**"Ya Devi Stuyate Nityam Vibhuhairvedaparagaih
Same Vasatu Jihvagre Brahmarupa Saraswati"**

Saraswati, the goddess of knowledge, is praised by the intelligent who have mastered the Shastra (scriptures). She is the wife of the Creator. May she live on my tongue.

# Srusti Management Review
## A Journal of Management & IT

# The Nexus Between Supply Chain Concerns and Business Profile of Manufacturing Industries

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## Abstract

*The purpose of this paper is to emperically test the relationship between supply chain concerns and business profile of manufacturing industries. With help of questionnaire survey conducted on executives of manufacturing industries in the Union Territory of Puducherry, India. This research work has explored the relationship between supply chain concerns and business profile of manufacturing industries by using chi-square test, Analysis of Variance (ANOVA), Independent sample t-test, Correspondence analysis and Canonical correlation analysis. A general conclusion is that positive correlation and 18% of the share variance exists between the two sets of variables supply chain concerns factors and the business profile of manufacturing enterprises.*

**Keywords**: Supply chain concerns, Business profile.

## 1. Introduction

Supply chain management has become the focal point and goal of all the organizations in the global market. This is due to progressive enterprises are focusing on value addition to end customer instead of simply concentration on cost reduction goal. Building competency in management of supply chain has key to enhance the efficiency and effectiveness of the organization (Charu and Sameer, 2000). Many techniques and tools have proposed in course of time to assess the supply chain performance of the organization. Nevertheless, optimal measures that evaluate the holistic SCM is difficult and issues is that traditional techniques spotlighted on financial measure of supply chain, this type of measure is good for simple supply chain process. Unlikely, measurement that relies on financial performance will not be the best for the complex supply chain process. As an outcome of this issue, we aim to explore the relationship between supply chain concerns and business profile of the manufacturing industries.

To accomplish these objectives, a survey was carried out on manufacturing enterprises located in Union Territory of Puducherry. Data pertaining to the supply chain concerns and business profile of manufacturing industries were collected. The results derived from the data analysis have been elaborately discussed in the fourth section of results and discussion. Section two consists of literature review of the present research work through previous research studies and other sources and presented a brief summary of literature review used in this research work.Section three address the research methodology followed in the research work with respect to research design, data collection, instrument design and its rationale, reliability and validity, sample size estimation, sampling methodology followed and statistical tools employed for this research work and finally section five contains conclusions and implications of this research work.

## 2. Review of Literature

An important element of effective supply chain management (SCM) includes downstream integration and upstream collaboration of firm's partners and customers in effective and efficient manner. However, integration and collaboration of the entire value chain mechanism will be a complicated process. Firms may have to confront complex issues because of excessive dependence on suppliers and this may affect their focus on core capabilities (McMullan, 1996).

Conversely, companies which have developed and implemented supplier evaluation system in order to effectively and efficiently manage suppliers, have failed miserably (Sachan & Datta, 2005).

Ballou (2007) has outline the developments in the logistics and supply chain management (SCM) research by listed out notable events, views of the subject experts and assess the nature of SCM. Finding depicts that nature of the logistics and supply chain has brought new challenges and opportunities to researchers and practitioners of SCM and scope for SCM research is wider.(Stank, Dittmann, and Autry, 2011) have developed set of issues will adversely affect performance of supply chain and firms should focus their attention on these issues to align organizational goal with SCM goal. Similarly, some other supply chain concerns have been explored and presented in the research work of (Chow et al., 2008).Supply chain concerns have been defined as "*The issues that prevent an organization from achieving the full potential of their supply chain management*"(Keah Choon Tan, 2002) and (Chow et al., 2008).Chow et al (2008) found that supply chain competence have very positive effect on organizational performanceUS and Taiwan manufacturing enterprises.

Koh et al (2007) observed in their study that high level of supply chain concerns have high impact on operational performance, while Bhatnagar and Sohal(2008) identified the impact of location decision framework and its resultant effect on the supply chain uncertainties and manufacturing practices.(Keah Choon Tan, 2002) has identified a list of supply chain issues through expert's opinion that exert an impact on supply chain performance and organizational performance. The variables used by this researcher have been utilized in this research to measure the supply chain concerns of the manufacturing enterprises.

## 3. Research Methodology

The research design of the proposed research work is descriptive in nature. The research work has been conducted mainly based on primary data. The data relating to supply chain concerns variable of manufacturing industries have been collected from executives. The data collection instrument used for this research is a well structured questionnaire. The sample population for this study consists of the manufacturing firms located in the Union Territory of Puducherry including Pondicherry, Karaikal, Mahe and Yanam. Sampling technique adopted in this research work is simple random sampling method and the sample size for the study was 255 manufacturing firms.

The variable needed for the questionnaire was generated through the literature review and Pre-pilot study was conducted to test the content validity of the questionnaire by administering it to subject experts

and necessary suggestions were incorporated. The pilot study was conducted among 30 manufacturing firms in the Union Territory of Puducherry and the initial reliability of the questionnaire was tested using Cronbach's- Alpha value, which revealed a good reliability result. The main survey was conducted using final questionnaire and the results are represented in tabular and figurative forms. The statistical tools used in this research work are chi-square test for independence, Analysis of Variance (ANOVA), Independent sample t-test, Correspondence analysis and Canonical correlation analysis and software packages used to analyze above statistical tools are SPSS 16.

## 4. Results and Discussions

This section presents descriptive and inferential statistical analysis of supply chain concerns using statistical tools. The supply chain concerns of manufacturing enterprises are grouped into three concerns factor namely supply chain coherence, geographical proximity and competition oriented concerns. Manufacturing units segmented into three clusters based on the three supply chain concerns factors. Business profile variables of manufacturing industries and its nature of relevance with supply chain concerns are described in detail in the forthcoming sections.

### 4.1 Characteristics of Supply Chain Concerns

Supply chain concerns have been classified into three categories namely high supply chain concerned units, moderate supply chain concerned units and low supply chain concerned units on the basis of the three supply chain concerns factors using k-mean cluster analysis. It has also been noticed that the overall performance of the high supply chain concerned units will be good and their supply chain concerns level will be low. To make a strategic, tactical and operational decision in the firm, it is necessary for any firm to understand the nature and characteristics of this supply chain concerns with respect to the profile of manufacturing industries. In this section, the characteristics of supply chain concerns with respect to profile of manufacturing industries variables are analyzed through chi-square test, correspondence analysis, one way ANOVA, Independent sample T-Test and canonical correlation.

The chi-square values along with their level of significance are shown in Table 4.1.

**Table 4.1**

**Chi-Square Test for Profile of Manufacturing Industries Variables**

| SI. no | Variable | Chi-Square value | Sig. Value | Significance or not |
|---|---|---|---|---|
| 1 | Type of Industry | 22.283 | 0.443 | Not Significant |
| **2** | **Number of Employees** | **22.763** | **0.012** | **Significant** |
| 3 | Total Capital Invested | 9.823 | 0.132 | Not Significant |
| 4 | Supply Chain Position | 11.830 | 0.066 | Not Significant |
| **5** | **Nature of Industry** | **16.070** | **0.003** | **Significant** |
| 6 | Side of Supply Chain | 0.829 | 0.661 | Not Significant |
| 7 | Type of Goods Produced | 4.587 | 0.117 | Not Significant |
| 8 | Type of Business Organization | 7.858 | 0.249 | Not Significant |
| 9 | Type of Ownership | 10.112 | 0.120 | Not Significant |
| **10** | **Type of Listing** | **24.059** | **0.001** | **Significant** |
| 11 | Kind of Manufacturing | 6.596 | 0.159 | Not Significant |
| **12** | **Manufacturing Pattern** | **17.811** | **0.007** | **Significant** |
| 13 | Type of process | 5.275 | 0.509 | Not Significant |
| 14 | Annual Turnover | 11.606 | 0.312 | Not Significant |
| **15** | **Market Coverage** | **9.686** | **0.046** | **Significant** |
| **16** | **Area of Market** | **21.180** | **0.007** | **Significant** |
| 17 | Business years | 1.468 | 0.962 | Not Significant |
| **18** | **Software Usage** | **7.332** | **0.026** | **Significant** |

To understand the characteristics of these three supply chain concerns segments, association among the segments with profile of manufacturing industries related variables are analyzed. The chi-square test is applied to test the significance of associations. The chi-square values and significant value reveal that type of industry, total capital invested, supply chain position, side of supply chain ,type of goods produced, type of business organization, type of ownership, kind of manufacturing, type of process, annual turnover and business years have no significant association with supply chain concerns segments, while there is a significant association between supply chain concerns segments and number of employees, nature of industry, type of listing, manufacturing pattern, market coverage, area of market and software usage.

**4.2 Relationship Between Supply Chain Concerns and Profile of Manufacturing Industries Variables**

Chi-square analysis shows significant association between supply chain concerns segments with manufacturing industries profile variables like number of employees, nature of industry, type of listing, manufacturing pattern, market coverage, area of market and software usage. The forthcoming paragraphs shall throw light on a detail analysis of nature of relationship among the profile of manufacturing enterprises and supply chain concerns segments.

**4.2.1 Number of Employees**

To test the significance of association, chi-square test is applied. Table 4.1 reveals that the chi-square value is 22.763 and significant value as 0.012. This implies that there is significant association among the number of employees of manufacturing enterprises and supply chain concerns group.

This association is portrayed in the following Figure 4.1.

**Figure 4.1**
**Employees and Concerns- Correspondence Diagram**
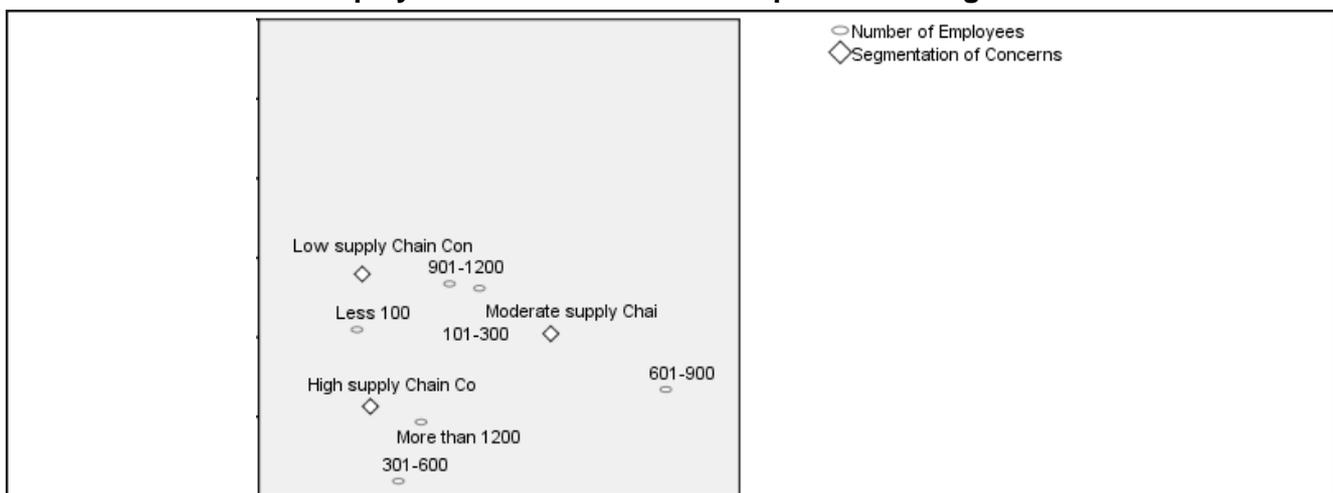
Correspondence Analysis reveals the association between the number of employees and the different segments of manufacturing enterprises segmented based on supply chain concerns. It can be inferred from the above figure that the manufacturing units with more than 1200 and 301-600 employees are associated with the "Highly supply chain concerned units", while those units with 101-300 and 601-900 employees are associated with the "Moderate supply chain concerned units" and the units employing less than 100 employees and 901-1200 employees category are associated with the "Low supply chain concerned group".

The relationship between number of employees and supply chain concerns is depicted in Table 4.2.

**Table 4.2**

**ANOVA for Number of Employees and Supply Chain Concerns**

The Analysis of variance is used to know the effect of supply chain concerns factor on the manufacturing units categorized based on number of employees. It can be observed from the Anova Table 4.2 that no significant difference has been found among the manufacturing units grouped on the basis of number of employees, with respect to supply chain coherence, geographical proximity and competition factors.

### 4.2.2 Nature of Industry

The chi-square value of 16.070 and significant value of 0.003 shown in Table 4.1 clearly indicates existence of significant association between nature of industry of manufacturing units and supply chain concerns segments.

The association between nature of industry and supply chain concerns is portrayed in Figure 4.2.

**Figure 4.2**
**Industry and Concerns- Correspondence Diagram**



The association between the nature of industry and supply chain concerns segments can be identified by using correspondence analysis. It can be observed from the figure that the manufacturing units operating in small scale industry are associated with the "highly supply chain concerned group", while the units operating in large scale are associated with the "moderate supply chain concerned group" and the units operating in medium scale are associated with the "low supply chain concerned group".

The relationship between nature of industry and supply chain concerns is highlighted in Table 4.3.

**Table 4.3**

**ANOVA for Nature of Industry and Supply Chain Concerns**

| Supply Chain Concerns | F | Sig. |
|---|---|---|
| Supply Chain Coherence | 3.466 | 0.033 |
| Geographical Proximity | 7.936 | 0.000 |
| Competition | 8.802 | 0.000 |

The above table indicates that significant difference was found among the units categorized based on nature of industry with respect to supply chain concern factors of supply chain coherence, geographical proximity and competition.

Mean values for coherence concerns of industry category are shown in Table 4.4.

**Table 4.4**
**Mean Values for Coherence Concerns of Industry Category**

| Nature of Industry | N | Mean Values | |
| :---: | :---: | :---: | :---: |
| | | 1 | 2 |
| Medium Scale | 94 | 2.74 | |
| Large Scale | 46 | 2.84 | |
| Small Scale | 115 | | 3.03 |

The post hoc analysis is carried out with Duncan method to understand inter group difference among nature of industry with respect to supply chain coherence. Table 4.4 indicates that two homogeneous sub groups can be formed among the three categories of manufacturing units grouped on the basis of nature of industry in respect of their supply chain coherence factor. Both the homogeneous groups contain large scale industry group and mean value of that industry category is 2.8 on supply chain coherence. The mean values of medium scale industry segment and small scale industry segment are 2.7 and 3.0 respectively. The difference in mean values between medium scale industry group and small scale industry group is significant at 95% level of confidence (Table 4.3, significant value is 0.033). This means that small scale manufacturing units have high level of supply chain coherence concerns than medium and large scale manufacturing units.

Mean values for geographical proximity of industry category are show in Table 4.5.

**Table 4.5**
**Mean Values for Geographical Proximity Concerns of Industry Category**

| Nature of Industry | N | Mean Values | |
| :---: | :---: | :---: | :---: |
| | | 1 | 2 |
| Medium Scale | 94 | 2.67 | |
| Small Scale | 115 | | 3.16 |
| Large Scale | 46 | | 3.28 |

Table 4.5 indicate that two homogeneous sub groups can be formed among the three category of units grouped on the basis of geographical proximity. The mean value in respect of geographical proximity is 2.7 for medium scale units, while the mean in respect of small and large scale units are 3.2 and 3.3 respectively. The difference in mean values between the first homogeneous group and second homogeneous group is significant at 99 percent level of confidence (Table 4.3, significant value is 0.000). This implies that large scale manufacturing units and small scale manufacturing units have high level of geographical proximity concerns than the medium scale manufacturing units.

Mean values for competition concerns of industry category are displayed in Table 4.6.

**Table 4.6**
**Mean Values for Competition Concerns of Industry Category**

Table 4.6 indicates that two homogeneous sub groups can be formed among the three categories of units grouped on the basis of nature of industry in respect of competition. The mean value in respect of competition among the medium scale, large scale and small scale units segment are 2.9, 3.0 and 3.4 respectively. This confirms that small scale manufacturing units have high level of competition concerns than the other two groups of Industry.

**4.2.3 Type of Listing**

The value of chi-square is 24.059 and significant value is 0.001 as shown in Table 4.1, which clearly indicates significant association between type of listing and supply chain concerns of manufacturing units.

The association between type of listing and supply chain concerns is shown in Figure 4.3.

**Figure 4.3**
**Listing and Concerns - Correspondence Diagram**
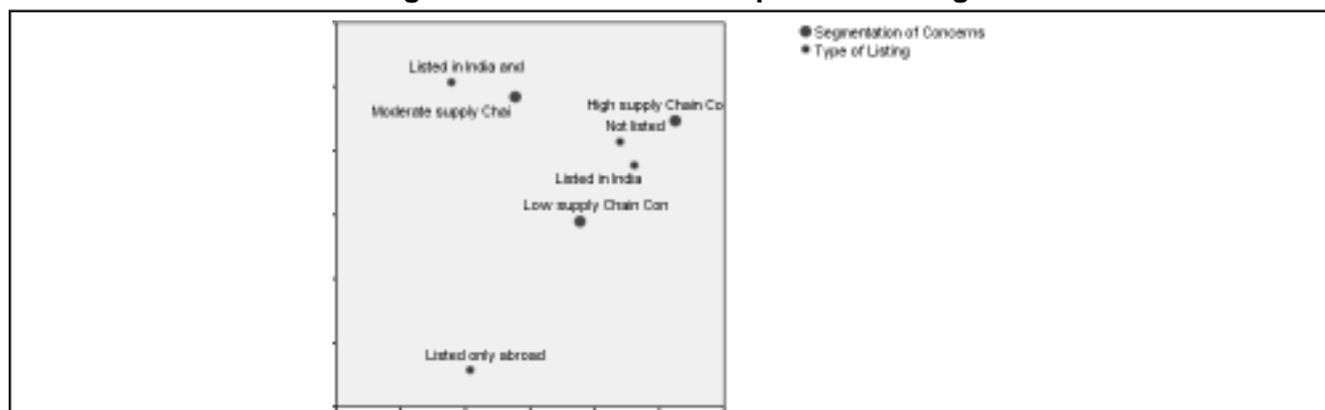
The association between the type of listing category and supply chain concerns segments can be identified by using correspondence analysis. It can be noted that the units whose shares are not listed are associated with the "Highly supply chain concerned group", while those units whose shares are listed in India and abroad are associated with the "Moderate supply chain concerned group" and the units whose shares are listed in India are associated with the "Low supply chain concerned group".

The relationship between type of listing and supply chain concerns are shown in Table 4.38.

**Table 4.7**
**ANOVA for Type of Listing and Supply Chain Concerns**

| Supply Chain Concerns | F | Sig. |
|---|---|---|
| Supply Chain Coherence | 2.565 | 0.055 |
| Geographical Proximity | 2.515 | 0.059 |
| Competition | 3.202 | 0.024 |

The above table indicates prevalence of significant difference (0.024) in mean values of competition with respect to the units categorized based on type of listing, while there is no significant difference (0.059) in mean values of geographical proximity with respect to type of listing and no significant difference (0.055) in mean values of supply chain coherence with respect to type of listing.

Mean values in respect of competition and units categorized based on listing of shares are shown in Table 4.8.

**Table 4.8**
**Mean Values for Competition Concerns of Listing Category**

| Type of Listing | N | 1 | 2 |
|---|---|---|---|
| Listed only abroad | 12 | 2.70 | |
| Listed in India and Abroad | 33 | 2.78 | |
| Listed in India | 64 | 3.16 | |
| Not listed | 146 | | 3.24 |

The mean value in respect of competition of those units listed in India and abroad, those units listed in India, those units listed only in abroad, and those units not listed at all are 2.8, 3.2, 2.7 and 3.2 respectively. Mean values in respect of competition significantly differ among the groups of units listed in abroad only and those units not listed at all at 95 percent level of confidence (Table 4.7, significant value is 0.024). This implies that those units not listed have high level of competition concerns than the other type of listing units.

**4.2.4 Market Coverage**

The value of chi-square is 9.686 and significant value is 0.046 (as shown in Table 4.1) which clearly indicates prevalence of significant association between market coverage and supply chain concerns of manufacturing industries.

The association between market coverage and supply chain concerns is shown in Figure 4.4.

**Figure 4.4**
**Market Coverage and Concerns -Correspondence Diagram**
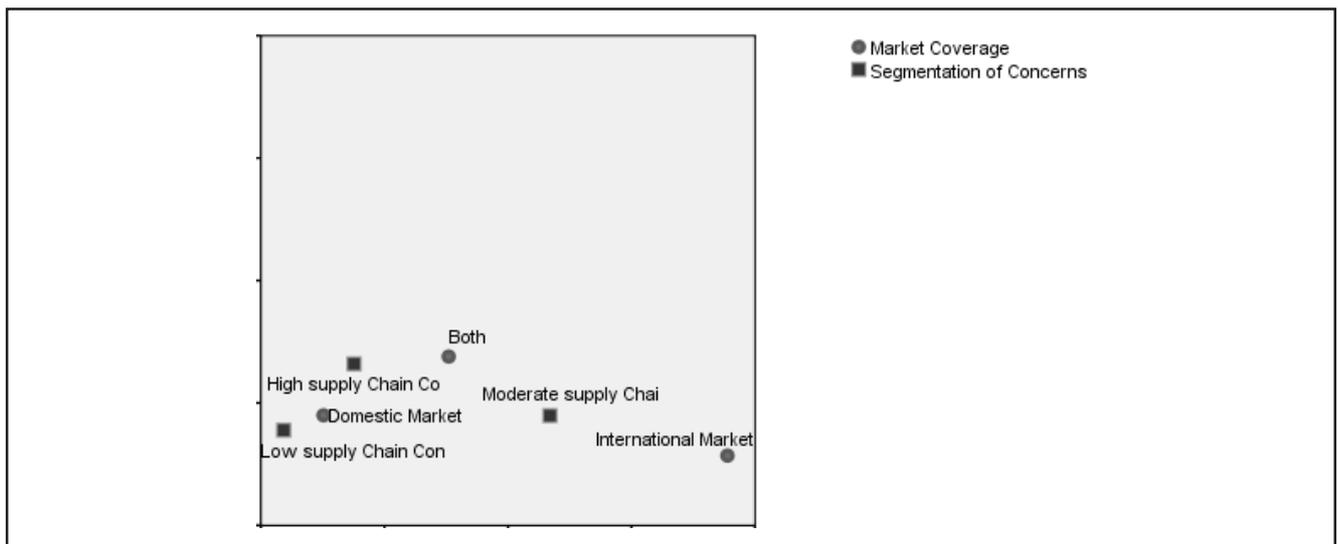


The association between the manufacturing units grouped based on market coverage and supply chain concerns can be identified by using correspondence analysis. Those manufacturing units concentrating on domestic and international markets are associated with the "High supply chain concerned Group", while those units concentrating on international market are associated with the "Moderate supply chain concerned Group" and those units concentrating on domestic market are associated with the "Low supply chain concerned Group".

The relationship between market coverage category and supply chain concerns is shown in Table 4.9.

**Table 4.9**

**ANOVA for Market Coverage and Supply Chain Concerns**

| Supply Chain Concerns | F | Sig. |
|---|---|---|
| Supply Chain Coherence | 1.171 | 0.312 |
| Geographical Proximity | 2.856 | 0.059 |
| Competition | 1.319 | 0.269 |

It is observed from the above table that there is no significant difference among market coverage with respect to supply chain coherence, geographical proximity and competition orientated supply chain concerns factors.

**4.2. 5 Area of Market**

The value of chi-square is 21.180 and significant value is 0.007 shown in Table 4.1 which clearly depicts significant association between the nature of market and supply chain concerns of manufacturing units.

The association between area of market and supply chain concerns is shown in Figure 4.5.

**Figure 4.5**
**Area of Market and Concerns- Correspondence Diagram**
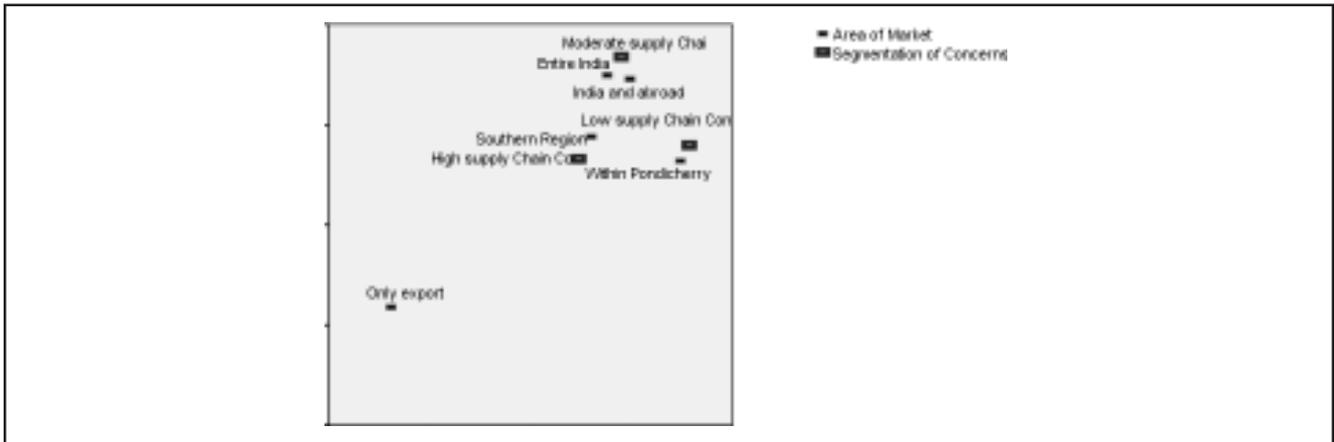


It can be observed from the figure that those manufacturing units possessing market in South India and Export market are associated with the "highly supply chain concerned group" while those units possessing market in entire India and India and Abroad are associated with the "moderate supply chain concerned group" while the units having market within Pondicherry and Tamil Nadu are associated with the "low supply chain concerned group".

The relationship between area of market and supply chain concerns is displayed in Table 4.41

**Table 4.10**

**ANOVA for Area of Market and Supply Chain Concerns**

| Supply Chain Concerns | F | Sig. |
|---|---|---|
| Supply Chain Coherence | 3.599 | 0.007 |
| Geographical Proximity | 1.000 | 0.119 |
| Competition | 4.579 | 0.001 |

The above ANOVA Table indicates prevalence of significant difference among manufacturing units classified based on area of market in respect of the supply chain concerns factors of supply chain coherence and competition.

Mean values for coherence concerns of area of market category are portrayed in Table 4.11.

**Table 4.11**

**Mean Values for Coherence Concerns of Area of Market**

| Area of Market | N | 1 | 2 |
|---|---|---|---|
| Within Pondicherry and Tamil Nadu | 89 | 2.77 | |
| India and abroad | 64 | 2.78 | |
| Entire India | 36 | 2.87 | |
| Southern Region | 62 | 3.10 | |
| Only export | 4 | | 3.95 |

Table 4.11 indicates that two homogeneous sub groups can be formed among the five categories of manufacturing units classified on the basis of area of market. The difference in mean values between the group of units having market of within Pondicherry and Tamil Nadu and the group of units having merely export market is significant at 99 percent level of confidence (Table 4.10, significant value is 0.007). This signifies that manufacturing units concentrating exclusively on export markets have high level of supply chain coherence concerns than the other units.

Mean values in respect of the manufacturing units classified on the basis of area of market, regarding competition concerns are displayed in Table 4.12.

## Table 4.12
### Mean Values of Competition Concerns for Area of Market

| Area of Market | N | Mean Values | |
|---|---|---|---|
| | | 1 | 2 |
| Within Pondicherry and Tamil Nadu | 89 | 3.00 | |
| India and abroad | 64 | 3.00 | |
| Entire India | 36 | 3.02 | |
| Southern Region | 62 | 3.48 | |
| Only export | 4 | | 4.12 |

Table 4.12 indicates that two homogeneous sub groups can be formed among the five categories of manufacturing units classified on the basis of area of market, in respect of competition. The difference in mean values between the group of units having market within Pondicherry and Tamil Nadu and those concentrating exclusively on exports is significant at 99 percent level of confidence (table 4.10, Significant value is 0.001). This signifies that those manufacturing units concentrating exclusively on export markets have high level of competition concerns than the other area of market units.

### 4.2.6 Software Usage

The value of chi-square being 7.332 and significance value of 0.026 inferred from Table 4.1, clearly indicates prevalence of significant association between software usage and supply chain concerns of manufacturing units.

The relationship between software usage and supply chain concerns is shown in Table 4.13.

## Table 4.13
### Independent Samples Test for Software Usage and Concerns

| Supply Chain Concerns | Levene's Test for Equality of Variances | | t-test for Equality of Means | | |
|---|---|---|---|---|---|
| | F | Sig. | t | df | Sig. (2-tailed) |
| Coherence | 0.533 | 0.466 | -.878 | 253 | 0.381 |
| Geographical | 3.420 | 0.066 | 1.076 | 253 | 0.283 |
| Competition | 1.223 | 0.270 | -1.370 | 253 | 0.172 |

It can be observed from the above table that the value of significance is in excess of 0.05 in respect of the group of units classified on the basis of software usage regarding geographical proximity concerns, competition oriented concerns and coherence oriented concerns. This suggests that there is no significant difference in the mean values of the different groups of manufacturing units classified based on software usage regarding geographical proximity concerns, competition oriented concerns and Coherence oriented concerns.

### 4.3 Canonical Correlation Between Supply Chain Concerns And Profile Of Manufacturing Industries

Canonical correlation is used to predict the shared relationship among two or more set of variables. This analysis establishes the individual relationship among two variables and also explores the overall relationship between two or more set of variables. The forthcoming paragraphs discusses the canonical correlation between two sets of variables. The first set of variables consist of supply chain concerns factors namely supply chain coherence, geographical proximity and competitions, while the second set consist of profile of manufacturing industries variables namely number of employees, nature of industry, type of listing, manufacturing pattern, market coverage, area of market and useage of software.

Canonical Correlations for supply chain concerns is displayed in Table 4.14.

## Table 4.14
### Canonical Correlation for Supply Chain Concerns

| | Variables | Coef. | Std. Err. | t | P>|t| | [95% conf. interval] | |
|---|---|---|---|---|---|---|---|
| U1 | Coherence | .2144754 | .2888061 | 0.74 | 0.458 | -.3542842 | .783235 |
| | Geographical Proximity | -.127993 | .2093987 | -0.61 | 0.542 | -.5403721 | .2843856 |
| | Competition | -1.10723 | .2451288 | -4.52 | 0.000 | -1.589975 | -.624487 |
| V1 | | | | | | | |
| | Number of Employees | .3690427 | .1920978 | 1.92 | 0.056 | -.0092646 | .7473501 |
| | Nature of Industry | .9870722 | .3678742 | 2.68 | 0.008 | .2626001 | 1.711544 |
| | Listing | .2300085 | .2083301 | 1.10 | 0.271 | -.1802658 | .6402828 |
| | Manufacturing Pattern | .14388 | .2061716 | 0.70 | 0.486 | -.2621435 | .5499035 |
| | Market coverage | .3014798 | .3633649 | 0.83 | 0.407 | -.414112 | 1.017072 |
| | Market Area | -.820725 | .265067 | -3.10 | 0.002 | -1.342734 | -.298716 |
| | software | -.166431 | .5466711 | -0.30 | 0.761 | -1.243017 | .9101536 |
| U2 | Coherence | .4400772 | .3136598 | 1.40 | 0.162 | -.1776279 | 1.057782 |
| | Geographical Proximity | .8383347 | .2274189 | 3.69 | 0.000 | .3904679 | 1.286201 |
| | Competition | -.453529 | .2662238 | -1.70 | 0.090 | -.9778163 | .070758 |

| | | Coef. | Std. Err. | t | P>|t| | [95% conf. interval] | |
|---|---|---|---|---|---|---|---|
| **V2** | | | | | | | |
| | Number of Employees | .4838434 | .2086291 | 2.32 | 0.021 | .0729801 | .8947066 |
| | Nature of Industry | -.823076 | .3995322 | -2.06 | 0.040 | - 1.609895 | -.036259 |
| | Listing | .3564255 | .2262582 | 1.58 | 0.116 | .0891557 | .8020066 |
| | Manufacturing Pattern | .0399343 | .223914 | 0.18 | 0.859 | -.4010302 | .4808989 |
| | Market coverage | .3412621 | .3946348 | 0.86 | 0.388 | -.4359111 | 1.118435 |
| | Market Area | .3846481 | .2878778 | 1.34 | 0.183 | -.1822833 | .9515794 |
| | software | .2498602 | .5937158 | 0.42 | 0.674 | -.9193725 | 1.419093 |
| **U3** | | | | | | | |
| | Coherence | 1.327923 | .4429044 | 3.00 | 0.003 | .4556904 | 2.200156 |
| | Geographical Proximity | -.577761 | .3211276 | -1.80 | 0.073 | -1.210173 | .0546506 |
| | Competition | -.106550 | .3759222 | -0.28 | 0.777 | -.8468723 | .6337706 |
| **(Continued…)** | | | | | | | |
| | | **Coef.** | **Std. Err.** | **t** | **P>|t|** | **[95% conf. interval]** | |
| | Number of Employees | .5648546 | .2945954 | 1.92 | 0.056 | -.0153063 | 1.145015 |
| | Nature of Industry | -.830553 | .5641608 | -1.47 | 0.142 | -1.941582 | .2804755 |
| **V3** | Listing | -.379173 | .3194887 | -1.19 | 0.236 | -1.008357 | .2500113 |
| | Manufacturing Pattern | .3197423 | .3161786 | 1.01 | 0.313 | -.3029232 | .9424077 |
| | Market coverage | -.065072 | .5572455 | -0.12 | 0.907 | -1.162482 | 1.032338 |
| | Market Area | -.277275 | .4064988 | -0.68 | 0.496 | -1.077812 | .5232622 |
| | software | .8501017 | .8383584 | 1.01 | 0.312 | -.8009174 | 2.501121 |
| Canonical correlations: 0.2955    0.2739    0.1977 | | | | | | | |
| **Tests of significance of all canonical correlations** | | | | | | | |

| Vareiables | Statistics | df1 | df2 | F | Prob>F |
|---|---|---|---|---|---|
| Wilks' lambda | 0.8112 | 21 | 704.058 | 2.5343 | 0.0002 a |
| Pillai's trace | 0 .201442 | 21 | 741 | 2.5399 | 0.0002 a |
| Lawley-Hotelling trace | 0 .217473 | 21 | 731 | 2.5234 | 0.0002 a |
| Roy's largest root | 0 .0956764 | 7 | 247 | 3.3760 | 0.0019 u |
| | | | | e = exact, a = approximate, u = upper bound on F | |

Two sets of data have been taken for this study. The first set contains the three factors relating to supply chain concerns, while the second set consists of the seven profile of manufacturing industry variables such as number of employees, nature of industry, type of listing, manufacturing pattern, market coverage, area of market and software usage. Based on these two sets of data, Canonical Correlation has been performed. The Canonical Correlation coefficient values in respect of these three factors are 0.2955, 0 .2739 and 0.1977. Other results displayed in the above table such as df1 value of 21, df2 value of 704, f value of 2.5343, Wilks's ë value of 0.8112, and p value of 0.002 which is less than 0.05, reveals that there is significant relationship between the two sets of data. To predict the overall relationship between these two sets of data, Wilk's (ë) value should be deducted from one. From the three canonical function set, the $r^2$ value is 0.1888. This implies that the entire canonical model explains a considerable portion of about 18% of the variance. Hence, there is a decent positive correlation between the two sets of data namely, the three supply chain concerns factors and the seven variables relating to the profile of manufacturing enterprises.

## 5. Conclusions and Implications

Supply chain concerns of the manufacturing enterprises have significant relationship between the clusters formed on the basis of supply chain concerns and the demographic variables of number of employees, nature of industry, type of listing, manufacturing pattern, market coverage, area of market and software usage and it found that there is positive correlation and 18% of the share variance exists between the two sets of variables supply chain concerns factors and the business profile of manufacturing enterprises in Union Territorry of Puducherry. Supply chain concerns of manufacturing firm variable shall differ among the manufacturing firms with different nature and demographic characteristics. Hence, this study has made an attempt to analyse the difference existing among the manufacturing firms in the Indian context. The manufacturing firms in the Union Territory of Puducherry have been categorized based on their demographic characteristics to better understand their nature and features using variety of statistical tools. Understanding the characteristics of manufacturing enterprises with respect to supply chain will be useful to the policy makers, and practitioners. The policy makers can frame suitable industrial policies to attract good investment avenues. The practitioners can alter or tailor their strategy to suit to the needs of the manufacturing enterprises in the Indian context.

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# Library Management : A Study on the Applications of RFID

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## Abstract

*By applying Radio Frequency Identification (RFID) technology and automating some of the cumbersome library transactions processes, the library staffs can be retrained to be more productive for the library cause by acting as an initial 'search engine'. This will greatly help the users of any library, especially in the education sectors.*

*This paper argues that RFID technology can be effectively used in the library system while making it obviously easier for both the users as well as the library staff to issue and receive library-materials by just tagging it. It also identifies important issues in the implementation of the RFID systems. Some of the issues that need to be addressed in the implementation stages of the RFID include:*

- *Health Issues concerning frequent exposures to radio frequencies.*
- *Return-on-Investment in case the library goes in for RFID systems.*
- *Changing the mindset of the library staff to become potential search engines.*

**Keywords:** RFID, Inventory, Change management.

## 1. Introduction

The technology revolution in the late nineties has had profound impact in the way we think and work today. The trend is that technology is being developed for a particular application and the same technology is being rechanneled in other areas to improve the efficiency of several other fields as well. Library management systems are no exception to this trend. RFID as an important technological concept was first developed during World War II as a means of identifying enemy warplanes. Later on, it was applied in several fields like hospitals for patient identification, inventory management in commercial establishments, agriculture, etc.

The application of RFID in library system will have profound impact in the way the library and librarians are functioning at present. Librarians will find it easy and more flexible to issue and receive library assets, have better control over library functioning and the staff resources can be used for more productive purposes like research, cataloguing and other official work.

This paper identifies some of the major issues presently confronting the library environment in our country. The issues are :

- Declining interest in reading across the users.
- Changing role of the qualified and professional library staffs.
- Inventory control in library transactions.
- Issues and receivables management in the library.
- Return on Investments.

Use of RFID technology makes it much easier for the users and the library staff to issue and receive library materials by just tagging it. This will ensure that users will have the flexibility to return the materials at a time of their convenience and also library materials issues can be processed quickly and at the same time avoid repetitive transactional disorders.

Proper inventory control of library assets is essential to ensure that the materials are available to the users without hassles. There have been instances when the materials are misplaced and then getting lost permanently, though the concerned staffs are physically present in their work premises.

Library as we are aware is the place where the knowledge repository is created in the form of print medias like books, journals, magazines etc. and also other electronic medias like tapes, DVDs and CDs which are stored and made available for access on demand. The library management is increasingly getting complicated due to variety of factors including general lack of time for library users, the exponential surge in books, CDs and journals etc. To cap it all, the growing internet explosion has relegated library to the bottom of the investment scale with fund managers looking at the return on investment in libraries.

In order to get back the lost glory of the library patronage, one of the critical factors is to modernise the access and storage of reading materials for quick availability of the same to the readers. One of the ways to do this is to accommodate the leverages of technological arms. And

the latest one in this category which can be applied widely in libraries is the Radio Frequency Identification (RFID) systems.

The role of professional library staff is slowly but steadily changing. From being simply the custodians of books, journals etc. they are now also expected to act as guides for accessing required materials by those library users. There was a time when the library staffs were instrumental in only maintaining silence in the library and help in locating books. For instance, a researcher may be interested in a particular topic about which some materials could have been published in some journal. The library staff should be in a position to help out the researcher with the information about the availability of materials containing in that particular journal. This can be done not only by having a separate research department in the library but also by ensuring that the library staff are adequately trained in cataloguing the treasures of knowledge base accessible from various journals and books. This requires a professional mind-set in library staffs while freeing up their invaluable time to do more productive works.

A library primarily is to issue and collect the books. The issue of books, journals and materials to patrons have to be properly recorded and the records have to be preserved. This, in most of the cases, presently requires manual interventions in the libraries. Matching of working time between library staff and the borrower is fast becoming a major point of contention between these two entities. There has to be some way by which each, with their individual commitments, can carry on with the transactions of the library as also their other activities. The only way this can be done is to use appropriate technology that also ensures an overall lower cost of operations. Of course there is the other way of recruiting more people to do the same job, which is a costly affair.

Library staffs like in any other department of an organization are expected to be productive in their respective jobs. That clearly means that they should not be just be content with simply issuing and receiving books but also get engaged in multi tasking activities. They can also be efficiently utilized for several other productive official works there by reducing the overall cost of the organization.

This paper attempts to discuss briefly the technological aspects of RFID in section 2, the potential applications of RFID in the area of Library Management in section 3 and possible issues in the implementation of RFID systems in section 4.

## 2. RFID: The Technological Aspects

RFID is essentially a microchip in which information about particular aspects are stored. These chips are affixed to movable assets which make it easy for the concerned person to track, secure and also maintain the trajectory of the movable assets require transactions. RFID is 'a beyond visual range' technology in that, it does not require line of sight to read the information present in the tag.

RFID system basically has three components:

(i)   RFID tags with electronic programming embedded in it,

(ii)  Sensors to identify movements, and

(iii) A server operating the software that acts as an interface between users and the technology.

Though there are several types of tags available in the market for use, but the one which are usually taken into services are of 'Write-Once-Read-Many' type. This type of tags can be programmed in such a way that the required information is written only once in it. The information after being written cannot be changed or reversed. For instance, if the particulars about the accession number, author, acquisition date, price etc. are written once, it remains permanently on the chip. The tags can be procured locally and be affixed on books, journals, magazines and also on digital media.

All RFID systems include inbuilt sensors. Sensors are basically electronic devices meant for reading and interpretation of information stored in the tags. These sensors react differently when the tags are charged (authorized) or discharged (unauthorized). These sensors can be installed at several exit points to prevent misappropriation of library assets and also can be used to differentiate between 'to be issued' and 'reference material' i.e. those are specifically meant for the use inside the library only. These can also be used for checking in when the library materials are returned back to the library in ascertaining if they are returned within the due date, penalty if any, or overdue etc.

The software for the whole operation resides in the server. The server has to be a 24x7 operational for the library function to be effective. This will help the users of the library assets to borrow and return at their convenience ensuring hassle-free transactions.

## 3. Library and RFID: In Combo

RFID systems can be used in several ways to help the library staff in protecting the assets of the library from the dangers of pilferages and is also found to be user friendly. The most important application of RFID would be from the point of view of the library staff. As already mentioned in Section 1, the productivity of the library staff needs to be substantially improved by changing their age-old conventional role. In most of the library staffs in various academic institutions are now engaged in the role of custodians of library assets. More specifically their role (at least as perceived) is confined to:

⬥   Issuing and receiving library materials

⬥   Keeping stocks of the library assets

⬥   Procuring and maintaining books / periodicals / digital media.

The present scenario in any organisation demands that every employee contributes more than his or her traditional role. Library staffs are no exception to this. If traditional role which is presently being performed can be automated, then this would free up the time of the

library staffs as well and they in turn can engage themselves in value added activities.

Library staffs can be of real help especially to researchers and other users of the library by becoming more informed in various subjects. This can only be achieved by keep reading the journals and making a note of the various articles being written by those subject matter experts. This can go a long way in helping the researcher to access materials as per his or her requirements.

How RFID technology can be used to issue and receive the books automatically? It is very convenient to put into use. All the users of the library can be issued an identification card (ID). Just before issuing the books, the ID card need to be swiped and the RFID tag affixed to the book passed through the sensor. This will activate (charge) the tag and also record the particulars like book number, date and time of issue, the person to whom it is being issued etc. Similarly when the books or other materials are being returned, they can simply be dropped in specified box. This can be done at the convenience of the borrower. Since the server works 24x7, the information can be stored at any point of time. When the books are being dropped, the information of return is recorded and the tags are automatically discharged. All the information pertaining to the issue and return is stored in the server and can be retrieved by the concerned library staffs as and when it is desired. This way, issue and return of materials does not require the manual intervention of the library personnel except in exceptional cases like the issue of no dues certificates, deposit refunds etc.

The next traditional role of the library staffs is inventory management. The library staffs make a note of the inventory in the library at periodic intervals. This is a time consuming process as it is a labour intensive activity. Though bar coding can help to some extent but the problem with bar coding technology is that only one piece at a time can be managed. However, in the case of RFID, several books and other materials which are present in the library can be read by the sensor simultaneously. All that is advantageous in this is even an unskilled person can simply carry the sensor and just walk around the library shelves. The sensor automatically reads the information present in the tags of the library materials. The sensor is then connected to the server and we can have full information about all the materials which are stocked in the library at that point of time. All these can be done in a matter of few minutes saving the time of the library staffs disposals.

The other aspect of inventory management is the problem of misappropriations or pilferages of library materials by unscrupulous elements. Here again, if the sensors are fixed at exit gate of the library, any unauthorized exit will immediately raise an alarm. Hence, installations of RFID systems can essentially reduce the security expenses substantially.

With the implementation of RFID system, all the above mentioned activities will eventually not only reduce the conventional work load of the library staffs but also substantially  free up their working time for other productive use. And when these happen, the library staff will have more time to do value added work. They can be used as research assistants for specific projects depending upon their suitability. This way library can be turned into a revenue generating centre instead of mere a centre for recurring expenditure that does not give any tangible returns.

## 4. Issues and Challenges

With many important advantages at its kitty, the use of RFID systems will no doubt bring great benefits to library managements in general and library personnel in particular. But as in any other cases, RFID too has its own share of issues and challenges as well. Some of these issues and challenges that can surface while taking a decision on implementation of RFID system in libraries are:

### 4.1 Issues relating to Return-on-Investment

Implementing RFID solutions are cost intensive and require upfront investments. The exact cost of the RFID system varies depending on specific requirements and its envisaged spread. More important than the cost is the return associated with RFID solutions. These solutions should not be looked upon as a mere trade off between cost of implementing RFID and the cost of employees. RFID solutions are sure to provide better overall returns in the long run, though a thorough study is required for analyzing its implications before a final stamp of approval is made. The moot point though is the actual definition of return which could be in terms of

* Reduction in the overall operational cost,
* More library usage due to user friendly features,
* Scope of revenue generation through assistance fee for research projects.

### 4.2 Change management challenges

The mindset of a traditional library staffs is to acquire books, issue and receive the books back from the borrowers. Periodic stock taking is a part of the job responsibility of the library staffs. With the implementation of RFID system, the role of the librarian will change from being a manager of the library to being a proactive researcher. This calls for a substantial change of the mindset which could be the single largest challenge in the implementation of RFID. Organizations need to chalk out a clear cut road map for the effective utilization of human resources in the library.

### 4.3 Health concerns

The author is not fully aware of any detailed long term study on the usage of RFID and its professional hazards that may creep in while coming in touch with the system. The tags which emit electro-magnetic radiations may in due course pose health issues especially to those who are continuously exposed to radiations. This could be an area for a possible future research.

### 4.4 Failure Mode Effect Analysis

Since most of the RFID system operations are being automated, there is an immense need for considering any disaster management issue. A thorough study in

this area also needs to be done to ensure that the operations of the library are not overly affected in case of any failure of the system. In the case of any disruption in the system, the possible adverse effect on the entire library operations also needs to be assessed.

## 5. Conclusion

The overall analysis lead us to conclude that implementing RFID system solutions would lead to substantial reduction of fixed costs in long term library operations, besides becoming more user-friendly. It can turn the library eventually into profit centre once its research-assistance potential is substantially exploited. Inventory control of library assets is extremely essential to ensure that the materials are available to the users at beck and call. There have been many instances where the materials face pilferages despite taking sufficient security measures at the library premises. By using, however, the RIFD system, while automating some of the present day cumbersome library processes, the library stuffs can be retained to be used more productively through transforming them as initial "search engines". This will greatly help the vast users of the library. While considering implementation of the RIFD systems, some of the issues need to be taken care of are:

- Growing challenges of encountering change management,

- Health issues concerning frequent exposures to radio-active waves,

- Return-on-Investment in case the library goes for RIFD systems, and disasters mitigation issues.

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# Effectiveness of e-CRM in Commercial Banks: A Customer Perspective

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## Abstract

*The customer relationship management has a vital function of customer oriented marketing. The basic aim of this paper is to investigate how commercial banks use e-CRM tool in order to maintain their relationship with their clients by using online and offline mode such as internet, ATM, etc. It also provides a better perception of customer insight about e-banking. Robust infrastructure are required for the growth, maintain and retention of valuable customer. So, our study concludes that e-CRM now days becomes a tool for improving the customer retention ratio and improve customer relationship by increased efficient and effective utilization of e-CRM.*

**Keywords:** E-CRM, Customer Retention

## 1. Introduction

CRM is defined as the process of acquiring retaining and growing profitable customer. It requires a clear focus on the service attributes that represent value to the customer and creates loyalty. It is a comprehensive sales and marketing approach to building long term customer relationship management and improving business performance. Gathering all the information about the customer helps the company to develop customer insight and enhance customer interaction.

CRM is essentially a business strategy for acquiring and maintaining the right customer over the long term. Within this frame work a number of channel exist for interacting with customer. One of these channels is electronic and has been labeled e commerce or e business. This electronic channel does not replace the traditional sale force.

The thrust of e-CRM is not what an organization is doing on the web but how fully an organization ties its on line channel back to its traditional channel or customer touch points.

In simplest form e-CRM provides companies with a means to conduct interactive, personalized and relevant communication with customer across both electronic and traditional channel.

Presently the traditional system of sellers' market has changed into the form of buyers market unless buyers obviously consumer is satisfied the marketing activities cannot go ahead either in the product or service marketing only the consumer satisfaction not taken as the basic fundamental of marketing rather than the consumer loyalty is taken as important factor.

It is under this background that the theorist has developed a new concept of marketing process known as e-CRM Relationship Management (CRM) has its roots in relationship marketing which supports the proposition that a firm can boost its profitability by establishing long term relationships with its customers. According to Shan and Lee Electronic Customer Relationship expands the traditional customer relationship management techniques by integrating technologies of new electronic channels such as web wireless and voice technologies and combines them with e- business application into the overall enterprise customer relationship management strategy They further say "the ability to capture, integrate and distribute data gained at the organization's Web site throughout the enterprise". The purpose of e-CRM is to serve the customers in better way, retain valuable customers and enhance analytical capabilities in an organization. It is supported by Hasham that by implementing e-CRM at the company all manual processes are removed:

e-CRM (electronic customer relationship management) is considered as strategic technology centric relationship marketing business framework. According to Forrester Research e-CRM is the consolidation of traditional CRM with e-business market place applications.

The purpose of electronic customer Relationship is to serve the customer in better way retain valuable customer and enhance analytical capabilities in an organization. The concept of Electronic Customer Relationship derived from Customer Relationship techniques. Shani and Chalasani define relationship marketing as "an integrated effort to identify, maintain, and build up a network with individual consumers and to continuously strengthen the network for mutual benefit of both sides, through interactive, individualized and value-added contacts over a period of time".

In today's hyper competitive scenario, more than three quarters of the money and time spent by companies go towards acquiring and retaining customers. Customer-centricity has become the buzzword and the ones with clear and relentless focus on customers, enjoy a better competitive position.

The main aim of e-CRM system is to improve and provide better customer service develops a relationship and preserve valuable customer. Bankýng can be mysterious for customers and how they interact with their finances can be a complex matter. The challanges faced by the bank and their customers are many but the trick lies demestifying complex financial relationships.Technical solution deployed by the banks today is flexible, user friendly and meant to facilitate specific workflow and requirement in implementation processes.

In order to simplify lives bank have begun to implement end to end technologies through all department with intention of removing human error from processes previously existing manual environment could not have been adequate for future vision growth plans and strategies.

In this day and age customers enjoy complete luxury in terms of customized technical solution and bank uses the same to cement long-term mutually beneficial relationships. Maintaining and managing the customer relationship will become more competitive by added development and deployment of e-CRM. We found that convenience; customer interaction and satisfaction are more advantage provided by online banking industry through the usage of e-CRM. The usage of e-CRM has speed up the transaction with a better rate of accuracy and trust in the banking industry

The Internet revolution really about people customers and the fundamental shift of market power from seller to the buyer. The realization that customers are the key to profitability to business success has driven the need to create a customer centric organization to operate with single seamless view of the customers to strength them and nurture a long-term relationship. On the net the competition is really only a mouse click away. The banks need a new approach e-CRM to leverage the Internet unique strength for capturing customers.

### 1.1. Objectives of the Study:

The main objectives of the study are

* To know the implementation and impact of e-CRM on consumer and marketing process.

* To study the application of e-CRM process in commercial banking sector.
* To show the relation between CRM and e-CRM and their interdependency.

## 2. Literature Review

The e-CRM is an essential and vital function of customer oriented marketing. The aim of e-CRM is to improve customer service, develop a relationship and retain valuable customers. The e-CRM is the advancement of traditional CRM and it is more web-based. Without CRM, e-CRM has no meaning. Banking has been a pioneer in adopting e-CRM, but not so much empirical data is available on the effectiveness that it creates both of the bank and customer and that is why it addresses the topic in our study. As customer is centric to all business and important that is why companies are customer oriented and it is an art of company providing his expectation both benefit to customer and bank area taken into consideration for the study.

In our research study we try our level best to gain a better understanding of the benefits of e-CRM to bank as well as customers related to bank. By going though previous research paper following research gap are analyzed

* CRM emerge as a response to decreasing customer loyalty with increase competition.

* Many research paper written on CRM and its application to various discipline such as airlines, health, insurance hospital and cement industries.

* Paper written CRM architecture, CRM approaches and types which focus upon the process and system level.

* Model and framework were developed in CRM to increase the effectiveness of the organization

* The impact of customer satisfaction in agricultural bank were measured.

* In e-CRM on line banking has no social dimension customer are not serve in the way as they are in face to face situation at branch (Mathilla et at 2003)

* Customers are afraid of security issue (Sathye 1999 Hamelt &Stube 2000)

During review we came to know that a few research papers available for public sector banks in India most of the review done for private sector banks.

### 2.1. Current Trend in e-CRM

E-CRM is still in infancy, there is no much work done in this field, there is more research gap, but in our research study we try to fill this gap by knowing the effectiveness of e-CRM in commercial banks with respect to use, implementation and application prospective. As we have gone through so many research papers during review we came to know that previous researches focus only to private sector banks or foreign banks, public sector banks are a neglected wing by them. In our research study the leading public sector banks and private banks including one foreign bank is considered which may provide a holistic approach to

e-CRM. Most of research study does not consider the view point of customer and their satisfaction level although e-CRM is a customer centric approach. Model and frame work were developed but they were organization centric approaches.

We try to highlight those key factors which must consider in implementing CRM. In our research study customers of banks are the main centre of attraction who expresses their view point about the e-CRM and its practices. We focus to know the impact and implementation of e-CRM on consumer and marketing process. A few research studies emphasize upon impact of online banking only and offline banking is continuously neglected by them. Undoubtly online banking has a great future and number of consumer in online banking growing rapidly. With the advancement of technology it provides an opportunity to bank to have customer feedback from touch point. The internet channel is not replacing the traditional channel fully, but it one popular channel which is helping in CRM activities click and brick both are important for the organization. In our research study we try our best to show the interdependence of e-CRM over CRM. Now the situation is changing fast as the on line banking channel has proven to be safe to use and uses rich data banks of customer information to manage the relationship with customer.

e-CRM supports the multi channel touch point and there should be consistency in customer experience. e-CRM creates multiple channel strategy for successful CRM strategy in organization with the advancement of technology it provides opportunity to companies to have customer feedback from touch points. The technology make it possible for agents managers, partners and others user to maintain a single view of the customer and gain organization information immediately. For social interaction people would like to visit their traditional brick and mortar branches. The internet channel is not replacing the other channel It is one channel which help in advancing CRM. In online banking face to face interaction between bank and customer is not seen. This creates a huge service gap for bank.

Most of the previous research work were done on analytical aspect of e-CRM only. We try to focus on analytical as well as operation e-CRM both for these entire banks which is taken into consideration in our research study.

After ICICI Bank, HDFC is in the second leading position in deployment of CRM best practices. Previous research shows that penetration level of internet banking is low in developing country like India but now the era has totally changed most of the customers are inclined towards internet banking. We try our best to show five important elements complete implementation of e-CRM. These are customer, strategy, people, process and technology in context of banks such as HSBC, HDFC, OBC and Union Bank of India which are taken into consideration.

On the above ground it is assessed that there is enough information gap in the existing research which is related to the effectiveness of e-CRM in commercial banking sector particularly the application an implementation and its benefits bank and its customer. This fact shows that no many empirical studies have been done in this connection. Thus, the objective of this study is to contribute and try to fill the gap by exploring the utility of e-CRM in commercial banking sector.

## 3. Research Methodology

The sample selection is based on convenience and purposive sample by considering the activities of the banks and respective customers with latest e-CRM practices and the availability of interviewees willing to answer the questions. Introduction e-mail was sent to a few commercial banks who are working in Delhi for the purpose of the study. Their customer support office referred to the concerned persons involved in e-CRM practice. Four commercial banks are ready for this study. Two private and two public sector banks were considered they are Union Bank of India, Oriental Bank of Commerce, HSBC and HDFC bank. Cases are chosen by considering these organizations because of involvement in B2C activity and it will help to deeply understand the practice of e-CRM. Utmost importance was done for the selection of the respondents based on our description and purpose of our study. These respondents are well qualified for the customer relationship matters. Besides that customer segments were considered and the size of the sample was 250 from all the four banks. The coverage area is New Delhi.

### 3.1. Data Collection

**3.1.1. Primary Data : -** Primary data collected through survey with the help of questionnaire and also through face to face interaction and interview. Structured questionnaire was prepared and distributed among the target group and replies to the questions were taken. Target group is formed on the basis of purposive sampling methods. Face to face interaction make with managerial and non managerial staff to get their view point were also undertaken.

**3.1.2. Secondary Data :-** The secondary data collected from various papers, documents and reports of the banks released from time to time were processed and analyzed to get the relevant result for the purpose of the study and utilized in the preparation of the final report. Books written on the subject and reports of the banks were consulted to know the opinion of different thinkers on the issue.

### 3.2. Data Analysis

Besides that the customer segment data analysis on the basis of the replies of the respondents and it is well expressed in the form of bar diagram which shows the pictorial representation of the facts & figures. Data can be provided on demand.
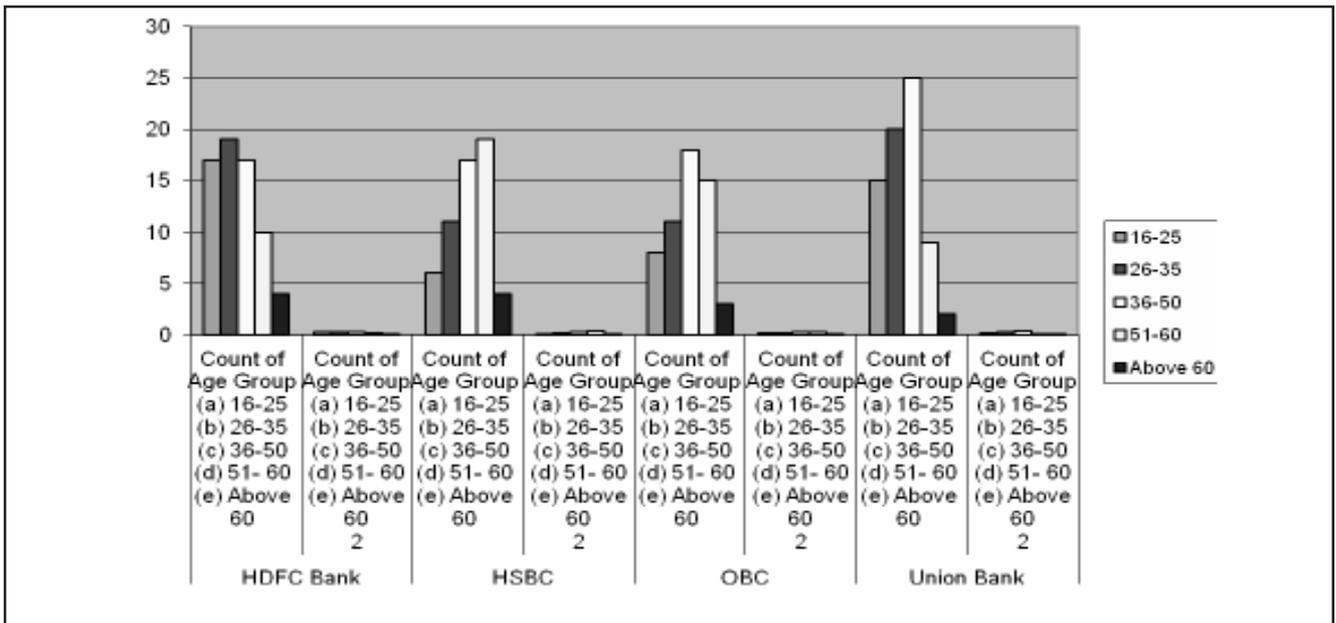
## 4. Hypotheses

1. Effective services are independent of the way of interaction of bank with customer.

   $H_0$: Effective services are independent of the way of interaction of bank with customers.

   $H_1$: Effective services are not independent of the way of interaction of bank with customers.

   Result: Null hypothesis accepted, that is effective services are independent of the way of interaction of bank with customers.

2. Internet banking is independent of age/gender?

   $H_0$: Internet banking is independent of the age/gender.

   $H_1$: Internet banking is not independent of age/gender.

   Result: Null hypothesis accepted, that is internet banking is independent of age/gender.

## 5. Suggestions And Recommendations

Commercial Banks have recorded a phenomenal growth in the past decade with the initiation of economic reforms. The banks, both public and private, have transformed themselves into profit oriented business organizations besides playing a developmental role in the economy. In an attempt to be more profitable, the commercial banks have become competitive and more customer oriented.

This new orientation has compelled them to take a more pragmatic approach for conducting business. The e-CRM is one such tool which helps in meeting the customer's expectations according to their changing needs. While analyzing e-CRM implementation in both the sectors, it was found that the Private Sector Banks have been able to implement e-CRM practices more effectively when compared to their Public Sector counterparts. This indicates that strategically speaking, the Private Sector Banks have been more innovative in understanding their customers and in building good relations with them.

However, a micro analysis reveals that the public Sector banks have highest scores in terms of reliability and assurance whereas the private sectors banks have lower in terms of tangibility reliability and assurance. This indicates that the banks are in a dire need to make proper strategies to improve their working. This will make the banks more efficient in serving the customers and in maintaining the long term relations with them. The analysis of the results received suggests that the banks (whether Public or Private) are equally affected by the kind of e-CRM initiatives they undertake. The banks are now under tremendous pressure to retain the older customers because of the competition in the banking sector. This would not only ensure better customer relations but also loyalty among them, which is very critical and important in today's competitive world. Banks have started acknowledging the importance of the customers in developing their business. They have recognized that it is essential to protect and develop its customer base and ultimately its profitability. The commercial banks can do this by building a strong relationship with the customers. To meet the customer needs and to beat competition, they must deliver superior quality service. The e-CRM approach adopted by banks focuses on maximizing the value for the customer and the bank.

Commercial Banks must build their brand image in assuring customers about the safety of their money and security of transaction on the Net. Moreover, e-CRM based alone on Internet will seem to be a wrong strategy for banks in India. For high end products, customer cannot only rely on e-banking. For social interactions, people would like to visit their traditional brick and mortar branches. At the same time history has shown that no channel has completely replaced another channel and Internet is just one such channel which helps in CRM. Click and brick seems to be the right model which ultimately will succeed in India. Banks in India are on the learning curve of e-CRM and are trying to meet the latent needs of the customers. The success of e-CRM

will depend upon the development of robust & flexible infrastructure, e-commerce capabilities, and reduction of costs through higher productivity, lower complexity and automation of administrative function.

The commercial banks must adopt e-CRM 'Customer centric' focus approach, as it is believed that products should be devised for the customers and not the other way around.

### 5.1. Customers Remarks

Commercial banking customers have also changed in recent years. Customers today are more knowledgeable sophisticated and assertive than ever before. They demand high level of customer accessibility and control.

This has led to a shift in a business focus from transactional to relationship marketing.

### 5.1.1. Oriental Bank of Commerce:

(1) *More ATM should be installed*

Customers of Oriental Bank of Commerce are satisfied with banking services, according to them the number of ATM should be more in order to get more efficient services of the bank.

(2) *Website should provide more information*

A few customers are not satisfied through the information from website. The website of bank should be updated and provide current information about their product and services.

(3) *Login should be fast*

A few customers are not satisfied with the log in of bank website. They feel some time it is very time consuming so log in should be fast and timely while transacting money from the bank.

### 5.1.2. HDFC BANK:

In case of HDFC bank customers are quite satisfied with its product and services. A frequent complaint which is noticed by the client of the bank that is faulty transaction should be removed because sometime amount credited from the account and it is not being shown. So this kind of effect should be removed by the bank's authority.

### 5.1.3. HSBC BANK:

Customers are more satisfied with the services of the bank. There is not many ATMs in HSBC in their respective location. The customers withdraws their amount from the ATMs of other bank. So more ATMs are required for HSBC bank.

### 5.1.4. UNION BANK OF INDIA

1. Most of the ATMs of Union Bank of India are not functioning properly and most of the time these are out of order. So these ATMs should improve and make advantageous for the customers.

2. A few customer complaints upon faulty online transaction in Union Bank of India which causes inconvenience to customer. So this problem should be removed with immediate effect.

3. More ATM should be installed in order to facilitate customers.

4. Customer care service should be improved as customer expects a high degree of cooperation and support. So, customer care services should be faster and responsive.

## 6. Conclusion

Almost all of the customers consider customers interaction and satisfaction as an important benefit provided by the banks through the usage of e - CRM. They emphasized the importance of good response to the customer queries, providing assistance to the customers, exchange of business information and employees having excellent knowledge about the offerings and services of the bank. All the customers perceived convenience factor as a vital benefit provided by e - CRM. All customers considered location of the bank, friendliness of bank staff, and their services as important benefits for building good relationship. Most of the customers considered speed of processing transactions through e-response as an important benefit though few did not consider it as an important benefit. Speed of processing the transactions through e-response was found to be an important advantage perceived by most of the customers. But few customers were found to have partially negative feeling towards the speed at which their transactions have been processed. Quality in the products and services of the bank is an important benefit perceived by the customers. Reliable employees of the organization, responsiveness rate of bank personnel, availability of the latest information technology were found to be the most important advantages perceived by the customers.Trust in the services, all the customers in their respective banks found activities of the organization. Confidence in the banks personnel, their effectiveness in handling the accounts of the customers were seen as some of the factors enhancing the trust factor of the customers. This is an essential benefit that improves customer relationships with the organization.

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# Technology Enabled Marketing in Indian Rural Segment – Scope and Challenges for the Retailing Firms

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## Abstract

*Rapid speed of technology in every facet of economic, social, cultural & political life, produce efficiency , reduce costs and yield more financial gains. Marketing to rural segment has become the strategic mantra of most business houses in 21st century. Technology enabled marketing has brought about a paradigm shift in the buying patterns and lifestyle of rural consumers in India. Several corporate giants like P&G , Nokia, Godrej, HUL, ITC and are discovering cost effective & innovative models of rural marketing. The primary purpose of the paper is to focus on recent trends in rural retailing in India for promoting and distributing superior quality products and services in the global competition. This paper tries to focus on innovations in rural retailing. The scope of the study is limited to the area of rural retail sector. Based on the data collected through secondary sources, this paper makes an evaluation of the extent of innovativeness of Indian retailers for strengthening rural marketing.*

**Keywords:** Global Competitiveness, Technovation,  Growth Inclusivity, Rural Mindset

## 1. Introduction

***"Humanizing the livelihood of billions of people at the root of the economic pyramid is a gentle effort. It can also be an  attractive one."*** *-* **C.K. Prahlad**.

There has been a paradigm shift in rural India with the advent of techno-tronic revolution. Rural place is defined by Statistical Survey of India as any territory with a population thickness of not more than 400 per square kilometer  and where at least 75% of male workers are engrossed in farming  and where exists no Board or Municipality. India with 1.22 billion population of which 70% live in countryside areas which says around 780 million population spread around 6,27,000 villages. India's rural population consists of 12% of the global population providing a massive, untouched, attractive and profitable market. After the green revolution in India, the rural consumers  are buying and using a huge quantity of industrially manufactured items. According to Kapsole Report -2012 on rural market, in India  68% of population reside in rural areas and rural market contributes more than 50% to India's total consumer market. Rural India has been denoted as 'Real India' because more than 70% of populace resides in villages.

Rural lifestyle and behavioural trends have taken a paradigm shift. Rural consumers have now become more brand and quality conscious by  shifting towards products used in urban areas.

Thus, progress  of the rural sector is extremely crucial for the growth and development of Indian economy. The rapid changing buying and consumption pattern of rural consumers provide immense  scope for retailing giants to take advantage of on the rising mass rural market in India for almost all product segments. Both firms and entrepreneurs are discovering the innovative models  and strategies of  rural retailing to capitalize the rapid growing rural market.In this situation, a unique marketing approach, specifically, rural marketing has evolved. According to T.P.Gopalaswamy (2005) rural marketing is a two-way traffic marketing method which consist of inflow of products into rural area for production and consumption and also outflow of products to urban areas. It includes inflow of products into villages  for manufacturing and consumption and also outflow of products to urban areas from rural areas.

Retail firms such as BPCL ,Godrej, Nokia HUL, P&G, ITC have penetrated the rural market. Technology has colossal potential to perk up output and efficiency in the rural villages. Mahindra Krishi Vihar, e-choupal ,ikisan.com, Gyandut ,Tata Kissan Kendra etc. has revolutionized the retailing structure in rural India.

Now rural market will supercede the urban market if this pace of progress and growth prolongs. With the frenetic transformation in the rural scenario the retail approach is also shifting."Go Rural "is the fresh marketing mantra of innovative and competent retail firms in India.

## 2. Objectives of the Study

The objectives of the study are

1. To study the recent marketing trends in rural retailing in India.
2. To evaluate the effectiveness of technology in cultivating sustainable growth of rural retail sector.
3. To analyze the scope and challenges of implementing technovation in rural retailing in India

### 3. Emerging trends in Rural Retailing in India: A Paradigm Shift.

"***The future lies with those companies who see the poor as their customers***"- C.K.PRAHALAD

Indian marketing scenario has undergone a paradigm shift in 21st century. Today marketers are concentrating on rural areas too because it is now emerging as a sleeping giant. Rural sector is now the target of modern marketers who are in search of a new growth segment. Business firms have realized that rural market offers a huge opportunity for growth in retailing at par with urban market.

"Previously kirana or mom and pop stores were the only form of retailing in villages which was mostly a part time job with less maintenance cost." Declining manufacturing sector, hectic jobs and low salary, lack of interest in agriculture forced many people in rural India to go for small store retailing. Other form of traditional markets existing in rural sector are haats, fairs ,mandis etc.

Rural sector was overlooked and untapped by many retailers inspite of having huge potential to grow in a hefty range. Rural market offers a huge opportunity for the Retail sector. Due to retail sector concentrating only on urban segment having heavy chance saturation; many big retail companies have started targeting the rural area to stimulate growth.

Now modern retailers are stepping into rural area to prosper their business. Tata, ITC, HUL, Godrej, AV Birla have realized the vast prospective of the rural market by setting up "one stop shop' solution to the rural and semi-urban citizen. The 1st rural retail mall in India was launched by ITC was "Chaupal Sagar" having a diversified range of merchandise. Godrej Aadhar has introduced 32 service-cum-retail stores for the rural customers and Godrej Agrovet has also planned to set up 1,000 Aadhar outlets within the next five years. A one-stop and Kisan mandis for agro retailers is also proposed to be set up by the West Bengal Agro Industries Development Corporation. ORMAS which is an autonomous body under the Panchayati Raj Dept., Govt. of Odisha facilitates the rural marketer for a sustainable source of revenue through technology and marketing channels.

Hariyali Kisaan Bazaar, the retail utility chain of DCM Shriram has set up 25 outlets in five states in north and central India and predicted to have 50 such outlets by 2012 and is planning to go for a tie up with cell phone companies to provide consultancy services to the farmers .As per National Council of Applied Economic Research (NCAER) report, rural areas in India have become habitats to 720 million consumers across 6,27, 000 villages. This suggests that tapping just 100,000 bonus rural areas will ensure capturing most of the rural market .

**Figure : 2**
**Rural households owning consumer durables**



**Source:** http://www.firstpost.com/economy/in-a-first-rural-india-consumes-more-than-urban-peers-435332.html
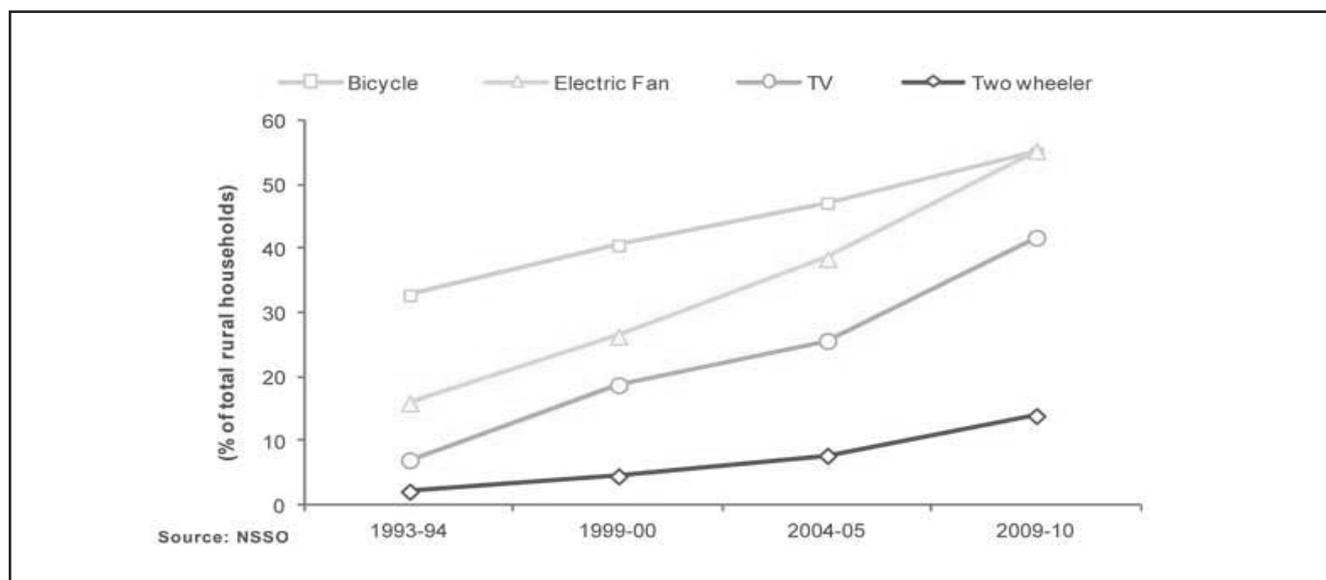
**Figure : 3**
**Mobile phone handset ownership per 1000 rural households in 2009-10**



Source: NSSO

**Source** : http://www.firstpost.com/economy/in-a-first-rural-india-consumes-more-than-urban-peers-435332.html
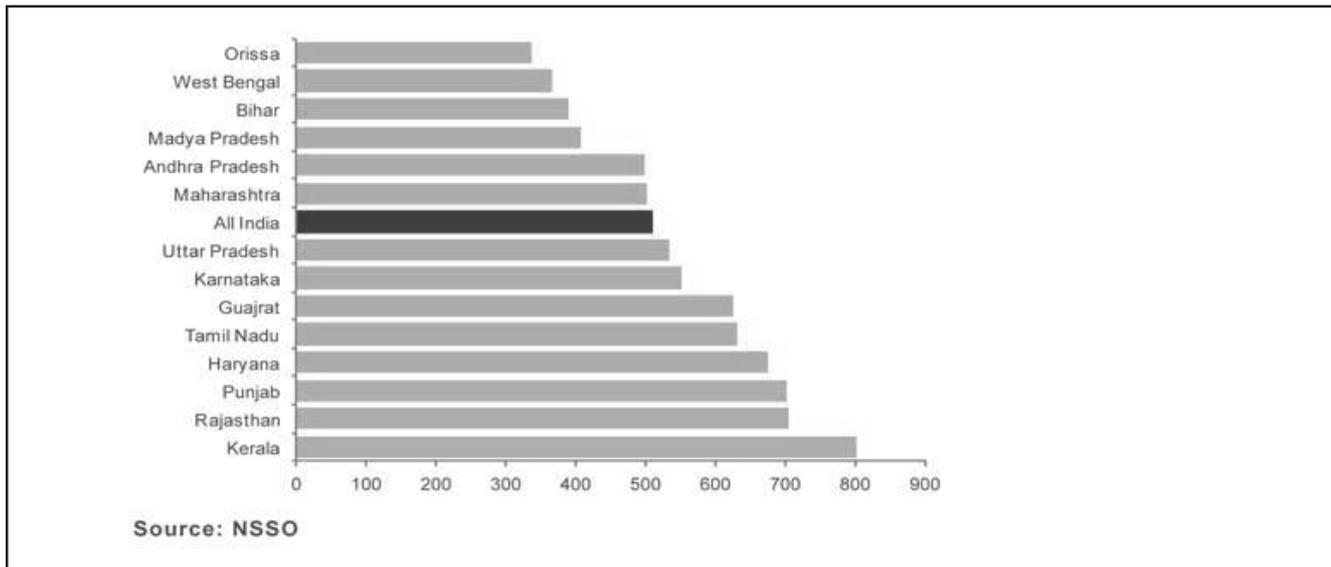
According to a CRISIL Survey reports, expenditure on buying by rural consumers between 2009-10 and 2011-12 was Rs 3,750 billion, drastically higher than Rs 2,994 billion by urbanites. As shown in Figure 1.1 initial statistics released for 2011-12 by the National Sample Survey Organisation (NSSO), rural consumption per person during the same period of time increased annually at 19% percent compared to 17 % in urban counterparts. A considerable trend in rural consumption is a swing from necessities to optional and lifestyle products like television sets, computers, mobile phones, two wheelers, electrical gadgets etc.As shown in Figure 1.2 roughly half of pastoral households now have a mobile phone, with even the poorest states of Jharkhand, Bihar and Orissa having one in three rural people that has a mobile phone.

In FMCG category HUL, Dabur ,Godrej, and Marico are targeting rural and semi urban sector to create and enhance connectivity and exposure.

Nestle India, Asian Paints , Cadbury , Britannia, Procter & Gamble (P&G) Hygiene and Health Care, Marico Industries, CocaCola, Pepsi ,GlaxoSmithKline Consumer Healthcare are now launching products specifically for rural markets. Many business firms also customized their products only for rural sector like LG's Sampoorna TV, Godrej soaps 50-gm packs and Samsung Guru and Micromax cell phone etc. "Swach" water purifier is an innovation from TATA targeted towards bottom of the pyramid, P&G's"Sangeeta Bhabi" campaign is another innovative approach for promoting high priced brands like Tide and Head & Shoulder in rural segment. Sakhi Retail is a distribution network aims to promote rural retail entrepreneurs in Maharashtra. It also retails innovative products like Oorja stove and biomass pellets and Unilever's water purifier 'Pureit' solar lanterns , agro products to farmers.

According to ASSOCHAM report Indian firms like HUL and Dabur makes 50% of the sales, Colgate Palmolive and Marico constitutes nearly 37%, whereas Nestle India Ltd and GSK drives 25% of sales from rural segment. However, many retailers who have entered the rural segment were quite successful at the starting phase of their business cycle but some of the specific high profile brands failed to satisfy the rural consumer. But concepts like sachets, combo offers, free offers, energy savings products, noodles, softdrinks have driven the growth of FMCG and were quite successful .

Accordingly, in future high rate of growth is expected to be generated from rural market as rural sector accounts for almost 50% the domestic retail market of $300 billion. With development of necessary infrastructure, chance of employability, communication facility, and good amount of investment will definitely bring prosperity to the hinterland of rural industry. Therefore it was rightly said by Ramesh Srinivas, national industry director (consumer markets) from KPMG India "Overall there is a huge market which is waiting to be served, ready to splurge, willing to explore new products and services, and retailers can tap on their wallets"

**3.1 Innovative Trends in Retailing in Rural India:**

Rural territories in India has huge scope to flourish, which is just waiting to be captured. Socio-economic developments have been made in these areas by some major firms, but there remains to be a long way for retailing giants to proceed in order to channelize and yield maximum social good and benefits. Furthermore, rural India is not as pitiable as it used to be a forty years back. Things are really changing in rural facet of India. Technovation has gigantic potential to perk up efficiency in the rural areas. ICT has reduced operational costs, increased accessibility of information, infrastructure and efficiency in Rural India.

Nowadays many retail giants are using technology to tap the untapped rural sector. Marico group has developed a mobile apps for Nokia 5235 handset series with GPS facility for reaching out rural places in less time and obtaining agricultural information from farmers through camera. A lot of such innovative strategies of rural marketing are possibly to be experimented in the upcoming days. A vibrant gauge of this potential is the pie of the rural market across most class of product expenditure and consumption. Whatever imitated as a top-down strategic move, top level managers planned the innovative model at strategic level, soon turned into a bottom-up approach with the floor team igniting numerous new ideas.

As a lot of large-scale retail firms have started discovering rural sector many local retailers are also expanding their scope of marketing in rural landscape through various innovative localized schemes. Power Crisis is a common problem in Indian rural areas that's why in Uttar Pradesh a local firm sells a rechargeable battery operated television branded as 'Jolly TV' for the rural market.

HUL initiated operation Bharat to tap the rural market by introducing sachets of various FMCG items. Chick Shampoo launched Jasmine based shampoo exclusively for rural consumers. Adidas has also successfully increased their sales through low-priced version of products targeted to rural market. Nestle & Maggi have entered rural market with Masala-ae-Magic flavor which is the cheapest version available in Rs. 2 only. TATA Swach is another innovative approach for the bottom of the pyramid consumers. Nokia handsets consisting of Life tools having agricultural feature is one of the technotronic approaches towards rural segment. *Chotukool* is a mini refrigerator created by Godrej aimed for rural women and also sold by them.

TATA Nano tied up with Hariyali Kisaan Bazaar to showcase the products. Not only agricultural products urban based items like electronic goods, cornflakes, even aluminum foils have sold successfully in rural sector through rural retailers.

## 4. Retail Models for Rural Segment:

Report on buying behavior of rural consumer indicates that the rural retailer motivates 35% of buying decisions. Hence absolute product availability can influence brand choice, purchase volumes and market share. India provides a massive, sustainable and progressiveing rural sector which can be tapped successfully through creative distribution models with retailing being the most crucial factor of this strategy.

To capture the huge potential of rural India, the models of modern marketing may not be productive. Innovative strategies are essential to tap the potential of the rural India. A number of confirmed innovative retail models with innovation which are being used by the big corporate firms in the rural market in India are discussed below.

### 4.1 HUL Project Shakti

Since 1976 ,HUL has been actively involved in rural movement. The key objective for rural up gradation is to generate income possibility for the rural community. On the basis of such vision, HUL initiated Project Shakti in 2001 which created employment opportunities for deprived rural women. Till today the number of Shakti micro entrepreneurs has increased from 45,000 in 2010 to 48,000 in 2012.

### 4.2 HUL: Shaktimaans

The company is resourcing the rural skills and marketing personnel to give out its products in remote villages which have a need for such products and commodities, but lacking a supply network. In this project a person recruited by HUL travels by bicycle to villages for selling product items and samples of HUL brands like Lifebuoy, Wheel, Brooke Bond, Pond's ,etc .

### 4.3 DSCL Haryali Stores

DCM Shriram Consolidated Ltd. (DSCL) having 35 years of experience in the agri-business markets has set up a retail chain projected for the benefit of Indian farmers to enhance productivity and competitiveness.Hariyali Kisaan Bazaar is a micro level scheme to bring a qualitative transformation and upgrading the Indian agriculture sector. It also tries to enrich the rural farmers by establishing contact centers to provide a one-stop solutions to the farmers under single roof..

### 4.4 Godrej's Adhaar and Manthan

Manthan concentrates only on distribution of animal feeds for dairy and poultry micro-entrepreneurs whereas Aadhar like a supermarket, sells agricultural goods such as pesticides, animal feeds and fertilizers, along with FMCGs, appliance and also services, like valuable technical guidance, soil & water testing facility to the underprivileged rural population in India.

### 4.5 ITC E-choupal

ITC's e-Choupal initiative is the single largest ICT based involvement in rural sector aimed at empowering the farmers with knowledge and raising them to a different level. e-Choupal facilitates real time information and knowledge to enhance the decision making capacity of the farmers. It also results in securing better quality & efficiency as well as productivity. As e-Choupal has managed to develop the innovative supply-chain, and retailing model applied by ITC has adequate potential to be emulated in the third tier countries and developing countries. ITC has been victorious in building the sense of ownership and enthusiasm among the rural villagers by making them generate extra income by eradicating intermediaries in the supply network.

### 4.6 M & M Shubh Labh Stores

These stores have set up agri centers providing all- in -one store for retailing agri inputs, agri service and sourcing of agro-produce in many districts of India either under the Mahindra Krishi Vihar franchisee model or directly as Mahindra Agribusiness.

### 4.7 Reliance Rural Hub

It is pilot project of rural business hub in Gujarat as a competitor of Future Group's Aadhar and DSCL's Hariyali

Kisan Bazaar. These stores provide food, grocery, agri input, consumer durables, and financial and health care products and services to rural segment. It also offers farmers a platform to sell their agricultural output , an equal counterpart of village haat.

### 4.8 TATA Kisan Kendras

The Tata Kisan Sansar retail model established by Tata Group's to propel rural India from the traditional bullock-cart period to the modern era of technology. One of the major challenges for the farmers in rural sector is availability of finance . TSKs provides financial credit, insure their agri outputs against natural calamities, and even access of buyback facilities to the farmers.

## 5. Technology in Rural Retailing :

 I-Cube Report, 2012 on 'Internet in Rural India' by the Internet and Mobile Association of India (IAMAI) and IMRB

the rate of internet users in rural area is 31 million.As depicted in Figure -3 ,12% retail users access internet through cell phones. It shows that technology revolution has touched the spheres in rural society.

With the rapidly changing global scenario business organizations also changing their domain and strategy in order to achieve global competitiveness. For this reason, many IT firms created different smart rural aggregation platforms for rural consumers at reasonable cost. The main objective of these portals are to help private firms, government and non government organizations to offer various techno-based diversified services. These platforms help both rural consumers and retailers to access these services through several hubs known as kiosks in the form of collaborative creativity.

**Figure 4**
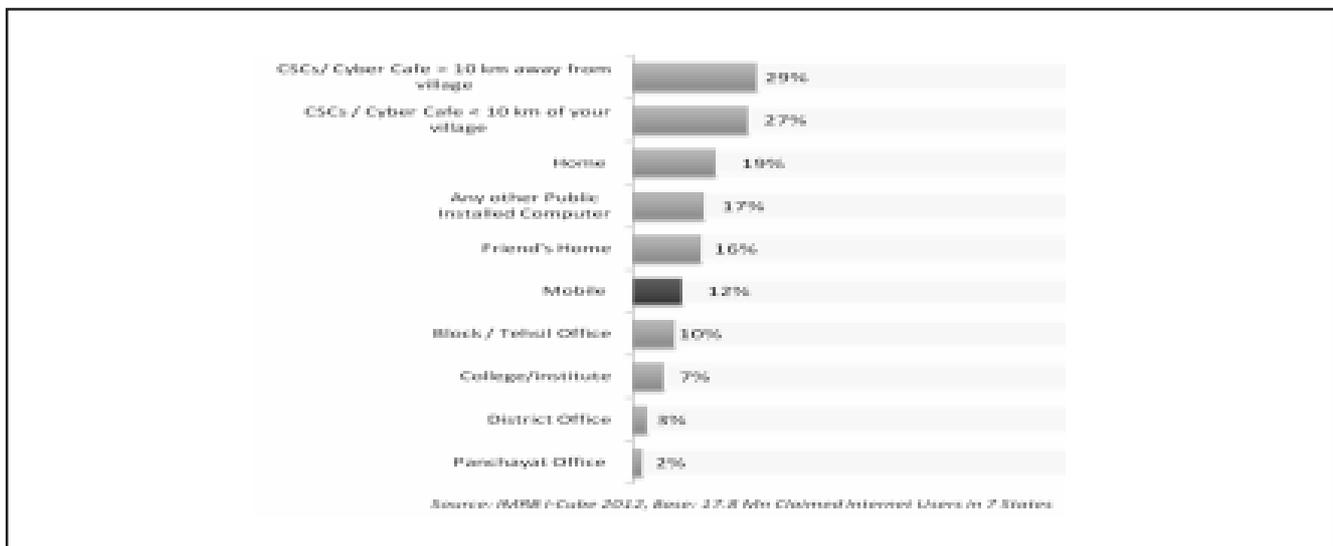


**Source:** http://www.nextbigwhat.com/wp-content/uploads/2012/08/rural_internet_usage.png

Even though ICT has huge potential in rural development there are very less number of projects implemented in rural sector. Most of the programmes mainly initiated by non government organizations (NGO), Government of India and few initiatives by private bodies.

♦ **Agricultural Resources Information System (AgRIS)** is a decision support system developed by the department of Agriculture and Cooperation, Ministry of Agriculture provides agricultural information to the farmers.

♦ **AGAMARKET** : It was launched in March 2000 for connecting agricultural markets the State Agriculture Marketing Boards and Directorates and also provides information related to agriculture products, prices, availability, etc.

♦ **Aksh** is a fiber optic cable company supports a large variety of services including video interactions which will lead to increase the level information exchange

in between the people living in several areas of rural India.

♦ **e-grama** is an e-governance initiative by Govt.of Odisha is an Intranet based kiosk designed to assist rural people for information exchange .

♦ **Cyan Sanchar** is a partnership project of Bharat Sanchar Nigam Limited (BSNL), Government of Madhya Pradesh and a Canadian business team comprising IBM Business Consulting Services and Sasktel International.

♦ **iKisan Project** is the ICT initiative of the Nagarjuna group of companies was set up in Andhra Pradesh and Tamilnadu with two projects, the iKisan.com to provide agricultural information online, and technical centres at village level.

♦ **n-Logue** is another rural IT-based portal supports various applications like education, health and agriculture , video conferencing, etc.

- **RuralBazar** is an e-commerce solution developed by NIC to fulfill the marketing need of the rural people. It has been implemented in the States of Tripura, Goa and Tamil Nadu.

- **TARAhaat** is a franchisee based information kiosk 1st initiated in Punjab having internetworked centers or Kendras to provide online and offline services. It has various portals like TARABazar which give information related to various products, TARAvan which helps in order delivery, TARAdak for connectivity and so on.

- **The Simputer project** is an affordable communication device resembling a PDA for the rural population in the country.

- **MahindraKisanMitra.com** provides updated information i.e. daily mandi prices, weather updates, latest crop rate, warehousing, and other agri related news to the farmers everyday.

- **Kisan Sansar (Tata)** is a programme aimed at offering end-to-end agri solutions to farmers has been launched in West Bengal and Jharkhand by Tata Chemicals Ltd.

- **Haryali Kisan Bazar (KHB)** is an innovative chain of rural agricultural supermarkets set up in India since 2002 by DCM Shriram Consolidated Ltd. (DSCL) helps in empowering farmers and meeting the needs of rural households by providing access to agricultural products, services and retail.

- **Saksham** is a project initiated by Microsoft aims to set up 50,000 to broadband connected kiosks across villages within few years.

## 6. Challenges

Rural Retailing in India today faces several challenges like lack of infrastructure, shortages in electricity, unreliable telephone network, transportation, social and political issues, supply chain inefficiency, etc.

Though large initiatives taken by many private organizations for the development of rural marketing segment many of them faced difficulties due to lack of growth opportunities. In 2002 huge loss incurred by Mahindra & Mahindra 's Shubh Labh venture .Tata Kisan Kentra launched by Tata Chemicals, ikisan.com by Nagarjuna Fertilizers have also reportedly faced problems for getting the requisite revenue to sustain the project. Triveni Engineering shut its rural retail division Khushali Bazaar after incurring a loss of Rs 19 crore in five years. Hariyali Kisan Bazaar had to shut at least 70 outlets over the past couple of years.

The reason for failure of the above projects were due to the fact that intermediaries not trusted by the rural people, high price rate , and the problem of channel conflict , dispute with the wholesaler, issue of credit, lack of knowledge of procurement, etc. In rural sector there is a terrible inadequacy of technological infrastructure and not enough knowledge generation within rural marketing. This is the reason why the rates of crop yields are lower as compared to the farms which have implemented science and technology. And simultaneously technological initiatives also leads to improvement in income growth and quality of living in the rural sector. Information Technology provides various facilities to the rural marketing sector like real-time information, connectivity, access to multiple languages and media, ease of transaction at a low price and last but not the least it promotes also global competitiveness and growth inclusivity. Therefore, retailers have to play an active role & should also train the community to develop technical skills and change the rural mindset to cope with the challenges. Thus, the above challenges have to be faced carefully in order to make ICT initiate successful in rural sector and versatile infrastructure with prompt customer services has to be established in rural segment to enhance the scope of smart retailing in a better manner.

## 7. Conclusion

It is vividly experienced that the series of technology enabled service share is escalating at a brisk rate in the rural market of India. The reality behind it is the rising attention of the business organizations to tap the rural markets and the mounting altitude of the education and industry interface of the rural community. Technovation in rural marketing is rising at a frenetic pace and are tendering diversified services to rural sector. Enhancement in the services offered to the rural citizens effects the overall progress and empowerment of the society .On one side, it provides the updated market information and recent technological developments to the ruralhites on the other hand, it creates marketing opportunity for them. For an instance, rural retailing hubs aim to facilitate selling of potato chips as well as potatoes under the same roof. Thus, rural people can sell their agro products and also can purchase commodity from one stop store.

For developing an efficient rural retailing system appropriate enlargement of the technotronic connectivity and infrastructural services and utilization of the rural talent resources are very much essential. Technology centric retailing needs to be developed in regard to the current rural infrastructure. To maintain the rural growth story undamaged, Public Private Partnership model will have to cooperate in a bigger role, so that India can constructively strap up the growing working age inhabitants in rural areas.With Wal-Mart renowned for its Slogan 'Always Low Prices' penetrating in India with Bharati as equal market. As a final point, and most radically, rural marketing tenders limitless scope to retail sector for technovation in terms of creation, distribution, promotion and communication of qualitative products and services. Moreover, rural segment is a virgin market which will offer modern retailers a prospect to innovate and develop mutually satisfying retail models. Though rural sector has immense potential there are many hurdles and challenges upcoming on the way of retailing because of highly scattered market scenario. Therefore if the retailers want to explore the emerging market as well as to increase market share and improve the brand image they have to go for intensive marketing research for exploiting the growth inclusivity.

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# Relunch Practices in India with a Special Focus on Relaunch of Vespa Brand - An Investigation

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## Abstract

*Vespa scooters from Piaggio, Italy were one of the most iconic brands in the Indian scooter segment during the 80s and 90s. This was the phase when two wheeler segments was mostly dominated by scooters with leading players like Bajaj and Piaggio.Slowly two wheelers markets saw a gradually shift from scooters with gears to gearless scooters. Currently since last decade Indian two wheeler market is flooded with gearless/automatic scooters and motorcycles with gear thus scooters with gears were virtually out of the Indian market. Major players in two wheeler segments are Delhi-based Honda, followed by Hero Motor Corp and TVS Motors. Piaggio decided to re-enter the scooter segment in India with re launch of the Vespa brand last year in the highly competitive two wheeler segment with Vespa LX125.The entry was no doubt with a big bang by launching a premium model at a price of Rs 66,661 (ex showroom). Vespa launch price was significantly expensive when compared with the highest selling scooter Honda Activa which is available it a price of Rs 51,220. While Piaggio believes that it has no intention to launch or enter the low cost segment which is highly competitive, charging high price by creating a premium category in the scooter segment might be one of the strategies which if successful will pave the way for launching new products in emerging countries like India by creating a price differentiation on the higher side and not by reducing the price to enter the market. This article through secondary research is focussing on the various re launch strategies and their implications with a focus on Vespa brand from Piaggio in India.*

**Keywords:** Relaunch, Positioning, Differentiation

## 1. Introduction

Iconic Vespa scooter from Italian automaker Piaggio Vehicles Pvt Ltd is back on Indian roads. Piaggio has re launched the Vespa with brand name Vespa LX125 in India on April 26, 2012. Piaggio is the fourth largest maker of two wheelers in the world, but has not been able to make any significant impact alone in the Indian market. It has been a leading brand on the Indian roads 20 years back with Firodias, but had to quit Indian market after the renewal licence was declined. This development paved the way for Bajaj to launch the Chetek scooter brand. Piaggio again made a re-entry in 1983 in collaboration with Lohiya Machinery Limited (LML) group. This tie up also did not last long and they had to again move out of India after a long battle with the Indian partners. The recent re-entry last year in India two wheeler market was for the first time through their own Indian arm without any external tie-ups. Piaggio is manufacturing the Vespa scooter in India in Baramati plant where commercial three and four wheelers are also manufactured. Vespa has the advantage of being the only scooter in the world to have a single piece monocoque chassis. While launching the Vespa in India, Piaggio Vehicles Pvt Ltd Chairman and Managing Director Ravi Chopra said "Right now there is no premium segment in the Indian scooter market but we believe there are a significant number of brand conscious young people who would like to make a statement. Vespa is creating a premium segment by targeting those customers"(IBNLive.com, Apr 26, 2012). The ex showroom price of Vespa scooters in New Delhi, is Rs.60,000 (Vespa India, 2013) which is quite high when compared with other scooters available in India. Close competitor for Vespa brand is Honda Activa who is the leader in this segment followed by Hero, TVS & Suzuki (Arun Aravindan, May 10, 2013). Some of the commonly available scooter brands along with prices are shown in Table 1 which makes Piaggio Vespa the most costly scooter brand both in the 100cc and 125cc scooter sub segment. Piaggio is also not immediately entering the motorcycle segment as they are willing to wait and watch, and bring brands which will be suiting to the Indian

customer needs. Also Piaggio is investing around Rs 180 crore to set up a 1,50,000 unit per year capacity plant at Baramati in Maharashtra (fe Bureau, Aug 2010). But the sales trend has not been quite encouraging. Piaggio has been able to manage sell only 25, 000 units of Vespa LX125 since launch till Jan 2013 (Jyotsana Gupta, January 17, 2013).

## 2. Literature Review

Overall the Indian two wheeler segment is currently witnessing a slowdown phase by recording a volume growth of 3.9% Year on Year (YoY) and exports volume taking a hit at (–) 1.1% YoY in 2012-13. Factors for the slowdown can be attributed to rising petrol cost, high inflation, high interest rates and weak monsoon. However based on 2012 volumes India is now the largest 2 wheeler market with sales volumes of 13.8 million units in domestic market followed by China at 12.6 million units. (ICRA, March 2013). Domestic two wheeler volume growth was 3.9% YoY in 2012-13 impacted due to 0.9% YoY growth in the motorcycle segment. However scooters segment performed better than motorcycles in 2012-13. Scooter segment share in the domestic two wheeler industry increased from 17.5% in 2010-11 to 21.1% in 2012-13 (ICRA, March 2013). In the month of April when compared to last year shows positive trends for the scooter segment. Honda has shown a 15.47% increase for the month of April 2013 against April 2012. Hero motors also have seen positive sales increase of 37.71% against last year April 2012, while Suzuki and TVS have suffered a growth decline during the same period. Segment performances by companies have shown that Honda continues to maintain their leadership position and have shown an increase in segment share from 50.8% to 51.16%. Hero motors the makers of Pleasure two wheeler brand had their share increased from 17.7% to 21.25%. (Arun Aravindan, May 10, 2013). Piaggio not only will be restricting to the sales of Vespa it is also planning to enter the motorcycle segment by initially importing high end premium bikes motorcycles like Moto Guzzi and Aprilia and subsequently manufacturing from India. Chairman and CEO, Piaggio & C S P A Roberto Colaninno says, "We believe that in the next two years the only possibility for Aprilia and Moto Guzzi is to import from Italy to India before we start production." While the bikes will be high-end machines, the Vespa will bring in the volumes (Sumantra Barooah, CNN-IBN, Jan 25, 2008). Piaggio entry into the Indian two wheeler market is a part of a bigger strategic move to build Asia as a major hub for international business. Total investment by Piaggio in this region was close to 100 million euros out of which 65 million is to be invested in India. Investment will be utilised to launch a four wheeler a sub 2 ton cargo carrier and in partnership with Toyota group company Daihatsu to initiate engines manufacturing. As per Piaggio Vehicles MD Ravi Chopra says, "Either in Latin America, or Africa or South East Asia we are looking for an opportunity where we can create a facility and take advantage of low cost production." New plans, new investments in markets like India, Vietnam and China, and trading offices in Japan and Singapore, Piaggio is moving fast to ensure that it rides on every opportunity

in Asia, especially when its European markets are getting stagnant (Sumantra Barooah, CNN-IBN, Jan 25, 2008). At the time of launch Piaggio Vehicles Pvt Ltd Chairman and Managing Director Ravi Chopra said "Right now there is no premium segment in the Indian scooter market but we believe there are a significant number of brand conscious young people who would like to make a statement. Vespa is creating a premium segment by targeting those customers" (IBNLive.com, Apr 26, 2012). He also said "We reckon there is tremendous excitement brewing among Indian consumers to experience the original Italian Vespa that is an icon of distinctive lifestyle. With its Indian foray, Vespa will serve the unfulfilled need of fashion, style and brand conscious individuals who'd like to make a unique statement in mobility" (Overdrive, Apr 15, 2012).

LML also re launched "Freedom" the 110cc motorcycle in India in June 2013. However the launch is not across India, but is launched in New Delhi and subsequently it will be launched in Gujarat, Maharashtra and Punjab. LML is best known for its scooter brand LML Vespa in partnership with Piaggio. At company level LML growth story declined after breaking up with Piaggio in 1999 and also a lock out in its Kanpur factory in 2006 which had impacted operations and profit. LML Freedom was discontinued for dropping sales which was an 110cc engine launched in 2002. LML Freedom was withdrawn as there was dissatisfaction and average design of the vehicle which could not compete against leading brands like Bajaj and Hero Honda. Even the company financials are not strong. In the year 2011-12 LML posted a net loss of Rs 45.2 crore. In the latest available quarter December 2012, LML net loss was Rs 17.46 crore from Rs 9.25 crore in previous year (Sohini Das & Premal Balan, Business Standard, April 12, 2013). LML again re introduced the Freedom vehicle by changing equipment and with cosmetic changes. Engines remained the same but 110cc four stroke engines but now have more power and also meeting the new emission standards. Cosmetic changes include new visor, headlamp, new two tone color, electric start, black alloy wheels, saddle better padded to increase the comfort level of both pillion and rider. It is launched in 2 versions LX and DX with a price of Rs. 49,750 and Rs. 49,410 respectively (ex-showroom, Delhi). While the latest Freedom might be a good motorcycle when compared to its past predecessor, regaining past confidence, faith and rebuilding the brand might be a challenging task against competitors like Hero, Honda, Bajaj and Mahindra & Mahindra (Autosmaxabout.com, June 2013).

Mahindra two Wheelers part of Mahindra & Mahindra one of the leading four wheeler manufacturer faced initial hurdles when it entered the two wheeler segment with the launch of Stallio 110 in 2010-11. Mahindra decided to go alone into the market without any foreign collaboration or tieups both in marketing and R&D to launch Stallio 110 but was withdrawn within six months of launch due to gear box and other quality issues. Mahindra again re-entered into the Indian two wheeler market with the launch of 2 new and almost similar vehicle called Centuro and Pantero. Pantero's looks is

almost similar to the earlier withdrawn Stallio 110 with no major changes in design. Headlamp, tank design and the rear of Pantero is almost similar to Stallio 100. Engine is almost same 106cc single cylinder, 4-stroke, Air cooled, Micro Chip ignited (Mci)-5 engine. The new Micro Chip ignited-5 Curve engine by Mahindra automatically adjusts itself to give great pick-up on slopes or mileage on flat roads. Its maximum power delivery is 6.25 KW (8.5 PS) @ 7500 rpm and comes with a 4 speed gear box. (Rishabh, March 4, 2013). While technically most of the scooters have undergone changes to suit the needs and requirements of the customers at the time of launch, also the strategy which was adopted during launch is different. One of the most suitable positioning strategies which can be used to find out the various relaunch strategy used to launch 2 wheelers in India was suggested by Havard Business School Prof Youngme Moon. Prof Moon proposed 3 positioning strategy which can be used to relaunch a product as per the position in the product life cycle. These positioning strategies are Reverse Positioning for Services, Breakaway positioning for Packaged goods and Stealth positioning for launching in a new category. As per Prof Moon, "Stealth Positioning works by moving a product out of a category that customers may resist and placing into a more desirable one. Thus it is well suited to categories whose product are perceived as having short comings like difficult to use, unreliable or threatening" (Havard Business Review, May 2005).

## 2.1 Research Methodology :

Secondary research methodology has been adopted for this study. Data were collected by performing searches using the key words in EBSCO and J Gate. Searches were also performed in Prowess (Info media) in order to get the latest sales and volumes trends.

## 2.2 Results and Discussions :

The domestic two wheeler scooters account for 21 per cent and has witnessed 16 percent market growth and accounted for sales of 2.67 million units in April- February 2013 against 2.30 million units in the year-ago period. 100cc-125cc segment in bikes is fastest growing segment. Most of the launches happen in this segment with prices across wide range from entry segment pricing to high end premium segment. While vehicles with low price are large in number, premium vehicles are less since it may not attract maximum customers. Piaggio after exit from Indian two wheeler market re-entered with Vespa 125 LX .Vespa was launched by targeting the premium segment in the Indian scooter market since none existed and Piaggio believed that there are brand conscious young people very significant in number who will prefer this vehicle. These people are brand conscious and love style and fashion which should reflect in the vehicle and Vespa 125LX addressed that. But high price at Rs.60,000 (Vespa India, 2013) during the time of launch was considered quite high when compared with other scooters available in India. LML Freedom was removed from market due to average design and lack of product satisfaction among the bikers and could not stand against stiff competition. LML Freedom was re launched by initially focussing on north of India. Freedom was changed as per customer feedback. Most of the changes were on improving cosmetics look while engine remained same. For LML Freedom the relaunch strategy was to use LML brand due to good brand recall and re launching the upgraded vehicle. Stallio 110 from M&M was withdrawn from Indian market due to quality and technical issues in the vehicle like one of the major issues was the gear box. Stallio 110 was relaunched as Pantero. Pantero's looks is almost similar to the earlier withdrawn Stallio 110 with no major changes in design. Mahindra relaunch strategy for Stallio was to launch an improved product version with a new brand name. While LML preferred to keep the same brand LML freedom due to high brand recall, Mahindra preferred to relaunch under a new brand.

Positioning strategy for Vespa 125 LX, LML Freedom & Stallio were different based on the past experiences they had faced in the market. Mahindra & Mahindra senior management were candid to accept that the Stallio 110 had quality issues which they had leant and had taken proactive steps to relaunch it. So the relaunch strategy was to resolve the quality issues and relaunch Stallio 110 as Pantero. M&M has adopted the Stealth positioning strategy to relaunch Stallio 110 as suggested by Havard Business School Prof Youngme Moon. As per Prof Moon, "Stealth Positioning works by moving a product out of a category that customers may resist and placing into a more desirable one. Thus it is well suited to categories whose product are perceived as having short comings like difficult to use, unreliable or threatening" (Havard Business Review, May 2005). Mahindra Pantero was launched by using Stealth positioning while technical features remained the same. Also brand named was changed since previous brand name Stallio 110 might be associated with the bad performance and customers might have a bad brand experience if old brand name was kept. While it was just the opposite for LML Freedom, where brand LML freedom was used due to high brand recall. Piaggio Vespa also used stealth positioning strategy to create a different new category altogether. When Vespa was launched first time in India it was launched as a scooter to the mass market. But when Piaggio decided to re-enter the scooter segment then it positioned the Vespa by targeting the premium segment in the Indian scooter market since none existed and Piaggio believed that there are brand conscious young people very significant in number who will prefer this vehicle. These people are brand conscious and love style and fashion which should reflect in the vehicle and Vespa 125LX addressed that. The strategy of targeting the young and stylish people with Vespa 125LX is different strategic positioning when compared to mass offering when it was first launched in India. Also price was kept high when compared to other vehicle in the similar segment since company felt that customers will pay for a premium vehicle brand. Piaggio also retained the Vespa brand name since this was already a fairly established and high recall brand.

## 3. Findings

India is the 2nd largest two wheeler market with sales volumes of 13.8 million units in domestic market followed by China at 12.6 million units. While the Overall the Indian two wheeler segment is currently witnessing a slowdown phase by recording a volume growth of 3.9% Year on Year (YoY) and exports volume taking a hit at (–) 1.1% YoY in 2012-13, however scooters segment performed better than motorcycles in 2012-13. Scooter segment share in the domestic two wheeler industry increased from 17.5% in 2010-11 to 21.1% in 2012-13 (ICRA, March 2013). While the Indian two wheeler market holds numerous potential marketing opportunities, still companies have faced many hurdles in this market either due to poor product performances or legal issues which forced them to move out of the market. But these companies have returned back to the India with better marketing offering to suit the customer needs of India. Most of the two wheeler companies who have re-entered India had different re launch strategy when compared at the time of launch. Focusing the current research on the relaunch strategies, Piaggio relaunched Vespa keeping with the same brand name but with a different positioning strategy targeting the young and stylish people and positioning the new Vespa as a stylish scooter. This positioning strategy used was Stealth positioning as suggested by Havard Business School Prof Youngme Moon which works by moving a product out of a category that customers may resist and placing into a more desirable one. Vespa was considered as a common scooter when it ruled the Indian scooter segment in the 90s. But when they re-launched last year instead of positioning as a scooter to the common man, they positioned as premium scooter. Even Mahindra & Mahindra adopted the same strategy to re-launch Stallio 110 with a new brand name called Pantero while the technical features remained same. Since Stallio had quality issues so M&M did not want to continue the same brand name but they re-positioned with new brand name and doing cosmetic changes. LML Freedom was re launched with a new look since the past feedback for the vehicle was bad customer appeal and design. So based on the customer feedback LML Freedom was re launched. Strategy adopted by LML was to come with an improved product into the market as per customer needs and wants.

## 4. Implications

This study was done to identify the various relaunch strategies in the Indian two wheeler market. The various strategies which the companies have identified and implemented will serve as guidance to other prospective players in the market who might be interested to re-enter with similar relaunch strategies. Also the current research will provide sufficient information to take informed decisions of various relaunch practices in emerging economies like India.

## 5. Conclusions

Indian two wheeler markets holds immense potential while currently is facing a slow growth due to various economical and non-economical factors. No doubt that India recently being the number one two wheeler automobile market in the world as a result it is apparent that all two wheeler manufactures will try to have a market presence felt and capture a pie of the market. In the process few have succeeded while others have learnt the bitter lessons of failure. But the set back was for a brief period and most of the major two wheeler manufacturers were back into the market with revised product and marketing strategy. Two out of the three re launches in the two wheeler segment involved repositioning strategy into a new category. This strategy is called as Stealth positioning moving a product out of a category that customers may resist and placing into a more desirable one. In India this stealth positioning strategy was used to relaunch so that previous short comings and product failures can be put to rest by re launching in a new category. This strategy was used by Piaggio to relaunch Vespa scooters and Mahindra and Mahindra used to relaunch Stallio 110 as Pantero in India. LML launched Freedom by using product improvement strategy. While some of the current strategies used to relaunch are few in numbers we need to see how with increased competitions and passage of time these strategies still hold good or new strategies get developed.

## 6. Limitations

The current research methodology involved collecting data online through secondary sources. Focus of this research is on Indian two wheelers segment for Piaggio Company and Vespa brand. For this research only relaunch strategies were evaluated and not new launch/ first launch study. Currently only few two wheelers have been re launched in the Indian market. So the information which is available is limited.

## 7. Scope for Further Research:

Current scope of research was focussed only on Indian two wheeler market which can also be extended and compared to other countries like US, UK, China, etc. which can be researched to identify various strategies at global level. Relaunch strategies used by four wheeler can be studied to see the potential impact and if similar strategies can also be used by the Indian two wheeler sector.

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**Table1:**
**Scooters prices and brands available in Indian Market**

| Company | Brand | Price in (Indian Rupees) |
|---|---|---|
| Piaggio | Vespa LX 125 | 60000 |
| Honda | Activa | 49000 |
| Honda | Honda Aviator | 44,100 - 52,400 |
| Honda | Honda Dio 110 | 46,600 |
| Hero Motorcorp | Maestro | 50,000 |
| Hero Motorcorp | Pleasure | 42,500 |
| Yamaha | Ray | 46,000 |
| Suzuki | Access | 48,000 |
| Suzuki | Swish | 50,700 |
| TVS | Wego | 47,966 |
| TVS | Scooty Pep Plus | 39,700 |
| TVS | Scooty Streak | 42,580 |
| Mahindra | Rodeo Rz 125 | 47,200 |
| Mahindra | Duro Dz 125 | 47,800 |
| Mahindra | Mahindra Kine | 33,300 |
| Mahindra | Flyte Sym | 43,700 |

**Source:** http://compare.pricesofindia.com/vs/honda-activa

# The Impact of FII Investment on Indian Stock Market Return

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## Abstract

*FIIs have been the backbone of the Indian stock market for the past few years and the sole reason for the buoyancy of the Indian equity market. Even a few additional hundred dollars invested by FIIs have lifted the market to greater heights, improving the market sentiment. With FIIs making a U-turn in June many feel the dream-run for India and the Indian market is over. The bleak GDP growth and industrial production growth make matters worse.*

*Until now, as the saying goes 'their pain was our gain.' The crisis in West Asia and Europe came as a breather for India earlier. Meanwhile both Bank of England (BOE) and European Central Bank (ECB) have kept rates unchanged. In fact both the BOE and the ECB have been assuring their economies that they are willing to keep rates low for a considerable period of time.*

*This research paper is mainly to analyze the cause and effect relationship between the FIIs investment and stock market for the period 2002 to 2012.*

**Keywords:** FII, GDP, BSE Sensex

## 1. Introduction

Developing countries like India are generally capital scarce. This is because of low levels of income in comparison with other developed countries, which in turn means savings and investments are also lower. However, there is another way in which a country can attract foreign money. This is by way of Foreign Direct Investment (FDI). However there is a slight difference between them. FDI is defined as "long term investment/ acquisition and is associated with investment in capital assets that a parent company makes in a foreign country which eventually leads to creating employment in India. It manifests in various forms i.e. leading to change in management, transfer of technology, increase in production etc. Examples of FDI would include POSCO setting up a steel plant in Orissa (in-bound FDI), Tata buying Arcelor (out-bound FDI) and so on. It is perceived to be beneficial because it increases production, brings in more and better products and services besides increasing the employment opportunities and revenue for the government by way of taxes. Considering the investment is long term in nature, they cannot be immediately converted into cash and are often only liquidated in a worst-case scenario. These institutions are generally mutual funds, investment companies, pension funds and insurance houses.

Growing India needs abundant foreign capital in the form of FDI and FII for the development of basic infrastructure like roads, railways, sea ports, warehouses, banking services and insurance services etc. Moreover, rapid industrialization since 1991 has further strengthened the need of foreign capital across various industries. Many developing countries suffer from severe scarcity of funds in highly capital intensive areas such as infrastructure. This problem can be diverted to the foreign capitalists by allowing them to invest. In other words, foreign capital are the panacea for the scarcity of all resources.

The variations in the cost of capital are also one of the important factors resulting in attracting foreign capital in India. For example; interest rates are high in India compared to developed economies. In several countries the interest rates are as low as 1% to 3%, whereas in some countries like India the interest rates are very high as 8% to 10% per annum. Thus, for enterprises in India, foreign capital is an easy route to reduce the cost of capital. Thus investors tend to invest in countries like India where they can gain maximum return on their investments. Gradual integration of global financial markets ultimately results in explosive growth of FDI around the globe.

## 2. Review of Literature

Karimullah(2009) examined the statistical significance of the bi-directional relationship between equity investment behaviour of foreign institutional investors (FIIs) and the Indian stock market efficiency for the period of June 2002 - June 2008. However, it should be recognized that the stock market efficiency may not be the only factor (it may not have any impact at all) affecting investment behaviour of FIIs in India. Hence, he had included some other possible determinants such as exchange rate, regulatory reforms, stock return volatility in India, return in the emerging stock markets, the stock market return and interest rate in developed stock market (USA) in the analysis. Econometric analysis is conducted through multiple regression analysis. ARCH/GARCH model has been used in the analysis to examine the effect of the good and bad news in the stock market on foreign institutional investors.

Chakrabarti (2001) has undertaken to throw some light on the direction of causality between FII flows and Indian stock market returns using data on both the variables. The study has revealed that FII flows are caused by rather than causing the national stock market returns. The slight evidence of a reversion of causality running from flows to returns as well as policy implications because of the potential of FII flows to aggravate the crisis already set in the stock market.

Machhi Hetal and Singhvi Aabha have the opinion that FII has a direct relationship with the volatility in the market. When they turn into a buyer, the market response is positive i.e. market goes up and vice-a-versa. The paper focuses on FII, their activities, contribution and how they are co-related with the volatility in the stock market. Here stock market-BSE sensex data from January 2007 to December 2009 is covered for the analysis purpose.

Rai, K, and Bhanumurthy N R (2003) studied the determinants of foreign institutional investment in India during the period 1994-2002. They found, using monthly data, that the equity returns is the main driving force for FII investment and is significant at all levels. They further studied the impact of news on FII flows and found that the FIIs react more (sell heavily) to bad news than to good news.

Richards, A. (2004) has analyzed data of six Asian emerging equity markets and found two interesting findings. The trading behaviour of foreign investors was largely influenced by the return in global market that is positive feedback trading. The price impact associated with foreign investors trading was much large than estimated earlier.

Sivakumar S (2003) has analyzed the net flows of foreign institutional investment over the years. He also briefly analysed the nature of FII flows based on research, explored some determinants of FII flows and examined if the overall experience has been stabilizing or destabilizing for the Indian capital market.

Mukherjee, P, Bose, S and Coondoo, D (2002) suggest that FII flows to and from the Indian market tend to be caused by returns in the domestic equity market and not the other way round. In a subsequent study, Bose and Coondoo (2004) have found mild evidence of bi-directional causality between returns on the BSE stock index and FII net inflows and reasoned that it may have been due to heightened FII inflows caused by an upsurge in global equity markets.

Kumar, Sundaram (2009) have found FII data to be I (0) i.e. it doesn't have a unit root at conventional level. It also gives positive unidirectional granger causality results i.e. stock returns granger cause FII. No reverse causality is seen even after inserting a structural break in 2003, as some of the researchers suggest. The recent plummet and surge in inflows warrants a fresh investigation to shed light into the unsettled issue of causality relationship between FIIs and market returns in the Indian context, thus we will try finding that whether higher returns lead international portfolio flows or the other way round.

Takeshi (2008) reported unidirectional causality from stock returns to FII flows irrelevant of the sample period in India whereas the reverse causality works only post 2003. However, impulse response function shows that the FII investments in India are more stock returns driven. Perhaps the high rates of growth in recent times coupled with an increasing trend in corporate profitability has imparted buoyancy to the stock markets, triggering off return chasing behaviour by the FIIs.

Griffin, J.M., Nardari, F. and Stulz, R.M. (2004) found that foreign flows are significant predictors of returns for Korea, Taiwan, Thailand and India, indicating that foreign investors buy before market index increases. They also found that simultaneous flows are positive and highly significant in India. FII and Stock Index show positive correlation, but fail to predict the future value.

Lin, A. and Chen, C.Y. (2006) conclude that the investment performance of FIIs high holding stocks is significantly better than that of FIIs low holding stocks. They presented the evidence that FIIs trading behaviour has generated better returns and portfolio performance since the stock market's full liberalization. There was a surge in capital inflows into India too since 1992 as investors tend to study companies more thoroughly. The involvement of foreign investors disseminates information better hence leads to more efficient market.

Chang Su has generated a practical case to measure the variation of return volatility in high fluctuating stock markets that may exhibit different characteristics from the relatively stable stock market. Hence, the main purpose of this paper is to analyze whether the long term volatility is more extensive during the crisis period than before the crisis, and compare the movements of the return volatility of Chinese stock market to the other stock markets before and throughout the crisis period. They apply the daily data from January 2000 to April 2010 and split the time series into two parts: before the crisis and during the crisis period. The analysis is based on

employing both GARCH and EGARCH models. The empirical results suggest that EGARCH model fits the sample data better than GARCH model in modelling the volatility of Chinese stock returns. The result also shows that long term volatility is more volatile during the crisis period. Bad news produced stronger effect than good news for the Chinese stock market during the crisis.

## 3. Research Methodology

### 3.1 Objectives

1. To analyze the cause and effect relationship between the FIIs investment and stock market.
2. To analyze the relationship between FII equity investment pattern and BSE Sensex, mid cap and small cap indices.
3. To analyze the volatility of BSE Sensex due to FIIs.
4. To study the behavioral pattern (market trend) of FII in India during 2002 to 2012.
5. To study the impact of market opening to FIIs (introduction of FII), on Indian stock market behavior.

### 3.2 Scope of study

**Table 1**

| Index | Time period |
|---|---|
| BSE sensex, BSE 100, BSE 200, BSE 500 | September 2002 to September 2012 |
| BSE MID cap | April 2005 to September 2012 |
| BSE SMALL cap | April 2005 to September 2012 |
| BSE sensex | 360 days before and 360 days after event day* |

*Event day is the day on which FII is allowed to invest in Indian stock market i.e 14th September, 1992

**Universe** Indices of BSE

Sampling Unit:- BSE sensex, BSE 100, BSE 200, BSE 500,mid cap and small cap indices.

Sampling period:-

BSE index: September 2002 to September 2012.

mid cap, small cap: April 2005 to September 2012.

### 3.3 Sources of data

To collect the data websites of SEBI, RBI and Money Control were visited for collecting monthly data of FII purchase, sales and net investment for the above mentioned period. Also websites of BSE and NSE were visited for collecting monthly data of BSE sensex, mid cap, small cap as well as data of monthly market capitalization. Besides we have referred from journals, books and research papers.

### 3.4 Research Analysis Tools

### 3.4.1 Regression Analysis

The basic regression equation takes the following form for the present study.

Regression function

$$R_{it} = \beta_0 + \beta_1 \left[ \frac{FLOW_t}{MARKETCAP_{t-1}} \right]$$

Where,

$R_{it}$ = Return from market i at time t.*

$FLOW_t$ = FII flow at time t.

MARKET CAP$_{t-1}$ = Market capitalization of market i at time t-1.

$$* R_t = \log_e \left[ \frac{P_t}{P_{t-1}} \right]$$

### 3.4.2 Correlation

Correlation tool is used to determine whether two variables of data (FII net investment and market return) move together or not.

### 3.4.3 Paired T- test

The Paired Samples T Test compares the means of two variables. It computes the difference between the two variables for each case, and tests to see if the average difference is significantly different from zero.

A paired t-test is used to compare two population means where you have two samples in which observations in one sample can be paired with observations in the other sample.

### 3.5 Hypotheses

$H_1$: There is significant relationship between Sensex return and FII equity investment.

$H_2$: There is significant relationship between FII equity investment and volatility of sensex.

$H_3$: There is no significant difference between average return before the event day and after the event day

$H_4$: There is no significant difference between volatility before the event day and after the event day

**Table 2**

| BSE sensex and FII equity investment | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Change Statistics | | | | | Durbin-Watson |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .644[a] | .414 | .409 | 5.86508627 | .414 | 84.139 | 1 | 119 | .000 | 1.947 |
| Return as per Model = -1.844+ 24.629 (net flow$_{t/}$ marketcap$_{t-1}$) | | | | | | | | | | |

**Table 2**

| BSE small cap and FII net equity investment | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Change Statistics | | | | | Durbin-Watson |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .664[a] | .441 | .435 | 8.61845231 | .441 | 68.704 | 1 | 87 | .000 | 1.979 |
| Return as per Model = -3.477+ 42.204 (net flow$_{t/}$ marketcap$_{t-1}$) | | | | | | | | | | |

**Table 3**

| BSE mid cap and FII net equity investment | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Change Statistics | | | | | Durbin-Watson |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .704[a] | .495 | .490 | 7.24985935 | .495 | 85.413 | 1 | 87 | .000 | 1.931 |
| Return as per Model = -3.028+ 39.584 (net flow$_{t/}$ marketcap$_{t-1}$) | | | | | | | | | | |

**Table 4**

| BSE 200 and FII net equity investment | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Change Statistics | | | | | Durbin-Watson |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .644[a] | .415 | .410 | 6.30961961 | .415 | 84.256 | 1 | 119 | .000 | 1.945 |
| Return as per Model = -2.068+ 26.514 (net flow$_{t/}$ marketcap$_{t-1}$) | | | | | | | | | | |

**Table 5**

| | | | | | Change Statistics | | | | | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change | |

**BSE 500 and FII net equity investment**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .645[a] | .417 | .412 | 6.40460333 | .417 | 84.964 | 1 | 119 | .000 | 1.933 |

Return as per Model = -2.099+ 27.026(net flow$_{t/}$ marketcap$_{t-1}$)

**Figure 1**

**Correlation analysis**



FII flow and sensex relationship
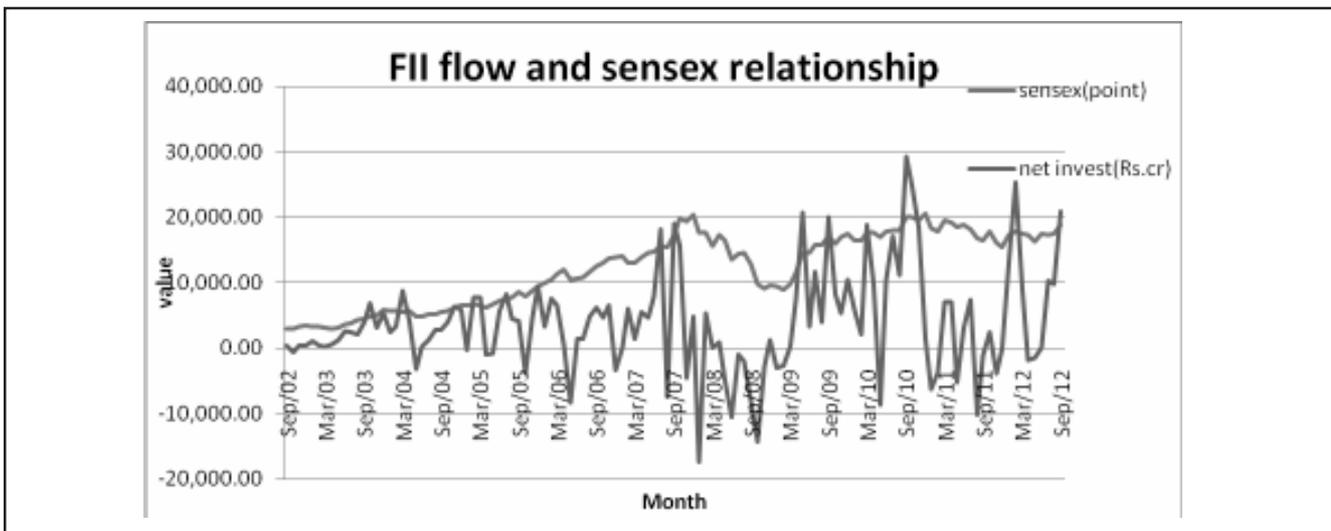
In Figure 1 it is seen that for the sample period the fluctuations in FII net flow are larger than that of sensex value. It is also seen that up to Jan 2008 there is increasing trend in sensex while FII net flow has no specific trend; there are many ups and downs.

**Table 6**

| Index | Correlation | Relationship | Variation |
|---|---|---|---|
| BSE sensex | .261 | Positive | Not significant |
| BSE 100 | .265 | Positive | Not significant |
| BSE 200 | .271 | Positive | Not significant |
| BSE 500 | .267 | Positive | Not significant |
| BSE mid cap | .292 | Positive | Not significant |
| BSE small cap | .271 | Positive | Not significant |

The direction of the dependent variables change depends on the sign of the coefficient. Here, the coefficient is a positive number, so the dependent variable BSE index will move in the same direction as the independent variable FII net equity flow. But if the coefficient is negative, then the dependent variable will move in the opposite direction of the independent variable. If the correlation coefficient varies from 0 to 0.5 than there is no significant relationship between two variables. And if the correlation coefficient varies between 0.5 to 1 than there is significant relationship between two variables.

But here it is between 0 to 0.5 for all cases so there is no significant relationship between BSE index and FII net equity flow.

**Correlation matrix**

The cross - correlations between net FII flows / BSE market capitalization and BSE sensex return and lagged one month value of both the variables is found out and shown in the following table.

**Table 7**

| Variables | Monthly returns on BSE National Index | Monthly returns on BSE National Index lagged one month | Monthly net FII flows as a proportion of previous month's BSE market capitalization lagged one |
|---|---|---|---|
| Monthly net FII flows as a proportion of previous month's BSE market capitalization | .446 | .309 | .386 |
| Monthly net FII flows as a proportion of previous month's BSE market capitalization lagged one | .104 | .416 | 1 |
| Monthly returns on BSE National Index lagged one month | .119 | 1 | .416 |

The correlation coefficients of Table 7 suggest that there is a positive relationship between the variables, though not quite significant in nature. The estimated variables also appear to be positively correlated with its own lagged terms thereby indicating that past FII flows or BSE index returns respectively affect simultaneous flows or returns.

**Paired T- test**

Here, we have taken BSE sensex return of 360 trading days before the entry of FII(14th September, 1992) and 360 trading days after the entry of FII. There after we have made windows of 330 days before and after, then 300 days before and after and so on. We have found out average return and standard deviation for each of the windows.

**H₀:** There is no significant difference in Indian stock prices return before the event day and after the event day.

**Ha:** There is significant difference in Indian stock prices return before the event day and after the event day.

**Table 8**

**Testing the average return change**

| Windows | Return before | Return after | P value |
|---|---|---|---|
| ±30 | .429595 | -.796571 | .018 |
| ±60 | .070601 | -.552884 | .149 |
| ±90 | -.038435 | -.237625 | .678 |
| ±120 | .388475 | -.328320 | .088 |
| ±150 | .356401 | -.276244 | .052 |
| ±180 | .305341 | -.261171 | .047 |
| ±210 | .323333 | -.141516 | .065 |
| ±240 | .376209 | -.097014 | .055 |
| ±270 | .348847 | .004804 | .084 |
| ±300 | .329991 | .045724 | .155 |
| ±330 | .349028 | .030884 | .105 |
| ±360 | .232843 | .030569 | .257 |

Significance level: 95%

If P-value is less than á (0.05), null hypothesis will be rejected and if P-value is more than á (0.05), null hypothesis will not be rejected. In Table 8, ±30 days and ±180 days p-value is less than á so null hypothesis will be rejected that means there is significant difference in Indian stock prices return before the event day and after the event day.

But in all other remaining windows p-value is more than á so null hypothesis will not be rejected that means there is no significant difference in Indian stock prices return before the event day and after the event day.

**Figure 2**



Market return change

**Table 9**
**Testing the market volatility change**

| Windows | S.D. before | S.D.after | P-value |
|---------|-------------|-----------|---------|
| +30 | 2.0363975 | 1.9627353 | .018 |
| +60 | 2.7674859 | 2.1817686 | . 149 |
| +90 | 4.0421591 | 2.0400126 | .678 |
| +120 | 3.8834317 | 2.2038435 | .088 |
| +150 | 3.5100998 | 2.1465801 | .052 |
| +180 | 3.2831944 | 2.0484592 | .047 |
| +210 | 3.1144360 | 2.0467983 | .065 |
| +240 | 2.9932695 | 1.9740240 | .055 |
| +270 | 2.8643420 | 1.9493602 | .084 |
| +300 | 2.7564346 | 2.0061292 | .155 |
| +330 | 2.7739581 | 2.0054448 | .105 |
| +360 | 2.8298774 | 1.9396459 | .257 |

If P-value is less than á (0.05), null hypothesis will be rejected and if P-value is more than á (0.05), null hypothesis will not be rejected. Here, in +30 days and +180 days p-value is less than á so null hypothesis will be rejected that means there is a significant difference in Indian stock prices volatility before the event day and after the event day.

But in all other remaining windows p-value is more than á so null hypothesis will not be rejected that means there is no significant difference in Indian stock prices volatility before the event day and after the event day.

From the above table it is seen that there is difference between the stock price volatility before and after the event day but the degree of difference is not significant.

**Figure 3**



Market volatility change
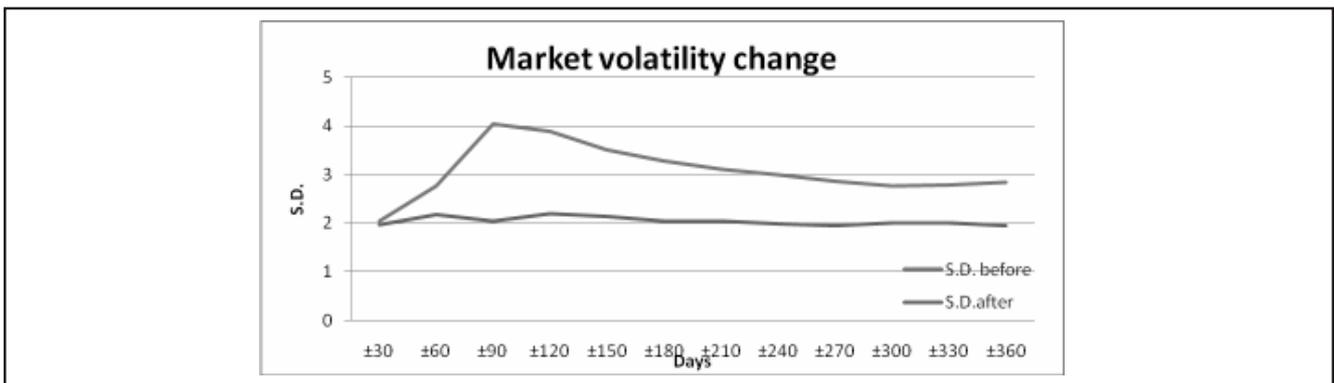
### Descriptive statistics

The histogram and summary descriptive statistics of monthly net FII flows, monthly net FII flows as a proportion of previous month's BSE market capitalization and monthly returns on BSE National Index over a 121 month window ( September 2002 to September 2012) are presented in figures and tables below in order to depict the trend in the two estimated variables over the sample period.

**Figure 4**
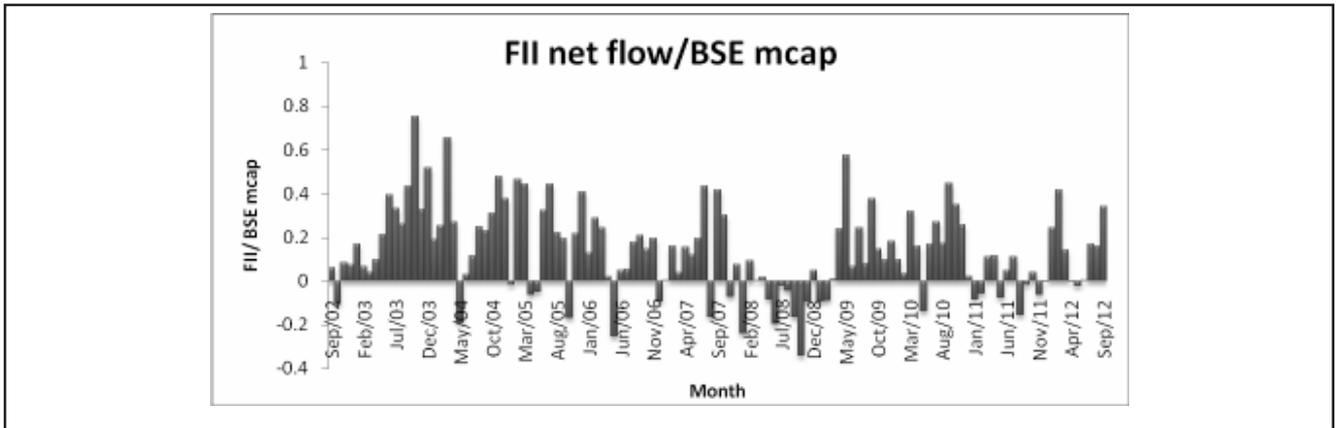


**Table 10**

Skewness is a measure of symmetry, or the lack of symmetry. A distribution, or data set, is symmetric if it looks the same to the left and right of the centre point. Kurtosis is a measure of whether the data are peaked or flat relative to a normal distribution. Here, we have shown the histogram that is an effective graphical technique for showing both the skewness and kurtosis of data set. In table 10 it is seen that the value of skewness is .362 that is between -0.5 and +0.5 so the data are approximately symmetric. Here, from the table it is seen that kurtosis has the value of 0.149 which is lower than 3. So compared to a normal distribution, its central peak is lower and broader, and its tails are shorter and thinner.

**Figure 5**
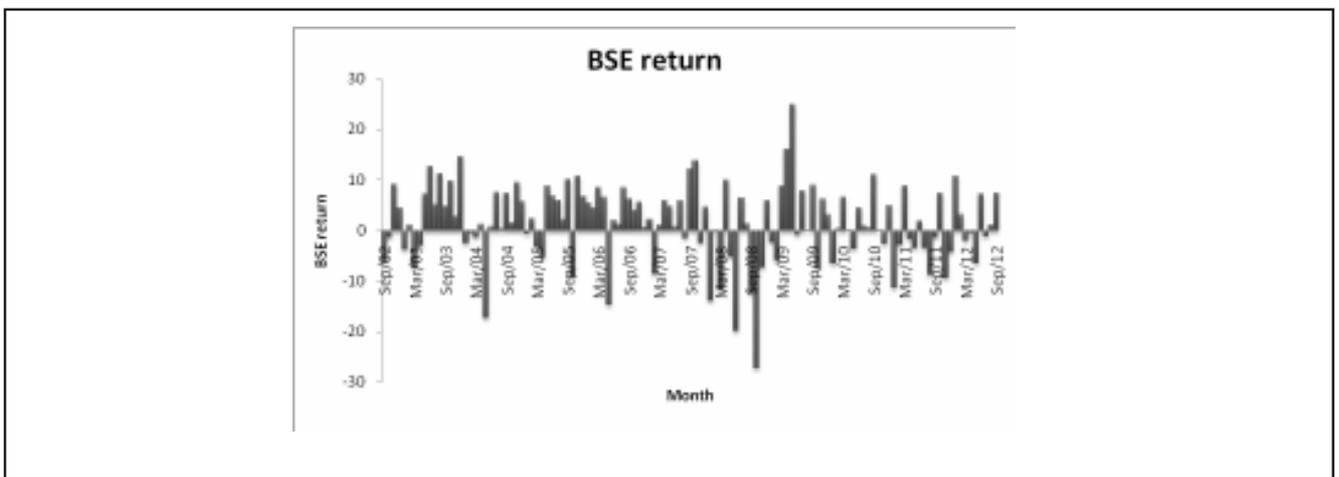
**Table 11**

**Descriptive Statistics**

| | N | Range | Minimum | Maximum | Mean | Std. Deviation | Variance | Skewness | | Kurtosis | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Statistic | Statistic | Statistic | Statistic | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic | Std. Error |
| bse return | 121 | 52.1843 | -27.2992 | 24.8851 | 1.466616E0 | 7.6309877 | 58.232 | -.593 | .220 | 1.666 | .437 |
| Valid N (listwise) | 121 | | | | | | | | | | |

In table 11 it is seen that the value of skewness is -0.593 that is between -1 and +1 so the data are highly skewed. While the kurtosis value is less than 3. So compared to a normal distribution, its central peak is lower and broader, and its tails are shorter and thinner.

## 4. Findings

### 4.1 Regression analysis

1. The determinant of correlation coefficient ($R^2$) is around 0.4. It means that fluctuations in the BSE indices return are due to FII flows only to the extent of 40% while remaining 60% fluctuation is due to other extraneous variables like exchange rate, interest rate, government policy, political factors, and speculative trading.

2. The return of BSE indices calculated as per the regression model and actual market return are found to be different but not significantly different. For any change in FII net flow, BSE return is changed by 25 to 30% of FII net flow intercept.

### 4.2 Correlation

1. The performance of the BSE indices is positively related with FII net flow. It means both the variables are moving in the same direction, but the degree of relationship is not significant as correlation is far from +1.

2. According to cross correlation matrix it is found that the estimated variables i.e. BSE return and proportion of FII flow to market cap also appear to be positively correlated with its own lagged terms.

### 4.3 Paired T- test

1. Upto the 90 days prior to FII entry and post to FII entry there is significant variation in the return of BSE sensex. As the time moves far from the FII entry date the variation in the return is reduced.

2. It is found that prior period returns were positive while the return post to FII entry was negative up to 270 days. From 270 days onward after entry, return has again become positive but still found significantly less than the return before the FIIs entry for the same periods.

3. It can be clearly witnessed here that volatility after the passage of 30 days started declining in comparison to the same period before the entry of FIIs.

4. It is also found that before the introduction of FII market volatility is high compare to that of after the entry of FII. Volatility after entry of FII is remaining more or less stable than that of prior period that shows the market efficiency.

## 5. Conclusion

1. It can be said that while return declined reasonably after the entry of FIIs, the volatility has been reduced significantly after their entry. It means volatility in Indian market is not the function of FIIs investment flows. There may be some other reasons which induced the volatility in Indian market over the time.

2. It is evident from the analysis that there is no cause and effect relationship between sensex return and FII net flow as a proportion of previous month's market cap.

3. The relationship between BSE indices and FII net flow is positive but the degree of relationship is not significant.

4. FII flow is not the only determinant that affects the behavior of stock market.

5. Information availability spread of information and investor's expectations also affect the daily stock market movement.

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# MFIs and their Impact on Capacity Building of SHGs Members

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## Abstract

*Microfinance has been treated as an important tool for economic development. Microfinance lenders offer small loans to aspiring as well as current business owners. These loans assist people in getting access to traditional financing and offer jobs to local communities. The size of microfinance loan may vary from lender to lender. But it plays vital role in economic development through job creation, financial stability and global poverty. Microfinance encompasses the provision of financial services and the management of small amounts of money through a range of products and a system of intermediary functions that are targeted at low income clients. In this paper the authors tries to highlight MFIs and their impact on capacity building of SHGs.*

**Keywords: -** Micro-credit, Poverty Alleviation, Microfinance Institutions (MFIs)

## 1. Introduction

The human resources in India are huge and yet to be fully exploited. Several strategies are evolved to mobilize the human resources for optimizing the available financial resources. Micro-credit is one such novel idea, which provides an effective medium for best utilization of human resources especially women by optimizing the use of financial resources. Microfinance programming is seen as an essential tool in poverty alleviation. It is a means of developing a financial system with a social objective and is designed to serve the poor. It is considered as a major tool for socio-economic and rural transformation by increasing the standard of living of the poor. India has, over the years made steady progress in developing microfinance in the country and has made appreciable progress in this direction. The success of rural women development depends on their capacity building. The capacity building depends on functional literacy and numeracy, communication skills and leadership skills.

The Microfinance Institutions (MFIs) are financial institutions with a primary objective of making credit available to that segment of the population, which has been ignored by the commercial banking system for not having collateral requirements. The efficient functioning of these MFIs on a sustainable basis is important but for MFIs it is equally important that people at or below the

poverty line are reached, quality services are provided, and that microfinance improves client's lives. Financial sustainability does not ensure the automatic fulfillment of social objectives expected of a typical MFI. To assess the overall programme effectiveness of MFI, some knowledge of social impact is therefore necessary for MFI management and other stakeholders ( e.g., donors and policy makers ) as information on financial performances alone gives an incomplete picture of the programme performances .

Microfinance is gathering momentum to become a major force in India. The self-help group (SHG) model with bank lending to groups of (often) poor women without collateral has become an accepted part of rural finance. With traditionally loss-making rural banks shifting their portfolio away from the rural poor in the post-reform period, SHG-based microfinance, nurtured and aided by NGOs, have become an important alternative to traditional lending in terms of reaching the poor without incurring a fortune in operating and monitoring costs.

### RELEVANCE OF THE STUDY:

Microfinance is considered to be a viable tool for poverty alleviation of the state. The development of weaker section of the society depends on sustainability of micro finance

institutions. Micro finance institutions help the beneficiary and Self Help Groups (SHGs) to uplift the weaker sections of society. The satisfaction of beneficiaries and SHGs is quite a complex issue and there is a lot of debate and confusion about what exactly is required and how to go about it. This study was an attempt to review the necessary requirements, and discuss the steps that need to be taken in order to measure beneficiary satisfaction. So, an attempt has been made to interpret the responses from the respondents.

## REVIEW OF LITERATURE:

According to the proponents of micro finance theorists, it has a very important role to play in development of community.

Rogaly (1996) finds five major faults with MFIs. He argues that: They encourage a single-sector approach to the allocation of resources to fight poverty. He also opined that micro credit is irrelevant to the poorest people when an over-simplistic notion of poverty is used. He further emphasized on scale by MFIs.

Johnson and Rogaly (1997) also cited various examples whereby savings and credit schemes were able to meet the needs of the very poor. They state that micro finance specialists are observing improvements in economic security rather than income promotion as the first step in poverty reduction.

Ledgerwood, (1999) studied poverty and the impact of micro finance in combating poverty .The Millennium Development Goals (MDGs) propagated by him are (i) eradicate extreme poverty and hunger; (ii) achieve universal primary education; (iii) promote gender equality and empower women; (iv) reduce child mortality; (v) improve maternal health; (vi) combat strategy in reaching the MDGs and in building global financial systems that meet the needs of the most poor people.

Otero (1999) illustrates various ways in which micro finance at its core combats poverty. She states that micro finance creates access to productive capital for the poor which together with human capital addresses through education and training as well as social capital achieved through local organization building enables people to move out of poverty. By providing material capital to the poor, their sense of dignity is strengthened which helps to empower them to participate in the economy and society developmental process.

Wright (2000) states that much of the skepticism of MFIs stems from the argument that micro finance projects fail to reach the poorest, generally have a limited effect on income drive of women owing to greater dependence on their husbands and fail to provide additional services desperately needed by the poor. In addition, Wright says that many development practitioners not only find micro finance inadequate but also it diverts funding from more pressing or important interventions such as health and education.

As argued by Navajas (2000), there is a danger that micro finance may siphon funds from other projects that might help the poor in a bigger way. They state that governments and donors should know whether the poor gain more from micro finance than from other projects such as health care or food aid. Therefore, there is a need for all involved in micro finance and development to ascertain what exactly has been the impact of micro finance in combating poverty. The effectiveness of micro finance as a tool depends on directly reducing the extent of poverty and its impact on change in the standard of living of the people .

Littlefield, E. (2003) states that the poor are generally excluded from the financial services sector of the economy. So MFIs have emerged to address this issue of non participation in the market. By addressing this gap in the market in a financially sustainable manner, an MFI can become part of the formal financial system of a country and so can access capital markets to fund their lending portfolios, allowing them to increase the number of poor people they can reach.

Littlefield, Murduch and Hashemi (2003) state "micro finance is a critical contextual factor with strong impact on the achievements of the Millennium Development Goals (MDGs).Microfinance is unique among development interventions. It can deliver social benefits on an ongoing permanent basis and on a large scale". Referring to various case studies, they showed how micro finance has played a role in eradicating poverty, promoting education, improving health and empowering women. However, not all commentators are enthusiastic about the role of micro finance in development but it is important to realize that micro finance is not a silver bullet while fighting poverty.

Chowdhury, Mosley and Simanowitz (2004) argue that it is notoriously difficult to measure the impact of micro finance programmes on poverty. This is so, she argues, because money is fungible. It is therefore difficult to isolate the impact of credit when the definition of 'poverty' is a fiercely contested issue and how it is measured and what constitute the 'poor' not yet defined properly.

UNCDF (2004) states that micro finance and its key roles in development as: It helps very poor households to meet basic needs and protects against risks. Further, it is associated with improvement in household economic welfare and it helps to empower women by supporting women's economic participation and so promotes gender equity.

## OBJECTIVES OF THE STUDY:

The objectives of the study are :

➢ To study the socio-economic background of the clients with special reference to their occupation, caste, age, sex and other variables.

➢ To explain the transactional period of beneficiaries with MFIs of various areas including urban, rural and semi urban.

➢ To examine the role of employees of MFIs either to meet the loanee or to solve the problem during the transaction.

➢ To make an analysis of the relationship between the groups of beneficiaries in different services and their satisfaction basing on the performances of MFIs;

## SCOPE OF THE STUDY:

The study is confined to five different MFIs covering the different regions of Odisha. The age groups of the beneficiaries of MFI and their occupational status were categorised as Small vendors, Agriculture and Horticulture, Vocational, Live stock, Businessmen, and any other miscellaneous category of vocational trade.

## RESEARCH METHODLOGY:

This study is based on both primary and secondary data. Primary data have been collected through two sets of structured questionnaire both for members of SHGs and employees of MFIs. The questionnaires were distributed among 400 beneficiaries out of which 322 beneficiaries have responded to all the questions asked. Further, 100 employees from different MFIs were contacted with the structured questionnaire, out of which 89 respondents have responded. Statistical techniques with the help of SPSS package werw used to interpret the results. Beneficiary relationship management is the prime element in the management and it gives impact on satisfaction. Further relevant factors were taken as indicator to study the impact of services and quality to justify the analysis.

Some of the important factors were correlated with age factors of the beneficiaries in different levels to find out the percentage of relationship with the groups through cross tabulation method.

Secondary data have been collected from various sources i.e. World Investment Reports, Asian Development Bank's Reports, various Bulletins, Economic and Social Survey of Asia and the Pacific, Reports on Economic Policy and from websites of World Bank, IMF and various MFIs.

## DATA ANALYSIS AND INTERPRETATION

A total number of 400 questionnaires were personally distributed among the members of beneficiaries at an average of 4-5 questionnaires per each SHG. Out of which, 322 (80.5%) beneficiaries effectively responded to the survey. Concurrently, out of which 89 (89%) employees responded to this endeavor without hesitation. The data (Table-1) thus collected through questionnaires from beneficiaries and employees were scrutinized, tabulated and analyzed with immaculate interpretations that are presented in result from beneficiaries and result from employees.

### Table -1 Rate of Response

| Categories of respondents | Questionnaires distributed | Questionnaires selected | % of response |
|---|---|---|---|
| Beneficiaries | 400 | 322 | 80.5 |
| Employees | 100 | 89 | 89 |

### Table- 2 : Age wise distribution of male and female beneficiaries

| Age | No. of beneficiaries | Male | | Female | |
|---|---|---|---|---|---|
| | | Number | % to total | Number | % to total |
| Above 65 | 12 | 8 | 4.7 | 4 | 2.6 |
| Below 25 | 19 | 11 | 6.5 | 8 | 5.2 |
| 55 - 65 | 40 | 33 | 19.3 | 7 | 4.7 |
| 45 - 55 | 43 | 18 | 10.5 | 25 | 16.6 |
| 25 - 35 | 89 | 45 | 26.3 | 63 | 41.8 |
| 35 - 45 | 119 | 56 | 32.7 | 44 | 29.1 |
| Total | 322 | 171(53%) | 100.0 | 151(47%) | 100.0 |

**Source : Own compilation**

Table- 2 reported the age wise distribution of male and female figure of the total beneficiaries covered under the total SHGs. Out of 400 sample beneficiary 322 samples have been considered in the following analysis as the responses found valid. Out of the total 322 valid respondents, 171 are found male which represents 53% of the total respondents, where as 151 beneficiaries are female accounted for 47% of the total. Further, as per the age groups mentioned in the table, highest number of male represent by 35-45 years age group followed by 25-35 years age group. Similarly, in the female group, maximum 63 beneficiaries are from 25-35 years age group followed by 35-45 years age group. The lowest number of beneficiaries in both the sex groups represented in the age group of above 65 years.

**Table- 3 : Age and occupation of beneficiaries**

**Source : Own compilation**

Table – 3 inferred the relationship between the age groups of the beneficiaries of MFI and their occupational status. It is important to study their economic profile. The study is based on the activities sanctioned from micro finance institutions. Here each factor has been divided into six groups. From different operational groups, major occupations have been identified and taken into the study. The occupational status have been classified as Small vendors, Agriculture and Horticulture, Vocational, Live stock, Businessmen, and any other miscellaneous category of vocational trades. Similarly for an in-depth study, the age groups of the customers have been correlated so as to identify the influence of age in selecting the trades.

The study indicates that out of 13 engaged in small vending, 12 beneficiaries are of above 65 years old. Similarly, 17 respondents in the category of agriculture and horticulture trade are in the age group of below 25 years. Further, among 55 beneficiaries in live stock occupation, 40 beneficiaries belong to the age group of 55-65 years. Similarly, among 43 respondents of the age group of 45-55 age, 30 beneficiaries are working in different vocational trade like carpentry, electrician, bell metal worker etc. Similarly out of 92 beneficiaries 89 are engaged in miscellaneous trades, which are in the age group of 25-35 years. Lastly, out of 119 respondents of MFI are in the age group of 35-45 years, 115 beneficiaries are doing small business out of the finance provided by these MFIs.

So, it is concluded that maximum 115 out of 322 beneficiaries accounting for 35% are business men and they represent the age group of 35-45 years followed by 92 beneficiaries doing other miscellaneous trades representing the age group of 25-35 yrs. That means youngers are more flexible in their trade and they perform as per the market demand. They change their trade types accordingly to procure more income.

**Table – 4: Age and period transaction (Cross tabulation)**

| Age | Number of Beneficiaries | Period of Transaction (in Years) | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | | (Below-1year) | (5 years & above) | (1 – 2 yeas) | (3 - 4 Years) | (4- 5 years) | (2- 3 years) | |
| | | 4 | 14 | 19 | 81 | 87 | 117 | 322 |
| Above 65 | 12 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Below 25 | 19 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 55 - 65 | 40 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 45 - 55 | 43 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 25 - 35 | 89 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 35 - 45 | 119 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Total | 322 | 1 | 1 | 1 | 1 | 1 | 1 | 6 |

**Source: Own compilation**

The above table depicts that 14 beneficiaries have above 5 years of transaction with MFIs, and 12 among are above 65 years old. Further, 19 respondents are below 25 years old and 4 among them have below 1 year of transactional experience with MFIs. Similarly, 81 beneficiaries of our study have involved in 3 to 4 years of transaction and 40 respondents among them are in the age group of 55 to 65 years. Again, here 89 respondents are in the age group of 25 to 35 years and 87 among them have involved in 4 to 5 years of transaction .Lastly, 119 are in the age group of 35 to 45 years and 117 among them have the experience of transaction from 2 to 3 years.

Hence it can be inferred that the maximum beneficiaries belong to the age group of 35 – 45 years and their transactional period with the MFIs is 2 – 3 years only.

**Table –5: Age and frequency of visit by the employees of MFIs**

The study shows that for 17 beneficiaries have faced very occasional visit of MFIs employees to their SHGs and 12 among them are above 65 years old. Further, 19 respondents of our study are below 25 years old. Moreover, it can be said that, the frequency of visit by the employees of MFIs is more the age group of 35 - 45 years followed to the age group of 55-65 years and it is confirmed that they maintain informal relation in business also by visiting daily to the concerns and touch beneficiaries. The frequency of visit also gives an impact on the beneficiaries as they feel more responsiveness.

Satisfaction is one of the subjective factors, which vary from person to person. Further, it also depends upon a number of other factors. But from assessment point of view, it can be measured through expectation. When expectation of a person shows high and contrary to it, the level of satisfaction shows a less, as expectation is always less in measuring satisfaction. Here, regression coefficient measures the scale for satisfaction by including the different age groups of the respondents as predictor and satisfaction as dependent variable.

**Table-6 : Age and Satisfaction Level**

Satisfaction level (in Percentage)

| Age | Number of Beneficiaries | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| Above 65 | 12 | | | | | | | |
| Below 25 | 19 | | | | | | | |
| 55 - 65 / 45 - 55 | 40 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 55 | 43 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 25 - 35 | 89 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 35 - 45 | 119 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Total | 322 | 1 | 1 | 1 | 1 | 1 | 1 | 6 |

Table–6 explains the relationship between the age groups of the beneficiaries of MFIs and the satisfaction level they possess from the products and services offered by MFIs. The level of satisfaction have been categorized into six percentage groups such as below 30, 30 – 40 , 40 – 50 ,50 – 60 , 60 – 70 , and above 70 percent level. As satisfaction is a combination of different factors, these factors are considered here for the measurement.

So, it can be concluded that maximum number of beneficiaries who feel that high degree of satisfaction are within the age group of 45 – 55 years, where as low degree of satisfaction has been derived among the beneficiaries in the age group of 55 – 65 years.

**Table-7 : Regression of Age and Satisfaction**

a. Predictors: (Constant), age
b Dependent Variable: satisfaction
R-Regression Coefficient

In the process of sieving variables the regression analysis of Age and Satisfaction has been made and the results are shown in output Table – 7. Here in the output table-I, the correlation coefficient between age and satisfaction shows 0.671, which indicates a moderate relationship. Further, the coefficient of determination in this case shows about 95 percent. This model explains the different levels of satisfaction depending upon the variations in age groups. As a further measure of the strength of the model the standard error of the estimate is compared with the standard deviation of age groups reported in the output table-7. The total satisfaction revealed in shape of adjusted R square is 0.450 with a standard error of 23.031, which is much higher with the change in age groups.

**Table—8 : Analysis of Variance (ANOVA) (b)**

a Predictors: (Constant), age
b Dependent Variable: satisfaction
F-F statistic
df- degrees of freedom

The ANOVA Table-8 reports a significant F statistic of 166.2, indicating the significance value zero. That indicate the regression value have a less impact on satisfaction. Further, nearly 80 percent variation has been marked in residuals which are explained by the change in age groups .It signifies that more satisfaction could be expected from beneficiaries as it varies with the change in age groups. So, as per the age groups taken in the study differs with the scale of satisfaction. That does not mean aged respondents are more satisfied on MFIs and younger age groups are less satisfied.

**Table – 9 : Coefficients**

The output Table-9 shows that, determining the relative importance of the significant predictor i.e. age factor, is having a high standardized coefficient Beta value i.e. 0.518 (output table-5). Further, the standard error reveals 0.041, which is very low and significant. So these two variables are more elastic in nature and Beta (unstandardised) values indicate a less value, i.e. 0.636, which means a less satisfaction with the total beneficiary in the SHG in overall.

**FINDINGS OF THE STUDY:**

MFI operations are becoming increasingly beneficiary oriented. The demand for MFIs one-stop integrated financial services is well on the rise. The ability of MFIs to offer clients access to several markets for different classes of financial instruments has become a valuable competitive edge. Convergence in the industry to cater to the changing demographic expectations is now more than evident. Insurance and other forms of cross selling and strategic alliances will soon alter the business dynamics of MFIs and fuel the process of consolidation for increased scope of business and revenue. The thrust on farm sector, health sector and services offers several investment linkages. In short, the domestic economy is an increasing pie which offers extensive economies of scale that only large MFIs will be in a position to tap with the phenomenal increase in the country's population and the increased demand for micro financial services; Speed, service quality and beneficiary satisfaction are going to be key differentiators for each MFI's future success. Thus it is imperative for MFIs to get useful feedback on their actual response time and beneficiary service quality aspects of SHG, which in turn will help them take positive steps to maintain a competitive edge.

**RESULTS FROM THE STUDY OF BENEFICIARIES (SHGS):**

In the study of age wise distribution of male and female beneficiaries, the result showed that out of 400 sample beneficiaries 322 samples have been considered as valid. The following are the results from members of SHGs.

· Out of 322 respondents, 198 are male representing 72% and 124 are female accounting for 28% of the total. Further, as per the age groups mentioned in the table, highest number of male represent by the 35-45 age group followed by 25-35 age group. Similarly, in the female group maximum 67 is represented by 35-45 age groups followed by 25-35 age groups. The lowest number of beneficiaries in both the sex groups are represented the age group of above 65 years.

· In the study of Age and occupation of beneficiaries, it was found that maximum of 115 out of 322 beneficiaries accounted for 35% which are business men and they are mostly the age group of 35-45 years followed by 92 beneficiaries doing other miscellaneous trades representing the age group of 25-35 age. That means younger's are more flexible in their trade and they perform as per the market demand. They change their trade types accordingly to procure more income.

· In the study of age and frequency of visit by the employees of MFIs is more to the age group of 35-45 years followed to the age group of 55-65 years and it is confirmed that they maintain informal relation in business by visiting daily to the SHGs and touch beneficiaries.

· In the study of age and satisfaction level, it was found that the maximum numbers of beneficiaries who feel that high degree of satisfaction are within the age group of 45 – 55 years; where as low degree of satisfaction has been derived among the beneficiaries in the age group of 55 – 65 years.

**RESULTS FROM THE STUDY OF EMPLOYEES:**

The following conclusion was made out of the analysis through various tools and techniques from the employees.

· In the study of age and Occupation type in different MFIs, It was found that the maximum employees are supervisors followed by managers in different MFIs.

· In the study of age and Month income, it was found that the maximum number of respondents belonging to the age group of 35-40 years and their earnings were in between Rs.25, 000- 30,000 p.m.

· In the study of age and year of service with other MFIs, it was found that the employees with age group of 45 and above aged are generally not MFIs professionals and they have not taken their career as bankers before in the MFIs.

· In the study of age and year of service with other MFI, it was found that the maximum of employees i.e. around 51% have served more than 10 years in the other MFIs and the rest 49% of the employees have served in other MFIs for a period of less than 10 years.

In aggregate satisfaction measurement basing on different age groups, regression has been used. The results revealed that, the age factor really has a contribution towards the satisfaction and showed a moderate value. So these two variables were more elastic. That means, respondents have satisfied with moderately on the service quality, technology used by MFIs, service factors and on total quality management of MFIs in aggregate.

**CONCLUSION:**

Eventually, it would be ideal to enhance the creditworthiness of SHG members by the Microfinance Institutions. The MFIs have contributed a lot by capacity building in the areas of financial discipline and social requirements. The present study was to analyze the impact of MFIs on the weaker section of society, in particular SHG members and to evaluate their role and efficiency in the socio-economic developments of the rural beneficiaries with special reference to occupation, caste, age, sex and other variables and also examined the MFIs

through various schemes including the role of MFIs in financing to different category of rural beneficiaries. Further the objective of the study was concluded with the examination of MFI competencies responsible for the success and to make a statistical analysis of the relationship between the groups of beneficiaries and MFI services. Besides expanding their own services, MFIs are also being viewed as potential channels for delivery of other products and services to low income and rural populations.

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# Web 2.0 Tools : A Millennium Tools for Knowledge Sharing in B-Schools

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## Abstract

*The Web 2.0 applications hold weighty potential in education sector because these are open in nature, easy in use and supports effectual association and communication. They change the conventional outlook of human knowledge and unlock more chances in teaching and learning. Now-a-days, countless teachers are exploring the utilization of Web 2.0 tools into teaching and learning. On the other hand, it will not be dubious to say that studies of teacher's perceptions and opinions are critical because they are momentous to the realization of technology innovations. The present study aimed to investigate teachers' use and perceptions of Web 2.0 technologies in teaching and learning. It is anticipated that the result of this study will be endowed with practical information that enables the management faculty to better understand the importance of Web 2.0 tools with teachers and student's use and perceptions of Web 2.0 technologies in teaching and learning. The present paper investigates teachers and student's familiarity with web 2.0 concepts, tools and services and applications related to learning. Management education, is meeting a dual challenge in the rate of acceptance of technology by their faculty and the quick speed of advancement, producing a unique set of challenges.*

**Keywords: -** Knowledge Management, Web 2.0 tools.

## 1. Introduction

Knowledge is one of the most important strategic assets for new generation organization. There is a considerable amount of tacit knowledge which the employees hold, acts as a competitive advantage to the organization. It is a very important study organization to understand the factors which let the employees to share or not to share the imbibed knowledge. This proactive approach leads to implementation of appropriate management practices to encourage attitude which increases productivity, profitability, innovation and organizational competitiveness. In this modern world technology has become a pivot point of success for every organization and especially for educational institutes to provide students and teachers more options and flexibility. Web 2.0 can utilize the educational potential for learning and teaching. This new technology provides an increased emphasis on innovation, interactivity, collaboration, creativity, autonomy and cooperation. To understand this better it is required to explore the potential of using these technology. Web 2.0 refers to an alleged second generation of web-based applications and in meticulous the utilization of the web as a podium for user-generated content and web-based society (O'Reilly, 2005). It focuses on the capability for people to team up

and share information online. Web 2.0 technologies have completely changed access to information and communication which is very important for the success of any organization. It endowed with user-created content platform applications let users to add on to their knowledge in diverse formats like text, data, video and audio.

## 2. Research Objectives

1) To identify the advantages of web 2.0 in B-schools

2) To analyze that whether web 2.0 tools help in knowledge sharing.

3) To analyze the extent to which web 2.0 tools are used in B- schools

   a) To compare the degree to which web 2.0 tools are used by Assistant Professor, Associate Professor and Professors.

   b) To analyze the extent to which web 2.0 tools are used by faculty.

# 3. Research methodology

## 3.1 Data Collection

Sample of 484 respondents (by using convenience sampling) from various B Schools of Delhi to know the role of web 2.0 tools in B-schools has teken for the study. The research design is exploratory design including surveys, fact-findings, enquiries of different kinds. Data for this study were obtained from both the primary and secondary sources. Primary sources include discussion with the faculty of B- schools and filling up of questionnaire designed for the study. Secondary sources include internet, websites of various B- schools, etc. By means of survey and interviews, this exploratory research aims at clarifying the role of Web 2.0 in knowledge sharing in various B- schools of Delhi.

## 3.2 Data Analysis and Findings

1) To identify the advantages of web 2.0 in B-schools

Although the exhaustive literature review gave various advantages of web 2.0, but after pilot study and Delphi method the advantages were reduced to analyze those advantages of Web 2.0 tools, descriptive statistics (using SPSS) is done.

**Table 1**

**Descriptive Statistics**

| Pearson Correlations | | Anytime access as advantage of Web 2.0 tools | Internet in mobile phones of respondents | Std. Deviation |
|---|---|---|---|---|
| Anytime access as advantage of Web 2.0 tools | Pearson Correlation | 1 | .832** | .165 |
| | Sig. (2-tailed) | | .000 | |
| | N | 484 | 484 | |
| Internet in mobile phones respondents | Pearson Correlation | .832** | 1 | .269 |
| | Sig. (2-tailed) | .000 | | .953 |
| | N | 484 | 484 | |
| Interactive user interface | | 2.72 | | .168 |
| Collective intelligence/ Knowledge sharing | | 3.02 | | .766 |
| Storage facilities | | 2.40 | | .978 |

**Interpretation:** The result (Table 1) shows that collective intelligence or knowledge sharing is the most acceptable advantage by Bschools with the highest mean of 3.02. Following it, other advantages are interactive user interface, support collaboration, storage facilities. Although web 2.0 tools have the benefit of anytime access but still not much acceptable as it is only for those having internet facilities in their mobile. This is validated by examining the correlation between the two variables i.e. anytime access as advantage of Web 2.0

tools and whether the respondents have internet in their mobile phones.

H0: There is no correlation between respondents having internet in their mobile phones and anytime access of web 2.0 tools as their advantage.

**Table 2**

**Pearson correlations between anytime access as advantage of Web 2.0 tools and whetherthe respondent have internet in their mobile phones**

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

**Interpretation:** As p value (Table 2) is less than 0.05, null hypothesis is rejected and high correlation of 0.832 can be easily interpreted from table 2.

2 To analyze that whether web 2.0 tools really help in knowledge sharing, Pearson correlation is used.

H0: There is no relation between the use of web 2.0 tools and knowledge sharing

H1: There is relation between the use of web 2.0 tools and knowledge sharing

**Table 3**

**Pearson correlations between Knowledge sharing and use of web 2.0 tools**

| Person Correlation | | Use of web 2.0 tools | Knowledge sharing |
|---|---|---|---|
| Use of web 2.0 tools | Pearson Correlation | 1 | .981** |
| | Sig. (2-tailed) | | .000 |
| | N | 484 | 484 |
| Knowledge sharing | Pearson Correlation | .981** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 484 | 484 |

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

**Interpretation:** As p value (Table 3) is less than 0.05, this rejects the null hypothesis and accepts alternative hypothesis, showing that there is relation between use of web 2.0 tools and knowledge sharing. Also, the Pearson correlation value of 0.981 shows that there is

high correlation between the two and more will be the usage of Web 2.0 tools more will be the knowledge sharing.

1) To analyze the extent to which web 2.0 tools are used in B- schools

To compare the degree to which web 2.0 tools are used by assistant professor, associate professor and professors.

H0: $\mu_0 = \mu_1 = \mu_2$ (Web 2.0 tools are equally used by Assistant professors, Associate professors and Professors for knowledge sharing)

Where $\mu_0$ – Use of web 2.0 tools by Assistant professors

$\mu_1$ – Use of web 2.0 tools by Associate professors

$\mu_2$ – Use of web 2.0 tools by Professors

By applying One way ANOVA, following is the table:

**Table 4**

**ANOVA**

| ANOVA | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 8.944E10 | 2 | 4.472E10 | 434.481 | .000 |
| Within Groups | 4.848E10 | 481 | 1.029E8 | | |
| Total | 1.379E11 | 483 | | | |

**Interpretation:** As p value (Table 4) is < 0.05, this rejects the null hypothesis. This means Web 2.0 tools are not equally used by Assistant Professors, Associate Professors and Professors for knowledge sharing. This can be possible also if one of the cases is not equal. To check this, LSD (Least Significance Difference) is used in Post Hoc test.

**Post Hoc test by using LSD**

**Table 5:**

**Multiple Comparisons using LSD**

| (I) Category | (J) Category | Sig. |
|---|---|---|
| Assistant Professor | Associate Professor | .126 |
| | Professor | .000 |
| Associate Professor | Assistant Professor | .126 |
| | Professor | .000 |
| Professor | Assistant Professor | .000 |
| | Associate Professor | .000 |

**Interpretation:** As significance value (i.e. "p" value) in Table 5 for the group Assistant and Associate professor is greater than 0.05, this accepts null hypothesis; but for other groups p value is less than 0.05, this rejects null hypothesis. This reveals that associate and assistant professor use web 2.0 tools equally but not the professors.

b) To which extent web 2.0 tools are used by faculty

Now the question arises that which category uses more

web 2.0 tools. To answer this, cross tabulation is used.

**Table 6**

**Cross tabulation for category of employee and their usage of Web 2.0 tools**

| Use web 2.0 tools | Category | Assistant Professors | Associate professors | Professors | Total |
|---|---|---|---|---|---|
| Yes | | 189 | 145 | 26 | 360 |
| No | | 15 | 12 | 97 | 124 |
| Total | | 204 | 157 | 123 | 484 |

**Interpretation:** Assistant Professors and Associate Professors are using more of web tools as they are more techsavvy as compared to Professors. In particular, older internet users are significantly less than younger ones. Older faculty (45 years old and older) were generally less comfortable than younger faculty members (ages 21 to 40 years old) with technological learning tools, such as online discussions, course navigation, and presentation software. They were also less comfortable with computer networks and were more accustomed to being isolated computer users. Younger generations have the highest level of comfort with technological tools, mainly with advanced tools like teaching tools, design software and spreadsheets. These results imply that Professors may need more time and clearer instructions when asked to perform an online task which is still outside of their comfort zone; they may also require guidance while navigating a course Web site or participating in a networked environment.

## 4. Conclusion

The growing influence of web 2.0 tools in twenty-first century has brought a paradigm shift for educational Institutes in India. Web 2.0 plays an important role in the strengths of educators by opening the doors to collaboration and participation. It persuades and assists the natural desire to share what you know and to learn from your colleagues. And fully embracing Web 2.0 is a logical extension of the attempts that so many educators have made to use the Internet to connect, collaborate, and create new knowledge. With this it is not dubious to say that web 2.0 tools helps in knowledge sharing or collective intelligence and it is proved in this study too. Although with the advent of IT web 2.0 tools can be used anywhere, anytime with internet activated mobile phones; but still there are some people who do not use laptops (that are portable for 24*7 access of internet) and do not have internet activated mobile phones. For these educators anytime access is not the benefit of web 2.0 tools but still there are educators who get beep on their mobile whenever there is any mail for them and they enjoy connecting to people every time and can share their ideas too. It is analyzed in the study that Assistant Professors and Associate Professors are more techsavvy than Professors. So for many educators, it's an incredibly exciting and knowledgeable time.

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# Relationship Between Employee Engagement and Performance: A Case Study of Health Workers in Tanzania

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## Abstract

*Employee engagement is a mere psychological concept dealing with employee attitudes and behaviours, which in turn encompass job satisfaction, organisational commitment etc. There is no dearth of literature regarding the employee engagement. Many big organizations have their own research regarding this as effective employee engagement is a vital input for delivering best products/services with better cost structure inculcating up dated technologies. Many organizations; public or private treat it as a way to take competitive advantage over others.*

*In a growing economy of Tanzania, a country of East African Community (EAC), employee engagement holds some ground as employees' commitment is required to lift a nation. But irony is that, it is a highly neglected area more particularly in governmental sectors. In this line, this study seeks to develop and examine a relationship of health workers' engagement with their work and performance. The country is facing with the menace of HIV/AIDS. So mainly the health workers working in this field are taken into consideration. A questionnaire tool developed by Healthcare Improvement Project of United States Agency for International Development (USAID) has been used to collect opinion from the respondents.*

**Keywords: -** Employee Engagement, Health Care

## Introduction

Providing quality health care in developing countries is an audacious task due to the dearth of qualified health professionals. Fifty-seven countries have been identified as human resources for health crisis countries (WHO, 2006). With regard to qualified health care workers in rural areas, the supply is less while the demand is high. The HIV menace has further worsened the health systems in Africa. With the availability of anti-retroviral drugs (ARVs), enabling HIV patients to live longer and healthier lives, has become a persisting challenge in Africa.

Many health workers in developing countries are paid less, work in difficult conditions and often denied the necessary training and supplies to perform. As a consequence to this, health workers are becoming demoralized, and may either leave their positions in search of something easier or greener or become disengaged in their work. Traditional approaches to motivating and retaining health workers, such as providing financial and non-financial incentives (e.g. paying higher salaries or providing occasional training), have been shown to have limited impact and do not always result in closing these motivational gaps. Around the world, health care delivery organizations have struggled to implement effective and sustainable strategies against low motivation, poor performance, and high turnover.

Recently, however, the concept of "employee engagement" offers a new way of thinking about managing human resources for health. Engagement has been defined as "a heightened emotional connection an employee feels for his/her organization that influences him/her to exert greater discretionary effort to the work" (http://www.management-issues.com). The Gallup Work Place Audit (1996) defines engagement as "the individual's involvement and satisfaction with as well as enthusiasm for work."

When exploring engagement and its relationship with performance, it is important to differentiate engagement from motivation and job satisfaction. Motivation can be defined as "the willingness to exert and maintain an effort towards organizational goals" (Franco, Benett & Kanfer. 2002). Job satisfaction is often defined as "the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs" (Spector, 1997). While motivation and job satisfaction are both key components of engagement, the concept of engagement also encompasses employees' loyalty, psychological connection and commitment to the organization. In this study, engagement has been defined through a multi-stakeholder process. So employee engagement for health

workers is defined as 'an engaged health worker proactively self-improves and applies their competencies to provide quality services with commitment, ethics and care to achieve organizational goals.'

## Literature Survey

Extensive researches were conducted across the world in service industries and it has shown that if a person is "engaged" in his or her job, he or she performs better, and the productivity of the organization improves significantly (Wellins, Bernthal & Phelps. 2007). In the health care industry, research conducted by Gallup (1996) and other organizations in the US shows that increased engagement among nurses results in increased patient satisfaction, better nurse retention and higher morale, lower avoidable mortality and complication rates, improved clinical measures such as reduced infections and reduced medication errors (Harter, Schmidt & Hayes. 2002). Another study has revealed a positive relationship between unit-level employee engagement and performance measures including customer loyalty, productivity, and patient safety incidents (Harter *et.al*. 2009). Engagement is also linked to improvement on measures of absenteeism and turnover (or turnover intentions), suggesting that enhancing engagement might help health care organizations to improve employee retention (Wellins, Bernthal & Phelps. 2007).

However, there is a lack of operational research on health worker engagement in a developing country context, and its implications for performance and health outcomes remain vague. Majority of research on employee engagement has taken place in high-income countries, and it is unknown whether the outcome can be safely applied in the Tanzanian country context. So it is important to understand how different dimensions of engagement relate to employee performance so that interventions can be developed to help them retain an engaged and productive health workforce.

## Statement of the problem

Given the potential significance of health worker engagement for performance and the absence of research in health worker crisis countries, further research is the need of the hour to examine the relationship between engagement and performance and identify how this knowledge may be applicable to management, development and planning in Tanzania. If, as shown in studies conducted in high-income countries, increased engagement does in fact lead to improved health worker performance, it is essential that tools exist that enable the assessment of health worker engagement that is adequately considers the relevant characteristics of engagement and factors that influence engagement. With this knowledge, Ministry of Health officials, NGOs, site managers and others involved in supporting health providers can focus efforts on improving health worker engagement, which will enable improvements in the quality of care and create a health workforce more inclined to remain in their jobs. The study seeks to fill this gap in knowledge and develop an understanding of health worker engagement by addressing the following research questions:

- What defines health worker engagement?
- How can a health worker's engagement in their work be measured?
- What factors influence the engagement of a health worker?
- What is the relationship between health worker engagement and performance?

## Objectives

*General objective* - The broad goal of this study is to further explore engagement among health workers in Tanzania and to gain a better understanding of the relationship between engagement and health worker performance.

*Specific objective* - To meet the above general objective, the study has three specific objectives:

- To develop a validated tool to measure engagement of health workers
- To explore the relationship between engagement and health worker performance

## Rationale of the study

Given the less popularity of employee engagement in Tanzania, this study seeks to define and measure health worker engagement, factors that influence engagement, and to examine the relationships between engagement and performance among health workers in Tanzania.

Earlier studies have focused either on factors influencing engagement (e.g. Gallup tool) or characteristics of engagement, whilst this study examines both. Previous studies were completed in middle and high income country contexts whilst this will be in a developing country like Tanzania.

The results of this study will have a wide application and be of relevance to all countries committed to strengthening human resources in health sector. This study may have major implications for management and planning, offering a new approach for improving health worker productivity and performance by focusing on engagement of staff.

## Limitations of the study

The study is not free from limitations. The data were collected from the participative health workers only. It means, the workers not willing to participate were excluded from the study. Their views may be different from the participative workers. Again the study is cross-sectional; the actual behavior has not been measured. Had it been, the study would be different. Lastly, the shortcomings of the researcher in different contexts may have limited the study.

## Methodology

The researcher has used both quantitative and qualitative methods to develop a validated health worker engagement tool, and examine the relationships between engagement and performance. The researcher has taken the help of Ministry of Health Officials, NGOs in health sector, and other resource persons having depth in this sector to develop the tool for measurement of employee engagement.

## Tool Development

To explore further, a working definition of health worker engagement was needed and it was developed with the help of literature review and outcome of a meeting of stakeholders in Tanzania in December, 2012. The December 2012 meeting also identified and reached consensus on characteristics of an engaged health worker and factors influencing engagement. The following characteristics of employee engagement for health workers in Tanzania were identified:

### Table 1
### Characteristics of employee engagement

| Professionalism | Involvement | Motivation | Accountability | Dedication | Team Player |
|---|---|---|---|---|---|
| 1. Lifelong learning<br>2. Caring<br>3. Treats patient with dignity<br>4. Ethical<br>5. Not corrupt<br>6. Good rapport with peers and clients<br>7. Trustworthy | 1. Feels there are clear goals and expectations<br>2. problem solves to address challenges<br>3. Contribution to the decision making process | 1. willing to work<br>2. Enthusiastic<br>3. Job satisfaction | 1. Responsible<br>2. Reliable | 1. Devoted<br>2. Loyal to organization<br>3. hard working | 1. Team builder<br>2. Help team member learn and perform<br>3. shares information |

With the help of the resource persons in the above said meeting, the researcher has identified the following factors influencing engagement. The factors were drawn from a detailed list which is in the Appendix 1. Each of the factors was well defined in the light of earlier established literatures and vital inputs from the stakeholders of the 2012 meeting.

1. Health worker's attitudes to change

2. Health worker's knowledge and skills (competencies)

3. Job recognition and reward

4. Job security

5. Job task variety

6. Job work-life balance

7. Job supervision, coaching, mentoring

8. Facility adequacy of resources (HR, equipment, supplies)

9. Facility culture of continuous quality improvement

The engagement tool also included demographic questions and items about health workers' length of employment at the facility. The draft tool, qualitative interview schedules, and questionnaire were reviewed by properly by the subject experts of USAID (United States Agency for International Development). Initially a pilot study was undertaken to know the general applicability of the existing tool. Based upon the feedbacks from the pilot study, the tool was again refined to ensure maximum validity.

After initial validation is complete, the employee engagement tool, interview schedule, and questionnaire were translated into the regional language of Tanzania, i.e. Swahili. The Swahili versions were used for all study data collection. For this, individuals fluent in both English and Swahili helped the researcher. The view from the respondents was again translated into English. Enough caution was followed for this translation process for accuracy.

## Data Collection

Data collectors were trained regarding the *modus operandi* of the employee engagement tool, interview schedule, and questionnaire to gather information on performance indicators. All study tools were tested in the field with the data collectors before study data collection began. Data for the study were collected from six regions of Tanzania (Dar es Salaam, Morogoro, Iringa, Mtwara, Tabora and Kigoma). The said six regions were chosen because of the active health facility of the government/NGOs to arrest or minimise the HIV/AIDS. Each region was selected randomly and in each region, health facilities were selected randomly. It is here the word 'health facilities' is to be defined. Health facilities mean the type, i.e. tertiary hospital, referral hospital, clinic, health center, etc. The trained data collectors visited the selected facilities to distribute the engagement tool and questionnaire and to conduct interviews with the prior consent of the managers of the facilities and health workers. Within each randomly selected facility, health workers representing different cadres were invited to participate in the study and complete a survey. Data collectors tried their best to invite the participation of all

health workers at each facility. The engagement tool and questionnaire are self described and were filled out anonymously by selected health workers. All total 250 health workers were invited to come and fill the engagement tool and questionnaire, but actually 212 turned up.

To supplement further the data collectors had conducted qualitative interviews with 36 purposively selected health workers and management staff (6 per region—1 in a regional hospital, 1 in district hospitals, 2 in health centers and 2 in dispensaries) in order to understand how the relationship between performance and engagement is perceived by different players.

## Findings and Analysis

Data from the engagement tool and the questionnaire were entered into Microsoft Excel database. It was validated by checking a random 10% sample of the electronic data against the original hard-copy questionnaires.

Four key characteristics of engaged health care worker were identified as relevant to facility level performance through Principal Components Analysis and cluster analysis (explaining 50% variance). These included being a change agent (á 0.75), job satisfaction (á 0.72), accountable (á 0.69), and equitable and client centered care (á 0.58). The perceived support health workers felt they received from their immediate supervisor and perceived adequacy of competencies to perform were found to influence engagement. Another factor of perceived adequacy of inputs (resources) was also identified as a potential factor but was not found to influence engagement.

## Figure 1

## Engaged Health Worker Characteristics
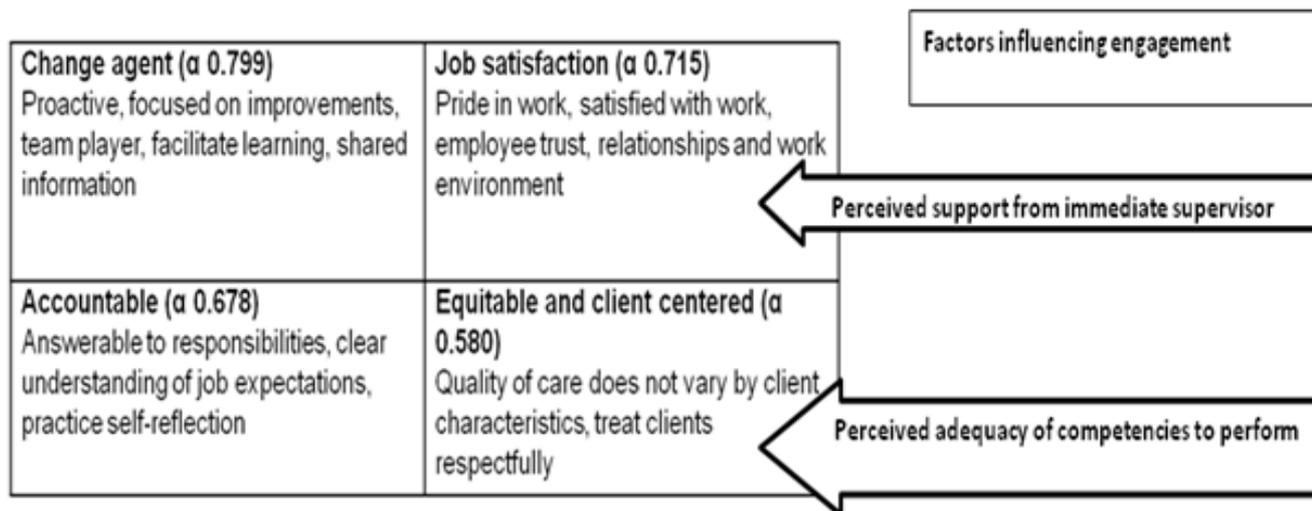


The study proceeds to ask another vital question, i.e. do facilities with more engaged workers perform better?

Cluster analysis found that health facilities that had health workers with below average levels of engagement had three times the proportion of clients that were lost to follow up (35%). These facilities also did not have improvement teams. No relationship was found between health worker engagement and other performance indicators.

## Conclusions

Health worker engagement is a complex construct that is influenced in the Tanzanian context by the perceived adequacy of competencies and support from immediate supervisors. Whilst it is commonly assumed that adequacy of resources may influence engagement this was not found to be the case. Engagement was associated with performance in complex tasks that require additional efforts.

Towards the improvement of health worker engagement, performance and better service

* there is a need to strengthen relationship and feedback between staff and their immediate supervisors

* Enhance on job competence building through peer based strategies

* Limited resources but number of excuse to better performances

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# Book Review

Communication is an important part in the life of a person. Being inevitable in nature, it becomes even more important when we have to communicate in business and corporate scenario. One of the crucial business roles as a manager or an employer is being an effective business communicator either in written, verbal or non verbal communication keeping in mind the courtesy and clarity of language to be used to maintain the effective transfer of information.

This book is a modest attempt for students and employers to understand the basic skills & concepts. The book has been written in a simple language with good representation of letters, notices, departmental communication, etc. The book spreads over 28 Chapters, each having a number of sections & sub sections for clarity and easy understanding by the reader.

The initial unit of the book has been divided into seven chapters. These chapters carry a discussion on the different concepts of English comprehension & other fundamentals of practical grammar. It gives basic overview of English Language so that the people can learn starting from mere basics of English Language.

Unit 2 comprises of 5 Chapters which concentrate on the discussion of the nature of communication, forms of communication along with the media and barriers of communications. Detailed concepts of Proxemics, Chronemics and Paralanguage have also been added. The 7Cs of communication has been well explained in the last chapter of this unit.

Unit 3 of the book discusses various formats of letter writing and different styles to be adopted for the various kinds of letters such as Enquiries, Sales, Complaint, Collection; Employment & Persuasive letters is well explained.

Other departmental communication such as circulars, office orders, memorandum, minutes and agenda have been vividly explained by means of examples and by the use of tables & boxes which have been made for the convenience of students.

Unit 4 of the book explains business etiquettes with respect to the meetings & social environment that are helpful and beneficial both for the students undergoing professional education and also the employers and employees of an organization.

The book is a great effort as far as the compilation and explanation of concepts are concerned. Other than communication skills it explains and focuses on the different concepts of enhancing one's personality.

There has been an additional chapter at the end of every unit which highlights the successful people with a high degree of effective communication along with business and social etiquette. All chapters end with review questions for practice.

This book is an appreciable attempt that has been made to help students, teachers & employers to meet their objective of studying business communication.

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