only three variables, along with each variable has indirect effect are considered. The first two variables are the ones with which each variable has the highest and the next highest substantial indirect effect and the third is the one along with which each variable has the least indirect effect.

‘Awareness on Mediclaim Insurance’ has a substantial indirect effect along with ‘Family Income Per Month’ as well as ‘Monthly Income’, while through ‘Family Expenditure Per Month’, it has the least indirect effect. The variable ‘Gender’ has

### Table 3: Variables Prominently Associated with Policyholder Satisfaction - Step-wise Regression Analysis

<table>
<thead>
<tr>
<th>Step</th>
<th>Constant</th>
<th>AMI</th>
<th>PA</th>
<th>PAW</th>
<th>GEN</th>
<th>SAW</th>
<th>PROF</th>
<th>ILLI</th>
<th>$R^2$</th>
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<tbody>
<tr>
<td>1</td>
<td>55.968</td>
<td>0.217</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.215</td>
</tr>
<tr>
<td>2</td>
<td>57.836</td>
<td>0.248</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.278</td>
</tr>
<tr>
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Table 4: Direct and Indirect Effect of Selected Variables on Service Quality Satisfaction – Path Analysis

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Where,

- AMI = Awareness on Mediclaim Insurance
- GEN = Gender
- AG = Age
- ILLI = Illiterate
- AGR = Agriculture
- BU = Business
- PROF = Professional
- HM = Home maker
- MI = Monthly Income
- FI = Family Income Per Month
- FE = Family Expenditure Per Month
- FEHC = Family Expenditure on Healthcare Per Month
- PAW = Period of Awareness about Mediclaim Policy
- SAW = Sources of Awareness about Mediclaim Policy
- PA = Premium Amount
- NEM = Number of Earning Members
a substantial indirect effect along with ‘Awareness on Mediclaim Insurance’ and ‘Monthly Income’, while it has the least indirect effect on Service Quality Satisfaction through ‘Home maker’. Along with ‘Awareness on Mediclaim Insurance’ and ‘Monthly Income’, the variable ‘Age’ has a substantial indirect effect on Service Quality Satisfaction while through ‘Premium Amount’, it has the least indirect effect. ‘Level of Education - Illiterate’ has a substantial indirect effect through ‘Family Expenditure Per Month’ and ‘Occupation - Homemaker’, while it has the least indirect effect through the variable ‘Awareness on Mediclaim Insurance’. Occupation - Agriculture’ has a substantial indirect effect through ‘Family Expenditure Per Month’ and ‘Period of Awareness on Mediclaim Policy’. It has the least indirect effect through ‘Awareness on Mediclaim Insurance’. Through ‘Family Expenditure Per Month’ and ‘Premium Amount’, the variable ‘Occupation - Business’ has a substantial indirect effect on Service Quality Satisfaction, while it has the least indirect effect through ‘Awareness on Mediclaim Insurance’. ‘Occupation - Professional’ has a substantial indirect effect through ‘Awareness on Mediclaim Insurance’ and ‘Family Income Per Month’, while it has the least indirect effect through variable ‘Premium Amount’. Along with ‘Gender’ and ‘Period of Awareness on Mediclaim Policy’ the variable ‘Occupation - Home maker’ has a substantial indirect effect while along with ‘Awareness on Mediclaim Insurance’, it has the least indirect effect. Through ‘Awareness on Mediclaim Insurance’ and ‘Family Income Per Month’, the variable ‘Number of Earning Members’ has a substantial indirect effect on Service Quality Satisfaction, while it has the least effect through ‘Family Expenditure Per Month’. ‘Monthly Income’ has a substantial indirect effect along with variables ‘Awareness on Mediclaim Insurance’ as well as ‘Family Income Per Month’, while through the variable ‘Family Expenditure Per Month’, it has the least indirect effect. ‘Family Income Per Month’ has a substantial indirect effect along with ‘Awareness on Mediclaim Insurance’ and ‘Monthly Income’, while it has the least indirect effect on Service Quality Satisfaction through ‘Family Expenditure Per month’. Along with ‘Awareness on Mediclaim Insurance’ and ‘Family Income Per Month’, the variable ‘Family Expenditure Per Month’ has a substantial indirect effect on Service Quality Satisfaction while through variable ‘Premium Amount’, it has the least indirect effect. ‘Period of Awareness on Mediclaim Policy’ has a substantial indirect effect through ‘Awareness on Mediclaim Insurance’ and ‘Family Income Per Month’. It has the least indirect effect through ‘Family Expenditure Per Month’. Through ‘Awareness on Mediclaim Insurance’ and ‘Occupation - Professional’, the variable ‘Sources of Awareness on Mediclaim Policy’ has a substantial indirect effect on Service Quality Satisfaction, while it has the least indirect effect through ‘Premium Amount’. ‘Premium Amount’ has a substantial indirect effect through ‘Awareness on Mediclaim Insurance’ and ‘Family Income Per Month’, while it has the least indirect effect through ‘Family Expenditure Per Month’.

**SUGGESTIONS**

Based on the findings of the study, the following suggestions are offered.

- Development officers and agents, while issuing a policy may explain the pros and cons, exclusions and other technical details to the client
- Issue of policy documents in a simple vernacular language so that policyholder may easily understand terms and conditions of the policy
- Insurers have to undertake a demand audit to understand what the policyholder expects from them. Obtaining the right feedback from their customers may assist the insurance companies in bringing out innovative products
- Insurance companies may offer services at the door-step of policyholders
- Public sector general insurance companies have to review the premium rates in view of the changed diseases pattern and have to negotiate with hospitals to render quality services
CONCLUSION

Health insurance in India is in a nascent stage. People covered under health insurance are approximately 3 to 5 per cent of the total population, which shows a vast majority of the people is still not covered by any health insurance cover. This only indicates that the Government as well as those involved in offering healthcare policies have to devise strategies to educate people on the need to be covered under a health insurance plan as well as to motivate them to come under the umbrella of protection. Those who have already taken up policies are to be offered the best service. Good quality service only enhances the satisfaction of customers who in turn will act as unpaid sales force to bring many into the fold of health insurance. The present study has made an attempt to examine the level of satisfaction of customers with various services they get from general insurers for the mediclaim policies they have taken up. Perception of customers on the quality of service is the central theme of the study. However, the scope for probing into the functioning of mediclaim policy providers is far and wide. A study may be carried out in ascertaining policyholder level of satisfaction with regard to private insurance companies. Further, a comparative study may be carried out with regard to policyholder satisfaction between public and private insurance companies. Determinants of rural and urban policyholder satisfaction may also be considered.

REFERENCES

HOW DOES INDIAN GOLD PRICE REACT TO THE CHANGES IN REAL EXCHANGE RATES?

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\textbf{ABSTRACT:} This study investigates the relationship between the Indian gold price and the real exchange rates of major international currency and how does Indian gold price reacts to the exchange rates of these currencies. The data set consists of monthly gold prices from Indian market and the real exchange rates of major currencies like USD, Euro, Yen and INR for the period from 1994:01 to 2011:12. The relationship and reaction is tested through the Johansen cointegration test, Granger causality test and VAR models like Impulse response function and Variance Decomposition. It is found that the Indian gold prices have long run relationship with the real exchange rates of major currencies and it is also found that the Indian gold prices are caused by the real exchange rate of Yen but the vice versa does not exist. The Indian gold prices react positively to the shocks from Yen and negatively to the INR.

\textbf{Keywords:} Gold price, Exchange rates, Cointegration, Causality

\textbf{INTRODUCTION}
A change in exchange rate of domestic currency against the international currency will have an effect on the prices of commodities traded in an organized exchange basically because trading is in domestic currency and therefore any changes in domestic currency against International currency expected to have impact; gold is one such commodity. Gold is traded in all the major commodity exchanges in the world NYMEX division of COMEX in USA, Tokyo Commodity exchange (TOCOM) in Japan, London metal exchange (LME) in London and Multi Commodity exchange (MCX) in India but the quantity and the size of trade differs from one exchange to another.

Gold is also traded in the retail market in order to meet the jewelery and other demands. The gold market in a country may either be a supply driver due to sufficient domestic production or demand driven due to larger import demand. Countries like India depending entirely on gold import are price takers, depending upon London fixes of gold price implying for an exogenous impact of gold price on physical gold demand. Hence the domestic gold price is determined by global gold price and exchange rate ((R.Kannan and Sarat Dhal (2008)). India is the largest consumer of gold in the world and the major proportion of gold goes into jewelery. Any appreciation or depreciation in the Indian rupees and the major currencies in the world (USD, EURO and Japanese Yen) may have a strong impact on the Indian gold market price. The value preserving ability of gold will not always be same. This is due to the correlation between the exchange rate and gold prices, exchange rate shocks are likely to have more impact on domestic price level and domestic denominated wealth (Le, Thai-Ha and Cheung 2011).
India is the largest consumer of gold in the international markets but the research in precious metals with respect to gold is very scarce. The researches Sjaastad and Scacciavillani (1996), Beckers and Soenen (1984) and Baker and Van Tassel (1985) analysed the relationship between the currency and the gold price movements. Researches in India Arti Gaur and Monica Bansal (2010), Ganesh Mani and Srivyal Vuyyuri (2003) accounted the correlation between the Indian rupees exchange rate and the gold price. Gold is quoted in US dollar in the international markets and hence any appreciation or depreciation of domestic and major currency against the US dollar will have its impact on the domestic market price. This study is an attempt to test the causal relationship between the major currency USD, Euro, JPY and INR and Indian gold market price.

With the above background, the study is thus organised. Section 2 provides a brief review on the relationship between the Exchange rate and the gold price. Section 3 explains the Data used in the study and the Methodologies adopted for the empirical analysis. Section 4 deals with the empirical results. Section 5 provides the findings and conclusions.

2. REVIEW OF THE LITERATURE

The relationship between gold price and the exchange rate has been investigated empirically by several studies. The notable studies which are contributed to the literature are:

Capie, Mills C and wood (2005) found the relationship between gold and exchange rates but the strength of this relationship had shifted over time. Gold acted as a hedge against fluctuation in the foreign exchange value of the Dollar. Larry A. Sjaastad (2008) made an attempt to examine the theoretical and empirical relationship between the major exchange rates and the price of gold with the help of the forecast error data by considering the gold price and the three major currencies USD, the Euro and the Yen and found that the US dollars, the Yen and the Euro blocs dominated the international market while a 10 percent appreciation of the DM Euro against all other currencies increases the dollar price of gold.

Kauffmann and Winters A (1989) studied the price of gold for the year 1974 – 1988. The results showed that the volatility in the dollar tend to move the predicted gold price for the future. Sjaastad L.A and Scacciavillani F (1996) tested the effect of changes in major currency exchange rates on the daily price of gold. The major currency such as USD and Deutsche market, UK Pound Sterling were employed. It is found that the world gold market is dominated by the Euro zone currency and hence any fluctuations in the Euro had a greater effect on the price of gold in other currencies. Sari R, Hammoudeh S and Soytas U (2010) examined the co-movements and the information transmission among the spot prices of four precious metals, Oil price and USD/Euro exchange rate. They have concluded that there are no long run equilibrium relationships between the spot price returns of the precious metals and the exchange rates. However these two are closely linked in the short run after a shock is occurred in the markets.

Gaur and Bansal (2010) examined the relationship between the Indian and the International gold price and the exchange rate impact. The results showed that any depreciation in the exchange rates tend to reduce the gold prices thereby increasing its demand. In Indian market, the gold prices were highly depending on the prices in international gold market and the variation in the exchange rates. Wang K. & Lee Y (2011) tested the existence of the asymmetric effect on the relationship between the gold price and exchange rate fluctuation. The empirical results suggested that the behavior of gold return and the Yen/Dollar exchange rate fluctuations were non-linear and the exchange rate fluctuations had a positive impact on the gold return implying that the gold return and fluctuations in exchange rate were positively correlated and the high depreciation in Yen could be hedged with gold.
Beckers and Soenen (1984) documented the impact of the relationship between the gold price and the US dollar on the performance of the gold investment. The empirical results evidenced that any investor with the non-US dollar base currency will assume the exchange risk exposure, as the gold transaction takes place in US dollar. Further, the gold price and the strength of the US dollar had an inverse relationship in the history.

Pukthuanthong and Roll (2011) tested the relationship between gold price and exchange rates by taking the four major currencies in the world: US dollar, Euro, Yen, and Pound. He found out that a higher gold price was correlated with a weaker currency throughout the period in the analysis and concluded that the price of gold is strongly associated with the currency depreciation. Wang M.L, Wang C.P and Huang T.Y (2010) examined the impact of fluctuation rates of the US Dollar Vs various currencies on the gold price and the stock price indices of the United States, Germany, Japan, Taiwan, and China respectively as well as the long and short-term correlation among these variables. It was concluded that there existed long-term stable equilibrium relationship among the nation’s stock index and crude oil prices. Gold price and exchange rates and, there existed a two-way feedback relationship between the crude oil prices and the Taiwan stock prices/Gold prices of Taiwan group. Gold price was leading the exchange rates.


It is evident from the review listed above that there are no studies which have linked the gold price with real exchange rates; they all have tried either to find the trend or determinants; examined the relationship between gold and equity. Therefore, this study aims to investigate the relationship between the gold price in India and the exchange rates of international major currencies and also it attempts to find the reaction of gold price to the changes in exchange rates of major international currencies.

3. DATA AND METHODOLOGY

3.1 Data
The data set consists of monthly observations of Indian Spot gold price data obtained from Hand book of statistics of Reserve bank of India and the exchange rate of the major currencies are proxied by the broad real effective exchange rate index data of US dollar, Euro, Japanese Yen and Indian Rupees. The broad real effective exchange rate index is taken from the website of Bank for International Settlements. This broad real effective exchange rate index is the basket of the 61 economies. The sample period covers from January 1994 to December 2011 and it comprised of 216 monthly data points for each of the variables included in the study. Data are converted into continuously compounded rate of return, as it provides the advantage of symmetric while the other form of return will not.

3.2 Methodology

Unit root test
A time series is said to be stationary, when its statistic characteristics do not change over time. The early and pioneering work on testing for a unit root in time series was done by Dickey and Fuller (Fuller 1976; Dickey and Fuller, 1979) and Phillip and Perron (1988) (Conventional test). The basic objective of the test is to examine the null hypothesis that $\beta=0$ ($Y_t$ is non stationary) against the alternative hypothesis alternative hypothesis $\beta \neq 0$ ($Y_t$ is stationary).
Johansen Cointegration test

The cointegration can be used to test whether two non-stationary time series “move together” in the long run. Johansen (1991) developed two likelihood ratios to test for the number of co-integrating vectors in an unrestricted vector auto regression (VAR) model: the maximum Eigen value test and the trace test. The former test the null hypothesis of r co-integrating vectors against the alternative hypothesis of r+1 co-integrating vectors and the later test the null hypothesis of r co-integrating vectors at most against the alternative hypothesis of more than r vectors. This is formulated as follows

\[ \lambda_{\text{trace}}(r) = -T \sum_{i=r+1}^{g} \ln (1 - \lambda_i) \]

and

\[ \lambda_{\text{max}}(r, r+1) = -T \ln (1 - \lambda_{r+1}^*) \]

Where \( r \) is the number of cointegrating vectors under the null hypothesis and \( \lambda_i \) is the estimated value for the \( i \)th ordered eigenvalue from \( \Pi \) matrix. Intuitively, the larger is \( \lambda_i \), the more large and negative will be \( \ln(1-\lambda_i) \) and hence the larger will be the test statistic. Each eigenvalue will have associated with it a different cointegrating vector, which will be eigenvectors. A significantly non-zero eigenvalue indicates a significant cointegrating vector.

\( \lambda_{\text{trace}} \) is a joint test where the null is that the number of cointegrating vectors is less than or equal to \( r \) against an unspecified or general alternative that there are more than \( r \). It starts with \( p \) eigen values, and then successively the largest is removed. \( \lambda_{\text{trace}} = 0 \) when all the \( \lambda_i = 0 \), for \( i=1, \ldots, \delta \)

\( \lambda_{\text{max}} \) conducts separate test on each eigen value, and has as its null hypothesis that the number of cointegrating vectors is \( r \) against an alternative of \( r+1 \).

Granger causality test

Causality test seeks to answer the simple question of the type, Do changes in X cause changes in Y. If X causes Y, lags of X should be significant in the equation for Y. If this is the case and not vice versa, it would be said that X Granger-causes Y or there exist a unidirectional causality from X to Y. On the other hand, if Y causes X lags of Y should be significant in the equation of X. If both sets of lags were significant, it would be said that there exist a Bi-directional causality. A time series X is said to Granger-cause Y if it can usually through a series of F test on lagged values of X, that those X values provide statistically significant information about future values of Y. Consider series \( Y_t \) and \( X_t \):

\[ Y_t = \sum_{j=1}^{p} A_{11,j} Y_{t-j} + \sum_{j=1}^{p} A_{12,j} X_{t-j} + \epsilon_{1t} \]

\[ X_t = \sum_{j=1}^{p} A_{21,j} Y_{t-j} + \sum_{j=1}^{p} A_{22,j} X_{t-j} + \epsilon_{2t} \]

Where \( p \) is the maximum number of lagged observations included in the model, the matrix A contains the co efficient of the model and \( \epsilon_1 \) and \( \epsilon_2 \) are residuals for each time series. If the variance of \( \epsilon_1 \) is reduced by the inclusion of the X terms in the first equation then it is said that X Granger-causes Y. In other world, X Granger-causes Y if the co efficient in \( A_{12} \) are jointly significantly different from zero. This can be tested by performing an F-test of the null hypothesis that \( A_{12} = 0 \) given assumptions of covariance stationarity on Y and X. The magnitude of a Granger causality interaction can be estimated by the logarithm of the corresponding F-statistic.
Vector Auto Regression (VAR)

Vector auto regression (VAR) is an econometric model used to capture the inter dependencies between multiple time series, generalizing the univariate AR models. Consider two economic time series \( Y_t \) and \( X_t \). Here we are considering the relationship between the price of gold and exchange rate, then \( Y_t \) and \( X_t \) respectively. The VAR model with \( p \) lag with \( k \) endogenous variable would be

\[
Y_t = A_1 Y_{t-1} + A_2 Y_{t-2} + \ldots + A_p Y_{t-p} + \varepsilon_t
\]

Where \( Y_t \) and lagged values, and vectors and \( A_1 \ldots A_p \) are \( K \times K \) matrices of constant to be estimated. The VAR analysis will be divided into two parts namely Impulse response function and Variance decomposition. The Impulse responses function trace out the responsiveness of the dependent variables in the VAR to shocks to each of the variables. In IRF for each variable from each equation separately, a unit shock is applied to the error and the effects upon the VAR system over time are noted. The variance decomposition provides a proportion of the movements in the dependent variables that are due to their own shocks versus shocks to other variables. In VDC a shock to the \( i^{th} \) variable will directly affect that variable of course, but it will also be transmitted to all of the other variables in the system through a dynamic structure of the VAR. Variance decompositions determine how much of the s-step-ahead forecast error variance of a given variable is explained by innovations to each explanatory variable for \( s = 1, 2 \ldots \)

IV. Empirical Analysis

Table 1

<table>
<thead>
<tr>
<th></th>
<th>DIGP</th>
<th>DEURO</th>
<th>DINR</th>
<th>DJPY</th>
<th>DUSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.835282</td>
<td>-0.02291</td>
<td>-0.0081</td>
<td>-0.09615</td>
<td>-0.03562</td>
</tr>
<tr>
<td>Median</td>
<td>0.474137</td>
<td>-0.04784</td>
<td>0.022391</td>
<td>-0.36469</td>
<td>-0.04273</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>3.456532</td>
<td>1.510068</td>
<td>1.563929</td>
<td>2.528205</td>
<td>1.262924</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.44566</td>
<td>0.418561</td>
<td>-0.0926</td>
<td>0.824654</td>
<td>0.134903</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>4.851972</td>
<td>3.257854</td>
<td>4.21556</td>
<td>5.07401</td>
<td>4.573146</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>37.84227</td>
<td>6.873387</td>
<td>13.54395</td>
<td>62.90304</td>
<td>22.8221</td>
</tr>
<tr>
<td>Probability</td>
<td>0.00000</td>
<td>0.032171</td>
<td>0.001145</td>
<td>0.00000</td>
<td>0.000011</td>
</tr>
</tbody>
</table>

The table 1 shows the summary statistics of the variables included in the study. It is observed that the mean return 0.8352 of the Indian gold is positive with high standard deviation. The other variables real exchange rates of USD, EURO, JPY and INR produced negative return with low standard deviation. The DINR alone negatively skewed -0.926 and the other variables like DIGP, DUSD, DJPY, DEURO are skewed positively. This implies that the negative return occurred in the major currency could be hedged with the positive return from the gold. The return series of the variables are represented in the below Figure 1. It is observed that all the variables almost show a similar trend in the long run with little deviation in the short run.
Figure 1
Monthly return series gold price and the major currencies

![Graph showing monthly returns for gold price and major currencies]

Table 2
Augmented Dickey-Fuller and Phillips-Perron unit root test statistic - Level

<table>
<thead>
<tr>
<th>Variables</th>
<th>ADF test statistic</th>
<th>PP test statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level</td>
<td>Level</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>Intercept</td>
</tr>
<tr>
<td>IGP</td>
<td>3.718885 (1.0000)</td>
<td>2.926675 (1.0000)</td>
</tr>
<tr>
<td>INR</td>
<td>-0.101117 (0.6478)</td>
<td>-2.457275 (0.1275)</td>
</tr>
<tr>
<td>EURO</td>
<td>-0.320188 (0.5692)</td>
<td>-1.948521 (0.3097)</td>
</tr>
<tr>
<td>JPY</td>
<td>-0.584394 (0.4632)</td>
<td>-2.281981 (0.1788)</td>
</tr>
<tr>
<td>USD</td>
<td>-0.268722 (0.5883)</td>
<td>-1.323545 (0.6187)</td>
</tr>
</tbody>
</table>

Table 3
Augmented Dickey-Fuller and Phillips-Perron unit root test statistic – First difference

<table>
<thead>
<tr>
<th>Variables</th>
<th>ADF test statistic – First Difference</th>
<th>PP test statistic – First Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level</td>
<td>Level</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>Intercept</td>
</tr>
<tr>
<td>EURO</td>
<td>-11.03**</td>
<td>-11.00**</td>
</tr>
<tr>
<td>JPY</td>
<td>-10.83**</td>
<td>-10.82**</td>
</tr>
</tbody>
</table>

**, *** indicates the significance at 1% and 5% level respectively
Unit root test is applied to test whether a time series variable is non-stationary when using an autoregressive model. A stationary time series is one whose statistical properties such as mean, variance and autocorrelation are constant over a time. Table 2 & 3 indicate the test results of ADF and PP both level and their first difference of the continuously compounded return series of data. It is clear from the results that the null hypothesis of unit root at their first difference is rejected. Thus the variables are stationary and integrated of same order I(1). This condition permits to proceed to test the Johansen Co integration test to examine the long relationship between the gold price and the exchange rates of the major currencies.

Table 4
Results of Johansen Cointegration test

<table>
<thead>
<tr>
<th>Variables</th>
<th>Hypothesis</th>
<th>Eigen value</th>
<th>Trace Statistics</th>
<th>Critical value at 5%</th>
<th>P value</th>
<th>Max-Eigen Statistic</th>
<th>Critical value at 5%</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGP &amp; INR</td>
<td>r = 0*</td>
<td>0.121209</td>
<td>37.50967</td>
<td>15.49471</td>
<td>0.0000**</td>
<td>27.39204</td>
<td>14.26460</td>
<td>0.0003**</td>
</tr>
<tr>
<td></td>
<td>r ≤ 1*</td>
<td>0.046604</td>
<td>10.11763</td>
<td>3.841466</td>
<td>0.0015**</td>
<td>10.11763</td>
<td>3.841466</td>
<td>0.0015**</td>
</tr>
<tr>
<td>IGP &amp; EURO</td>
<td>r = 0*</td>
<td>0.100603</td>
<td>25.74826</td>
<td>15.49471</td>
<td>0.0010**</td>
<td>22.47855</td>
<td>14.26460</td>
<td>0.0020**</td>
</tr>
<tr>
<td></td>
<td>r ≤ 1</td>
<td>0.015305</td>
<td>3.269713</td>
<td>3.841466</td>
<td>0.0706</td>
<td>3.269713</td>
<td>3.841466</td>
<td>0.0706</td>
</tr>
<tr>
<td>IGP &amp; USD</td>
<td>r = 0*</td>
<td>0.097373</td>
<td>25.23012</td>
<td>15.49471</td>
<td>0.0013**</td>
<td>21.71841</td>
<td>14.26460</td>
<td>0.0028**</td>
</tr>
<tr>
<td></td>
<td>r ≤ 1</td>
<td>0.016428</td>
<td>3.511715</td>
<td>3.841466</td>
<td>0.0609</td>
<td>3.511715</td>
<td>3.841466</td>
<td>0.0609</td>
</tr>
<tr>
<td>IGP &amp; JPY</td>
<td>r = 0*</td>
<td>0.120640</td>
<td>29.95303</td>
<td>15.49471</td>
<td>0.0002**</td>
<td>26.86921</td>
<td>14.26460</td>
<td>0.0003**</td>
</tr>
<tr>
<td></td>
<td>r ≤ 1</td>
<td>0.014647</td>
<td>3.083828</td>
<td>3.841466</td>
<td>0.0791</td>
<td>3.083828</td>
<td>3.841466</td>
<td>0.0791</td>
</tr>
</tbody>
</table>

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level, * denotes rejection of the hypothesis at the 0.05 level **MacKinnon-Haug-Michelis (1999) p-values, IGP means the Indian Gold price, The table 4 provides the results of Johansen’s Trace and Maximum Eigen value test. If the exchange rate and the gold price are cointegrated then the movements of these two asset prices are tied together in the long run. The trace test indicates the existence of more than one cointegrating equations at 5% level significance between IGP and INR and one cointegrating equation between IGP and EURO, JPY and USD. The results indicate a long run equilibrium relationship between the real exchange rates of major currencies and the Indian gold price. Hence they are dependent on one another and their prices could be used to forecast by each other in the long run. The maximum Eigen value test confirms the long run dynamic relationship among them.

Table 5
Pairwise Granger Causality Tests

<table>
<thead>
<tr>
<th>Null Hypothesis:</th>
<th>F-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEURO does not Granger Cause DIGP</td>
<td>0.95178</td>
<td>0.4165</td>
</tr>
<tr>
<td>DIGP does not Granger Cause DEURO</td>
<td>0.06262</td>
<td>0.9795</td>
</tr>
<tr>
<td>DINR does not Granger Cause DIGP</td>
<td>0.43415</td>
<td>0.7288</td>
</tr>
<tr>
<td>DIGP does not Granger Cause DINR</td>
<td>0.35852</td>
<td>0.783</td>
</tr>
<tr>
<td>DJPY does not Granger Cause DIGP</td>
<td>2.30739</td>
<td>0.0458*</td>
</tr>
<tr>
<td>DIGP does not Granger Cause DJPY</td>
<td>0.16179</td>
<td>0.9762</td>
</tr>
<tr>
<td>DUSD does not Granger Cause DIGP</td>
<td>0.20617</td>
<td>0.8921</td>
</tr>
<tr>
<td>DIGP does not Granger Cause DUSD</td>
<td>0.36969</td>
<td>0.775</td>
</tr>
</tbody>
</table>

* significance at 0.05 level
Granger-causality means only a correlation between the current value of one variable and the past values of other variables. The Table 5 shows the results of the Granger causality test. It indicates that the real exchange rate of Japanese Yen granger-cause the Indian gold price and the vice versa is not true. Hence there existed a uni-directional causality running from the real exchange rate of Japanese Yen to Indian gold price. The past values of real exchange rate of Japanese Yen contain information about the Indian gold price and the same could be used to forecast. The real exchange rates of USD, Euro and INR do not granger-cause the Indian gold price and vice versa are also not true. The insignificant P values in these results indicate that these real exchange rates are independent of the Indian gold price and their past values do not contain predictive power about our gold price.

**Figure 2 Impulse Response Function**

The Figure 2 explains the results of the Impulse response function. The Impulse response function helps to identify the level of responsiveness of the dependent variable in the VAR to shocks to each of the variables. One standard deviation positive innovation is applied to each variable (DGIP, DEURO, DUSD, DINR & DJPY) and its effect on the dependent variable (DIGP) is observed over the 12 months period in the VAR system. It is observed from the figures that DIGP responses immediately and positively to the one standard deviation positive innovation to DGIP itself and it affects only in the short run period and not in the long run. The response of Indian gold price to the one standard deviation positive shocks of real exchange rate of Indian rupees was immediate and negative in the long run. The real exchange rate of US dollar and Euro showed almost the same effect on the Indian gold price. The Japanese Yen real exchange rate had a negative impact and this negative impact continued only for two months. After that the Indian gold market showed a positive response to Japanese Yen in the long run.
Table 6: Variance Decomposition

<table>
<thead>
<tr>
<th>Period</th>
<th>DIGP</th>
<th>DEURO</th>
<th>DINR</th>
<th>DJPY</th>
<th>DUSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>99.13665</td>
<td>0.148953</td>
<td>0.104144</td>
<td>0.471624</td>
<td>0.138634</td>
</tr>
<tr>
<td>3</td>
<td>97.51147</td>
<td>0.200959</td>
<td>0.342863</td>
<td>1.806096</td>
<td>0.138614</td>
</tr>
<tr>
<td>4</td>
<td>97.25653</td>
<td>0.256425</td>
<td>0.368768</td>
<td>1.969365</td>
<td>0.148911</td>
</tr>
<tr>
<td>5</td>
<td>97.18011</td>
<td>0.257835</td>
<td>0.372362</td>
<td>1.969452</td>
<td>0.220243</td>
</tr>
<tr>
<td>6</td>
<td>97.1459</td>
<td>0.263963</td>
<td>0.372602</td>
<td>1.969331</td>
<td>0.248209</td>
</tr>
<tr>
<td>7</td>
<td>97.14333</td>
<td>0.264929</td>
<td>0.37327</td>
<td>1.969755</td>
<td>0.248715</td>
</tr>
<tr>
<td>8</td>
<td>97.14268</td>
<td>0.264944</td>
<td>0.373442</td>
<td>1.970189</td>
<td>0.248744</td>
</tr>
<tr>
<td>9</td>
<td>97.14242</td>
<td>0.265023</td>
<td>0.373533</td>
<td>1.97028</td>
<td>0.248743</td>
</tr>
<tr>
<td>10</td>
<td>97.14242</td>
<td>0.265023</td>
<td>0.373536</td>
<td>1.97028</td>
<td>0.248746</td>
</tr>
<tr>
<td>11</td>
<td>97.14242</td>
<td>0.265031</td>
<td>0.373537</td>
<td>1.97028</td>
<td>0.248748</td>
</tr>
<tr>
<td>12</td>
<td>97.14242</td>
<td>0.265032</td>
<td>0.373537</td>
<td>1.97028</td>
<td>0.248748</td>
</tr>
</tbody>
</table>

Cholesky Ordering: DIGP DEURO DINR DJPY DUSD

Figure 3

Variance Decomposition

The table 6 and figure 3 report the results of the variance decompositions for the price of gold and the real exchange rate of USD, EURO, JPY and INR. It is interesting to note that the percentage of the errors that is attributable to own shocks is 100% in the case of Indian gold price. Hence the forecast error variance of the Indian gold price can be largely explained by itself. However in the long run real exchange rate of Japanese Yen show little explanatory power of the forecast error variance of the Indian gold price. It means that the price of Indian gold market is slightly affected by the real exchange rate of Japanese Yen.

V Conclusions

The purpose of this paper was to test the causal relationship between the Indian market gold price and the real exchange rate of the major currencies USD, Euro, Yen and INR. The empirical results concluded that there existed a long run equilibrium relationship between the gold price and the real exchange rates of the major currencies. The Granger causality results revealed that the Indian gold price is caused by the Yan and not by
any of the real exchange rates included in the study. The Indian gold price caused none of the real exchange rates. Hence the real exchange rate of Yen contains information about the Indian gold market price and this information will help the investors to forecast. The real exchange rates of USD, Euro and INR are independent of the Indian gold price and their past values do not contain any information about our gold market price. Further the VAR models such as Impulse response function and variance decompositions concluded that gold price responses immediately and negatively to the real exchange rate of Indian rupees and positively to the real exchange rate Yen. The other real exchange rates are independent of gold price. The forecast error variance of the Indian gold market price can be largely explained by itself.

REFERENCES


GREEN BANKING-A NEW DIMENSION

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ABSTRACT: Climate change has become a global concern as it has direct impact on biodiversity, agriculture, forestry, dry land, water resources and human health. In a globalize economy, it is the time to consider environmental policies because environmental impact might affect to the rate of return and reputation of business in the long-run. Among the business organizations, one of the major economic agents influencing overall industrial activity and economic growth is the financial institution such as banking sector. Bank plays a very important role in shaping the economy. Now-a-days, Banks that support the local community and environment are seen as leaders. As a result, Bank continuously strives to ensure that its operations are environment-friendly and discourages financing projects contrary to it. This study highlights the concept, needs and significance, and products of green banking. The study forms mainly the extensive review of related literature based on highly work. It is seen that there has not been much initiative in this regard by the banks and other financial institutions in the world. Therefore, this paper suggests some necessary directions for promoting green banking in the world to protect the environment and builds banks performance.

Keywords: Bank, Environment and social, Green Banking, Green banking potential products.

1. Introduction:

It is the age of social and cultural changes, economic globalization, technological advancement, and global communication. But, the world is facing now unprecedented global challenges such as from the population explosion to the depletion of the earth’s natural resources. Many international organizations recognize environmental degradation as one of the major threats facing the planet, and if the environment becomes irreparably compromised, it could mean the end of human existence. The environment of the world is deteriorating because of environmental degradation cover improper disposal of industrial medical, air pollution, water pollution, encroachment of rivers, deforestation, household waste, loss of open space and loss of biodiversity. Now, society demands that business take responsibility in safeguarding the environment and society. The main theme of environmental responsibility is to create ‘No Harm’ to the environment in view to remain it healthy for future generation. One of the major economic agents influencing overall industrial activity and economic growth is the financial institution such as banking sector. Since banking sector is one of the major stakeholders in the industrial sector, it can find itself faced with credit risk and liability risks. Banks can affect production, business and other economic activities through their financing activity and thus it may contribute to protect the environment from environmental degradation. Bank have to develop global risk policy in order to analyze the impact on local communities and environment, for customers in areas such as mining and metallurgy, oil and natural gas, wood and paper industry, defense industry, gambling, hydroelectric constructions (Savu,2012). It is desirable to minimize the impact on the environment by reducing and optimizing resource consumption and quantity of waste produced in the banks and by internal education of employees in this regard (Savu, 2012). Green Banking is a new dimension of banking that...
includes all environmental and social-friendly initiatives to protect the environment. It is focusing on 'mother planet and its sustainability', shifting from a traditional approach on 'profit' or even 'people'. Green banking is not just another corporate social responsibility (CSR) activity; it is all about going beyond to keep this world livable without much damage. It is also called as an ethical banking or a sustainable banking.

2. Objectives of the Study:
The objectives of this study are given below:

- To highlight the concept of Green Banking;
- To understand the necessity of Green Banking;
- To introduce some potential Green Banking Products;
- To provide necessary directions for adopting Green Banking.

3. Rationale of the Study:
The financial and economic development of a country is inseparably tagged with gradual environmental degradation. The banking sector can play intermediary role between economic development and environment protection. But, there is a lack of adequate awareness on the above issues. Therefore, it is essential for the banking sector to adopt certain measures in response to the environmental degradation. This paper provides to the banks and the researcher’s necessary supports to design their green banking initiatives.

4. Literature Review:
The most important themes of twenty first century are the Environmental protection and sustainable ecological balance and it become an important issue that must be considered by all functional areas including banking (Verma, 2012). Banks should encourage customers to use banking products and services in a friendly environment, opting for green cards, online banking, electronic bank statements, green mortgages, green home equity loans, green commercial buildings loans or green car loans. (Savu, 2012). Green Banking helps to create effective and far-reaching market-based solutions to address a range of environmental problems (Bahl, 2012). Alice Mani (2011) indicated that banks have a major role and responsibility in supplementing governmental efforts towards substantial reduction in carbon emission. Bihari (2011) indicated that Green Banking starts with the aim of protecting the environment where banks consider before financing a project whether it is environment friendly and has any implications for the future. Biswas (2011) explained that adoption of green banking practices will not only be useful for environment, but also benefit in greater operational efficiencies, a lower vulnerability to manual errors and fraud, and cost reductions in banking activities. It is necessary for organizations to attain sustainable competitive advantage by creating eco-friendly products (Goyal and Joshi, 2011). Overall Green banking is really a good way for people to get more awareness about global warming; each businessman will contribute a lot to the environment and make this earth a better place to live. (Thombre, 2011). Sahoo and Nayak (2008) have studied that environmental impact might affect the quality of assets and also rate of return of banks in the long-run. Thus the banks should go green and play a pro-active role to take environmental and ecological aspects as part of their lending.

5. Research Methodology:
The study forms mainly the extensive review of related literature based on highly work. The report is prepared by wide discussion with Bankers, Academicians, Industrialists, as well as necessary acts, documents, websites and the other papers studied carefully.

6. Definition of Green Banking:
"Green banking", as a term, covers several different areas, but in general refers to how environmentally "friendly" the bank is, and how committed to green and ethical policies they are (Savu, 2012).

Green banking means combining operational improvements, technology and changing client habits in banking business (Biswa, 2011).
“Green Banking refers to the banking business conducted in selected area and manner that helps the overall reduction of external carbon emission and internal carbon footprint”, (Bahl, 2012b).
Therefore, Green banking indicates reducing the use of non-renewable energy & materials and increasing the use of renewable or recyclable energy & materials to keep the environment green and social friendly.

7. Benefits of Green Banking:
The following are the major benefits of Green Banking:

- It will ensure businessman to change their business to environment friendly which is good for our future generations;
- It develops customers consciousness on environment by arranging awareness development program;
- Improve image of the bank by protecting the environment;
- It reduces operational cost due to less consumption of office stationeries, energy and water;
- It includes environmental standards for lending;
- It suggests to give loan at comparatively lesser rates;
- It is a good way for people to be aware of global warming;
- It reduces health hazards by installing eco-friendly equipments;
- It improves productivity and efficiency of the employees through proper usage of resources;
- It creates an atmosphere for the bank to work within an ideal business environment through innovative banking products;
- It encourages current and potential customers and employees for using environment friendly products, resources or technology.

8. Green Banking: International Initiatives

**CERCLA Act:**

**UNEPFI:**
In the early 1990s, the United Nations Environment Programme (UNEP) launched what is now known as the UNEP Finance Initiative (UNEPFI). The objective of this initiative is to integrate the environmental and social dimension to the financial performance and risk associated with it in the financial sector.

**Equator Principles:**
In October 2002, nine international banks convened in London, together with the International Finance Corporation, to develop a banking industry framework for addressing environmental and social risks in project financing and came up with a guideline on 4 June 2003 that is known as Equator Principles.

9. Some Potential Green Banking Products:

**Online banking:**
Online banking allows the customers to make deposits, withdrawals and pay bills via the Internet on a secure website of a bank. It reduces paper waste, saving gas and carbon emission, printing costs and postage expenses etc.

**Mobile banking:**
Mobile Banking is a banking system which is used for performing balance checks, account transactions, payments, credit applications etc. through a mobile device. It is paperless banking.

**Tree Plantation Project:**
This process can be made under the guidance of forestry specialists. Each bank and its employee should participate in volunteer activities as planting trees.

**Canvas bag:**
"Canvas bag" is another complex project that may involve banks, offering people an alternative to plastic or paper bags, through the production of natural canvas bags. The project must be designed so as to encompass sustainable development: using local resources, organic or natural (Savu, 2012).

**Green Credit:**
It refers to restricting loans to projects that are harmful for the environment and increasing loans to projects that benefit the environment.

**Green Marketing:**
It refers the marketing of products that are environment and social friendly.

**Bio-gas plant:**
It is alternative source of energy which enables the community to get green power and it is helpful for poultry and livestock farms.

**Phone Banking:**
It allows customers access to their accounts information by using their cell phone. It is also paperless banking.

**ATM:**
It helps customers to check up their account balance and cash withdrawals and it is also paperless banking.

**Solar energy:**
It saves energy consumption by establishing solar panels.

**Green loans:**
This means provide loans to those projects which will support friendly environment such as residential purpose, green car loans, green commercial building loans etc.

**10. Conclusion:**
The public concern at the state of the environment has been growing significantly in the last few years, mostly due to apparently unusual weather patterns, rising greenhouse gases, declining air quality etc. Climate change has brought business challenges for banks but has also offered opportunities. In connection with climate change related risks, the major risk to banks is credit risk. Banks also face operational and market risks. As one of the major stakeholders, banks can play a significant role in handling these risks. For this, banks will require a well-structured and transparent policy framework as well as long-term strategy. This study concluded that there has not been much initiative in this regard by the banks and other financial institutions in the world. Therefore, this paper suggests the following necessary directions for promoting green banking to save the environment and builds banks performance:

- Bank should establish a separate Green Unit or Cell.
- Bank should formulate green banking policy by forming a High-powered committee.
- Bank should prepare a ‘Green office guide’ to create awareness among the bank’s employees for efficient use of electricity, water, paper and re-use of equipments and avoid unnecessary consumption of electricity by light, fan, air condition and other electrical appliances;
- Bank should formulate Environmental Risk Management (ERM) policy guidelines;
- Climate Risk Fund should be created;
- Bank should arrange training, seminar and workshop for their employees and customers about green banking;
- Tree plantation program should be taken;
- Every bank should introduce E-banking facilities such as online banking, mobile banking, phone banking, SMS banking and ATM network etc.
- Bank should finances more and more to environment and social friendly products such as Solar, Bio-gas, Wind, Hydro, Effluent Treatment Plants (ETP), CNG conversion loan, Hybrid Hoffman Kiln (HHK) technology based brickfield, and other renewable energy projects etc.
- Finally, Bank should disclose a separate report on green banking to their annual reports and websites.
References:

“RISK, RETURN & PERFORMANCE EVALUATION OF SELECTED MUTUAL FUND SCHEMES – A STUDY ON LARGE & MID CAP FUNDS”

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ABSTRACT: This paper studies the persistence of mutual fund performance. Academic research often focuses on fund returns. This study intends to examine the performance of selected Large cap and Mid cap mutual fund schemes of Indian Mutual fund industry during the study period 2007 to 2011. The performance of selected schemes is evaluated in terms of average returns, systematic risk, and unsystematic risk and by using different measures like: Sharpe, Jenson, Treynor and FAMA. After detailed analysis it is found that except two all the sampled schemes have performed better than market. Supporting the established relationship of high risk - high return, better performing schemes are exposed to higher risk. The findings also revealed that majority of the schemes were adequately diversified and about 60% of the schemes were able to beat the market with help of better stock selection skill of fund managers. Finding from the t-test calculations shows that there is no difference between returns from large cap mid cap mutual funds in long run. From the return comparison of mutual funds and market, in 2008 & 2011 large cap are underperforming than market and in 2011 only mid cap mutual funds are showing less return than market returns.

Keywords: Mutual Funds, Performance Evaluation, Systematic Risk, Unsystematic Risk, Portfolio Return

1. INTRODUCTION
Should investors choose mutual funds based on the different characteristics? That is large cap mutual funds and mid cap mutual funds. This study shows that what difference mutual funds created based on their capitalization. The academic research on mutual fund performance generally investigates the dynamics of their returns. Many studies agree that mutual funds underperform passive benchmarks by a statistically and economically significant margin. Results on the persistence of performance are more diverse. For a long time, most academic studies concluded that the performance of a mutual fund is persistent over a time horizon of three years. The academic research on mutual fund performance generally investigates the dynamics of their returns. Large cap funds are those mutual funds, which look for capital appreciation by investing primarily in stocks of large blue chip companies that have more potential of earning growth and higher profit. Mid cap funds are type of stock fund that invests in mid-sized companies. A company's size is determined by its market capitalization, with mid-sized firms generally ranging from $2 billion to $10 billion in market cap.

2. LITERATURE REVIEWS
This section covers review of literature from some of the important research papers, studies and articles as published by different authors. A large number of studies on the growth and financial performance of mutual funds have been carried out during the past, in the developed and developing countries. Brief reviews of the following research works reveal the wealth of contributions towards the performance evaluation of mutual fund, market timing and stock selection abilities of fund managers. The pioneering work on the mutual funds
in U.S.A. was done by Friend, et al., (1962) in Wharton School of Finance and Commerce for the period 1953 to 1958. In the Indian Context, one of the early work in the area was by Barua and Verma (1991). They evaluated the performance of ‘Mastershare’ the first close ended fund in India during 1987-1991 and concluded with the satisfactory performance of the fund using Jensen and other measures.

Friend, et al., (1962) made an extensive and systematic study of 152 mutual funds found that mutual fund schemes earned an average annual return of 12.4 percent, while their composite benchmark earned a return of 12.6 percent. Their alpha was negative with 20 basis points. Overall results did not suggest widespread inefficiency in the industry. Comparison of fund returns with turnover and expense categories did not reveal a strong relationship. Friend et al, “A Study of Mutual Funds” U.S. Securities and Exchange Commission, USA, (1962).

Irwin, Brown, FE (1965) analyzed issues relating to investment policy, portfolio turnover rate, performance of mutual funds and its impact on the stock markets. The schoolwork identified that mutual funds had a significant impact on the price movement in the stock market. The cram concludes that, on an average, funds did not perform better than the composite markets and there was no persistent relationship between portfolio turnover and fund performance.

Treynor (1965) used ‘characteristic line’ for relating expected rate of return of a fund to the rate of return of a suitable market average. He coined a fund performance measure taking investment risk into account. Further, to deal with a portfolio, ‘portfolio-possibility line’ was used to relate expected return to the portfolio owner’s risk preference.

The most prominent study by Sharpe, William F (1966) developed a composite measure of return and risk. He evaluated 34 open-end mutual funds for the period 1944-63. Reward to variability ratio for each scheme was significantly less than DJIA and ranged from 0.43 to 0.78. Expense ratio was inversely related with the fund performance, as correlation coefficient was 0.0505. The results depicted that good performance was associated with low expense ratio and not with the size. Sample schemes showed consistency in risk measure.

Treynor and Mazuy (1966) evaluated the performance of 57 fund managers in terms of their market timing abilities and found that, fund managers had not successfully outguessed the market. The results suggested that, investors were completely dependent on fluctuations in the market. Improvement in the rates of return was due to the fund managers’ ability to identify under-priced industries and companies. The study adopted Treynor’s (1965) methodology for reviewing the performance of mutual funds.

Jensen (1968) developed a composite portfolio evaluation technique concerning risk-adjusted returns. He evaluated the ability of 115 fund managers in selecting securities during the period 1945-66. Analysis of net returns indicated that, 39 funds had above average returns, while 76 funds yielded abnormally poor returns. Using gross returns, 48 funds showed above average results and 67 funds below average results. Jensen concluded that, there was very little evidence that funds were able to perform significantly better than expected as fund managers were not able to forecast securities price movements.

Fama (1972) developed methods to distinguish observed return due to the ability to pick up the best securities at a given level of risk from that of predictions of price movements in the market. He introduced a multi-period model allowing evaluation on a period-by-period and on a cumulative basis. He branded that, return on a portfolio constitutes of return for security selection and return for bearing risk. His contributions combined the concepts from modern theories of portfolio selection and capital market equilibrium with more traditional concepts of good portfolio management.

Smith and Tito (1969) examined the inter-relationships between the three widely used composite measures of investment performance and suggested a fourth alternative, identifying some aspects of differentiation in the process. While ranking the funds on the basis of ex-post performance, alternative measures produced little
differences. However, conclusions differed widely when performance were compared with the market. In view of this, they suggested modified Jensen’s measure based on estimating equation and slope coefficient.

Gupta Ramesh (1989) evaluated fund performance in India comparing the returns earned by schemes of similar risk and similar constraints. An explicit risk-return relationship was developed to make comparison across funds with different risk levels. His study decomposed total return into return from investors risk, return from managers’ risk and target risk. Mutual fund return due to selectivity was decomposed into return due to selection of securities and timing of investment in a particular class of securities.

Shukla and Singh (1994) attempted to identify whether portfolio manager’s professional education brought out superior performance. They found that equity mutual funds managed by professionally qualified managers were riskier but better diversified than the others. Though the performance differences were not statistically significant, the three professionally qualified fund managers reviewed outperformed others.

The study by Shome (1994) based on growth schemes examined the performance of the mutual fund industry between April 1993 to March 1994 with BSE SENSEX as market surrogate. The study revealed that, in the case of 10 schemes, the average rate of return on mutual funds were marginally lower than the market return while the standard deviation was higher than the market. The analysis also provided that, performance of a fund was not closely associated with its size.

Yadav R A and Mishra, Biswadeep (1996) evaluated 14 close end schemes over the period of April 1992 to March 1995 with BSE National Index as benchmark. Their analysis indicated that, 57 percent of sample schemes had a mean return higher than that of the market, higher Sharpe Index and lower Treynor Index. Schemes performed well in terms of diversification and total variability of returns but failed to provide adequate risk-premium per unit of systematic risk. 57 percent had positive alpha signifying superior performance in terms of timing ability of fund managers. Fund managers of growth schemes adopted a conservative investment policy and maintained a low portfolio beta to restrict losses in a rapidly falling stock market.


Ramesh Chander (2000) examined 34 mutual fund schemes with reference to the three fund characteristics with 91-days treasury bills rated as risk-free investment from January 1994 to December 1997. Returns based on NAV of many sample schemes were superior and highly volatile compared to BSE SENSEX. Open-end schemes outperformed close-end schemes in term of return. Income funds outsmarted growth and balanced funds. Banks and UTI sponsored schemes performed fairly well in relation to sponsorship. Average annual return of sample schemes was 7.34 percent due to diversification and 4.1 percent due to stock selectivity. The study revealed the poor market timing ability of mutual fund investment. The researcher also identified that, 12 factors explained majority of total variance in portfolio management practices.

Shah Ajay and Thomas Susan (1994) studied the performance of 11 mutual fund schemes on the basis of market prices. Weekly returns computed for these schemes since their launch of the scheme to April 1994 were evaluated using Jensen and Sharpe measures. They concluded that, except UTI UGS 2000, none of the sample schemes earned superior returns than the market due to very high risk and inadequate diversification.

Jaydev (1996) studied the performance of UTI Mastergain 1991 and SBI Magnum Express from 1992-94 with 13 percent return offered by Post Office Monthly Income Deposits as risk-free return. Mastergain earned an average return of 2.89 percent as against market earnings of 2.84 percent. Volatility of Magnum Express was high compared to Mastergain. Master gain had a superior performance over its benchmark (Economic Times Ordinary Share Price Index) by taking greater risk than the market. Mastergain indicated lesser degree of diversification of the portfolio with lower R2 value and very high unique risk. Magnum Express portfolio was
well diversified with higher R2 value along with lower unique risk and total risk. Both the funds did not earn superior returns because of lack of selectivity on the part of the fund managers indicating that, the funds did not offer the advantages of professionalism to the investors.

Gupta (1974) evaluated the performance of mutual fund industry for the period 1962-71 using Sharpe, Treynor, and Jensen models. All the funds covered under the study outperformed the market irrespective of the choice of market index. The results indicated that all the three models provided identical results. All the mutual fund subgroups outperformed the market using DJIA while income and balanced groups underperformed S&P 500. Return per unit of risk varied with the level of volatility assumed and he concluded that, funds with higher volatility exhibited superior performance.

Gupta Amitabh (2001) evaluated the performance of 73 selected schemes with different investment objectives, both from the public and private sector using Market Index and Fundex. NAV of both close-end and open-end schemes from April 1994 to March 1999 were tested. The sample schemes were not adequately diversified, risk and return of schemes were not in conformity with their objectives, and there was no evidence of market timing abilities of mutual fund industry in India.

Batra and Bhatia (1992) appreciated the performance of various funds in terms of return and funds mobilized. UTI, LIC and SBI Mutual Fund are in the capital market for many years declaring dividends ranging from 11 percent to 16 percent. The performance of Canbank Mutual Fund, Indian Bank Mutual Fund and PNB Mutual Fund were highly commendable. The performance of many schemes was equally good compared to industrial securities.

Tripathy, Nalini Prava (1996) identified that the Indian capital market expanded tremendously as a result of economic reforms, globalization and privatization. Household sector accounted for about 80 percent of country’s savings and only about one-third of such savings were available for the corporate sector. The study suggested that, mutual funds should build investors confidence through schemes meeting the diversified needs of investors, speedy disposal of information, improved transparency in operation, better customer service and assured benefits of professionalism.

Singh, Jaspal and Subhash Chander (2003) identified that past record and growth prospects influenced the choice of scheme. Investors in mutual funds expected repurchase facility, prompt service and adequate information. Return, portfolio selection and NAV were important criteria’s for mutual fund appraisal. The ANOVA results indicated that, occupational status; age had insignificant influence on the choice of scheme. Salaried and retired categories had priority for past record and safety in their mutual fund investment decisions.

Muthappan P K and Damodharan E (2006) evaluated 40 schemes for the period April 1995 to March 2000. The study identified that majority of the schemes earned returns higher than the market but lower than 91 days Treasury bill rate. The average risk of the schemes was higher than the market. 15 schemes had an above average monthly return. Growth schemes earned average monthly return. The risk and return of the schemes were not always in conformity with their stated investment objectives. The sample schemes were not adequately diversified, as the average unique risk was 7.45 percent with an average diversification of 35.01 percent. 23 schemes outperformed both in terms of total risk and systematic risk. 19 schemes with positive alpha values indicated superior performance. The study concludes that, the Indian Mutual Funds were not properly diversified.

R. Shanmugham and Zabiulla (2009) examined the stock selectivity strategies of selected equity mutual fund managers using conditional and unconditional measures over the period April 2006 to December 2009. The average daily returns were positive for all the schemes under consideration. Using traditional Jensen measure, out of 35 schemes alpha values of 22 schemes were positive, thereby showing superior performance. Only two
schemes have positive and statistically significant alphas. It supports that the fund manager of these schemes were able to forecast stock price movements and were successful in identifying undervalued stocks in their portfolio. The stock selectivity abilities of equity fund managers have improved from two schemes to nine schemes after incorporating two market information variables. It can be inferred that these fund managers have been able to forecast the price movements and were successful in identifying individual stocks in their portfolio holdings that seem to promise superior returns.

3. METHODOLOGY

Usually, it was a propensity to neglect the risk involved in equity diversified mutual funds and sector specific mutual funds that is one of the important elements in the measurement of the performance of mutual fund schemes. In financial terms risk is defined as variability in expected return from investment. Following tools and techniques have been used to measure the performance of various equity diversified mutual funds.

3.1 The Sharpe Ratio

In 1966, William Forsyth Sharpe developed what is now known as the Sharpe ratio. Sharpe originally called it the "reward-to-variability" ratio before it began being called the Sharpe ratio by later academics and financial operators. The Sharpe ratio is used to characterize how well the return of an asset compensates the investor for the risk taken. Mathematically, the Sharpe ratio is the returns generated over the risk-free rate, per unit of risk. It is calculated by subtracting the risk-free rate of return from the rate of return for an investment and dividing the result by the investment's standard deviation of its return. The Sharpe ratio is a single number which represents both the risk, and return inherent in a fund. Therefore the ratio looks at both, return and risk and delivers a single measure that is proportional to the risk adjusted return. Higher Sharpe ratio indicates better risk adjusted performance of the fund. If the Sharpe ratio is negative, it indicates that the risk free asset would be a better option than the analyzed fund scheme. Symbolically:

$$ S_p = \frac{R_p - R_f}{\sigma_p} $$

Where $S_p$ is the Sharpe ratio for the portfolio; $R_p$ is average return on portfolio; $R_f$ represent the average return on risk free assets; $\sigma_p$ is the standard deviation of the returns of the portfolio, that measures the total risk of investment.

Similarly, such measures can be calculated for the benchmark market returns in the following manner;

$$ S_p = \frac{R_m - R_f}{\sigma_m} $$

Where, $R_m$ measures average market return and $\sigma_m$ is the standard deviation of benchmark market return.

3.2 The Treynor Measure

Developed by Jack Treynor, this performance measure evaluates funds on the basis of Treynor's Index. This Index is a ratio of return generated by the fund over and above risk free rate of return (generally taken to be the return on securities backed by the government, as there is no credit risk associated), during a given period and systematic risk associated with it (beta). While a high and positive Treynor's Index shows a superior risk-adjusted performance of a fund, a low and negative Treynor's Index is an indication of unfavorable performance. It is similar to Sharpe ratio with the difference being that the Treynor ratio ($T_p$) uses beta ($\beta$) as a measure of volatility. So Treynor’s measures takes into consideration the systematic risk of the portfolio. Symbolically:
3.3 Jensen’s Alpha Measure

This measure was developed by Michael Jensen in 1968 and is referred to as the differential return method. This measure involves evaluation of the returns that the fund has generated vs. the returns actually expected out of the fund given the level of its systematic risk. The surplus between the two returns is called Alpha, which measures the performance of a fund compared with the actual returns over the period. Hence alpha is used to determine whether fund manager through his stock selection ability has been able to beat the market. A positive value of Jensen’s Alpha implies a fund manager has the ability to beat the market with his stock picking skills. The higher the value for the fund means better the performance of it. For a retail investor the alpha value is important because it measures the excess returns a fund generates in relation to the returns generated by its benchmark. Symbolically;

$$\alpha_p = R_p - \left[ R_f + \beta_p (R_m - R_f) \right]$$

Where \( \alpha_p \) is Jensen’s Alpha; \( R_p \) is average return of the portfolio; \( R_f \) is the average return of the risk free proxy; \( R_m \) is the average return of the benchmark proxy; and \( \beta_p \) is the beta of the portfolio. Limitation of this model is that it considers only systematic risk associated with the fund.

3.4 Fama’s Selectivity Model

Eugene Fama in 1972 proposed an extension of Jensen model. This model compares the performance, measured in terms of return of a fund with the required return commensurate with the total risk associated with it. The difference between two is taken as a measure of performance of fund and is called selectivity. The net selectivity represents the stock selection skill of the fund manager as it is the excess return over and above the return required to compensate for the total risk taken by the fund manager. Higher value of which indicates that fund manager has earned returns well above the return commensurate with the level of risk taken by him. Symbolically:

$$\text{Net Selectivity} = (R_p - R_f) - \frac{\sigma_p}{\sigma_m(R_m - R_f)}$$

A positive high value indicates that the fund has achieved superior return and investors are benefited out of the selectivity exercised by the fund manager.

3.5 Diversification

One of the important advantages of mutual fund is that a small investor can enjoy the benefits of diversification of portfolio. Further, well diversified portfolio reduces the risk of the portfolio. Diversification can be measured with the help of coefficient of determination \((R^2)\). This can be obtained by regressing the portfolio’s additional return \((R_p - R_f)\) on market’s additional return \((R_m - R_f)\). A high value indicates greater diversification of funds and vice versa.

3.6 Systematic Risk (Beta)

Beta, also known as the "beta coefficient," is a measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole. A beta of 1.0 indicates that the investment’s price will move in lock-step with the market. A beta of less than 1.0 indicates that the investment will be less volatile than the market, and, correspondingly, a beta of more than 1.0 indicates that the investment’s price will be more volatile than the market. The CAPM describes the relationship between risk and expected return that is used in pricing of risky securities.

$$R_p = R_f + \beta(R_m - R_f) + E_{pt}$$

Where \( \beta \) is the measure of systematic risk of the portfolio.
The general idea behind CAPM is that investors need to be compensated in two ways: time value of money and risk. Time value of money is represented by risk free rate \( (R_f) \) in the formula and compensates the investors for placing money in an investment over a period of time. The other half of the formula represent the risk and calculates the amount of compensation the investors needs for taking on additional risk. This is calculated by taking a risk measure (Beta) that compensate the return of the asset to the market over a period of time and to the market premium \((R_m - R_f)\).

### 3.7 Unique Risk

This risk is the risk of portfolio in particular. It is measured with the help of standard deviation of error term. Such risk can be reduced by better portfolio management. Symbolically:

\[
SDEP_t = \left( \frac{\sum (E_{pt} - E_{p})}{n-1} \right)^{\frac{1}{2}}
\]

Where \( SDEPt \) is the unique risk of the portfolio for period \( t \) and \( Ep \) is the average error term.

### 3.8 Definitions of some used concepts

#### 3.8.1 Portfolio return

Fundamentally return on a portfolio is:

\[
R_p = \frac{NAV_t - NAV_{t-1}}{NAV_{t-1}} \times 100
\]

Where \( R_p \) is the return on portfolio and \( t \) is the time period.

#### 3.8.2 Market Return

Similarly the return on market index is calculated as under:

\[
R_m = \frac{Market\text{\textbf{e}}\text{\textbf{i}}\text{\textbf{d}}\text{\textbf{x}}_{t} - Market\text{\textbf{e}}\text{\textbf{i}}\text{\textbf{d}}\text{\textbf{x}}_{t-1}}{Market\text{\textbf{e}}\text{\textbf{i}}\text{\textbf{x}}_{t-1}} \times 100
\]

The risk is calculated as standard deviation of monthly returns.

#### 3.8.4 Risk free return

\[
\sigma_p = \sqrt{\frac{\sum (R_p - \bar{R}_p)^2}{n-1}}
\]

This is the return which investors expect without any risk.

### 3.9 T-test

In this research paper to test the hypotheses t-test has been used. The t-test assesses whether the means of two groups are statistically different from each other. This analysis is appropriate whenever you want to compare the means of two groups Formula for t-test statistic is:

\[
t = \frac{(X_1 - X_2) - \mu}{\sqrt{\frac{S_{x1}^2}{n} + \frac{S_{x2}^2}{m}}}
\]

### 4. DATABASE

This paper covers performance of various fund houses consisting 5 large cap & 5 mid cap mutual funds. These mutual fund schemes are of the varied size and are based on different standards. This study is based on the data for the period of five years, from Jan 2007 to Dec 2011. This period covers both the boom and recession periods. Hence it provides more opportunities to the fund managers to prove their prowess. As this study is based on monthly NAV data, the study period is long enough to draw meaningful inferences on the performance and its determinants. Monthly NAV data has been compiled from the website www.moneycontrol.com and www.mutualfundsindia.com. This study has used the
monthly yield rate on three months fixed deposit of state bank of India as a surrogate to the risk-yield rate of return and the data have been downloaded from the website of State Bank of India.

Table 1: Sample Mutual fund Schemes, Their Benchmarks

<table>
<thead>
<tr>
<th>Name of Fund Scheme</th>
<th>Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>LARGE CAP EQUITY FUNDS</td>
<td></td>
</tr>
<tr>
<td>Fidelity Equity Fund (G)</td>
<td>BSE-200</td>
</tr>
<tr>
<td>Franklin India Blue-chip Fund (G)</td>
<td>BSE-30</td>
</tr>
<tr>
<td>HDFC top 200</td>
<td>BSE-200</td>
</tr>
<tr>
<td>UTI Opportunities Funds (g)</td>
<td>BSE 30</td>
</tr>
<tr>
<td>Kotak 50(G)</td>
<td>S&amp;P CNX NIFTY</td>
</tr>
<tr>
<td>MID CAP EQUITY FUNDS</td>
<td></td>
</tr>
<tr>
<td>Birla Sun Life MNC Fund (G)</td>
<td>BSE-30</td>
</tr>
<tr>
<td>IDFC Premier Equity Fund - Plan A (G)</td>
<td>S&amp;P CNX NIFTY</td>
</tr>
<tr>
<td>Sundaram selected mid – cap</td>
<td>BSE MID CAP</td>
</tr>
<tr>
<td>Relaince Equity Fund - Retail Plan (G)</td>
<td>BSE 30</td>
</tr>
<tr>
<td>SBI Magnum Emerging Businesses Fund</td>
<td>BSE-500</td>
</tr>
</tbody>
</table>

(Source: www.moneycontrol.com)

5. EMPIRICAL FINDINGS AND DISCUSSION

5.1 Risk Adjusted Performance of Mutual Funds

Because of high risk involved in direct investment in equity stocks, investing through mutual funds is becoming popular among Indian investors. Investors are always concerned about getting higher return by taking limited risk, which can be made possible by leveraging the expertise and competence of fund managers. Fund managers are expected to generate higher return compared to benchmark return through their deep understanding of markets and better stock picking ability.

Table 2 highlights the average yearly return of 10 sampled schemes, standard deviation of their return, their beta and average yearly return of their benchmarks. During the selected period of Jan 2007 to Dec 2011, all the 5 sampled large cap equity schemes have recorded positive average return & 3 mid cap equity schemes have recorded positive average return.

Now the question arises whether these returns are commensurate with the level of risk involved in each fund. The standard deviation of yearly returns represents the total risk involved in the investment in the fund concerned. The established theory states that higher risk is associated with higher return. Is this applicable for sampled equity diversified schemes?
Table 2: Return and Risk in Sampled Equity Diversified Mutual Funds

<table>
<thead>
<tr>
<th>Name of Fund Scheme</th>
<th>Average Yearly Return</th>
<th>Standard Deviation of Yearly Return</th>
<th>Beta</th>
<th>Average Yearly Return of Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fidelity Equity Fund (G)</td>
<td>0.7276</td>
<td>6.4318</td>
<td>0.794</td>
<td>0.305</td>
</tr>
<tr>
<td>Franklin India Blue-chip Fund (G)</td>
<td>0.7306</td>
<td>6.4308</td>
<td>0.792</td>
<td>0.252</td>
</tr>
<tr>
<td>HDFC top 200</td>
<td>0.807</td>
<td>6.9688</td>
<td>0.854</td>
<td>0.305</td>
</tr>
<tr>
<td>UTI Opportunities Funds (g)</td>
<td>1.037</td>
<td>6.618</td>
<td>0.764</td>
<td>0.252</td>
</tr>
<tr>
<td>Kotak 50(G)</td>
<td>0.560</td>
<td>6.587</td>
<td>0.801</td>
<td>0.455</td>
</tr>
<tr>
<td>Birla Sun Life MNC Fund (G)</td>
<td>0.7708</td>
<td>5.7712</td>
<td>0.644</td>
<td>0.252</td>
</tr>
<tr>
<td>IDFC Premier Equity Fund - Plan A (G)</td>
<td>1.2878</td>
<td>7.035</td>
<td>0.688</td>
<td>0.455</td>
</tr>
<tr>
<td>Sundaram selected mid – cap</td>
<td>1.041</td>
<td>8.181</td>
<td>0.755</td>
<td>0.193</td>
</tr>
<tr>
<td>Relaince Equity Fund - Retail Plan (G)</td>
<td>-0.1902</td>
<td>6.4702</td>
<td>0.322</td>
<td>0.252</td>
</tr>
<tr>
<td>SBI Magnum Emerging Businesses Fund</td>
<td>0.1682</td>
<td>8.7016</td>
<td>0.967</td>
<td>0.299</td>
</tr>
</tbody>
</table>

Correlation Coefficient between Return (≥0.69%) and Total Risk: 0.5313
Correlation Coefficient between Return (≤0.69%) and Total Risk: 0.0208
Correlation Coefficient between Return (≥0.69%) and Systematic Risk: -0.365
Correlation Coefficient between Return (≤0.69%) and Systematic Risk: 0.6969

Systematic risk as measured by beta is the market risk and generally calculated with the help of CAPM model. Higher value of beta shows higher responsiveness of the portfolio return to the market risk. Out of total 10 schemes 1 scheme have beta value of more than 0.95, which show little high volatility of this schemes. The average beta value of all the schemes is 0.7381. The correlation coefficient between the returns of better performing schemes and beta value is -0.365 whereas correlation coefficient between the returns of less performing schemes and beta value is 0.6969. This show that performance of both better performing and less performing schemes are equally associated with market risk as measured by beta.

Table 3: Risk and Return in Major Benchmark Markets

<table>
<thead>
<tr>
<th>Benchmark Market</th>
<th>Average Yearly Returns</th>
<th>Standard Deviation of Yearly Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. BSE-30</td>
<td>0.252</td>
<td>7.597</td>
</tr>
<tr>
<td>2. S&amp;P CNX NIFTY</td>
<td>0.455</td>
<td>7.803</td>
</tr>
<tr>
<td>3. BSE MID CAP</td>
<td>0.193</td>
<td>8.927</td>
</tr>
<tr>
<td>4. BSE-200</td>
<td>0.305</td>
<td>7.830</td>
</tr>
<tr>
<td>5. BSE 500</td>
<td>0.299</td>
<td>7.899</td>
</tr>
</tbody>
</table>

Correlation Coefficient Between Return and Total Risk: -0.54

So far as the performance of that benchmark markets in terms of returns is concerned, there is inverse correlation between risk and return. The Correlation Coefficient between average yearly return and risk as measured by standard deviation is -0.54.
Table 4: Risk Adjusted Performance Measure of Equity Diversified Fund Schemes

<table>
<thead>
<tr>
<th>Name of Fund Scheme</th>
<th>Average Sharpe Ratio of Fund</th>
<th>Average Sharpe Ratio of Benchmark</th>
<th>Average Treynor Ratio of Fund</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fidelity Equity Fund (G)</td>
<td>0.59177</td>
<td>-0.03059</td>
<td>0.259825</td>
</tr>
<tr>
<td>Franklin India Blue-chip Fund (G)</td>
<td>0.028549</td>
<td>-0.041995808</td>
<td>0.147079</td>
</tr>
<tr>
<td>HDFC top 200</td>
<td>0.021927</td>
<td>-0.030598638</td>
<td>0.043202</td>
</tr>
<tr>
<td>UTI Opportunities Funds (G)</td>
<td>0.01168</td>
<td>-0.041995808</td>
<td>-0.34703</td>
</tr>
<tr>
<td>Kotak 50(G)</td>
<td>0.335203</td>
<td>-0.014660588</td>
<td>-0.26268</td>
</tr>
<tr>
<td>Birla Sun Life MNC Fund (G)</td>
<td>0.083961</td>
<td>-0.041995808</td>
<td>0.744308</td>
</tr>
<tr>
<td>IDFC Premier Equity Fund - Plan A (G)</td>
<td>0.100802</td>
<td>-0.014660588</td>
<td>1.050874</td>
</tr>
<tr>
<td>Sundaram selected mid – cap</td>
<td>-0.024989</td>
<td>-0.032111297</td>
<td>-7.218545</td>
</tr>
<tr>
<td>Reliance Equity Fund - Retail Plan (G)</td>
<td>-0.241575</td>
<td>-0.041995808</td>
<td>-2.287559</td>
</tr>
<tr>
<td>SBI Magnum Emerging Businesses Fund</td>
<td>0.206448</td>
<td>-0.028997424</td>
<td>2.312869</td>
</tr>
</tbody>
</table>

The Sharpe ratio is used to characterize how well the return of an asset compensates the investor for the risk taken. It measures the performance of fund in terms of risk adjusted return. To adjust the risk Sharpe ratio uses total risk. Moreover this ratio does not depend on the benchmark market. Results in Table 4 shows that so far the performance of fund in terms of Sharpe ratio is concerned, out of 20 equity diversified schemes, 2 have recorded negative excess returns. Except these two schemes all other funds have performed better than the risk free fixed returns and the top three large cap mutual fund performers in terms of Sharpe ratio are: FIDILITY EQUITY FUND, KOTAK 50(G), FRANKLIN INDIA BLUE CHIP FUND(G), top three mid cap performer in terms of Sharpe ratio are: SBI EMERGING BUSIENSS FUND, IDFC PREMIER EQUITY FUND, BIRLA SUNLIFE MNC FUND. On other hand, the Treynor ratio measures the risk adjusted performance of mutual fund by using systematic risk (beta value). The top three large cap mutual fund performers in terms of Treynor ratio are: FIDILITY EQUITY FUND, KOTAK 50(G), FRANKLIN INDIA BLUE CHIP FUND(G), HDFC TOP 200, ). The top three mid cap mutual fund performers in terms of Treynor ratio are: SBI EMERGING BUSIENSS FUND, IDFC PREMIER EQUITY FUND, BIRLA SUNLIFE MNC FUND. Excluding minor changes in the rank of performance of the funds, the overall situation did not change much so far the risk adjusted measure of fund performance is concerned. It is observed that performance of fund is more or less same so far as the Sharpe ratio and Treynor ratio are concerned. The correlation of coefficient between Sharpe ratio and Treynor ratio is 0.39. So far the performance of funds in terms of benchmark is concerned out of 10 sampled schemes, 9 schemes have higher Sharpe ratio than the Sharpe ratio of benchmark markets.

5.2 Diversification

The basic idea behind equity diversified mutual funds is to lessen the unique risk specific to the portfolio through diversification. Higher the diversification, lesser the unique risk. Fund manager can enhance the performance of fund by reducing unique risk through efficient diversification. Table 5 shows combination of such risks and diversification. Systematic risk includes all types of factors which influence all the securities available in the market. Unique risk is the risk of portfolio in particular. It is measured with the help of standard deviation of error term. Unique risk can be altered by better diversification. The explanatory power ($R^2$) of the CAPM measures the level of diversification in the fund portfolio. Result in Table 5 shows that for the funds with high $R^2$ the level of unique risk is low and for the funds with low $R^2$ ratio the level unique risk...
is high. The correlation coefficient between $R^2$ and unique risk is -0.62161. So the overall results substantiate the fact that higher the level of diversification lower the level of unique risk and expectedly higher the return. The fund managers who have diversified their portfolio very successfully are Fidelity Equity Fund (G), Franklin India Blue-chip Fund (G), HDFC top 200, SBI Magnum Emerging Businesses Fund. The average $R^2$ ratio for all the sampled schemes is 0.97 which shows that schemes adequately diversified.

### Table 5: Risk and Diversification in Equity Diversified Mutual Fund Schemes

<table>
<thead>
<tr>
<th>Name of Fund Scheme</th>
<th>Total Risk ($\sigma_p$)</th>
<th>Systematic Risk ($\beta$)</th>
<th>Unsystematic Risk ($\sigma_u$)</th>
<th>Diversification ($R^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fidelity Equity Fund (G)</td>
<td>6.432</td>
<td>0.794</td>
<td>0.411</td>
<td>0.999632</td>
</tr>
<tr>
<td>Franklin India Blue-chip Fund (G)</td>
<td>6.4308</td>
<td>0.792</td>
<td>0.411</td>
<td>0.996205</td>
</tr>
<tr>
<td>HDFC top 200</td>
<td>6.9688</td>
<td>0.854</td>
<td>0.483</td>
<td>0.988397</td>
</tr>
<tr>
<td>UTI Opportunities Funds (g)</td>
<td>6.4182</td>
<td>0.764</td>
<td>0.410</td>
<td>0.967429</td>
</tr>
<tr>
<td>Kotak 50(G)</td>
<td>5.5892</td>
<td>0.801</td>
<td>0.310</td>
<td>0.971867</td>
</tr>
<tr>
<td>Birla Sun Life MNC Fund (G)</td>
<td>5.7712</td>
<td>0.644</td>
<td>0.331</td>
<td>0.968842</td>
</tr>
<tr>
<td>IDFC Premier Equity Fund - Plan A (G)</td>
<td>7.035</td>
<td>0.688</td>
<td>0.494</td>
<td>0.967819</td>
</tr>
<tr>
<td>Sundaram selected mid – cap</td>
<td>8.181</td>
<td>0.755</td>
<td>0.667</td>
<td>0.954716</td>
</tr>
<tr>
<td>Reliance Equity Fund - Retail Plan (G)</td>
<td>11.3856</td>
<td>0.322</td>
<td>1.296</td>
<td>0.938555</td>
</tr>
<tr>
<td>SBI Magnum Emerging Businesses Fund</td>
<td>8.7016</td>
<td>0.967</td>
<td>0.752</td>
<td>0.984951</td>
</tr>
</tbody>
</table>

**Correlation Coefficient Between $R^2$ and Unsystematic Risk**

-0.62161

### Table 6: Stock Selection Skill of Fund Manager

<table>
<thead>
<tr>
<th>Name of Fund Scheme</th>
<th>Average Yearly Return</th>
<th>Jensen's Measure</th>
<th>Fama's Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fidelity Equity Fund (G)</td>
<td>0.7276</td>
<td>0.5588</td>
<td>1.270608</td>
</tr>
<tr>
<td>Franklin India Blue-chip Fund (G)</td>
<td>0.7306</td>
<td>0.5528</td>
<td>1.314917</td>
</tr>
<tr>
<td>HDFC top 200</td>
<td>0.807</td>
<td>0.4142</td>
<td>1.496748</td>
</tr>
<tr>
<td>UTI Opportunities Funds (g)</td>
<td>1.037</td>
<td>0.2504</td>
<td>1.766073</td>
</tr>
<tr>
<td>Kotak 50(G)</td>
<td>0.560</td>
<td>0.0632</td>
<td>0.876252</td>
</tr>
<tr>
<td>Birla Sun Life MNC Fund (G)</td>
<td>0.7708</td>
<td>0.7988</td>
<td>1.23198</td>
</tr>
<tr>
<td>IDFC Premier Equity Fund - Plan A (G)</td>
<td>1.2878</td>
<td>0.9124</td>
<td>2.273727</td>
</tr>
<tr>
<td>Sundaram selected mid – cap</td>
<td>1.041</td>
<td>-1.0904</td>
<td>1.899198</td>
</tr>
<tr>
<td>Reliance Equity Fund - Retail Plan (G)</td>
<td>-0.1902</td>
<td>0.6064</td>
<td>0.891945</td>
</tr>
<tr>
<td>SBI Magnum Emerging Businesses Fund</td>
<td>0.1682</td>
<td>-0.1746</td>
<td>0.891757</td>
</tr>
</tbody>
</table>

**Correlation Coefficients Between Return and Fama’s Measure**

0.868366
5.3 Stock Selection Skills

The performance of mutual fund depends upon number of factors. One such factor is the stock selection ability of fund manager, i.e. fund manager should be able to pick the undervalued stocks in the portfolio, in addition to correctly timing the market.

The stock selection skill of fund managers can be evaluated with the help of two measures, namely, Jensen’s and Fama’s measures. So far the performance of managers in terms of Jensen’s measure is concerned out of 10 sampled schemes two schemes have recorded negative value of alpha. (Sundaram selected mid – cap, SBI Magnum Emerging Businesses Fund). This indicates that fund managers of these schemes were able to beat the market by using their skill in selection of portfolio. Top two performers in large cap funds in terms of Jensen’s alpha measure are: Fidelity Equity Fund (G), Fidelity Equity Fund (G), and Top two performers in mid cap funds in terms of Jensen’s alpha are: IDFC Premier Equity Fund - Plan A (G), Birla Sun Life MNC Fund (G). The funds which have recorded negative Jensen’s alpha measure not recommend as they are performing below the market return. To further justify the selectivity through Jensen’s alpha, Fama’s selectivity measure has been calculated and the results are presented in Table 6. Positive high value of Fama’s measure indicates that the fund has achieved superior returns and the investors are benefited from them. Results in Table 6 shows that, all 10 sampled schemes have reported positive value for Fama’s measure. Hence overall the selected top four funds seem to be more reliable so far the professional stock selection skill of managers is concerned during the study period. The top performers in terms of Fama’s measure are; IDFC Premier Equity Fund - Plan A (G), Sundaram selected mid – cap, UTI Opportunities Funds (g), HDFC top 200. which are more or less same with the top performers in terms of Jensen’s measure. The correlation coefficient between Fama’s measure and portfolio return is 0.868366. High positive correlation coefficient between Jensen’s measure and portfolio return and Fama’s measure and portfolio return validate the fact that, better stock selection skill of fund managers has resulted in higher portfolio return.

5.4 Testing of Hypothesis

5.4.1 Testing of returns of large cap and mid cap mutual funds

H0: There is no significance difference between returns of large cap and midcap mutual funds in long-term (5 year)

H1: Large cap mutual funds are offering higher returns than mid cap mutual funds in long term.

5.4.1.1 For Long-term return

| Table 7- Long term returns of Large and mid cap mutual funds |
| Variable 1 | Variable 2 |
| Mean | 3.8622 | 3.0776 |
| Variance | 0.751683 | 9.414909 |
| Observations | 5 | 5 |
| Hypothesized Mean Difference | 0 |
| Df | 5 |
| t Stat | 0.550232 |
| P(T<=t) two-tail | 0.605837 |
| t Critical one-tail | 2.015048 |
Here t-calculated value (0.550232) is less than t-tabulated value (2.015048), so we failed to accept the alternative hypothesis. That is large cap mutual funds are not offering higher returns than mid cap mutual funds in long term.

5.4.1.2 For Short-term return

H₀: There is no significance difference between returns of large cap and midcap mutual funds in short-term (One year)
H₁: There is significance difference between returns of large cap and midcap mutual funds in short-term (One year)

<table>
<thead>
<tr>
<th>Year</th>
<th>t-calculated value</th>
<th>t-tabulated value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>0.16395</td>
<td>2.57058</td>
<td>Null Accepted</td>
</tr>
<tr>
<td>2008</td>
<td>0.65042</td>
<td>2.7764</td>
<td>Null Accepted</td>
</tr>
<tr>
<td>2009</td>
<td>-0.4493</td>
<td>2.4469</td>
<td>Null Accepted</td>
</tr>
<tr>
<td>2010</td>
<td>-0.0028</td>
<td>2.5706</td>
<td>Null Accepted</td>
</tr>
<tr>
<td>2011</td>
<td>1.2569</td>
<td>2.3646</td>
<td>Null Accepted</td>
</tr>
</tbody>
</table>

From the t-test calculations it can be interpreted that for short term there is no significance difference between the return of large cap and mid cap mutual funds.

5.4.2 Testing of returns of Large cap and Mid cap mutual funds as compare to market returns

H₀: There is no significance difference between returns of large cap and mid cap mutual funds as compare to market returns.
H₁: Large cap and Mid cap mutual funds are not offering greater returns as compare to market returns

<table>
<thead>
<tr>
<th>Year</th>
<th>t-calculated value</th>
<th>t-tabulated value</th>
<th>Large cap t-calculated value</th>
<th>t-tabulated value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>1.327454992</td>
<td>1.859548033</td>
<td>0.201507267</td>
<td>2.015048372</td>
</tr>
<tr>
<td>2008</td>
<td>6.291048242</td>
<td>1.943180274</td>
<td>1.270654978</td>
<td>1.943180274</td>
</tr>
<tr>
<td>2009</td>
<td>-0.585833841</td>
<td>2.015048372</td>
<td>-0.226601566</td>
<td>1.943180274</td>
</tr>
<tr>
<td>2010</td>
<td>-1.292860123</td>
<td>2.015048372</td>
<td>-0.482096754</td>
<td>2.131846782</td>
</tr>
<tr>
<td>2011</td>
<td>5.612807117</td>
<td>2.131846782</td>
<td>2.223342956</td>
<td>2.015048372</td>
</tr>
</tbody>
</table>

The basic aim behind the hypothesis testing is to know whether Large cap and mid cap equity mutual funds are performing better as compare to market returns or not. In the year 2008 and 2011 Large cap mutual funds are showing performance below market returns and Mid cap mutual funds are performing above market returns in all years except year 2011. So we failed to accept alternative hypothesis.

5.4.3 Testing of risks of Large cap and Mid cap mutual funds as compare to market risks

H₀: There is no significance difference between risk of large cap and mid cap mutual funds as compare to market risk.
H₁: Large cap and mid cap mutual funds risks are higher as compare to market risks.
Table 10- Risk comparison of market with large and mid cap mutual funds

<table>
<thead>
<tr>
<th>Year</th>
<th>Large cap t-calculated value</th>
<th>Large cap t-tabulated value</th>
<th>Mid cap t-calculated value</th>
<th>Mid cap t-tabulated value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>-1.632683776</td>
<td>2.131846782</td>
<td>-1.875667131</td>
<td>2.131846782</td>
</tr>
<tr>
<td>2008</td>
<td>-2.801548197</td>
<td>1.859548033</td>
<td>-0.615017553</td>
<td>1.894578604</td>
</tr>
<tr>
<td>2009</td>
<td>-7.116034682</td>
<td>1.894578604</td>
<td>-0.213360687</td>
<td>2.015048372</td>
</tr>
<tr>
<td>2010</td>
<td>-3.493653468</td>
<td>1.894578604</td>
<td>-3.621983003</td>
<td>1.894578604</td>
</tr>
<tr>
<td>2011</td>
<td>-0.943302025</td>
<td>2.131846782</td>
<td>-5.632205906</td>
<td>1.943180274</td>
</tr>
</tbody>
</table>

Here in all the years calculated value is less than tabulated value, so we failed to accept alternative hypothesis. That is large cap and mid cap mutual funds risks are not more than market risks.

6. CONCLUSION

This study has been carried out to evaluate the performance of selected 10 mutual fund schemes of various fund houses consisting 5 large cap & 5 mid cap mutual funds during the study period of Jan 2007 to Dec 2011. An attempt has been made to evaluate the fund’s performance, level of diversification and manager’s ability to pick the undervalued stocks. The study revealed that except two all the sampled schemes have performed better than market. Supporting the established relationship of high risk - high return, better performing schemes are exposed to higher risk. Better performing schemes were less afflicted by systematic risk and highly afflicted by total risk in terms of standard deviation of portfolio return. Out of total, all of the schemes have reported lower risk than the risk of benchmark markets. The hypothesis of risk return relationship was also justified by the benchmark markets also.

The findings also revealed that majority of the schemes were adequately diversified. Negative correlation between level of diversification, measured by $R^2$ and unique risk proved that, fund managers remained successful in reducing unique risk through better diversification. The study also revealed that about 60% of the schemes were able to beat the market with help of better stock selection skill of fund managers.

Overall, ING Dividend Yield Fund, Tata Dividend Yield Fund, UTI MNC Fund, Quantum Long-Term Equity Fund, Canara Robeco Equity Diversified, HDFC Growth Fund, Franklin India Prima Plus Fund and Tata Pure Equity Fund are among the best performing funds among the sampled schemes, in terms of all the different performance evaluation measures.

Finding from the t-test calculations shows that there is no difference between returns from large cap mid cap mutual funds in long run. From the return comparison of mutual funds and market, in 2008 & 2011 large cap are underperforming than market and in 2011 only mid cap mutual funds are showing less return than market returns. Otherwise in all years mutual funds are performing better than the market. It is also proved that in risk comparison also in all years mutual funds risks are less than the market risks.

7. REFERENCES


*****
A STUDY ON CONSTRUCTION OF OPTIMUM PORTFOLIO WITH REFERENCE TO THE SHARPE INDEX MODEL

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Associate Professor, ITM Business School, Warangal PIN- 506 001

ABSTRACT: This research aims at constructing an optimal portfolio that maximizes the overall return and minimizes the risk associated with the individual stocks using the Sharpe Single Index Model. The study includes 25 stocks from five different sectors. Only the secondary data for the past five years (2007-08 to 2011-2012) are used in the study. The final portfolio thus constructed includes stocks from more than one sector. Thus even if some of the sectors do not perform well as expected, it will be compensated by the excess returns from the other sectors that exceed the expectation. This is how risk is diversified. This method of construction of optimal portfolio is very effective and convenient as revision of the optimal portfolio can be an ongoing exercise. The existence of a cut-off rate ($C_i$) is also extremely useful because most new stocks that have an excess return-to-beta ratio above the cut-off rate ($C_i$) can be included in the optimal portfolio. Thus this study helps the investors to minimize risk and maximize the return on their investment.

Keywords: beta ($\beta$), optimum portfolio, risk-less return beta ratio, maximization of return minimization of risk and cut-off point ($C_i$)

INTRODUCTION

Despite many portfolio models available, Optimum portfolio only provides a complete solution for the investors who would like to spread the risk and maximize return over large number of securities. Of course each model has its own importance in the portfolio. In order to understand the optimum portfolio concept, a bit of recapitalization about the other models of portfolio and their respective merits and demerits is matter of concern. They are;

Markowitz Model: According to this model, holding stocks from different companies is better than investing the whole money in one company. He had given up single stock portfolio and introduced diversification. He will invest all the money in one single stock, if the expected highest return would turned-out to be real. In the uncertainty world, most of the risk-averse investors would like to invest more than one stock. This model is popular for ever because it refers the portfolio construction with the help of stock co variances. Under this model, the investors’ decision is solely based on the expected return and variance of returns only. The investor prefers higher return to lower return and lower risk to higher risk for a given level of return and risk respectively.

Drawbacks of Markowitz Model: Despite the model has sound enough in analyzing the risk and return of the portfolio, but it is required to estimate $n$ number of co variances when portfolio size has increased from more than three securities. It has limited use in the construction of portfolios. Now a days financial institutions buying large number of securities in their portfolio rather confined to two or three. In this typical situation, the financial institution has work-out thousands of co variances (11175 co-variances need to be estimate if it buys...
150 securities). To simplify the cumbersome calculations, Sharpe has evolved a new model to construct the portfolio which also called Sharpe's Index Model. Sharpe's Index Model: This model says that most of the stock prices move with market index (i.e. sen-sex). As such, if sen-sex increases, stock prices also increases and vice versa. With the help of this relationship, it can be estimated the return on stock.

RESEARCH METHODOLOGY: The period of study is five years i.e. from 2008 to 2012. Secondary data has been collected form www.bse.com and www.aceanalyzer.com. Nine sample companies have taken for the study based on their profitability performance and market capitalization. The sampling technique adopted is purposive sampling. Later on the collected data has been edited, processed and tabulated in the several tables and annexure. The statistical tools applied in the paper are; mean and variances etc. The financial metrics like mean return, realized return, excess return, beta ($\beta$), un-systematic risk ($\epsilon_2$) and cut-off points ($C_i$) etc.

NEED FOR THE STUDY: In the present economic recession, an optimum portfolio is need of the hour. In a diversified portfolio some securities may not perform well as expected, but some others may exceed the expectation and making the actual return of the portfolio is closer to the anticipated one. But optimum portfolio provides maximum return with minimum risk exposure, where the risk is spread over many eligible stocks rather confined to small number of securities. As such, the financial analyst can advice his/her clients in the most profitable way.

OBJECTIVES OF THE STUDY:
- To construct a portfolio of stocks from nine selected companies using Sharpe's index model that maximizes return and minimizes risk on the portfolio.
- To analyze the risk of various securities
- To advice the individual investors rather institutional investors (whose investment basket size is very large) for their long-term investments.
- To understand the role of beta ($\beta$) and standard deviation ($\sigma$) in measuring the relevant risk of security and to know the proportions to invest in each security, through cut-off point ($C_i$) and Sharpe's Index Model.

LIMITATIONS OF THE STUDY:
- The study is limited to nine sample companies from five sectors namely; Automobiles, Banking, FMCG, IT and Pharmaceuticals. Hence, inferences cannot be generalized to the entire stocks available for trading.
- The time duration for measuring the return is one accounting year.
- The data confined to five years (2007-08 to 2010-2012)

REVIEW OF LITERATURE: Unless reviewing the studies on the construction of portfolio, the present study is not worthwhile one. Hence the following studies were reviewed in order to design the study on the optimum portfolio;
DheerajMisra and Sangeeta D.Misra, (2007) analysed the risk and returns of different sectors of the Indian economy using both the market and accounting based information. The results based on market information show that Fast Moving Consumer Goods (FMCG), healthcare and oil and gas sectors are the most defensive sectors of the indian economy where as metal and information technology (IT) sectors are the most aggressive sectors of the Indian economy.
Ayhan Kapusuzoglu and Semra Karacaer (2009), constructed portfolios with returns equal to and higher than the ISE (Istanbul Stock Exchange) National – 100 Index employing the Quadratic Programming Model in order to demonstrate the effect of the relationship between the elements of index, return and risk on the overall process of portfolio construction by the investors.
Pola and Gianni Pola (2009) propose one approach to optimal portfolio construction based on recent results on stochastic reachability, which overcome some of the limits of current approaches. Given a sequence of target sets that the investors would like their portfolio to stay within, the optimal portfolio allocation is synthesized in order to maximize the joint probability for the portfolio value to fulfill the target sets requirement.

Asmita Chitnis (2010), attempts to construct two optimal portfolios from different samples using Sharpe's Single Index Model of Capital Asset Pricing and further to compare the performance of these two portfolios by Sharpe's Ratio. For the analysis purpose, NIFTY 50 has been considered as the market index. Stocks listed on the National Stock Exchange constitute the population. Two samples of each comprising of 26 stocks (most of them being large caps) have been selected. Monthly indices as well as monthly stock prices for the period from 1st April, 2004 to 31st March, 2009 are being considered. Using Sharpe's Single Index Model a unique cut off point is defined and the optimal portfolio of stocks having excess of their expected return over risk-free rate of return greater than this cut-off point is generated for both the samples separately. Percentage of investment in the respective portfolios is further decided by the standard procedure outlined by Sharpe's Model. Finally, the performance of these two optimal portfolios is evaluated by Sharpe's Ratio.

Now the study on optimal portfolios is necessitated in the light of Euro zone recession and US down turn which impacts all the economies across the world directly or indirectly.

**TOOLS FOR ANALYSIS:** The following tools are playing important role in the construction of the optimum portfolio.

**Beta Coefficient ($\beta$):** It is the relative measure of systematic risk. It is an index of the degree of movement of an asset's return in response to a change in the market's return.

**Return:** It is calculated on the basis of market price of the stocks. It is arrived by dividing the difference between opening price and closing price by the opening price. In other words, return has been computed based on the stock market information. It is computed with help of the following formula:

$$\text{Return} = \left(\frac{P_1 - P_0}{P_0}\right) \times 100$$

Where, $P_0$ stands the opening price

$P_1$ stands the closing price

**Risk-free rate of return:** Risk-free rate of return is the required return on a risk-free asset, typically a three month bill.

**Excess return to beta ratio:** It is computed with the following formula

$$\text{Excess Return to beta Ratio} = \frac{(R_i - R_f)}{\beta}$$

Excess return to beta ratio shows the return from the investment in excess to the risk taken by the investor.

Risk-free rate of return ($R_f$) = 9.5% 

Where, $R_i$ = the expected return on stock $i$, $R_f$ = the return on a risk-free asset, $\beta_i$ = the expected change in the rate of return on stock associated with one unit change in the market return and $C_i$ = the cut-off point.

**DATA ANALYSIS AND RESULTS:**

The collected data regarding opening and closing price of select sample companies (i.e. 25 companies from different sectors) has been used to determine the mean return, excess return and excess return to beta ratio etc. Annexure I show that only 9 sample companies were continued with profits whose mean return ranges between 3.16 per cent to 120.65 per cent. Hence, the process of construction of optimum portfolio considers 9 sample companies.
Annexure II shows that variance of return of stocks of all 25 sample companies during the study period (i.e. 2007-08 to 2011-12).

**COMPARISON OF BETA ($\beta$):**

![Figure 1.1 Comparison of Beta ($\beta$) of the stocks](image)

Figure 1.1 shows the $\beta$ values of the companies selected. From the chart it is clear that $\beta$ value of HUL (0.37) is very less and it also implies that the risk involved in that company is very less. It is also evident that the HCL Technologies Ltd (1.02) company has highest $\beta$ value which means it has the highest risk among the other companies taken.

<table>
<thead>
<tr>
<th>Stock</th>
<th>$R_i$</th>
<th>$\bar{R}_i - \bar{R}$</th>
<th>$\beta$</th>
<th>$\bar{e}_i$</th>
<th>$\frac{(R_i - R)}{\beta_i}$</th>
<th>Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bajaj</td>
<td>104.3</td>
<td>94.8</td>
<td>0.68</td>
<td>739.6</td>
<td>129.86</td>
<td>1</td>
</tr>
<tr>
<td>Infosys</td>
<td>120.65</td>
<td>111.15</td>
<td>0.99</td>
<td>980.4</td>
<td>112.27</td>
<td>2</td>
</tr>
<tr>
<td>HUL</td>
<td>40.57</td>
<td>31.07</td>
<td>0.37</td>
<td>33</td>
<td>83.97</td>
<td>3</td>
</tr>
<tr>
<td>TCS</td>
<td>30.95</td>
<td>21.45</td>
<td>0.94</td>
<td>381.76</td>
<td>22.58</td>
<td>4</td>
</tr>
<tr>
<td>HCL</td>
<td>30.37</td>
<td>20.87</td>
<td>1.02</td>
<td>179.48</td>
<td>20.46</td>
<td>5</td>
</tr>
<tr>
<td>Maruti</td>
<td>12.55</td>
<td>3.05</td>
<td>0.65</td>
<td>637.25</td>
<td>4.77</td>
<td>6</td>
</tr>
<tr>
<td>Cairn</td>
<td>11.67</td>
<td>2.17</td>
<td>0.96</td>
<td>71.37</td>
<td>2.26</td>
<td>7</td>
</tr>
<tr>
<td>PNB</td>
<td>8.66</td>
<td>-0.84</td>
<td>0.96</td>
<td>331.52</td>
<td>-0.87</td>
<td>8</td>
</tr>
<tr>
<td>ITC</td>
<td>3.16</td>
<td>-6.34</td>
<td>0.52</td>
<td>60.98</td>
<td>-12.68</td>
<td>9</td>
</tr>
</tbody>
</table>

Source: Authors own calculations based on the collected data of nine companies

From the table 1.1, the individual mean returns are calculated using five years returns of stocks of nine (9) companies out of 25 sample companies and excess return to beta is found using the formula. The mean return of nine (9) companies ranging from 3.16 to 120.65 per cent. Then the stocks are ranked according to the excess return to beta ratio.
Table 1.2: Calculation of Cut-off point.

<table>
<thead>
<tr>
<th>Stocks</th>
<th>(Ri – RF) / β</th>
<th>(Ri – RF)βei2</th>
<th>Σ(β2 / ei2)</th>
<th>C1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bajaj</td>
<td>129.86</td>
<td>0.09</td>
<td>0.09</td>
<td>78.23</td>
</tr>
<tr>
<td>Infosys</td>
<td>112.27</td>
<td>0.11</td>
<td>0.2</td>
<td>70.63</td>
</tr>
<tr>
<td>HUL</td>
<td>83.97</td>
<td>0.35</td>
<td>0.55</td>
<td>53.12</td>
</tr>
<tr>
<td>TCS</td>
<td>22.58</td>
<td>0.05</td>
<td>0.6</td>
<td>42.35</td>
</tr>
<tr>
<td>HCL</td>
<td>20.46</td>
<td>0.12</td>
<td>0.72</td>
<td>28.25</td>
</tr>
<tr>
<td>Maruti</td>
<td>4.77</td>
<td>0</td>
<td>0.72</td>
<td>26.94</td>
</tr>
<tr>
<td>PNB</td>
<td>-0.87</td>
<td>0</td>
<td>0.75</td>
<td>16.46</td>
</tr>
<tr>
<td>ITC</td>
<td>-12.68</td>
<td>0.05</td>
<td>0.8</td>
<td>13.59</td>
</tr>
</tbody>
</table>

Source: Authors own calculations based on the collected data of nine companies

From the table 1.2, the highest value of C1 is taken as the cut-off point i.e C*. Here the cut-off point is C* = 78.23. Thus the stock with C1 less than C* can be included in the portfolio. The stocks selected must also be given preferences based on the ranking of the excess return to beta ratio. Here all other stocks above the cut-off point in the table can be selected because it has value less than the cut-off point.

CONSTRUCTION OF OPTIMUM PORTFOLIO:

For constructing the portfolio, the stocks are selected based on the ranking of the excess return to beta ratio and C1 must be less than the cut-off point.

From the C1 values of table 1.2, the investment is made in the following stocks:

Table 1.3: Stocks to be included in the portfolio

<table>
<thead>
<tr>
<th>Stocks</th>
<th>Cutoff point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bajaj</td>
<td>78.23</td>
</tr>
<tr>
<td>Infosys Ltd</td>
<td>70.63</td>
</tr>
<tr>
<td>HUL</td>
<td>53.12</td>
</tr>
</tbody>
</table>

Source: Authors judgment based on the relationship between C1 and risk-less return to beta ratio

The stocks are selected for the optimal portfolio based on excess return to beta ratio which is greater than or equal to cut-off point. The proportion the investment in each stock should be calculated.

**Proportion of investment:** The proportions of stocks in the optimum portfolio were computed with help of the following formula.

\[ X_i = \frac{Z_i}{\sum Z_i} \]

Where, \( Z_i = \frac{\beta_i}{\beta_{ei2}} \)

The computed values for Xi and Zj are presented in the table 1.4.

Table 1.4: Calculation of proportion of funds to be invested in each stock

<table>
<thead>
<tr>
<th>Stocks</th>
<th>Zj</th>
<th>Xi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bajaj</td>
<td>0.046</td>
<td>0.3194</td>
</tr>
<tr>
<td>Infosys Ltd</td>
<td>0.034</td>
<td>0.236111</td>
</tr>
<tr>
<td>HUL</td>
<td>0.064</td>
<td>0.444444</td>
</tr>
<tr>
<td>Total</td>
<td>0.144</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Source: Authors calculation based on formulas of Zj and Xi
Table 1.4, shows that the relative investment in each stock indicates the weights on each security and they sum up to one that is the proportion in which the money must be invested.

<table>
<thead>
<tr>
<th>Company</th>
<th>Proportion of investment (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bajaj</td>
<td>31.94</td>
</tr>
<tr>
<td>Infosys Ltd</td>
<td>23.611</td>
</tr>
<tr>
<td>HUL</td>
<td>44.444</td>
</tr>
</tbody>
</table>

Source: Authors calculation based on $X_i$ values

From the table 1.5, it can be inferred that maximum investment of 44.44 per cent has to be invested in the stocks of HUL Ltd. The remaining 55.56 per cent of funds have to be allocated in to Bajaj Automobiles Ltd and Infosys Ltd with 31.94 per cent and 23.61 per cent respectively. The following chart will also represent the same break-up of investment in different stocks.

**Figure 1.2 Proportion of investment (%)**

**FINDINGS:**
- The excess return to beta ratio of selected sample companies is positive except PNB and ITC Ltd.
- The FMCG company (i.e. HUL Ltd with rank 1) has performed well when compare to other sample companies with respect to excess return.
- The stocks with moderate risk yields higher return (i.e. Bajaj Ltd 129.86)
- The returns of the stocks selected are also better than the other stocks
- The risk associated with all the individual stocks is not the same for all the years. It differs from time to time.
- The greatest proportion of investment of about 44.44 % is made in HUL Ltd. Which has the lowest beta value of 0.37 among all the stocks included in the portfolio?
- The optimum portfolio is largely diversified one as it includes the stocks of FMCG, IT and Automobiles (i.e. HUL, Infosys Ltd and Bajaj Automobiles Ltd).
- Annexure 1 shows that only 9 sample companies were continued with profits whose mean return ranges between 3.16 per cent to 120.65 per cent during the study period. This is happened because of US and European economic crisis.
- Out of nine sample companies, only three companies were included in the portfolio.

**SUGGESTIONS:**
- The individual investor has to invest maximum of 44.44 % in HUL Ltd as per the model prescription
- 31.94 % of the total investment has to be made in Bajaj Automobiles Ltd.
- 23.61 % of the total investment has to be made in Info-sys Ltd respectively.
- The stocks have to be continuously analyzed and portfolio has to be updated periodically.
CONCLUSIONS:

Though the recession has brought out significant decline in the trends, the rate of growth is remarkable in few stocks like HUL, Bajaj and Infosys. Individual securities, as we have risk-return characteristics of their own. Portfolios, which are combinations of securities, tend to spread risk over many securities and thus help to reduce the overall risk involved. This method of construction of optimum portfolio is very effective and convenient as revision of the optimum portfolio can be an ongoing exercise and moreover it has been proved in the Annexure II that out of 25 sample companies only nine (9) companies running with profits and the rest were huge losses. The existence of cut-off rate is also extremely useful because most new securities that have an excess return-to-beta ratio above the cut-off rate can be included in the optimum portfolio. Thus this study helps the investor to minimize their overall risk and maximize the return of their investment over any period of time.

Acknowledgements: We are highly thankful to the experts for providing the template.

References:

IMPACT OF CONSTRUCTS OF QUALITY OF WORK LIFE IN RELATION TO WOMEN LABORERS UNDER MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE ACT (MGNREGA): AN ANALYTICAL STUDY.

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**ABSTRACT:** Human resource is one of the fundamental factors influencing the development of a nation. The socio-economic and political position of a nation is very much dependent on how it recruits, motivates and retains its workforce? In present scenario it is very essential to keep in mind the importance of Quality of Work Life for employees while drafting the various national schemes which intend to provide quality of life to people. This is because QWL is an integral part of quality of life. The present study aims at identifying the various constructs of QWL responsible in affecting the QWL of employees particularly in the case of women workers in rural area. The constructs of QWL discussed in the present study include safe work environment, equitable wages, equal employment opportunities and opportunities for advancement. (Mirvis and Lawler, 1984). The whole study has been framed from the perspective of women workers employed under MGNREGA. Further, the study attempts to find out how far they have been taken into consideration by the policy drafters of MGNREGA particularly for women employees and suggests the measures for improving QWL among MGNREGA employees particularly in the case of women. The study concludes that the important constructs of QWL have been taken into consideration while drafting MGNREGA but there is still much that must be done to strengthen womens’ situation in rural areas. The suggestions for the same have been enumerated and the implications of the study discussed.

**Keywords:** Quality of Work Life; MGNREGA’s Women employees; Mirvis and Lawler’s four factor.

1. **Introduction:**

Defining the variable QWL; explaining its meaning and discussing its various constructs taken into consideration in the present study.

“QWL is a process of work organization which enables its members at all levels to participate actively and effectively in shaping the organization’s environment, methods and outcomes. It is a value based process which is aimed towards meeting the twin goals of enhanced effectiveness of the organization and improved quality of life at work for the employees.”

QWL influences the productivity of the employees. Researchers have proved that good QWL leads to psychologically and physically healthier employees with positive feelings. To summarize, QWL is the degree to which employees of an organization are able to satisfy their personal needs through experience.
in the organization. Its main aim is to create a work environment where employees work in cooperation with each other and contribute to organizational objectives.

2. Origin of QWL:

The evolution of QWL began in late 1960s emphasizing the human dimensions of work that was focused on the quality of the relationship between the worker and the working environment (Rose et.al. 2006).

QWL is a concept of behavioral science and the term was first introduced by Davis at the Forty-Third American Assembly on the Changing World of Work at Columbia University's Arden House. The selected participants assembled there concluded in their final remarks that “improving the place, the organization and the nature of work can lead to better work performance and a better quality of life in the society” (Gadon 1984, Wyatt & Wah 2001, Sadique 2003, Rose et al. 2006, Islam & Siengthai 2009). Since the phrase was found the method of defining QWL varied and encompassed several different perspectives (Loscocco & Roschelle 1991).

Robbins (1989) defined QWL as "a process by which an organization responds to employee needs by developing mechanisms to allow them to share fully in making the decisions that design their lives at work”.

According to Feuer (1989), QWL can be described as the way an individual perceives and evaluates the characteristics intrinsic to his/her past experience, education, race and culture. Lau and Bruce (1998) defined QWL as the workplace strategies, operations and environment that promote and maintain employee satisfaction with an aim to improving working conditions for employees and organizational effectiveness. (European Journal of Business and Management)

The BNET business dictionary defines Quality of Work Life as the extent to which employees can enhance their personal life through their work and their environment.

3. Constructs of QWL:

Mirvis and Lawler (1984) suggested that Quality of Work Life was associated with satisfaction with wages, hours and working conditions, describing the “basic elements of a good quality of work life” as:

- safe work environment,
- equitable wages,
- equal employment opportunities and
- Opportunities for advancement.

The aim of QWL is to identify and implement alternative programmes to improve the quality of professional as well as personal life of an organization’s employees.

The four constructs (Mirvis and Lawler) are explained below:

3.1 Safe work environment:

Health and well-being of QWL refer to physical and psychological aspects of an individual in any working environment. Since 1950, the International Labor Organization (ILO) and the World Health Organization (WHO) have shared a common definition of occupational health.
The definition reads: "Occupational health should aim at: the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention amongst workers of departures from health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological capabilities; and, to summarize, the adaptation of work to man and of each man to his job.”

The main focus in occupational health is on three different objectives: (i) the maintenance and promotion of workers’ health and working capacity; (ii) the improvement of working environment and work to become conducive to safety and health and (iii) development of work organizations and working cultures in a direction which supports health and safety at work and in doing so also promotes a positive social climate and smooth operation and may enhance productivity of the undertakings. The concept of working culture is intended in this context to mean a reflection of the essential value systems adopted by the undertaking concerned. Such a culture is reflected in practice in the managerial systems, personnel policy, principles for participation, training policies and quality management of the undertaking."

**Reasons for occupational health and safety:**

- Moral: duty of reasonable care; unacceptability of putting health and safety of people at risk; society’s attitude to moral obligations; making the moral case to senior management
- Legal: the preventive (enforcement), punitive (through criminal sanctions), and compensatory effects of law
- Economic: direct and indirect costs associated with incidents and/or unhealthy workplaces and their impact on the organization (includes insured and un-insured costs).

**Employer responsibilities with health and safety:**

Organizations should realize that their true wealth lies in their employees and so providing a healthy work environment for employees should be their primary objective. Occupational health and safety procedures must be implemented wherever the work is being conducted in an office, factory, construction site or home.

One should develop and have in place an occupational health and safety policy to meet the following standards:

- ensure that the way work is done is safe and does not affect employees’ health
- ensure that tools, equipment and machinery are safe and are kept safe
- ensure that ways of storing, transporting or working with dangerous substances is safe and does not damage employees’ health
- provide employees with the information, instruction and training they need to do their job safely and without damaging their health
- consult with employees about health and safety in the workplace, and
- monitor the work place regularly and keep a record of what is found during the checks.
Policies should be developed in consultation with all employees. In some instances it may be necessary to organize support persons or interpreters for employees with disability so that all employees may participate in the consultation process.

*Employees with disability:*
Employees with disability have the same rights and responsibilities as employees without disability when it comes to creating and maintaining a safe work environment.

*Reasonable adjustments:*
Employees with disability may require reasonable adjustments to ensure safety in the workplace, such as changes to work processes or equipment, or adjusting work schedules. The law states that, whenever it is necessary, possible and reasonable, as an employer, you should take into account a person’s disability and make appropriate adjustment to the work environment to accommodate that person.

Reasonable adjustments enable an employee with disability to:
- perform the inherent or essential requirements of their job safely in the workplace
- have equal employment opportunities such as recruitment processes, promotion and training opportunities
- enjoy equal terms and conditions of employment.

3.2 *Equitable Wages:* Principle of equitable wages refers to the Principle of non-discrimination in compensation for work. It states that pay should be based on the kind and quality of work done and not according to the age, race, sex, religion, political association, ethnic origin, or any other individual or group characteristic unrelated to ability, performance and qualification. We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights that among these are Life, Liberty and the pursuit of Happiness. The economic interests of people drive them to work at a job and employee satisfaction depends, at least partially, on the compensation offered. Pay should be fixed on the basis of the work done, responsibilities undertaken, individual skills, performance and accomplishments. The principle of equitable wages helps to develop employees’ motivation for work.

3.3 *Equal employment Opportunities (EEO):*
Equal Employment Opportunity refers to a policy statement that equal consideration for a job is applicable to all individuals and that the employer does not discriminate based on race, color, religion, age, marital status, national origin, disability or sex. This is a sensitive area of legal concern that employers must comply with.

3.4 *Opportunities for advancement:* Merriam-Webster defines ‘opportunity’ as: a favorable juncture of circumstances; a good chance for advancement or progress. An organization should provide employees with opportunities for personal/professional development and growth and to prepare them to accept responsibilities at higher levels.
4. **Purpose of study:**

(a) To identify the major factors that influence the QWL of employees particularly in the case of women workers in rural areas.

(b) To find out how far they have been taken into consideration by the policy drafters of MGNREGA particularly for women employees.

(c) To suggest the measures for improving QWL among MGNREGA employees particularly in the case of women.

5. **Hypothesis:**

It was hypothesized that the important constructs of QWL of workers would have been taken into consideration while drafting guidelines for MGNREGA particularly in the case of women workers.

6. **Rational of study:**

An Organization is a social unit of people, systematically structured and managed to meet a need or to pursue collective goals on a continuing basis. A country is the most important and super-most organization comprising of a huge mass of people which in different ways work together to achieve a collective goal of national development.

Employee satisfaction is supremely important in an organization because it is what productivity depends on. If the employees are satisfied, they would produce superior quality performance in optimal time and lead to growing profits. Satisfied employees are also more likely to be creative and innovative and come up with breakthroughs that allow an organization to grow and change positively with time and changing market conditions.

In the same way, employee development is crucial for the growth and prosperity of a country, as it is the determining factors on which the productivity of a nation depends.

The present study is an effort to examine whether the national schemes are drafted by the policy-makers keeping in mind the most imperative factor affecting the human resource of the country i.e. the QWL.

7. **MGNREGA:**

The Mahatma Gandhi National Rural Employment Guarantee Act (hereafter NREGA) is a law whereby any adult who applies for employment in rural areas has to be given work on local public works within 15 days. If employment is not given, an unemployment allowance has to be paid. The employment guarantee is subject to a limit of 100 days per household per year. It is to be noted that NREGA is a law and not just a scheme.

The main objective of MGNREGA is to protect rural households from poverty and hunger. MGNREGA can also serve other objectives: generating productive assets, protecting the environment, empowering women, reducing rural-urban migration and fostering social equity among others. Thus, MGNREGA is not just an employment scheme: it is a tool of economic and social development in rural areas.

One of the distinctive features of MGNREGA is that it has not been subjected to arbitrary modification or changes at an easy will of the State. For instance, one can reiterate what the Directive Principles in this regard says and how this is being well substantiated in the EGA as the Directive...
Principles upholds “The State shall in particular direct its policy towards securing ... that the citizens, men and women equally have the right to an adequate means of livelihood”. If MGNREGA is properly implemented with further scope of extending in terms of number of employment days, it can lead to a strong convergence of non-judiciable ethos of Directive Principles to judiciable ones and a sustainable deepening citizenry.

**Enlisting the MGNREGA guidelines and the provisions laid down for women workers:**

The MGNREGA is unique in the sense that it is sensitive to working conditions of workers, especially women as it advocates for providing accessible worksite (within five kilometer of the workers residence), crèches etc for women with children below six, at least one third of work opportunities must go to women and gender parity of wages, etc. Besides this, there are strong provisions to pre-empt corruption, regular and transparent maintenance of all MGNREGA documents especially muster rolls, job cards, utilization certificate, etc and their display at the respective Panchayat Offices. The Act further requires the maintenance of employment and wage details in the workers’ job cards, to enable workers to monitor and verify their employment records themselves. Contractors are banned too in the whole implementation of the MGNREGA. To implement this wage equity, the workers are entitled to the statutory minimum wage in each state. In the case of employment not being given within the job application by the rural citizens within 15 days of the receipt of the application for work, the state government would be answerable to give unemployment allowance against such a failure. Under MGNREGA, rural laborers have a legal entitlement not only to work on demand but also to minimum wages.

All adults in a household are eligible to work. If the worksite is not within five kilometers from the applicant’s residence then the applicant is eligible for an additional 10% of the wage. A holistic look at the contents of the Act opens up a wide spectrum of possibilities as EGA can become a big boost for nomadic tribal communities since locally domiciled but migrant population is also eligible for employment. To put the objective of the Act in a perspective, MGNREGA is about:

- Ensuring minimum 100 days of work in a year.
- Strictly implementing men-women wage parity and focus on disadvantaged communities.
- Creating community assets; rural connectivity, water conservation and harvesting, drought proofing etc.

**8. How far MGNREGA guidelines have been drafted keeping in mind the importance of QWL- A Perspective:**

In this study, we will analyze the above guidelines under the following headings which are the four factors affecting QWL (Mirvis & Lawler).

**8.1 Safe Work Environment:**

The MGNREGA is committed to ensure a workplace conducive to productivity and workers' welfare. With this in mind, MGNREGA funds have been allocated for the provision of safe drinking water, shade for periods of rest, first aid and child care facilities at the worksite. The last of these, in particular, is significant in order to make MGNREGA work a viable option for women with young children who cannot be left alone at home.
8.2 Equitable Wages:
The act stipulates that wages will be equal for men and women. In this way it helps to curb the inequality between men and women on the economic front.

8.3 Equal Employment Opportunities:
“Priority” should be given to women in the allocation of work “in such a way that at least one-third of the beneficiaries shall be women”. [Schedule II, Para 6, NREGA]
The act is also committed to ensuring that at least 33% of the workers shall be women. By generating employment for women at fair wages in the village, MGNREGA can play a substantial role in economically empowering women and laying the basis for greater independence and self-esteem.
Government figures indicate an impressive participation of women in the MGNREGA. It is above 33 per cent in 15 states. Tamil Nadu, with 82 per cent shows the highest participation with Kerala and Rajasthan also showing impressive figures.

Table 1: Women's participation in NREGA (women workers as a percentage of all NREGA workers)

<table>
<thead>
<tr>
<th>States</th>
<th>2008 – 09 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tamil Nadu</td>
<td>82.01</td>
</tr>
<tr>
<td>Kerala</td>
<td>71.39</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>69.00</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>57.75</td>
</tr>
<tr>
<td>Karnataka</td>
<td>49.77</td>
</tr>
<tr>
<td>Gujarat</td>
<td>46.54</td>
</tr>
<tr>
<td>Tripura</td>
<td>44.51</td>
</tr>
<tr>
<td>Uttarakhand</td>
<td>42.77</td>
</tr>
<tr>
<td>Chattisgarh</td>
<td>42.05</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>41.67</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>39.99</td>
</tr>
<tr>
<td>Sikkim</td>
<td>36.73</td>
</tr>
<tr>
<td>Orissa</td>
<td>36.39</td>
</tr>
<tr>
<td>Haryana</td>
<td>34.44</td>
</tr>
<tr>
<td>Mizoram</td>
<td>33.62</td>
</tr>
<tr>
<td>Manipur</td>
<td>32.80</td>
</tr>
<tr>
<td>Meghalaya</td>
<td>30.87</td>
</tr>
<tr>
<td>Assam</td>
<td>30.85</td>
</tr>
<tr>
<td>Himachal Pradesh</td>
<td>30.11</td>
</tr>
<tr>
<td>Arunachal Pradesh</td>
<td>29.58</td>
</tr>
<tr>
<td>Nagaland</td>
<td>29.36</td>
</tr>
<tr>
<td>Jharkhand</td>
<td>27.17</td>
</tr>
<tr>
<td>Bihar</td>
<td>26.62</td>
</tr>
<tr>
<td>West Bengal</td>
<td>16.99</td>
</tr>
<tr>
<td>Punjab</td>
<td>16.29</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>14.53</td>
</tr>
<tr>
<td>Jammu &amp; Kashmir</td>
<td>1.08</td>
</tr>
<tr>
<td>All India</td>
<td>49.33</td>
</tr>
</tbody>
</table>
Source: Official data (for the first four months of the financial year 2008-09) available at www.nrega.nic.in as on 17th July 2008.

8.4 Opportunities for advancement:

By putting cash incomes into their hands, MGNREGA is beginning to create a greater degree of economic independence among women. As mentioned, this was one of MGNREGA’s main aims: with the increased participation of women in household income-generation a positive contribution to gender relations can be made.

Women workers are becoming more confident about their roles as contributors to family expenditure and their work decisions, and that they are also becoming more assertive about their space in the public sphere.

The act contributes to the generation of awareness regarding operational guidelines, household registration, the job card distribution process, work applications and entitlements such as worksite facilities and unemployment allowance. Thus, the act promotes greater self esteem, awareness, realization of rights and helps to build up self-confidence among women.

MGNREGA is designed to be largely implemented through Panchayati Raj Institutions (PRIs) – at least 50 per cent of all sanctioned works are to be implemented by the Gram Panchayats. The Gram Sabha is to play a crucial role in the selection of works and the conduct of social audits. Participation of people at large and women in particular in these institutions and assemblies is crucial for realizing the full potential of the act. There is reservation of one third of all seats in local elected bodies for women (under the 73rd and 74th Constitutional Amendment Acts).

Thus, the act provides greater opportunities for women to play significant role in the effective implementation of MGNREGA by planning the shelf of projects and conducting social audits at MGNREGA works. Priority issues like water availability, sanitation, health, education etc.

9. CONCLUSION:

The first objective of the study for identifying the major factors that influence the QWL of employees particularly in the case of women workers in rural area has been achieved. The constructs of QWL given by Mirvis & Lawler have been identified as the best ones affecting the QWL of women workers in MGNREGA. They have been explained in detail in the present study.

The second objective of the study was to find out how far they have been taken into consideration by the policy drafters of MGNREGA particularly for women employees.

As a result of the above analysis it can be concluded that in the wider perspective MGNREGA contributes to the goal of developing awareness and assertion of women’s identity in terms of economic status and participation in social sphere.

The various constructs of QWL of employees have been taken into consideration while drafting MGNREGA but there is still much scope for further improvements in the act by making provisions more conducive particularly for women workers. Some suggestions will also be enumerated below which shall lead to the attainment of our third objective.
10. Measure to improve QWL among MGNREGA workers particularly women:
Following measures should be considered-

I. Providing a training session to new workers on all safety procedures, including evacuation and other emergency procedures. Safe working practices should also be reviewed and emphasized with all employees on a regular and ongoing basis.

II. Ensuring that the way work is done is safe and does not affect workers’ health.

III. Ensuring that tools, equipment and machinery are safe and are kept safe.

IV. Ensuring that ways of storing, transporting or working with dangerous substances is safe and does not damage workers’ health.

V. Monitoring the work place regularly and keep a record of what is found during the checks.

VI. Awareness programmes should be conducted to make women workers aware about their rights. These programmes should also perform the crucial task of fostering greater participation of women in Gram Sabhas and Gram Panchayats.

VII. Timely payments must be ensured.

VIII. There should be arrangements for the extension of the time-period of work; as demanded by the workers.

IX. A Complaint Committee should be set up for considering the complaints of the workers for various issues like sexual harassment and unbiased decisions should be ensured.

11. Implications of the present study:

The study identifies some aspects of QWL affecting the workers belonging to rural setting particularly women. Studying QWL for such population is a relatively less researched topic as of date. It studies MGNREGA from a normative perspective which is undoubtedly a different perspective making the study; a unique one in this field. The study implies that the government schemes regarding the provision of employment should be drafted; keeping in mind the important constructs of QWL. Hence, it is of significant use in administrative set ups.

12. References:


[23] http://www.businessdictionary.com/definition/organization.html#ixzz1wYbfK9fX