

# Amity

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*Liabilities and Non-Performing Loans Value Relevance in Emerging Market: The Nigerian Experience*  
Muhammad Yusuf Alkali and Nor Asma Lode

*An Inquiry to the Problems and Prospects of Indo-Bangla Trade in Agartala Land Customs Station*  
Rajat Deb

*Growth of Iron-Steel and Cement Industries: Essential Stimulus for India's Economic Growth*  
Sanjay Kumar Mangla and Naushad Ali Azad

*Relationship between Socialisation Agents and Consumer Decision Making Styles:  
An Indian Teenage Perspective*  
Sartaj Chaudhary and Ajoy Kumar Dey

*Niche vs. Multi-Specialty Firms: A SAP-LAP Analysis of Indian Semiconductor Industry*  
Surabhi Goyal and Anil K. Saini

*Commitment and Business Creditworthiness: A Contemporary Issue Enclosing Retailers Perspective*  
Vipul Chalotra

*Study on Awareness about Agri-Supply Chain Management Among Farmers of Uttar Pradesh*  
Rajendra Kumar

*An Analytical Study on Consumer Preferences towards Private and National Brands in Men's Apparel*  
Arif Hasan and Fayaz Ahmad Nika

*Developing a Causal Linkage between High Performance Work Practices and Employee Engagement*  
Naval Garg

*An Empirical Study on Effects of Globalization on Marketing Strategy and Performance*  
Esha Jain, Manish Madan, Nidhi Gupta<sup>2</sup> and Nitin Goel

*Performance Analysis of Indian Mutual Funds with S&P CNX Nifty Index*  
Inderpal Singh and Kanika Khera

*Decision-Economic Factors and Demographic Factors Influencing the Psychology of Investors  
towards Investing in Gold: An Empirical Study*  
Kanika Marwaha and Sangeeta Arora

#### Book Reviews

- Prof. RNDr. Zdenka Gálová, CSc,
  - Shinu Vig
-

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## ARTICLES

- 1** Liabilities and Non-Performing Loans Value Relevance in Emerging Market: The Nigerian Experience  
*Muhammad Yusuf Alkali and Nor Asma Lode*
- 13** An Inquiry to the Problems and Prospects of Indo-Bangla Trade in Agartala Land Customs Station  
*Rajat Deb*
- 32** Growth of Iron-Steel and Cement Industries: Essential Stimulus for India's Economic Growth  
*Sanjay Kumar Mangla and Naushad Ali Azad*
- 40** Relationship between Socialisation Agents and Consumer Decision Making Styles:  
An Indian Teenage Perspective  
*Sartaj Chaudhary and Ajoy Kumar Dey*
- 54** Niche vs. Multi-Specialty Firms: A SAP-LAP Analysis of Indian Semiconductor Industry  
*Surabhi Goyal and Anil K. Saini*
- 73** Commitment and Business Creditworthiness: A Contemporary Issue Enclosing Retailers Perspective  
*Vipul Chalotra*
- 82** Study on Awareness about Agri-Supply Chain Management Among Farmers of Uttar Pradesh  
*Rajendra Kumar*
- 87** An Analytical Study on Consumer Preferences towards Private and National Brands in Men's Apparel  
*Arif Hasan and Fayaz Ahmad Nika*
- 99** Developing a Causal Linkage between High Performance Work Practices and Employee Engagement  
*Naval Garg*
- 109** An Empirical Study on Effects of Globalization on Marketing Strategy and Performance  
*Esha Jain, Manish Madan, Nidhi Gupta and Nitin Goel*
- 118** Performance Analysis of Indian Mutual Funds with S&P CNX Nifty Index  
*Inderpal Singh and Kanika Khara*
- 130** Decision-Economic Factors and Demographic Factors Influencing the Psychology of Investors towards Investing in Gold: An Empirical Study  
*Kanika Marwaha and Sangeeta Arora*
- 141** Book Reviews
- Prof. RNDr. Zdenka Gálová, CSc,
  - Shinu Vig



# From the Desk of the Editor-in-Chief

India will be the youngest developed nation in 2030 and we foresee a major shift in the paradigms of education and research by 2020 on account of the dynamic social, economic, political and cultural changes which our country is currently undergoing and making its prominent place on the world map. In 1991 when Dr Ashok K Chauhan, Founder President of Amity Universe envisioned India as education power by 2020 and a super power by 2030, nobody imagined that, but today India is emerging as a regional hub of education and is attracting scholars from across the world to pursue higher education. Keeping the progressive scenario in mind, the vision 2020 of India is to conquer the world in the field of education. No doubt, the vision is aspirational but not unachievable. A decade back, countries like China, Korea and Singapore besides few others transformed themselves from developing to advanced economies due to high level strategic planning based on a vision which correlated economic development with the education sector.

During the last two decades, India has achieved the hallmark of low cost yet high quality university education meeting the needs of students at all levels, transforming them into researchers, leaders, entrepreneurs, and executives who are industry-ready. The Universities do not today face the shortage of faculties who are talented and dynamic. The report of FICCI, 2013 states that in less than 20 years, the country has created the huge capacity for a mammoth 40 million students.

However, the other side of the reality is grim and despite the high progress, India's higher education system is in a state of flux. In order to achieve the vision 2030, a systematic planning and approach is required, which unfortunately is yet to be implemented at a larger level. For instance globally popular and proven Choice Based Credit System (CBCS), where a progressive University like Amity has implemented it last year but majority of Universities including the Delhi University is very slow to accept or implement it. No clear guidelines have been framed due to which a lot of confusion and chaos is pervading the young minds. The students are running from pillar to post to understand the CBCS for even the teachers are not having any clarity about the system. The colleges have not come out with the prospectus or a handbook, which clearly shows lack of strategic planning.

The ministry of HRD has been making efforts to implement the new academic system in the country for quite some time. Emphasizing it as a student-centric system, the government opines that that the system will permit the students to undertake multi-disciplinary subjects and complete courses in different institutions. However, keeping the chaos in mind, I believe that it is quite difficult to predict the success of the system. The content will have a serious impact on the education system. The road to meet the vision 2030 is not impossible but requires meticulous strategic planning.

I have an ardent hope that you will enjoy reading all the articles in the current issue and will revert with your valuable comments.

Happy reading!

**Sanjeev Bansal**



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# Liabilities and Non-Performing Loans Value Relevance in Emerging Market: The Nigerian Experience

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**Muhammad Yusuf Alkali<sup>1</sup> and Nor Asma Lode<sup>2</sup>**

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*Nigerian domestic accounting regulation have been disclosing balance sheet items (liabilities (tl), deposit customer liabilities(dcl) and non-performing loans (npl)) before and during transition to IFRS using historical cost and now fair value respectively. Therefore, this paper aims to examine whether tl, dcl and npl are valued relevant at pre and after the transition to IFRS among Nigerian banks. Two modified valuation methods of stock price and stock return models have been employed for this study. The paper is developed using a sample of 15 banks listed in Nigerian stock market whose data have been generated from Thompson Data Stream and hand collected from annual reports of banks under study. The period for the collected data is from 2009 to 2013(5 years) using three years (2009 to 2011) and two years (2012 to 2013) employing panel data for the analysis. Findings revealed that accounting information is value relevant during the two periods. Besides the significant findings of this research to the security market, the literature has provided contribution to a limited market research in African capital market particularly, Nigeria after the IFRS adoption. This paper is the first paper to investigate the association between stock prices and stock returns in among Nigerian banks.*

**Key Words:** *Liabilities, deposit customer liabilities, non-performing loans, NGAAP, IFRS, value relevance*

## INTRODUCTION

The growing complexity of the business environment brought about the greater demand for relevant accounting information by the investors. This gives rise to improvisation and harmonisation of accounting information to meet the demand of these investors. Differences in the disclosure requirement of accounting reporting made it difficult to interpret and compare financial statements of listed firms from different countries (Prather-Kinsey, 2006). Therefore, accounting information needs to be examined and understood by the investors for capital market decisions making. The investors require relevant financial information to take decisions and participate in the financial markets. Information will only be relevant when it explains “stock prices” movement, evaluates the past as well as the future and is presented without any bias (Prather-kinsey, 2006). Banks are considered as the most significant players in the Nigerian capital market because they contribute more than 60% of the stock market. Accounting disclosure could only be relevant if it makes a significant difference in decision making by the investors (Barth, Beaver, & Landsman, 1996).

The financial crisis in Nigeria, especially in the financial market that are attributed to the lack of

transparency, non-disclosures of accounting information, non-performing loans and weak accounting regulations in the banking sector. Weakness of Nigerian domestic accounting regulation contributed significantly to the financial crisis in the country (Mohammed & Lode, 2012). The weaknesses of the regulations caused lack of relevant accounting information to bring in investments and produce quality accounting reporting (World Bank 2011). Larger non-performing loans and liabilities witnessed by the banking industry, led to the fall of the capital market prices. In addition, the default margin loans from the customers form a greater part of non-performing loans in the industry which eventually bring the stock market down in the year 2009. The effect of non-performing loans are considered to be one the leading causes of widespread of the financial crisis and fall in the stock market in the Nigerian financial institutions (ROSC, 2011). The sudden fall of the stock market has made investors lose confidence in the Nigerian capital market especially in the period of 2008 to 2009. . Causing the Nigerian economy to be almost bankrupt (Sanusi, 2012) and become a significant issue in Nigeria (Clementina & Isu, 2014). From the period 2009, the Security and Exchange Commission (SEC), Central Bank of Nigeria(CBN) and Financial Reporting Council of Nigeria (FRCN) other regulatory bodies considered a remarkable steps to improve the disclosure standards and financial reporting in Nigeria.

Table 1 Non-performing loans						
Year	Nigeria	USA	Canada	Australia	UK	Germany
2009	27.6	5	1.3	2	3.5	3.3
2010	15.7	4.4	1.2	2.2	4	3.2
2011	5.3	3.8	0.8	2	4	3
2012	3.5	3.3	0.6	1.7	3.7	2.9
2013	3.2	2.22	Nil	NIL	1.73	NIL

Source: World Bank 2015

the non-performing loans in 2009 caused a drastic fall in the stock market with about 27.6 percent of total liabilities. During the period of 2010 the Central Bank of Nigeria (CBN) made a bail out of banks to the sum of NGN 640Billion (USD1 = NGN156) couple with recapitalisation of few banks in 2010. The non-performing loans dropped down to about 3.2 percent in 2013. From the Table 1, Nigeria has the highest non-performing loans in 2009 to 2011, UK has the highest in 2012 and 2013 Nigeria even though it drops but has the highest percentage of 3.2%.

The financial crisis in the country during the period made investors lose confidence in the Nigerian capital market. In 2010, Foreign Direct Investment in the country became weaker from \$6.9billion in the year 2007 to \$3.94 billion in 2009 as a result of risk perceptions by the investors. The government of Nigeria immediately move for the change of accounting reporting to IFRS for all listed firms by 1st January, 2012. This challenge in the banking sector provides a venue for the change of accounting reporting from domestic standards to international accounting standards (Mohammed & Lode, 2015). Because the banking sector is the most important sector of the Nigerian economy, contributing more than 60% of the capital market (NSE, 2013). According to Dimitropoulos, Asteriou, & Koumanakos (2010) banking sector is labelled to be most heavily regulated industry because of its economic importance to the economy. Banking sector is a principal nervous system moving the economy that has a number of different, yet inter-reliant, components that have significant, efficient and practical functions in the Nigerian economy (Sanusi, 2012). Hence, accounting information in this industry should be the value relevant for Nigerian stock market to perform efficiently (Mohammed & Lode, 2015).

## LITERATURE REVIEW

From the study of capital market research, Landsman (1986) was the first to adopt the balance sheet approach to his capital market research on

pension assets and pension liabilities using balance sheet model. No increase was found in the robustness of liabilities to the capital market. However, Landsman (2007) also review the extent to which capital market research examines how fair value accounting information significantly affects investors. Other studies have used balance sheet components to determine their association with stock prices. For instance, Oliveira, Rodrigues and Craig (2010), consider goodwill and other intangible assets, to be highly value relevant in relationship with stock price. Although, during the transition period from IAS to IFRS, there was no evidence to show any impact of value relevance on intangible assets. It has been shown that there is a positive effect of value relevance to goodwill in the study. But when intangible assets were disaggregated, it was found that there was an increase in the value relevance of other assets, goodwill and R&D.

A number of studies have been carried out on the association of accounting numbers and stock prices, such as Bernard (1994), Francis & Schipper (1999), Landsman (2007), Holthausen and Watts (2001), Kotharin (2001) and Kargin (2013) which also significantly contribute to value relevance studies. From the period 1995 to this period, several scholars used the Ohlson model to test significant association of accounting numbers in various countries' capital market data. Researches on the importance of information in efficient functioning capital markets have long been studied by many scholars (Dung, 2010). Similarly, Kothari (2001), in reviewing the relationship between financial information and capital markets, provides a significant viewpoint of the ideas used in the accounting literature, that gives higher influence to the accounting future in the area of capital market research. In order to improve on capital market research, Beaver (2002) supports five areas of capital market research: value relevance, market efficiency, discretionary behaviour, Feltham-Ohlson Modelling, and analyst behavior, in his study. However, Beaver (2002) states two areas: market efficiency and Feltham-Ohlson model, as the underlying platform that will permit researchers to

organise the role of accounting information in capital markets. For example, investors use financial statements as accounting information for capital market decisions. This accounting information offer investors the needed information to evaluate firms' economic situation and after that allow them to invest in profitable investment opportunities (Zeghal & Mhedhbi, 2012). The relationship between the attributed value relevance and accounting numbers shows that book values of accounting assets and book values of accounting liabilities express accounting information about market values of both assets and liabilities in the (Holthausen & Watts, 2001).

Guy (2010) considered Non-performing Loans (NPLs) to have been used widely in measuring the quality of asset among the financial institutions (lending institutions) and frequently associated with financial crisis and failures in both developing and developed economies. In Nigeria, Adeyemi (2011) reports that failure of financial institutions can also be attributed to non-performing loans which has become a serious concern to the nation. Similarly, Aremu, Suberu, and Oke (2010) identified nonperforming loans as one of the major risk to the bank's profitability in Nigeria. Moreover, Kolapo, Ayeni, and Oke (2012) using Return on Assets (ROA) as dependent variable, discover that, a greater percentage of non-performing loans reduce profitability, also increase in loan losses decreases profitability by a greater percentage and loan and advances also have increases profitability by small percentages in Nigerian financial institutions.

High non-performing assets in the balance sheet represent weakness in the balance sheet, fragility of the banks and poor quality of assets (Paul, Bose, & Dhalla, 2011). Many investors and standard setters argue that fair values loan provide more relevant information about credit losses than historical cost information (Cantrell, Mcinnis, & Yust, 2014). In same way, Drago and Mazzuca (2013) posited that fair value assumptions of loans are value relevant, which shows that fair values estimate have



incremental power in relation to loan book value for banks' stock.

High non-performing assets in the balance sheet represent weakness in the balance sheet, fragility of the banks and poor quality of assets (Paul et al., 2011). Many investors and standard setters argue that fair values loan provide more valuable information about credit losses than historical cost information (Cantrell et al., 2014). In same way, Drago and Mazzuca (2013) posited that fair value assumptions of loans are value relevant, which shows that fair values estimate have incremental power in relation to loan book value for banks' stock. However, Subrahmanyam (2003) states that off balance sheet items and classification of loans depends on the country method of classifying them. He further mentioned that several countries adopted three methods of classifying non-performing loans as, (i) substandard, (ii) doubtful, and (iii) loss loans. These are categories based on their duration of stay with the lenders (e.g., substandard 90 days, doubtful, 180 days and loss, one year or greater).

The Central Bank of Nigeria (CBN) prudential guidelines of 2010 section 12.6 state that; (i) all total loans should be disclosed at the year end and provisions that may arise against the loans; (ii) Non performing the banks shall disclose loans by loan types in the statements of accounting and any percentage to total loans along with particular provision movement under each category; (iii) All non-performing loans should have classifications under each classified category as doubtful, substandard watch list, lost and doubtful (CBN, 2010). Despite the significance of the association between non-performing loans and stock prices and returns in Nigeria, the area has not been explored by researchers in Nigeria. Now that, the failure of financial institutions in Nigeria has been attributed to the weak accounting reporting and non-performing loans will the loan portfolio improve or decreases, as a result, new accounting regulations?

Prior literature provides mixed results on the value relevance of liabilities' components as measured on

the balance sheet, i.e., the net liabilities presented to ordinary shareholders. Balance sheet disclosures on assets and liabilities provide information needed by the investors for decision-making. Section 7 of IFRS 7 stated that firms should disclose accounting information for users of financial statements to examine the importance of financial instruments for its performance and financial positions. Thus, Nigeria, which is the second biggest capital market in Africa after South Africa, expects assets and liabilities to be more value relevant to investors under the new accounting reporting. This can also be further stated that, non-performing loans disclosed under IFRS using the fair value will be more value relevant than non-performing loans under SAS using historical cost.

Non-performing loans disclosed under IFRS using the fair value will be more value relevant than non-performing loans under SAS using historical cost. Thus, value relevance of liabilities can increase or decrease as a result of new accounting regulations depending on the complexity of the number of several factors. But the most fundamental consideration is whether the net benefit from having more disclosure could be positive or negative precisely using IFRS for financial instruments.

Hence, hypotheses for this study are as follows:

H1= *Recognised liabilities, deposit customer liabilities and non-performing loans are more value relevant under IFRS than recognised liabilities, deposit customer liabilities and non-performing loans under NGAAP.*

## DATA AND METHODOLOGY

Data for the study is collected from Thompson Reuters Data Stream and annual reports of firms from the Nigerian Stock Exchange (NSE) Commission for the period of 2009 to 2013. The sample framework comprises of 15 banks listed in the Nigerian stock market within the period of study. The study divides the samples into two periods, 2009 to 2011 (3 years) and 2012 to 2013 (2 years) as in (Kadri, Aziz, & Ibrahim, 2009). The

period 2009 to 2013 is the period of old accounting regime while 2012 and 2013 are the mandatory periods for the adoption of IFRS in Nigeria by all listed companies. Using the two period's, value relevance of accounting information is compared under NGAAP with IFRS.

Two equity valuation models used by James Ohlson (1995) and Easton & Harrisf (1991) are adopted for this study in examining the association between total assets, deposit customer liabilities and non-performing loans with share prices and stock returns in the two accounting regimes. The study using panel data for the period of 5 years using valuation model identify with balance sheet model as in (Barth, Landsman, & Wahlen, 1995 ; Barth, Beaver, & Landsman, 1998) from prior literature. The following model is estimated using either historical cost or fair value. Model for market value of equity for NGAAP and IFRS using dummy variable "0" NGAAP and "1" IFRS

$$MV_{it} = a_0 + b_1tl_{it} + b_2dcl_{it} + b_3npl_{it} + \mu_{it} \text{-----}$$

-----(i)NGAAP

$$MV_{it} = \alpha_0 + b_1tl_{it} + b_2dcl_{it} + b_3npl_{it} + \mu_{it} \text{-----}$$

-----(ii)IFRS

Where,  $MV_{it}$  = market value of firm i at year end t,  $tl$  is the total liabilities less non-financial and financial liabilities for firm i at year end t,  $dcl$  is the deposit customer liabilities for firm i at year end t, and  $npl$  is the non-performing loans for firm i at year end t.

Regression models using non-deflated variables have been proved to provide or cause a problem of scale and heteroskedasticity (Easton & Sommers, 2003). They further argue that deflation by outstanding shares will reduce the coefficient bias of independent variables that will be caused by the bigger firms influence. Therefore, all variables are deflated by the number of outstanding shares at the end of the year for each of the firms as in (Kanagaretnam, Mathieu, & Shehata, 2009; Venkatachalam, 1996). This is because it will confirm the validity of relating R2 to diverse samples (Jing &

Ohlson, 2000). Therefore, a new model using share prices find below for NGAAP and IFRS using dummy variable "0" NGAAP and "1" IFRS

$$P_{rit} = a_0 + b_1t_{lsjt} + b_2d_{clsit} + b_3n_{plsit} + \mu_{it} \text{-----}$$

----- (ii)NGAAP

$$P_{rit} = \alpha_0 + b_1t_{lsjt} + b_2d_{clsit} + b_3n_{plsit} + \mu_{it} \text{-----}$$

----- (ii)IFRS

Where  $P_r$  = price per share for firm i year end t,  $t_{ls}$  = total liabilities per share for firm i year end t,  $d_{cls}$  = deposit customer liabilities per share for firm i year end t,  $n_{pls}$  = non-performing loans per share for firm i year end t.

The coefficients  $b_1$ ,  $b_2$  and  $b_3$ , represent  $tl$ ,  $dcl$  and  $npl$  per shares differences for the NGAAP and IFRS adoption period. Where the coefficient differences are positive or negative, represent increase or decrease in the variable value relevance under IFRS adoption. Barth, Beaver, & Landsman (2001) support that value relevance studies investigate how good accounting numbers needed are reflected in firms' equity market value. However, the study aimed at determining whether accounting information is more value relevant to the adoption of IFRS, therefore,  $b_1$ ,  $b_2$  and  $b_3$  are of particular interest. The assumptions of this study are that, when the coefficients are higher and positive under IFRS then is assumed accounting information is more value relevant. However, if the confidants are negative and lower under IFRS, then information is more value relevant under IFRS.

Therefore, we predict that  $tl$  will be statistically negative under both NGAAP and IFRS while  $dcl$  to be positive. However,  $npl$  is to be negative for both NGAAP and IFRS.

## PRICE MODEL

### Descriptive Statistics

**Panel A** Number of observations (obs) is the number of firm observations for NGAAP 45 and IFRS 30 because of the number of years used in the study. The no is the number of companies (15) used for the

**Liabilities and Non-Performing Loans Value  
Relevance in Emerging Market: The Nigerian Experience**

study. The mean for market value for the year under NGAAP for non-deflated data is (in Nigerian naira (NGN)), (calculated as NGN1 = \$163) 258000 greater than the mean 25700 for the year after the adoption of IFRS. This can be a link to the period in which banks were using creative accounting in 2009 and 2010 in order to have more market value in the market. The minimum on the panel is NGN-32100 and maximum of NGN36700000 for the period under NGAAP is greater than IFRS. Furthermore, under IFRS all independent's variables have higher mean, standard deviation, minimum and maximum than NGAAP. However, standards deviations for all variables are higher than the mean, minimum and maximum provided in the panels

**Panel B** The mean value for share prices value (P) for the year under NGAAP for deflated data is (in Nigerian naira (NGN)), (calculated as NGN1 = \$163) 0.74278 lower than the mean 1.1694 for the year after the adoption of IFRS. This can be a link to the period in which banks share outstanding have increased as the results of government re-capitalisation of assets. The minimum on the panel is NGN-0.37 and maximum of NGN45 for the period under NGAAP, which are greater than IFRS period. In contrast, under IFRS all independent's variables have higher mean, standard deviation, minimum and maximum than NGAAP. However, standards deviations for all variables are higher than the mean, minimum and maximum provided in the panel

**Table 2 Panel A: Descriptive Statistics of Non-deflated Data**

Var	2009 to 2011					2012 to 2013				
	Obs	Mean	Std. Dev.	Min	Max	Obs	Mean	Std. Dev.	Min	Max
Mkt('000)	45	258000	2940000	-32100	36700000	30	25700	119000	-50800	1040000
tl*('000)	45	141000	555000	17	4750000	30	267000	960000	61	7410000
dcl('000)	45	98	345	0.0004	2872	30	122	365	0.0002	2839
npl('000)	45	39200	43100	106	209000	30	5437	11500	23	49700
No	15					15				

Note: mkt= market value 3 month after the accounting period, tl\*= total liabilities less deposit customer liabilities, dcl = deposit customer liabilities and npl = non-performing loans. The amount is in Billion Nigerian Naira (NGN). The exchange rate is USD1=165NGN. Number of observations from 15 banks for three years is 45. From the sample it can be confirmed that some aspect accounting system in Nigeria show that banks are relatively small than developed countries.

**Panel B: Descriptive Statistics of Deflated Data**

Variable	2009 to 2011					2012 to 2013				
	Obs	Mean	Std. Dev.	Min	Max	Obs	Mean	Std. Dev.	Min	Max
Price('000)	45	0.74278	4.0495	-0.37	45	30	1.1694	5.41138	-12.1	34.6
tl*('000)	45	3.77684	9.65536	0.00251	46.7071	30	5.95048	16.6302	0.0006	93.6033
dcl('000)	45	0.00426	0.01018	0.000915	0.06236	30	0.00524	0.015	0.000153	0.12943
npl('000)	45	2.53007	3.09366	0.00414	13.3158	30	0.25615	0.6154	0.00065	2.93691
No	15					15				

Note: Price per share= market value divided by the number of outstanding shares 3 month after the accounting period, tl\*= total liabilities per shares less deposit customer liabilities items, dcl = deposit customer liabilities and npl = non-performing loans. The amount is in Billion Nigerian Naira (NGN). The exchange rate is USD1=165NGN. Number of observations from 15 banks for two years is 30. From the sample it can be confirmed that some aspect accounting system in Nigeria show that banks are relatively small than developed countries.

**Liabilities and Non-Performing Loans Value  
Relevance in Emerging Market: The Nigerian Experience**

**Correlation Matrix**

Table 2 correlation test performed for the non-deflated variables between market value, total liabilities, deposit customer liabilities and non-performing loans values are significantly and negatively correlated under both NGAAP and IFRS. All variables of less than 0.9 correlations have been considered to have a perfect correlation by Hair et al. (2007). In addition, Pallant (2011) argues that 0.9 and above between variables to be highly correlated. In this case, Table 1 is the correlation of matrix for the non-deflated data showing that all variables a negatively correlated with share prices as well as correlated with positively wit the exception of dcl to npl. The table also have shown that all variables are below the threshold of 0.9

Table 3 Correlation matrixes under deflated variables price per share, total liabilities per share, deposits customer liabilities per share and non-performing loans are correlated with each other. The

negative correlation with price is found on total liabilities per share and non-performing loans, while deposits customer liabilities have a positive correlation but negative correlation with total liabilities per share and non-performing loans per shares. All variables are correlated with each other below the maximum threshold of 0.9. In fact, the maximum in the table is 0.582.

**Skewedness**

In Table 5, the data under non-deflated data is skewed between 2 to 7.01 under NGAAP while under IFRS it is skewed between 2.8 to 12. However, under deflated data the skewedness of data under NGAAP is between 0.888 to 8.9 and 3.40 to 6.11 under IFRS. With log data, the skewedness changes in all the variables. The skewedness changes from minimum of -1 to +1 under NGAAP and -0.46 to +1. Kadri et al. (2010) stated that, normal data is skewed between -1 to +1. This proves that the data is normally distributed for regression analysis.

**Table 3: Pearson Correlations for Non-deflated Data**

Var	2009 to 2011 NGAAP					2011 to 2013 IFRS			
	P	tl	dcl	npl	Mkt	TI	dcl	npl	
P	1.000				1.000				
TI	-0.5502	1.000			-0.281	1.000			
dcl	-0.0275	0.0048	1.000		-0.0771	-0.0459	1.000		
npl	-0.5892	0.4299	-0.0537	1.000	-0.1307	-0.1611	0.0234	1.000	

Note: under NGAAP and IFRS all variables are negatively correlated to each other

**Table 4: Pearson Correlations for Deflated Data**

Var	2009 to 2011 NGAAP					2011 to 2013 IFRS			
	P	tl	dcl	npl	Mkt	TI	dcl	npl	
P	1.000				1.000				
TI	-0.1245***	1.000			-0.3007***	1.000			
dcl	0.007**	-0.1323	1.000		0.0732**	-0.2003	1.000		
npl	-0.0303*	-0.1599	-0.0233	1.000	-0.3239*	0.0311	0.2932	1.000	

Note: Under NGAAP and IFRS all variables are negatively correlated to each other, except dcl that has positive correlation with price. \*\*\* indicates coefficient is significant at <1% level (two tailed), \*\*indicates significant at <5% level (two tailed), \* indicates significant at <10% level



Liabilities and Non-Performing Loans Value  
Relevance in Emerging Market: The Nigerian Experience

Table 5: Skewedness

Period	2009 to 2013 NGAAP				2012 to 2013 IFRS			
	mkt	tl	dcl	npl	Mkt	TI	dcl	npl
Non-defl.	4.4	7.01	6.7	2	12	6	5.3	2.8
Defl.	8.9	2.95	3.73	1.88	4.3	3.45	6.11	3.4
Log Data	1	0.57	0.46	-1	1	0.43	-0.46	0.33

Note: all variables under NGAAP have positive skewedness equal to or less than +1 with a negative skewedness under NPL of -1. Under IFRS is also skewed from -0.46 for dcl and with the largest positive of +1

Table 6: Multicollinearity

Variable	NGAAP		IFRS	
	VIF	1/VIF	VIF	1/VIF
TI	4.14	0.24133	1.77	0.56352
Dcl	4.13	0.24225	1.73	0.579574
Npl	1.04	0.96247	1.06	0.946167
Mean VIF	3.1		1.52	

Note: vif factor is below far below maximum of 10 which is regarded as severe multicollinearity in both NGAAP and IFRS

### Multicollinearity

A variance factor with VIF greater than 10 indicates higher collinearity (Gjerde, Knivsfla, & Sættem, 2011; Kargin, 2013). In addition Kennedy (1992) reports that VIF score of 10 is an indication that there is a severe multicollinearity case. Table 6 do not represent any multicollinearity problem, as the data fluctuates within the range of 1.04 to 4.14 in the two periods.

### Regression results and discussion

The study uses Panel data using STATA 12, as econometric interactive test software for data analysis. The software performs regression tests; Ordinary Least Square (OLS), fixed effect and random effect regressions tests, for analysis between dependent and independents variables. However, common problems do exist of heteroskedasticity when using OLS panel data that has been taken care off by doing the robust test as in (Dosamantes, 2013). Therefore, three competing models of pooled

regression (OLS), random effect and fixed effect models are employed for the study.

Table 7 summarizes findings from the price model using pooled regression (OLS), random effect and fixed effect models using columns to reports for tl, dcl and npl.

First, we try to find the appropriate model between FE and RE under NGAAP by regressing the two models. Hausman test was employed to find the most suitable model. For the null hypothesis to be accepted under Hausman, the value of P should be lower than 0.05 for FE. The result of Hausman test of 0.3094 shown that the null hypothesis: a difference in coefficients not systematic is to be rejected, and alternative hypothesis is accepted. Another test was conducted to compare RE and OLS models that are to be considered appropriate for the study. The test for Breusch and Pagan Lagrangian multiplier (LM) for a random effect provide 0.3048, confirming that OLS was most suitable for the study. For the hypothesis to be accepted the P-value under LM test

Liabilities and Non-Performing Loans Value  
Relevance in Emerging Market: The Nigerian Experience

should be lower than 0.05 ( $p < 0.05$ ). However, OLS robust standard error analysis was conducted to remove heteroskedasticity as in (Ahmed & Ismail, 2014; Dosamantes, 2013), even though the White (1980) test provides value on heteroskedasticity of 0.0154 in the data before robustness. The result reported before robust standard error under pooled OLS has shown a slight increase in tl with decrease in dcl t values. In other way, npl that has not been significant latter become significant after the robust standard error. Secondly, ever under IFRS fixed effect model was found to be more appropriate for the study.

R<sup>2</sup> for the model is measured to find if models have a significant statistic for the study. The coefficients measure the statistical significance of the relationship that may exist between dependent and independent variables. The t-statistic indicates power of the association between the dependent variable and explanatory variables.

We find that total liabilities, deposit customer liabilities, and non-performing loans value coefficients to be statistically significant for all the samples. However, Kargin (2013b) stated that when coefficient is positive there is an increase in value relevance of accounting information, but if coefficient has negative sign then there is a decrease in value relevance of accounting information. In this case, coefficient  $\beta_1$  under NGAAP is statistically significant but with a negative sign of 0.1706 (at 1% level) and under IFRS the coefficient reduces by provide statistical negative significant of -0.527 (at 5%). On the other hand, under IFRS value relevance of accounting information is lower than under NGAAP. The coefficient  $\beta_2$  has a statistical positive significance of 0.022 (at 10%) under NGAAP, showing lower value relevance of accounting information with also statistical positive significant coefficients of 0.351 (at 5% level) under IFRS, demonstrating more value relevance increase under IFRS. Despite the fact that dcl formed part of tl yet it

Table 7: Regression Analysis

	NGAAP OLS			IFRS FE		
	Coef.	t	P	Coef.	t	P
Mkt						
Cons	0.759	6.82	0.000	-0.494	-0.94	0.361
TI	-0.170***	-6.84	0.000	-0.526***	-3.65	0.003
Dcl	0.021***	5.72	0.000	0.350**	2.71	0.017
Npl	-0.017**	-1.92	0.062	-0.120*	-1.83	0.088
No. obs	45	45	15	30	30	30
Fi	15	15	15	15	15	15
R sq	50					
Hausman	0.3094			0.0003		
LM	0.3048					
R-sq: within	37			41%		
Between	54			66%		
Overall	50%			64%		

Note: \*\*\* indicates coefficient is significant at <1% level (two tailed), \*\* indicates significant at <5% level (two tailed), \* indicates significant at <10% level



provide a positive significant statistics. One thing to note is that dcl is negatively correlated with share prices, but because the data is transformed to its natural log (ln) the sign changes to positively significant. However, coefficient  $\beta_3$  under NGAAP has negative significance coefficient of 0.017 (at 10% level) while under IFRS coefficient  $\beta_3$  has also a negative statistical significance of -0.120 (at 5% level) lower than under NGAAP. The R2 from OLS under NGAAP provide 50% while, under IFRS, a higher R2 of 64% is provided. Given that there is an increase in R2 under IFRS, demonstrated that value relevance of accounting information is statistically more significant under IFRS. In overall, the value relevance of accounting information under IFRS is more value relevant using price model. This argument is supported by (Hellström, 2006; Kadri et al., 2009).

## CONCLUSIONS

The value relevance of liabilities, deposit customer liabilities and non-performing loans over two accounting regimes are most relevant studies conducted in market research. For instance, Barth & Clinch (1996) in their study provide evidence of change in the components of assets and liabilities under Canadian and US accounting regulations. We find that total liabilities, deposit customer liabilities and non-performing loans to be value relevant during the NGAAP and IFRS period in explaining market prices and returns. Deposit customer liability provides a positive significance association with stock prices under the two periods. In overall, the findings of the study have shown significant statistical relationships between accounting numbers with stock prices from the R2 provided in the study. The negative variables are telling us that, they are negatively related to stock price. It further tells that the higher the t1 and dcl the most risky it is for the banks. The R2 from the model provide a better explanation of the variation of stock prices during the two periods.

The findings of our study will have a significant contribution to the capital market research that is lacking in emerging markets. In addition, it will provide implication for both accounting research and practice especially in Nigeria with very limited study. Furthermore, our significant contributions to the growing literature are on the total liabilities, deposit customer liability and non-performing loans association with stock prices and stock returns particularly in emerging markets. Moreover, the paper record that accounting numbers provide information on the value relevance of accounting information in Nigeria, second largest capital market and the fastest growing economy in Africa.

We find that liabilities and non-performing loans have negative significant with stock prices over the two periods. The value of R2 from stock price model is higher under IFRS with 64% and 50% under NGAAP. The fall of the stock market is attributed to too much liability, deposit customer liabilities and non-performing loans as reported before the adoption of IFRS by the World Bank in 2011 and CBN 2011.

This study is faced with limitations of using few financial institutions (banks) listed in Nigerian stock market. The study focused on the liabilities, deposit customer liabilities and total non-performing loans. There is another aspect of loans such as loans and advances, loan loss provision, classified loan and total loan deposit with non-performing loans to be measured with stock prices and returns.

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# An Inquiry to the Problems and Prospects of Indo-Bangla Trade in Agartala Land Customs Station

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*The objectives of this study are to report the perception of the respondents about the problems and prospects of cross border trade in Agartala Land Customs Station (LCS). A Schedule comprising 35 questions with personal interview has been used to collect the data with a sample size of 150 respondents consisting of 100 exporters-importers and 50 laborers from Agartala LCS using different non-probability sampling techniques. Different statistical tests like Factor Analysis, Descriptive Statistics, Student's t-test and Pearson's Chi-square test has been performed to assess the support for the hypotheses. Through factor analysis, five major factors are extracted. Based on such factors, Student's t-test and Chi-square test are carried out. The findings indicate that the Agartala LCS is a modern LCS having latest technologies but lacks basic amenities. Lack of sufficient place for loading-unloading and parking, traffic jam, delayed clearance of consignments, revenue losses during temporary suspension of trade due to political disturbances in Bangladesh, unprecedented conflict between BSF and laborers are the major problems. It suggests that the basic infrastructure needs to be improved; problems of parking and loading-unloading space, traffic jams, and high duties should be solved for accelerating the cross border trade and smooth functioning of LCS. The results indicate for the improvement of basic infrastructural facilities and for prompt amendment in some key policies affecting the bilateral trade.*

**Key Words:** Border Security Force (BSF), Factor Analysis, Indo-Bangla trade, Land Customs Stations (LCS), Pearson's Chi-square test and Student's t-test.

**JEL Classification:** C83, C88, F1, F2, F10, F18, F40.

## INTRODUCTION

India and Bangladesh have always shared strong cultural, linguistic and geographical ties. In their bilateral trade too, they have been natural markets for each other. However, there have been much concern related to this bilateral trade and initiatives have been taken time and again to increase this trade flow. India and Bangladesh offer natural markets for each other's export products. In their mutual trade, they enjoy the advantages of reduced transaction costs and quicker delivery due to geographical proximity, common language and a heritage of common physical infrastructures. A casual glance at the regional map will show that Bangladesh is India-locked while the North-East India (the so-called seven sisters and Sikkim) is Bangladesh-locked (Inoue et al., 2004). Mehta (2003) states that while Bangladesh does have good access to the sea, the North-East India has few realistic options to break out of its land-locked status. The principal features of India-Bangladesh trade relations are as follows: First, India is one of the most important sources of imports of Bangladesh, i. e. 1112 percent of Bangladesh's total imports (legal and official imports) originate in India. Secondly, there is a very large illegal trade; illegal imports are estimated to be almost as large as legal imports and illegal exports are small. Legal and illegal imports most probably tantamount to more than 20 percent of total imports of Bangladesh. Illegal trade is encouraged by an easy



access across long common borders; tariffs and non-tariff barriers, including cumbersome customs procedures for legal imports, make illegal trade attractive; the risk premiums and transaction costs of illegal trade seem to be outweighed by restrictions on and transaction costs of legal trade. In the globalized world, country borders ought to be arbitrary lines on the map. But Anderson & Van Wincoop, (2001) have shown that informal trade barriers still do exist and inhibit trade flows, particularly so in the developing countries. This can arise due to a host of factors such as, complex customs procedures, which sometimes are changing, capacity constraints given limited facilities and/or corruption at the border.

India's comparative advantage in the Bangladesh market started asserting itself and Indian exports registered unprecedented growth (Sikdar et al., 2006). Bhattacharyya (2004) states that, Indo-Bangla trade has been lopsided and tilted highly in favor of India over the years. In spite of several attempts made by both trading partners to reduce the trade gap, it remains a mirage. Indo-Bangla trade has been hovering at around USD 1 billion over the years, even after the conclusion of three rounds of Preferential Trading Arrangements (PTAs) under the aegis of South Asia Preferential Trading Agreement (SAPTA). Kabir (1988) has found that Bangladesh's export and import demands are exchange rate inelastic while income elasticity is greater than unity. Lawless (2013) shows that experience in geographically nearby markets increase the probability of entry into a market and reduce the probability of exit. Moreover, the volume of trade (once trading) is determined by variable costs which, in the context of international trade, will typically depend on distance.

The Land Custom Station (LCS) at the India-Bangladesh Border at Agartala has a large facility providing transit, customs and immigration and cargo handling services for goods and passengers traveling between Bangladesh and North-East India. The central architectural concept for the LCS centers on the idea of the Portal. Akhawara LCS is the second

biggest land port along the Bangladesh border after the Petra pole-Beanpole check post in West Bengal. It is one of the most important international trading land ports in eastern India, with an average of 200 Bangladeshi trucks loaded with goods entering Tripura every day. Customs and immigration facilities, weigh bridges, security and scanning equipment, currency exchange booths, internet facility, cargo process building, cargo inspection sheds, warehouse and cold storage, health and quarantine facilities, clearing agents, banks, scanners, closed circuit televisions, public address systems, isolation bay, parking, cafeteria, hotels and other public utilities are available in Agartala LCS. The principal items of export-import through Agartala LCS include rice, readymade garments (RMG), jute, tea, other agriculture products, livestock, fish, dry fish, cement, rod, forestry, beverages, biscuits, potato chips, wood and wood products, paper and paper products, leather, chemicals, non-metallic minerals, plastic and bamboo made products and so on. There has been a massive expansion of border trade between India and Bangladesh through Tripura. Our neighboring country exported goods worth INR 2450 million along Tripura frontiers in 2012-2013 (Statistical Survey, Govt. of Tripura). But after its inauguration in November, 2013 some of the major problems have crept out ranging from temporary suspension of trade to lack of parking space, insufficient space of loading-unloading, dumping ground and even the shortage of basic amenities for traders and laborers. This paper tries to address these pertinent issues and to find out the permanent solution.

## REVIEW OF LITERATURE

The relevant volume of empirical research on the Indo-Bangla trade conducted on the problems of LCS is very less in number although studies have been conducted on the other aspects of such trade. Some of the relevant literature on such dimensions has been studied and the findings are incorporated in this review of literature section chronologically for the construction of questions of the schedule-the

tool for data collection of the present research problem.

### • *Pre-2000 Studies*

Maniruzzaman (1975) indicates that smuggling of raw jute to India since immediately after independence borders with India are visually open, the Bangladesh government's decision to withdraw ban on raw jute export to India on First January, 1972 provided a free hand to smugglers in illegal trading of not only raw jute but other goods as well. In addition to smuggling, following independence right through to the end of 1974 for these reasons a series of acts of sabotage took place in Bangladesh, most of which centered around jute mills and jute go downs (warehouses). Ahmed (1983) finds that fires in the jute ware-houses became a dally affair causing further reduction in the level of jute exports. Chaudhari (1995) has made an attempt to measure the extent of informal trade between the two countries. Bakht (1996) has considered the composition of cross-border illegal trade. Hossein & Rashid (1999) highlight the economic as well as political nature of the bilateral trade deficit problem. They conclude on the basis of Revealed Comparative Advantage (RCA) indices that the two countries are at a similar level of development. But the authors show that despite this observed structural similarity, the sharp devaluation of India's currency aided by various non-tariff barriers has caused a huge deficit for Bangladesh in their bilateral trade. In their opinion, this deficit is a matter of serious concern, as it creates a sense of deprivation in the mind of the smaller country and the consequent mistrust between the two countries imperils the goal of regional cooperation.

### • *Post 2000 Studies*

Rahman (2000) observes that the issue of bilateral trade deficit is important for its political and economic implications and solicits cordial cooperation between the two countries for improvement of the situation. Eusufzai (2000) considers the India-Bangladesh trade deficit in the

context of trade between a small country and a large neighbor. He argues that the trade liberalization of Bangladesh and the persistence of non-tariff barriers by India heighten the possibility of an increasing trade deficit that may cause de-industrialization and increased unemployment in Bangladesh. On the basis of their primary survey; Taneja & Pohit (2000) conclude that Bangladesh has a deficit with regard to informal as well as formal trade. Roy and Chakraborty (2000) locate the comparative advantages of India vis-a-vis Bangladesh. In their paper, they have developed three linear programming models, which maximize foreign earnings of India and Bangladesh at given world prices subject to material balance and factor endowments of the economies. This is in the same line of thought as Ten Raa and Chakraborty's (1991). But although Roy & Chakraborty (2000) have made some humble attempts, a more comprehensive approach towards the analysis of the possibilities of bilateral trade between India and Bangladesh is still lacking. Taneja (2001) finds that most of the items that enter illegally from Bangladesh to India are of third country origin and traders use this channel to evade the high tariff and trade restrictions that are imposed on these goods by India. With India's liberalization of trade, these goods will enter India directly from the producer country and, as a result, Bangladesh's informal trade deficit is likely to increase further. Bangladesh and India have also substantial informal trade on account of the large porous border between the two countries. Sobhan (2002) reports that the small figure of Indian exports of other agriculture to Bangladesh as revealed by the actual or observed trade figures in contrast to the free trade figures can be explained in terms of the existence of a high tariff on Indian fruits and vegetables imposed by Bangladesh (at over 40 percent level). Similar such import restrictions are also applied to Livestock exported from India. Thus, with free trade, livestock exported from India to Bangladesh will obviously record a manifold increase. This is, however, desirable in view of the fact that currently 1.5 million Indian cattle per annum are informally imported into Bangladesh.



Sawyer & Sprinkle, (2004) document that the importance of intra-industry trade is increasing throughout the world and hence it is also relevant in the context of Bangladesh-India bilateral trade. The existence of a long common border between the two countries enhances the possibility of intra-industry trade between them. Furthermore, intra-industry trade does not require complete specialization in the production of a final good on the part of a country, so even a less developed country can take advantage of intra-industry trade to expand its export volume. One major factor contributing to the fall in raw jute export was the large scale. Rahman (2005) argues that the bilateral trade deficit is important from the viewpoint of regional integration of South Asian Countries. He shows that like trade in commodities, there is also a deficit in trade in services, particularly in education and health. Bangladesh and India have also substantial informal trade on account of the large porous border between the two countries. De & Bhattacharyya (2007) suggest that trade liberalization is a necessary condition, but not a sufficient one. To achieve any substantial progress in bilateral and regional trade among the countries in South Asia, the utmost priority should be given to developing infrastructure facilities. Added to this, complementary policy reform in the transport sector, accompanied by improved procedural and operational efficiency, is essential to support trade liberalization in South Asia. Sengupta (2007) reports that, opening up of trade further by giving duty-free access to Bangladesh's exports is one important way of bringing about closer economic ties that could help in tackling other bilateral issues. The intensity of trade relationship between the South Asian countries with special emphasis on India is analyzed. Bun, Klaassen, & Tan (2007) show that an enormous increase in bilateral trade flows is not merely driven by economic growth of this region, but is in fact a consequence of its regional integration policy. Raghuramapatruni (2011) based on a Revealed Comparative Advantage (RCA) index, identifies potential commodity groups that could contribute toward enhancing regional trade flows in

South Asia. Hussein (2013) concludes that, though trade is an economic issue but it may also come under the influence of different approach to deal with Bangladesh. In all accounts India is one of the largest sources of Bangladesh's import while its export trade with India is a meager one. The Bangla-India trade is characterized by both formal and informal trade in an increasing rate. Rapid and significant import liberalization policy of Bangladesh has been responsible for sharp increase in Indian legal and illegal imports to Bangladesh. Ahmed (2013) finds that, it is not merely the volume and value of trade but also the composition of trade that is problematic. Bangladesh's exports to India are mostly primary products (raw jute, jute goods, fish, mineral distillates, and fruits are the top five exports), but its imports have a more diverse structure (cotton products, vehicles, machinery and appliances, electrical equipment, and organic chemicals). It is noteworthy that while more than 90 percent of Bangladesh's exports to other countries consist of manufactured products, its exports to India reflects a completely different picture. Basher (2013) indicates that no wonder that Bangladesh's export to India, although increasing over time, is still very meager. In fact, the low level of intra-regional trade is a unique phenomenon of South Asia, which coexists with increased integration of the region with rest of the world, and identified as the South Asian Conundrum. He adds that the economic structure of India is different from that of the other main export destinations of Bangladesh. As a result the kind of Bangladeshi products which are in demand in western countries differs from that which are in demand in India. Based on the labor intensity of country's merchandize and service export, Bangladesh can be characterized as a labor exporting country. Rashid (2013) documents that, although India has granted Bangladesh duty-free access to all items except tobacco and liquor; there exist several types of duties. Altogether it comes to around 15 percent and this discourages the Indian importers to buy goods from Bangladesh. Furthermore, Bangladeshi

exporters often face a serious problem because of the non-acceptance of test certificates issued by Bangladesh Laboratory for certain products like soap, jamdani saree, RMG and food products. In the absence of testing facilities in the locality, the samples are sent to far away laboratories (even to Chennai) and such lengthy process impedes growth of Bangladesh trade with India. Roy (2013) concludes that, no relationship of India with an immediate neighbor is as complex as it is with Bangladesh. In an era of globalization marked by a phenomenal growth of science and technology, Bangladesh and India cannot lag behind. Khan (2014) suggests that, there is an urgent need that more LCSs be established to facilitate smoother trade transactions. Basic infrastructure facilities like warehousing and storing facility, road connectivity etc. has to be properly developed. Proper banking facilities particularly letter of credit facilities have to be further strengthened. It is quintessential for improving trade ties that both India and Bangladesh that they should disassociate its trade ties from political logjam like boundary dispute in form of enclave's issues or water sharing issues. Most importantly the bilateral trade agreements which have been entered into between India and Bangladesh should be implemented in letter and spirit; and they should not be just paper tiger or rhetoric.

## RESEARCH METHOD

This section attempts the rationality and scope of the present research, research objectives, research design, data collection and schedule design, sampling design, instrumentations and procedures are included in the discussion.

**Period of Study:** May-June, 2014.

### **Rationality, Scope and Impact of the Study**

The present study attempts to add a new vista into the domain of existing literature of Indo-Bangla bilateral trade. The prior literature indicate that several studies like composition, volume, direction, impact of foreign trade policy, free trade and the like

has been carried out by the researchers worldwide but no such attempt so far been made about the problems and prospects of Indo-Bangla trade through Agartala LCS. It motivates the researcher to take this relevant problem to unearth the causes of problems of Agartala LCS and to suggest a robust permanent solution.

The purpose of this study is to report the problems causing frequent halt of cross border bilateral trade through Agartala LCS and their probable solution to all the stakeholders in general and importers-exporters, laborers and policy makers in particular. The study is confined with the respondents-importers-exporters and laborers to assess their perceptions about the problems and prospects of doing bilateral trade through Agartala LCS.

### **Research Objectives**

The objectives of the present study include:

- To analyze the perception of the respondents about their problems in doing cross border trade in Agartala LCS.
- To suggest the ways of proper managing of trade.

### **Research Design**

Exploratory research design is used in this present study to obtain insights into the different aspects of the problems of bilateral trade through Agartala LCS and strategies to resolve the same. Survey approach is used as it is suitable when a researcher is trying to obtain a broad and representative overview of a situation (Fisher, 2007). The choice of the suitable survey method depends on the context of the specific research and the advantages of the chosen method over the other options (Malhotra, 2010; McDaniel & Gates, 2010). Fixed alternative questions are used as it is easier for the respondents to answer and it enabled comparability of answers, facilitated coding, tabulation and interpretation of data (McDaniel & Gates, 2010; Hair, Black, Babin, Anderson & Tatham, 2010). In order to minimize the risk of comprehension and ambiguity problems,

definitions of key question concepts are made available to the respondents especially it translated into Bengali to the laborers for their easy understanding; as suggested by Peytchev, et al. (2010).

Firstly, to carry out the study, all the importers-exporters and the laborers of Agartala LCS are assumed as the study population of which 100 importers-exporters and 50 laborers are selected with Roscoe's (1975) rule of thumb, which states that taking any sample between 30 and 500 is adequate; which is also recommended by Tabachnick & Fidell, (2013); MacCallum, et al., (1999). The sample has selected with the mix of different non-probability sampling techniques like Quota, Judgmental, Convenience and Snowball; as suggested by Green, Tull and Gerald (1999).

Secondly, In the light of the stated objectives of the present study and insights from prior studies, a schedule is developed with 45 items and a protocol interview has conducted with 15 potential respondents to carefully assess their understanding of the questions and doubts are clarified as per their query as suggested by Diamantopoulos et al. (1994). There after a pre-test with a small group of respondents (20) is conducted as suggested by Zikmund & Babin (2012) to check for clarity of questions, relevance and completeness. Protocol interview and pilot study is conducted to know whether the items and the underlying construct used are (1) important, (2) measurable and (3) feasible to accomplish. From the 45 items generated through literature survey, total 35 items are retained for the final survey. Results of the pilot survey also have given good indication of how the model could emerge in the larger study. Further, a little modification to the schedule content, format and wording is made based on the outcomes of the pre-test.

Finally, the eventual sampling is selected on the basis of Quota, Judgmental, Convenience and Snowball sampling. At this stage a base of 100 has been taken into consideration as it is very difficult to

know the exact number of exporters-importers and laborers. Further, it is difficult to collect data from each and every trader and laborers hence on the basis of 2:1 ratios between traders and laborers the study is carried out i.e. 100 traders and 50 laborers.

The data collected through questionnaire have been further processed by using SPSS (Statistical Package for Social Sciences)-20. The statistical tools used for the purpose of data analysis are Factor Analysis, Student's t-test and Pearson's Chi-square test.

### Measures

A close ended schedule with a 5 point Likert scales has been used for analyzing the perception of the respondents. The 5 point scales in the schedule ranging from strongly agree (1) to strongly disagree (5) is used. According to Cooper (2000), this type of scale is considered to be an interval scale. The study has revealed that majority of the respondents are men (97 percent), in their middle age (42.50 percent), having education up to Madhyamik (57 percent), General (48 percent) and married (83 percent). Most of the respondents believe that the time for clearing shipment is delayed after LCS starts functioning (2.9691) while least number of respondents perceive that there should be more bank branches and ATMs (2.9597); further they believe that the amount of levy has increased in LCS (2.8255), Govt. of India promotes foreign trade (2.8054), the parking space is very small (2.6514), Agartala LCS is equipped with latest technology (2.5302), Govt. of Tripura is showing positive attitude to promote bilateral trade (2.4564), there is a shortage of basic amenities (2.4430), the loading unloading space is insufficient (2.3691), the conflict between BSF personnel and laborers should be resolved through negotiations (2.2966); and Bangladesh Government should promote trade (2.2953).

To measure the effectiveness of the schedule are tested for its reliability. The value of Cronbach's alpha is found to be 0.804. The value has found to be more than 0.6; hence, the schedule is valid to be used for the purpose of analysis, as the research is an exploratory one (Hair, Black, Babin, Anderson, and

Tatham, 2005). The Bartlett's test of Sphericity (Pallant, 2005) relates to the significance of the study and thereby shows the validity and suitability of the responses collected for the problem being addressed through this study, as well as tests the presence of correlations among variables. A small value less than 0.05 of significance level (with Chi square value 1526.325) has been recommended suitable for the study (Kline, 1994). On the basis of the results it implies that the data-set is fit for conducting factor analysis. On the factors obtained through factor analysis the Student's t-test is applied to see if there is any difference in the opinion of men and women respondents on the factors so obtained.

### Procedure, Tools and techniques used

For the purpose of data collection, a close ended schedule along with personal interview is used for the purpose of the study so as to get reliable response from them. The respondents are asked to fill up the questions carefully and doubts have clarified whenever requested. After successful completion of the process they were thanked for their cooperation. The data collected are then further processed using SPSS-20. Factor analysis, non-parametric tests mainly Student's t-test, Chi-square test has been used to test the hypotheses.

## RESULTS

Exploratory factor analysis (EFA) is used in this study with the objective of identifying the underlying structure among the 38 variables in the analysis (Hair, et al., 2010). Between the two methods of EFA, viz. Principal Component Analysis (PCA) and Common Factor Analysis (CFA), the former method is identified as the suitable method for this study, as the primary objective is to identify theoretically meaningful underlying factors (Ho, 2006). Eigenvalues are used to determine the number of factors to be extracted. Since Eigenvalues of 1 or greater than 1 are considered to be significant (Ho, 2006), all other factors were discarded. The Eigen value or latent root is the sum of squared values of factor loadings relating to a factor (Krishna

swami & Ranganatham, 2007). Items on all factors, with factor loadings less than 0.30 are deleted from the analysis. According to Zilmer & Vuz (1995), communalities below 0.30 suggests that few variables are associated and thus a suitable factor model may not emerge. Therefore, such values need to be removed from the scale. In this study all the values in the communalities are above 0.50, thus indicating that the variables provide a sufficient explanation for the factor solution. Single item factors are also excluded from the analysis from the standpoint of parsimony (Lawson-Body, Willoughby & Logossah, 2010).

PCA method of factor analysis is used, resulting in a final instrument of 25 items representing five distinct factors. These five factors extracted through factor analysis, explains 85.114 percent of the variance evidenced in the quantitative data. This percentage of the variance is regarded as sufficient to represent the data (Pett, Lackey & Sullivan, 2003). Cronbach's alpha is used in this study to assess the degree of consistency between multiple measurements of a variable (Hair et al., 2006). Cronbach's alpha, also referred to as the coefficient of reliability describes how closely related the items are as a group in defining the construct. Communality shows the total amount of variance, the original variable shares with all the other variables included in this analysis. It is the squared multiple correlation of the variable as predicted from the factors (Tabachnick & Fidell, 2013). The individual factors with their corresponding factor loadings, together with Cronbach's alpha, communalities and the Eigenvalues are tabulated below.

**Factor analysis** is used to uncover the latent structure of a set of variables. It is used to determine the smallest number of factors that can best represent the problems faced by the respondents in Agartala LCS and strategies for their solution. Factor analysis has being chosen as a method for data reduction, since it is suitable for identifying correlations among variables in complex sets of data (More & Rowley, 2013).



**An Inquiry to the Problems and Prospects of Indo-Bangla Trade in Agartala Land Customs Station**

Table: 1 Govt.'s support in foreign trade		
Items	Factor Loadings	Communalities
Govt. of India promotes foreign trade.	.859	.811
The attitude of Govt. of Tripura for bilateral trade is positive.	.839	.777
Bangladesh Govt. is committed to improve bilateral trade.	.813	.559
LCS Agartala is equipped with latest technology.	.782	.927

Factor 1 - Govt.'s support in foreign trade

Factor 1 is assigned the name of 'Govt.'s support in foreign trade' which explains 47.752 percent of the variables and includes four items with statistically significant factor loadings ranging from .782 to .859 and Cronbach's alpha .822.

Table: 2 Infrastructural Problems		
Items	Factor Loadings	Communalities
The space for loading-unloading is not enough.	.770	.927
The traffic system in LCS area is traditional.	.762	.945
The Number of bank branches and ATMs are very few.	.754	.893
The time for clearing of shipment is delayed.	.681	.945
The LCS lacking basic facilities like canteen, drinking water and sanitation for laborers.	.636	.936
The parking space is very small	.589	.743

Factor 2 - Infrastructural Problems

Factor 2 is assigned the name of 'Infrastructural Problems' which explains 14.251 percent of the variables and includes six items with statistically significant factor loadings ranging from .589 to .770 and Cronbach's alpha .808.

Table: 3 Impacts of Unavoidable Issues		
Items	Factor Loadings	Communalities
The trade frequently remains suspended due to political tension of Bangladesh.	.759	.915
The suspension of trade adversely impacts the state's revenue collection.	.711	.901
The BSF personnel sometimes involved in conflict with the laborers.	.675	.927
The amount of duty has increased after LCS starting functioning.	.630	.883
Due to lack of parking space the traffic jam in Akhaura road is a common phenomenon.	.586	.657

Factor 3 - Impacts of Unavoidable Issues

Factor 3 is assigned the name of 'Impacts of Unavoidable Issues' which explains 12.542 percent of the variables and includes five items with statistically significant factor loadings ranging from .542 to .759 and Cronbach's alpha .766.

Table: 4 Required Infrastructural Development		
Items	Factor Loadings	Communalities
LCS authority should improve basic infrastructure.	.844	.715
Govt. should acquire more lands for dumping ground of imports and for parking.	.782	.884
More number of bank branches and ATMs should be opened.	.729	.548
There must be adequate provision for drinking water, canteen and modern sanitation system.	.677	.577
More number of warehouses should be constructed.	.615	.612

Factor 4 - Required Infrastructural Development

Factor 4 is assigned the name of 'Required Infrastructural Development' which explains 5.972 percent of the variables and includes five items with statistically significant factor loadings ranging from .615 to .844 and Cronbach's alpha .758.

**An Inquiry to the Problems and Prospects of Indo-Bangla Trade in Agartala Land Customs Station**

Table: 5 Required Policy changes		
Items	Factor Loadings	Communalities
The duties should be reduced at LCS Agartala.	.840	.902
The traffic system should be modernized.	.822	.845
The labor unions should settle the conflicting issues with proper negotiations with the BSF.	.763	.798
The LCS formalities should be more rationalized.	.726	.713
All the documentation should be cleared through online.	.657	.659

Factor 5 - Required Policy changes

Factor 5 is assigned the name of 'Required Policy Changes' which explains 4.596 percent of the variables and includes five items with statistically significant factor loadings ranging from .657 to .840 and Cronbach's alpha .739.

From the Table 6, we get the Eigenvalues which are the variances of the factors that have been extracted by using PCA method. Five factors have been extracted for this study whose Eigen value is greater

than 1, as they explain nearly 85 percent about the total variables taken into account. The rotation sums of squared loadings shown in the table represent the distribution of the variance after the Varimax rotation. Varimax rotation is an orthogonal rotation which is commonly used, as it tries to maximize the variance of each of the factors in such a way that the total amount of variance accounted for is distributed over the five extracted factors.

PCA has been carried out in order to analyze the various components. PCA is a classical method. This linear transform has been widely used in data analysis and comparison. PCA is central to the study of multivariate data. PCA of a data matrix extracts the dominant pattern in the matrix in terms of a complimentary set of score and loading plots. The PCA gives the following result:

A statistical analysis (t-test) has been applied to understand the perception of respondents on the basis of occupation towards factors affecting their experience of cross border trade in Agartala LCS and the strategies to manage the same efficiently. On the basis of the above five components, the five hypotheses have been generated for the study. The five null hypotheses for the study have been tested using SPSS.

Table: 6 Total Variance Explained									
Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.938	47.752	47.752	11.938	47.752	47.752	7.591	30.364	30.364
2	3.563	14.251	62.003	3.563	14.251	62.003	5.220	20.882	51.245
3	3.136	12.542	74.546	3.136	12.542	74.546	4.803	19.221	70.457
4	1.493	5.972	80.518	1.493	5.972	80.518	2.433	9.733	80.190
5	1.149	4.596	85.114	1.149	4.596	85.114	1.231	4.924	85.114

Extraction Method: Principal Component Analysis.



The null hypotheses are:

**H<sub>01</sub>:** *There is no significant difference between the traders and laborers in their perception that Agartala LCS is technologically modern and governments promote bilateral trade.*

Where, N= Sample size, T= t-test value, d.f. =degrees of freedom, P= probability value. The Mean perception score of trader and laborer respondents is 0.81249. The impact of occupation towards the perception that Agartala LCS is technologically modern and governments promote bilateral trade factor is statistically not significant as (P= 0.074>0.05). Therefore, the null hypothesis H01 is accepted, i.e. there is no significant difference between trader and laborer respondents in their perception that Agartala LCS is technologically modern and governments promote bilateral trade.

**H<sub>02</sub>:** *There is no significant difference between the traders and laborers in their perception that Agartala LCS suffers from a number of infrastructural problems.*

Where, N= Sample size, T = t-test value, d. f. = degrees of freedom, P = probability value. The Mean perception score of trader and laborer respondents is 0.04785. The impact of occupation towards the perception that Agartala LCS suffers from a number of infrastructural problems factor is statistically not significant as (P= 0.147>0.05). Therefore, the null hypothesis H02 is accepted, i.e. there is no significant difference between trader and laborer respondents in their perception that Agartala LCS suffers from a number of infrastructural problems.

**H<sub>03</sub>:** *There is no significant difference between trader and laborer respondents in their perception that in Agartala LCS due to some unavoidable circumstances trade remain suspended which adversely affect the state's revenue collection.*

Where, N= Sample size, T = t-test value, d. f. = degrees of freedom, P = probability value. The Mean perception score of trader and laborer respondents is 0.03145. The impact of occupation towards the perception that due to some unavoidable

circumstances trade remain suspended which adversely affect the state's revenue collection factor is statistically not significant as (P= 0.192>0.05). Therefore, the null hypothesis H03 is accepted, i.e. there is no significant difference between trader and laborer respondents in their perception that in Agartala LCS due to some unavoidable circumstances trade remain suspended which adversely affect the state's revenue collection.

**H<sub>04</sub>:** *There is no significant difference between trader and laborer respondents in their perception that in Agartala LCS the basic infrastructure should be developed.*

Where, N= Sample size, T = t-test value, d. f. = degrees of freedom, P = probability value. The Mean perception score of trader and laborer respondents is 0.14570. The impact of occupation towards the perception that in Agartala LCS the basic infrastructure should be developed factor is statistically not significant as (P= 0.161>0.05). Therefore, the null hypothesis H04 is accepted, i.e. there is no significant difference between the trader and laborer respondents in their perception that in Agartala LCS the basic infrastructure should be developed.

**H<sub>05</sub>:** *There is no significant difference between trader and laborer respondents in their perception that Required Policy should be changed.*

Where, N= Sample size, T = t-test value, d. f. = degrees of freedom, P = probability value. The Mean perception score of trader and laborer respondents is 0.12486. The impact of occupation towards the perception that Required Policy should be changed factor is statistically not significant as (P= 0.155>0.05). Therefore, the null hypothesis H05 is accepted, i.e. there is no significant difference between trader and laborer respondents in their perception that Required Policy should be changed.

Pearson's Chi square test has been conducted to test the hypotheses generated under Part C of the schedule. A chi-square test for independence is applied when two categorical variables are

generated from a single population. It is used to determine whether or not there is a significant association between two variables.

The hypothesis to be tested for Part C of the schedule is as follows:

1 H<sub>01</sub>: There is no association in the perception of respondents towards the strategies of managing cross border trade in Agartala LCS.

2 H<sub>A1</sub>: There is association in the perception of respondents towards the strategies of managing cross border trade in Agartala LCS.

**Table: 7 Govt.'s support in foreign trade Factor**

Occupation	N	Mean	T	d. f.	P
Traders	100	.81249	.931	102	.074
Laborers	50				

**Table: 8 Infrastructural Problems Factor**

Occupation	N	Mean	T	d. f.	P
Traders	100	.04785	.931	102	.147
Laborers	50				

**Table: 9 Impacts of Unavoidable Issues Factor**

Occupation	N	Mean	T	d. f.	P
Traders	100	.03145	.931	102	.192
Laborers	50				

**Table: 10 Required Infrastructural Development Factor**

Occupation	N	Mean	T	d. f.	P
Traders	100	.14570	.931	102	.161
Laborers	50				

**Table: 11 Required Policy Changes Factor**

Occupation	N	Mean	T	d. f.	P
Traders	100	.12486	.931	102	.155
Laborers	50				

An Inquiry to the Problems and Prospects of Indo-Bangla Trade in Agartala Land Customs Station

Table: 12 Chi-square Results (Refer to appendix, Part C of the Schedule)

Question No.	Pearson Chi-Square	Value	d. f.	Asymp. Sig. (2-sided)
1	Pearson Chi-Square	41.819	8	.000
2	Pearson Chi-Square	6.006	8	.647
3	Pearson Chi-Square	8.085	8	.425
4	Pearson Chi-Square	8.681	8	.370
5	Pearson Chi-Square	20.115	8	.010
6	Pearson Chi-Square	0.474	8	.812
7	Pearson Chi-Square	2.539	8	.960
8	Pearson Chi-Square	2.455	8	.964
9	Pearson Chi-Square	11.788	8	.161
10	Pearson Chi-Square	2.764	8	.948

At 5% level of significance, the following hypotheses are accepted:

**(No significant relation (association) on the perception of respondents exist)**

Q 2	Do you believe that the Govt. should acquire more lands for dumping ground of imports and for parking?
Q 3	Do you believe that the more number of bank branches and ATMs should be opened?
Q 4	Do you believe that the traffic system should be modernized?
Q 6	Do you believe that the LCS formalities should be more rationalized?
Q 7	Do you believe that the duties should be reduced at LCS Agartala?
Q 8	Do you believe that there must be adequate provision for drinking water, canteen and modern sanitation system? Q 9 Do you believe that the more number of warehouses should be constructed?
Q10	Do you believe that the all documentation should be cleared through online?

The following hypotheses are rejected:

**(Significant relation (association) on the perception of respondents exist)**

Q 1	Do you believe that the LCS authority should improve basic infrastructure?
Q 5	Do you believe that the labor unions should settle the conflicting issues with proper negotiations with the BSF?

A Chi-square test has performed and no relationship is established between the participants' occupation (independent variable) and 8 (out of 10) questions (dependent variable) asked about the strategies for managing cross border trade in Agartala LCS,  $\chi^2(8, N=150)=0.05, p= [.647, .425, .370, .812, .960, .964, .161, .948]$ . The Pearson Chi-square statistic tests whether

the two variables are independent or not. If the value is significantly high ( $p<.05$ ), indicating that a variable have no significant effect on the other. In other words, the null hypotheses for 8 questions are correct i. e. there is no significant difference in the perception of the respondents on the basis of their occupation.

An Inquiry to the Problems and Prospects of Indo-Bangla Trade in Agartala Land Customs Station

Table 13 Summary Results of Factor Analysis

No.	Factors	No. of items	Cronbach's Alpha
1	Govt.'s support in foreign trade	4	.822
2	Infrastructural Problems	6	.808
3	Impacts of Unavoidable Issues	5	.766
4	Required Infrastructural Development	5	.758
5	Required Policy Changes	5	.739

## DISCUSSION

Exploratory factor analysis has identified five underlying constructs which explain the different dimensions of the problems of Agartala LCS and its suggestive solutions. High values for the factor loadings and the communalities indicate that the items extracted are statistically significant. Extraction of these internally consistent measures facilitates the calculating of composite variables that can be used in further analysis as suggested by Hair et al. (2010). EFA also facilitated data reduction for the study. Table 13 presents the summary of the factor analysis.

A statistical analysis (t-test) has been applied to understand the perception of respondents on the basis of occupation regarding the problems and their probable solution. The statistic tests whether the two variables are independent or not. Since all the values are significantly high ( $p<.05$ ), indicating that these variables have no significant effect on the other. In other words, all the null hypotheses are accepted i.e. the perceptions of the respondents about the five identified factors are akin.

The results indicate that the respondents believe that Agartala LCS has the modern technology but it lacks basic amenities. The insufficient parking and loading-unloading space, delayed clearance of consignments, traffic jams and high duties levied on trucks creep up the problems. Further, that state government suffers revenue losses in the tune of one million per day whenever trade remain suspended due to internal or external disturbances.

The findings suggest, the respondents perceive that the improvement of basic infrastructure, setting up of more warehouses, provision for more land for dumping of goods and parking space and opening of more bank branches and ATMs should be prioritized; the duties levied presently should be slashed, formalities should be rationalized, modern traffic system and e-governance should be practiced; any form of conflicts with security personnel must be resolved through negotiations and should ensure its non-recurrence for uninterrupted bilateral trade in Agartala LCS.

## CONCLUSION

The study examined the perception of some selected traders and laborers about the problems of conducting cross border trade in Agartala LCS and the strategies to reform the same. Cronbach's Alpha has used to test the coefficient of internal consistency of all the items. Since all the items found to be highly reliable for conduction of the study, factor analysis is used for data reduction procedure. Through factor analysis, five major factors were extracted. Based on such factors, Student's t-test and Chi-square test are carried out. All the five factors are found to be significant. PCA has been carried out in order to analyze the various components. On the basis of PCA five hypotheses has derived and null of these are tested and at 5 percent level of significance, the Student's t-test statistic is insignificant for all these factors. A Chi-square test is performed and no relationship has been established between the participants' perception on 8 questions asked out of 10 about the strategies for proper managing cross



border trade. Consistent with the prior reviews of literature and the findings of the data analysis suggest that in spite of having many unique features, Agartala LCS suffers from a number of lacunas which need to be changed to enhance the volume of bilateral trade. The Agartala LCS should sort out the problems relating to infrastructure deficiencies, the unprecedented disputes arise suddenly between BSF and laborers should be sort out with proper negotiations and LCS authority must take preventive measures to avoid its recurrence with changes in the policies.

The study has its limitations, as it has only been focused towards the problems faced by the importers-exporters and laborers as well as the strategies to win over the same but it could also been tested for other issues like bilateral trade's volume, composition, trends and contribution to foreign currency reserves and so on. The sample size of the study is considerably low on the ground of parsimony of cost and time constraints; and the sample has been selected using different non-probability sampling techniques, which themselves are not flawless. Again, the accuracy of the results depends up on the accuracy of the responses provided by the participants. The study is confined to importers/exporters and laborers working in Agartala LCS only but not to other stakeholders because of time and financial constraints. Again, the accuracy of the results depends up on the accuracy of the responses provided by the participants.

## SCOPE FOR FUTURE RESEARCH

Hardly, there has been any empirical research conducted in Agartala or in other parts of Tripura on the problems and prospects of bilateral trade of LCS of Tripura. There lies a huge shortfall in the literature on this area in Tripura although studies have been conducted other parts of the country in different dimensions of cross border trade with Bangladesh but not on the issues related to LCS. This facilitates the need to expedite the research to address every related dimensions of this relevant issue of not only Tripura but also at a national arena of other LCS of

India by the Government as well as by the private sectors in order to have a fair understanding of the modus operandi and improvement of the operations of LCS to make it favorable for all the stakeholders.

## IMPLEMENTATIONS OF THE STUDY

The study extends the perception of the importers-exporters and laborers by examining a wide range of factors which affect the Indo-Bangla cross border trade through Agartala LCS. The results obtained from the study have got practical implications for the improvement of basic infrastructural facilities and for prompt amendment in some key policies affecting the bilateral trade. These findings indicate a number of issues which need to be addressed to increase the volume and composition of trade through Agartala LCS in the changing socio-economic environment.

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**An Inquiry to the Problems and Prospects of Indo-Bangla Trade in  
Agartala Land Customs Station**

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**An Inquiry to the Problems and Prospects of Indo-Bangla Trade in  
Agartala Land Customs Station**

**Appendix: Schedule**

Note: The schedule has three sections, namely A, B and C. For each section the response style is mentioned in the beginning. You are requested to follow the response style and mark your response category accordingly.

*Your cooperation is highly appreciable.*

**Section A  
GENERAL PROFILE OF RESPONDENTS**

(The purpose of this Section is to collect the general information about the participants.  
Put  $\checkmark$  mark as applicable.)

1. Name of the Respondent:		
2. Date of birth:		
3. Contact number:		
4. E-mail address:		
5. Gender	Male	
	Female	
6. Marital Status:	Single	
	Married	
7. Age group:	18-25 years	
	26-35 years	
	36-45 years	
	46-65 years	
	66 and above	
8. Educational Qualification:	Under Matriculation	
	Matriculation	
	Higher Secondary	
	Graduate	
	Post graduate	
9. Religion:	Hinduism	
	Muslim	
	Christian	
	Buddhism	
	Jainism	
10. Caste:	General	
	Scheduled Cast	
	Scheduled Tribe	
	Other Backward Caste	

**Section B**

**Opinion regarding experience of doing trade in Akhaura LCS**

Please read each of the statements carefully and indicate your level of agreement and disagreement that you think is the best describing your opinion about your experience of doing cross border trade with Bangladesh through LCS Agartala. Indicate your response by putting appropriate number in 5 Likert scale. Please use the following scale for giving your response.

1. SA= Strongly Agree 2. Agree, 3. N=Neutral 4. D= Disagree, 5. SD= Strongly Disagree

Detail of the Statements	Score
1. The policy of Govt. of India to promote foreign trade is good.	
2. The Govt. of Tripura is positive to increase the volume of trade.	
3. The Bangladesh Govt. is committed to improve the bilateral trade.	
4. The Land Customs Station (LCS) Agartala is a modern check post having latest equipment.	
5. The space for loading - unloading is not enough.	
6. The amount of duty has increased after starting LCS in Akhaura.	
7. The time for clearing shipments has increased due to number of formalities.	
8. The LCS lacking basic facilities like canteen, drinking water and sanitation for laborers.	
9. The parking space is very small.	
10. The traffic system in LCS area is traditional.	
11. The Number of bank branches and ATMs are very few.	
12. The trade frequently remains suspended due to political tension of Bangladesh.	
13. The suspension of trade adversely impacts the state's revenue collection.	
14. The security personnel sometimes involved in conflict with the laborers.	
15. Due to lack of parking space the traffic jam in Akhaura road is a common picture.	

**SECTION C**

**Strategies for Managing Cross Border Trade in Agartala LCS**

Please read each of the statements carefully and indicate your level of agreement and disagreement that you think is the best describing your opinion about managing cross border trade. Indicate your response by putting appropriate number in 5 Likert scale. Please use the following scale for giving your response.

1. SA= Strongly Agree 2. Agree, 3. N=Neutral 4. D= Disagree, 5. SD= Strongly Disagree

Details of the Questions	Score
1. Do you believe that the LCS authority should improve basic infrastructure?	
2. Do you believe that the Govt. should acquire more lands for dumping ground of imports and for parking?	
3. Do you believe that the more number of bank branches and ATMs should be opened?	
4. Do you believe that the traffic system should be modernized?	
5. Do you believe that the labor unions should settle the conflicting issues with proper negotiations with the BSF?	
6. Do you believe that the LCS formalities should be more rationalized?	
7. Do you believe that the duties should be reduced at LCS Agartala?	
8. Do you believe that there must be adequate provision for drinking water, canteen and modern sanitation system?	
9. Do you believe that more number of warehouses should be constructed?	
10. Do you believe that all the documentation should be cleared through online?	

Signature:

Date:



# Growth of Iron-Steel and Cement Industries: Essential Stimulus for India's Economic Growth

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The composition of India's GDP has undergone a major change especially during the post reform period. The contribution of agriculture sector has decreased while that of service sector has increased and the industrial sector has remained almost constant. Although Indian economy is primarily agriculture based but industrial sector has a prominent place in the development of India, as industries provide tools and equipment for the agriculture and service sectors and also creates a huge demand for agricultural produce. Manufacturing accounts for 79.89% share in the industrial sector and 14.94% in GDP of India in 2013-14. Although all the manufacturing industries are important but iron-steel and cement industries are essential stimulus for not only the growth of industrial sector but also for the economic growth of India. This paper examines the importance and growth of manufacturing with reference to iron-steel and cement industries in India during the post-reform period.

**Key Words:** manufacturing, iron-steel industry, cement industry, economic growth, India

**JEL Classification:** O1, O14, O53

## INTRODUCTION

The developing economies including India are facing inexorable problems of unemployment, poverty, inequality, technological backwardness, and insufficient availability of capital etc. since long which make them highly dependent on the developed countries. Industrialization is a key requisite for the developing economies to foster their rate of economic growth, and for the long-run solution of all the above problems. Industrialization may be defined as a process through which a nation transforms itself from an agriculture based economy to the one based on manufacturing of goods and services. It is a series of strategic changes taking place in production and may involve the mechanization of an existing enterprise, opening up of a new market, building of a new factory/industry and other such measures that leads to escalation in the production and deepening of the capital. Thus establishment and development of manufacturing is the core of industrialization. However, industrialization is not limited to setting up of manufacturing units only but it also involves all such reforms that upsurge the productivity of labour and production efficiency at all levels in a significant manner.

Industrialization sets the base for the economic growth and development of any economy as was experienced in all the western countries almost 200 years back and in the recent past in others parts of the world as China, Republic of Korea, Taiwan etc.

## Growth of Iron-Steel and Cement Industries: Essential Stimulus for India's Economic Growth

Industrialization provides avenues for developing countries to employ their surplus labour. It helps to raise productivity of an economy directly or indirectly; promotes exports which improves the balance of payment (BOP); encourages savings and promotes capital formation, and thus raises the standard of living. Industries on the one hand provides tools, machineries, equipment etc. to the agriculture sector and on the other hand agrobased industries creates huge demand for the agricultural output. Industries provide large employment opportunities and can absorb the surplus labour of agriculture sector. Industries also provides base for the development of service sector. However, the entire industrial sector has significantly contributed in the development of the Indian economy but some core industries enjoy a distinct place and iron-steel and cement industries are among them.

## OBJECTIVE

The objective of this paper is to assess the growth and significance of manufacturing sector in Indian economy with special reference to iron-steel and cement industries during post reform period.

## RESEARCH METHODOLOGY

This paper is based on secondary data taken from Handbook of Statistics on Indian Economy, Reserve Bank of India, 2013-14 and various issues of Annual Survey of Industries, Ministry of Statistics and Programme implementation. Data on factory sector, and NIC (National Industrial Classification) 3-digit, and 3-digit & 4-digit have been used for the analysis of manufacturing sector, iron-steel, and cement industries respectively. The period of study is from 1991-92 to 2011-12. To obtain data on iron-steel and cement industries, a complete mapping on various NICs (NIC-2008, NIC-2004, NIC-1998, and NIC-1987) has been done as follows:

### A. NIC mapping for iron-steel industry

**Concordance between NIC-2008 and NIC-2004**  
 NIC 2008 (241) = NIC 2004 (271)

**Concordance between NIC-1998 and NIC-2004**  
 NIC 2004 (271) = NIC 1998 (271)

**Concordance between NIC-1998 and NIC-1987**  
 NIC 1998 (271) = NIC 1987 (330+331+332)

### B. NIC mapping for cement industry

**Concordance between NIC-2008 and NIC-2004**  
 NIC 2008 (2394) = NIC 2004 (2694)

**Concordance between NIC-1998 and NIC-2004**  
 NIC 2004 (2694) = NIC 1998 (2694)

**Concordance between NIC-1998 and NIC-1987**  
 NIC 1998 (2694) = NIC 1987 (324+327)

To analyse the trends and growth, annual average growth rate (AAGR) and compound annual growth rate (CAGR) have been used. AAGR has been calculated using geometric mean of annual percentage change and CAGR has been calculated as follows:

$$Y = ab^t e^u \text{----- (1)}$$

where  $b=1+r$  and  $r$  is the compound growth rate.  
 $Y$  - variable for which CAGR has been calculated  
 $t$  = time

The logarithmic transformation of the above function gives:

$$\log Y = \log a + t \log b + u \text{----- (2)}$$

And the values of  $a$  and  $b$  have been estimated using the following two normal equations:

$$\begin{aligned} \sum \log Y &= n \log a + \log b \sum t \\ \sum t \log Y &= \log a \sum t + \log b \sum t^2 \end{aligned}$$

As equation (2) is a log-linear function, therefore, CAGR has been computed by using following formula:

$$\text{CAGR (r\%)} = (AL(\log b) - 1) \times 100$$

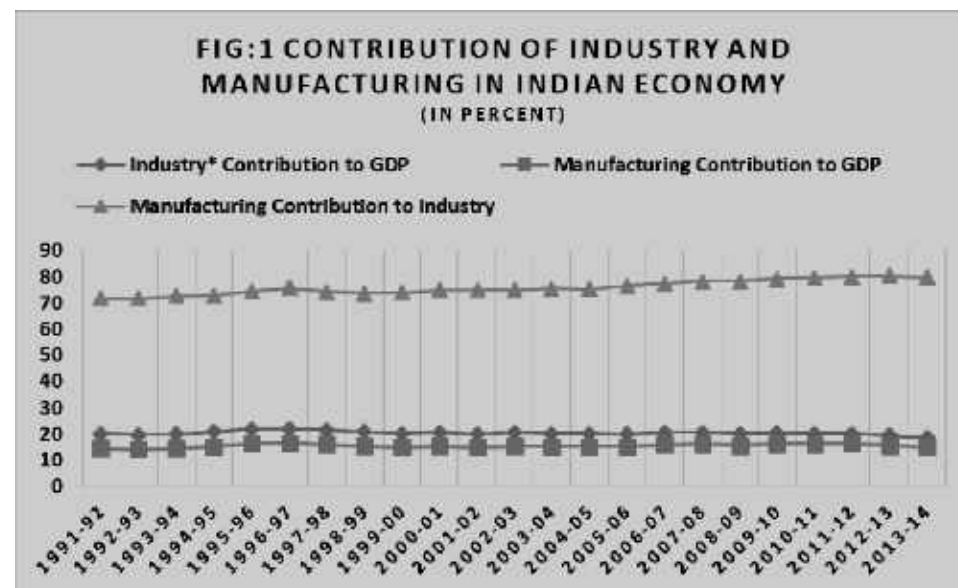
**Industrial/Manufacturing Sectors in India:  
A Trend Analysis**

India is a country with full of natural resources such as forests, land, minerals, fisheries, etc. along with large population (1.21 billion, Census 2011 and more than 1.26 billion in 2014). Although India is an agriculture based economy as agriculture provides employment to a large number people (47% of total people employed in 2012, World Bank database) and contributes 13.94% to India's gross domestic product (GDP) in 2013-14 (Handbook of Statistics on Indian Economy, RBI, 2013-14) but industrial development indicates a country's progress from a developing nation to a developed one.

Industrial sector has significantly contributed in the development of Indian economy since independence. The contribution of industrial sector to GDP of India was 11.42% in 1952-53, increased to 18.64% in 1981-82, and 20.22% in 1991-92 (Handbook of Statistics on Indian Economy, 2013-14). Industrial sector became more important for the development

of Indian economy with the introduction of New Economic Reforms on July 24, 1991 and New Industrial Policy of 1991. However after 1991-92, this contribution has been at about 20 percent till 2011-12 and decreased to 18.70%.

Manufacturing is the most important component of the industrial sector. As per Handbook of Statistics on Indian Economy, Reserve Bank of India (RBI), industrial sector comprises of mining & quarrying, manufacturing, and electricity, gas & water supply. Among all these components, manufacturing accounts for the maximum share. Fig 1 displays the contribution of manufacturing to GDP and industrial sector. 'The contribution of manufacturing sector to GDP of India was 9.10% in 1952-53, increased to 14.28% in 1981-82, 14.51% in 1991-92, and 14.94% in 2013-14. However, manufacturing contribution to industrial sector had decreased from 79.69% in 1952-53, to 76.65% in 1981-82, to 71.76% in 1991-92 but again it increased to 79.89% in 2013-14' (Handbook of Statistics on Indian Economy, 2013-14).



Source: Author's calculation from Handbook of Statistics on Indian Economy, RBI, 2013-14

**Industry includes Mining & Quarrying, Manufacturing, and Electricity, Gas & Water Supply as per the classification in Handbook of Statistics on Indian Economy, RBI, 2013-14**

Growth Rate	Factories	Employment	Value of Output	Gross Capital Formation
AAGR	3.29	2.33	15.69	12.78
CAGR	2.20	1.50	14.40	11.60

Source: Author's Calculations from ASI, MOSPI, 2011-12

Table 1 shows the growth of factory sector (manufacturing) in Indian economy. Total number of factories were 112286 in 1991-92 which increased to 217554 in 2011-12 at a CAGR of 2.20% per annum. The factory sector (manufacturing) provided employment to 8319563 people in 1991-92 which increased to 13429956 people in 2011-12, produced output of Rs. 2991.96 billion in 1991-92 which increased to Rs. 57760.24 billion in 2011-12 and generated gross capital formation (GCF) of Rs. 384.45 billion which increased to Rs. 4070.31 billion in 2011-12. The CAGR of employment, value of output produced, and GFC in factory sector in India is 1.50%, 14.40%, and 11.60% respectively during 1991-92 to 2011-12.

**Iron-Steel and Cement Industries in India:  
A Trend Analysis**

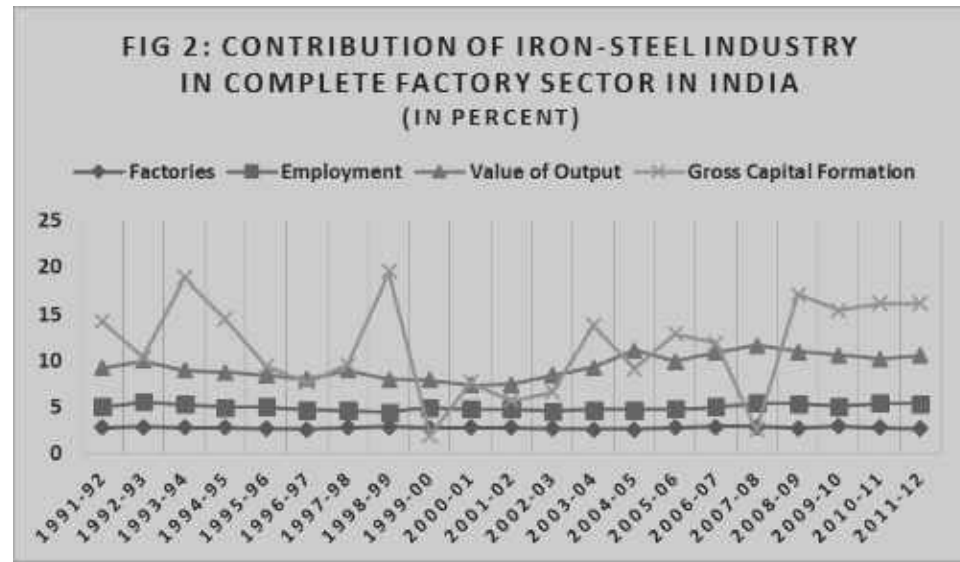
Although all the manufacturing industries are important but infrastructure industries or core industries have their own importance. The infrastructure industries include electricity, coal, iron-steel, cement, crude oil, petroleum refinery products, natural gas and fertilizers. The weight of all the above infrastructure industries in total industrial production is 37.90 Base 2004-05:100 (Handbook of Statistics on Indian Economy, RBI, 2013-14). Among all these infrastructure industries, iron-steel and cement industries occupy a distinct place as these produce industries are the most important materials for developing the physical infrastructure. These industries are among the basic-heavy industries contributing maximum for building a nation's physical infrastructure and industrial base. They help in overall growth of the country by providing key inputs for all the sectors

ranging from primary to tertiary. They act as crucial ingredients in the development of any modern economy and are considered to be the backbone of human civilization. The weights of iron-steel industry in total industrial production are 6.68 (Base 2004-05:100) against 5.13 (Base 1993-94:100) and 5.21 (Base 1980-81:100) respectively. While the weights of cement industry in total industrial production are 2.41 (Base 2004-05:100) against 1.99 (Base 1993-94:100) and 1.60 (Base 1980-81:100) respectively. This shows that the contribution of both of these industries in total industrial production has increased over the years.

**The iron-steel industry** accounts for the 6.684% weightage in the whole industrial sector of the country Base 2004-05:100 and 'contributes about 3% of the gross domestic product (GDP), and presently provides employment to more than 0.5 million people' Annual Report (2012-13), Ministry of Steel, Govt. of India. 'Production of finished steel has increased from mere 1.04 million tonnes in 1950-51 to 14.234 million tonnes in 1991-92 and 73.416(P) million tonnes in 2011-12' Joint Plant Committee (JPC), Ministry of Steel, Govt. of India. 'In 2012, world's total crude steel production reached to 1546.8 million tonnes. India ranked 4th in 2012 producing 77.6 million tonnes (5.02%) after China 716.5 million tonnes (46.32%), Japan 107.2 million tonnes (6.93%), and United States 88.7 million tonnes (5.73%) as against 8th in 2003. India is the largest producer of sponge iron or direct reduced iron (DRI) in the world and produced 27.71% of the world total DRI in 2012. Consumption of steel has also increased rapidly as apparent domestic consumption (ADC) of finished steel increased from 17.7 kg in 1991-92 to 56.9 kg in 2011-12' World Steel Association.



Growth of Iron-Steel and Cement Industries:  
Essential Stimulus for India's Economic Growth



Source: Author's calculation from Unit Level Data, ASI, MOSPI, Various Issues

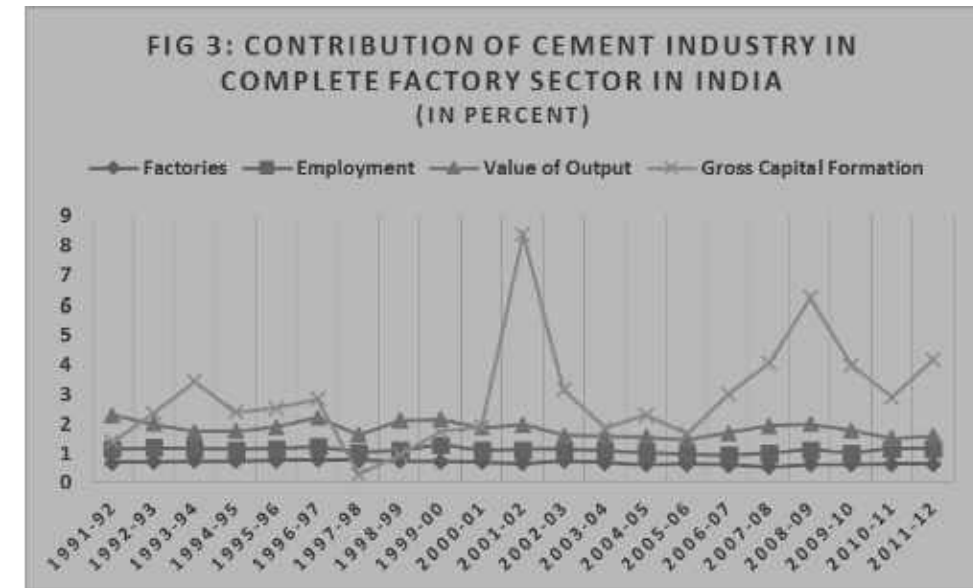
Year	Factories	Employment	Value of Output	Gross Capital Formation
CAGR	2.10	1.70	11.90	15.90

Source: Author's calculation from Unit Level Data, ASI, MOSPI, Various Issues

Fig. 2 displays the contribution of iron-steel industry in the complete factory sector (manufacturing) in India during 1991-92 to 2011-12. Iron-steel industry contributes 2.64% in total factories, 5.32% in total employment provided, 10.52% in the total value of output produced, and 16.24% in total GFC by complete factory sector (manufacturing) in the year 2011-12. Table 2 shows the growth of iron-steel industry (factory sector) in India. Total number of iron-steel factories were 3108 in 1991-92 which increased to 5747 in 2011-12 at a CAGR of 2.10% per annum. The iron-steel factories (factory sector) provided employment to 416352 people in 1991-92 which increased to 714307 people in 2011-12, produced output of Rs. 275.94 billion in 1991-92 which increased to Rs. 6078.46 billion in 2011-12 and generated GCF of Rs. 54.86 billion which increased to Rs. 660.84 billion in 2011-12. The CAGR of employment, value of output produced, and GFC in iron-steel factories (factory sector) in India is 2.10%, 1.70%, and 11.90% respectively during 1991-92 to 2011-12.

**Cement** is the most essential raw material in any kind of construction activity. Accordingly, cement industry plays a crucial role in the infrastructural development of the country. Given the vast geographical size and massive population of the country, various construction activities undertaken by the Central Government, State Governments, Public Sector Undertaking and other organisations, including private sector generate huge demand for cement. In addition, provision for housing is the first and foremost requirement of every household and, therefore, market demand of cement for private consumption is increasing constantly. According to the background note submitted by the Ministry of Commerce and Industry 'presently India is the second largest cement producer in the world, next only to China. India's share in the world's cement production is about 6%. It comprises 154 large cement plants, with an installed capacity of 230.82 million tonnes, employing 1.35 lakh persons directly'.

Growth of Iron-Steel and Cement Industries:  
Essential Stimulus for India's Economic Growth



Source: Author's calculation from Unit Level Data, ASI, MOSPI, Various Issues

Year	Factories	Employment	Value of Output	Gross Capital Formation
CAGR	1.00	0.90	13.20	16.70

Source: Author's calculation from Unit Level Data, ASI, MOSPI, Various Issues

Fig. 3 displays the contribution of cement industry in the complete factory sector (manufacturing) in India during 1991-92 to 2011-12. Cement industry contributes 0.65% in total factories, 1.16% in total employment provided, 1.59% in the total value of output produced, and 4.17% in total GFC by complete factory sector (manufacturing) in the year 2011-12. Table 3 shows the growth of cement industry (factory sector) in India. Total number of cement factories were 779 in 1991-92 which increased to 1414 in 2011-12 at a CAGR of 1.0% per annum. The cement factories (factory sector) provided employment to 94741 people in 1991-92 which increased to 155783 people in 2011-12, produced output of Rs. 69.15 billion in 1991-92 which increased to Rs. 921.10 billion in 2011-12 and generated GCF of Rs. 5.37 billion which increased to Rs. 169.75 billion in 2011-12. The CAGR of employment, value of output produced, and GFC in iron-steel factories (factory sector) in India is 0.90%,

13.20%, and 16.70% respectively during 1991-92 to 2011-12.

**CONCLUSION**

This study is an attempt to highlight the growing importance and significance of manufacturing sector with reference to iron-steel and cement industries in the Indian economy for enhancing its rate of economic growth. The countries which have developed manufacturing sector and technologically advance iron-steel and cement industries such as China, Japan, and United States of America etc. are in the category of developed nations. The established iron-steel and cement industries had facilitated the growth of physical infrastructure in these countries which is an essential prerequisite for the overall growth of any nation. India had followed various growth models during different time periods since independence such as

Mahalanobis model of economic growth during the Second Five Year Plan (1956-61) which emphasised upon the development of heavy industries or New Economic Reforms of 1991. The economic growth rate of Indian economy was 7.21% per annum during the first decade of 21st century and 6.20% thereafter till 2014. However, recession of 2009 affected the economic growth of all the countries and India was among the few least affected economies.

Manufacturing sector contributes 14.94% in India's GDP in 2013-14. Iron-steel & cement industries together contribute 3.29% of total factories, 6.48% in total employment, 12.11% in value of total output, and 20.41% in total GCF in India's total factory sector in 2011-12. These figures show the importance of manufacturing in Indian economy and the significance of iron-steel and cement industries in manufacturing sector of India. Considering this importance of manufacturing sector in Indian economy and iron-steel & cement industries in manufacturing sector, India requires to develop the manufacturing sector and especially infrastructure industries among which iron-steel and cement are the most important to increase its rate of economic growth in double digits. For its growing population and development requirements, India does not have the ample physical infrastructure and it is dependent upon foreign countries/companies. Considering the above hard facts, India must accelerate the pace of establishing sound infrastructure in terms of roads, railway network, ports, communication etc. Therefore it is imperative for India to focus on the development of infrastructure industries especially iron-steel and cement along with other infrastructure industries such as electricity, coal, crude oil, petroleum refinery products, natural gas, and fertilizers and consumer goods industries.

The recently announced 'Make in India' plan by the present government which focuses on the development of manufacturing sector, will definitely help in establishing India as one of the most favoured destinations for investment by world class manufacturing companies.

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# Relationship between Socialisation Agents and Consumer Decision Making Styles: An Indian Teenage Perspective

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*This paper explores the consumer decision making styles of Indian teenagers studying in Central Board of Secondary Education schools in National Capital Region and provides empirical evidence that socialisation agents influence these styles. The consumer style inventory adapted from Sproles and Kendall's (1986) study was used to measure the consumer decision making styles (CDMS). Primary data (n=1216) was collected through questionnaire administered in schools. Analysis methods used in the study were: exploratory factor analysis, cronbach's alpha, composite reliability, average variance extracted and linear regression. The results indicated that eight consumer decision making styles (Brand Consciousness, Novelty Fashion Consciousness, Quality Conscious, Perfectionist, Price value consciousness, Recreational/Hedonistic, Habitual Brand loyal Consumer, and Confused by over choice) exist among teenagers. The Socialisation agents (father, mother, friends, athlete, celebrity, friends and internet) had an influence on the consumer decision making styles of teenagers as a whole with celebrity having the maximum influence, followed by Friends and Mother. However the intensity of influence exercised by these agents on the characteristics of CDMS varied. Celebrity had the highest influence on Brand consciousness, Novelty fashion consciousness, Habitual brand loyalty and confused by over choice; friend on Quality consciousness and Perfectionist characteristics; mother on Price value consciousness while athlete on Recreational/hedonistic style. The findings will help the marketers to communicate with teenage segment via the social agents' route.*

**Key words:** Consumer decision making styles, Consumer Socialisation, Indian teenager, Regression, Socialisation agents

## INTRODUCTION

Consumer socialisation has been defined by Ward (1974, p. 2) as a "process by which young people acquire skills, knowledge and attitude relevant to their functioning as consumers in the market place". These skills depend on the cognitive development stage occurring between infancy and adulthood. By the time adolescents become older (above 14) they acquire the cognitive skills (Piaget 1970) and start enacting the consumer role by involving themselves in purchase decisions (Ward 1974). The adolescents are at the reflective stage of the socialization process they develop a sense of identity, are reflective of others' opinions, begin to understand symbolic meanings of consumption and can deploy multiple attributes for decision making (Belk, Mayer and Driscoll 1984; John 1999).

The socialisation model is based on the cognitive development and social learning model. Piaget (1970) has described cognitive model as a psychological process of adjusting to environment and individual's interaction with this environment. Researchers have often utilised the social learning theory to examine the consumer behaviour of adolescents (Moschis and Churchill 1978). According to this theory individuals develop behaviours through learning experiences. These experiences take place as individuals come in contact with different influencers (King and Multon

## Relationship between Socialisation Agents and Consumer Decision Making Styles: An Indian Teenage Perspective

1996). Thus the socialisation agents may act as influencers impacting the consumer behaviour of teenagers. Socialisation agents are sources from which norms, attitudes, motivations and behaviours are transferred to the learner (Chan and McNeal 2006). Some socialisation agents have been identified as parents, teachers, peers, role models, internet, celebrity and mass media (Fan and Li 2010; Clark, Martin and Bush 2001; Bush, Martin and Bush 2004; Kaur and Medury 2011).

The consumer decision making styles (CDMS) of teenagers takes shape as they start playing roles of consumers. CDMS determine the "mental orientation characterizing consumer's approach to making choices" (Sproles and Kendall 1986, p. 268). The study of CDMS is of interest because they determine consumer behavior; are stable over time; serve as a basis for segmentation and enable marketing strategies for teenage segment. This study attempts to fill the research gap in the area of CDMS of Indian teenagers and how they are influenced by socialisation agents.

## LITERATURE REVIEW

### Consumer decision making styles

Sproles and Kendall (1986) developed a consumer styles inventory (CSI) of eight dimensions and 48 items which characterised the consumers according to their styles:

1. Perfectionistic, High quality conscious consumer- who search for best quality products.
2. Brand conscious, price equals quality consumer- who buy well known and most expensive brands are measured in this construct.
3. Novelty and fashion conscious consumer- like to buy new and innovative products.
4. Recreational and shopping conscious consumer- who find shopping pleasant and fun.
5. Price conscious "value for money" consumer- who are highly conscious of prices and sale prices.

6. Impulsive, careless consumer- who buy on impulse and are not concerned by prices or sale prices.
7. Confused by over choice consumer- have too many brands and stores to choose from, due to excess information in the market place.
8. Habitual Brand loyalty consumer- has a habit of repeatedly buying their favourite brands and stores.

The consumer decision making styles were propagated as useful in educating the adolescents as consumer of different products and furthering consumer research for this segment (Sproles and Kendall 1986; Durvasula, Lysonski and Andrews 1993). Over the years different researchers had used the CSI to conduct cross country (Hafstrom, Chae and Chung 1992; Durvasula, Lysonski and Andrews 1993; Lysonski, Durvasula, and Zotos 1996; Fan and Xiao 1998; Leo, Bennett, and Hartel 2005; Mokhlis and Salleh 2009) and within a country (Kwan, Yeung and Au 2004; Mokhlis 2009) analysis to compare and establish the decision making styles of teenagers and young consumers. These studies tested the applicability of CSI and developed their own list of styles which were modified from the original work of Sproles and Kendall (1986). In the Indian context Canabal (2002) and Lysonski, Durvasula, and Zotos (1996) had identified factors for measuring the decision making styles of young consumers. However no such study was conducted in context of Indian teenagers.

### Socialisation agents

Socialisation takes place when an individual interacts with the socialisation agents. Although many socialisation agents like parents, mass media, school, peers, internet, celebrity and athletes have been identified for adolescents (Ward, Wackman and Wartella 1977; Moschis and Churchill 1978; Palan 1998; Clark, Martin and Bush 2001; Mangleburg, Doney, and Bristol 2004; Strong and Eftychia 2005; Makgosa 2010; Latif, Saleem and Abideen 2011; Kaur and Medury 2011) there is very lack of comprehensive study on such agents in India.

This study focuses on some of the socialisation agents like father, mother, friends, athlete, celebrity, Friends and Internet.

### *Socialisation agents and consumer decision making styles*

Some researchers had established linkages between consumer socialization and Consumer decision making styles in their studies. Parent versus peer influence showed that parents had a negative influence on the brand consciousness and price equals quality decision making styles of the adolescents while peer had a positive influence on the impulsive, careless, and confused by over choice (Shim 1996). Adolescents who were value maximizing recreational shoppers were influenced by parents and brand-maximising non-utilitarian shoppers by their peers (Shim and Koh 1997). Peers along with printed media and television commercials contributed to desirable and undesirable consumer decision styles of adolescents, but parent's contribution was insignificant. (Kamaruddin and Mokhlis 2003)

The above observations lead us to the question whether the Indian teenagers would be affected by the socialisation agents in their decision making styles?

## RESEARCH OBJECTIVES AND HYPOTHESIS

The research objectives for this paper in the context of Indian teenagers are enumerated below:

- To establish the characteristics of consumer decision making styles of Indian teenagers
- To estimate the influence of socialisation agents on the consumer decision making styles

The nested hypotheses that emerge from these research objectives are:

H1: The consumer decision making styles of Indian teenagers will be different from the original Sporles and Kendall's styles.

H 2: a to f: Interaction with socialisation agents (father, mother, friends, athlete, celebrity and Internet) will influence the consumer decision making styles of Indian teenagers.

## RESEARCH METHODOLOGY

### *Sampling*

The study was conducted in six CBSE schools in NCR, India. The permission of the school authorities was obtained before conducting the survey. A sample size of 1216 teenagers studying in classes 8-12 completed the survey in the presence of the researcher and the teacher.

### *Sampling procedure*

Data were collected by applying multi-stage cluster sampling method. Out of 100 odd Central Board Secondary Education affiliated schools in National Capital Region of India, 25 schools were shortlisted on basis of certain criteria: following English medium of instruction, have been in existence for more than 20 years, charging average annual fees of Indian Rs. 60,000 or more for standards eighth to twelve, and appears in top 20 ranks in surveys conducted by various external agencies. Among the schools that gave permission, a short list of 6 schools was prepared by draw of lots. In a particular school, at least one section each of classes eight to twelve was selected again by draw of lot. In a selected section, all students were administered the questionnaire in the presence of the teacher and the researcher.

### *Measurement Scales*

The instrument used in the study was adopted and modified from various studies. CDMS was measured using scale of Sproles and Kendall (1986). The socialisation scale (26 items) was developed by selecting statements from four studies: Moschis and Moore (1979); O'Guinn and Shrum (1997); Rich (1997); Kasser, Ryan, Couchman, Sheldon (2004). Responses were captured on a five point Likert scale ranging from 5 ('strongly disagree') to 1 ('strongly agree'). The summary statistics on the sample is given in Table 1.

### Annexes

Table 1: Summary Statistics on Sample		
Sample Characteristics	Number	Percentage
<b>1. Gender</b>		
Boys	698	57.4
Girls	518	42.6
<b>2. Age</b>		
13 years	241	19.8
14 years	271	22.3
15 years	246	20.2
16 years	195	16.0
17 years	201	16.5
18 years	62	5.1
<b>3. Class in which the teenager is studying</b>		
class 8	256	21.1
class 9	249	20.5
class 10	259	21.3
class 11	271	22.3
class 12	181	14.9
<b>4. Father's education</b>		
Undergraduate	76	6.3
Graduate	556	45.7
Post graduate	584	48.0
<b>5. Mother's education</b>		
Undergraduate	108	8.9
Graduate	660	54.3
Post graduate	448	36.8
<b>6. Father's occupation</b>		
Business	614	50.5
Service	442	36.3
Professional	160	13.2



**Relationship between Socialisation Agents and Consumer Decision Making Styles:  
An Indian Teenage Perspective**

Sample Characteristics	Number	Percentage
<b>7. Siblings</b>		
1 sibling	159	13.1
2 sibling	855	70.3
3 sibling	202	16.6
<b>8. Family structure</b>		
Nuclear family	690	56.7
living with grand parents	313	25.7
Joint family	213	17.5
<b>9. Number of friends</b>		
Few Friends	184	15.1
Many Friends	1032	84.9
<b>10. Number of hours on T.V.</b>		
less than 1 hr. T.V	334	27.5
1-2 hr. T.V.	625	51.4
More than 2 hr. T.V.	257	21.1
<b>11. Number of hours on Internet</b>		
less than 1 hr. Internet	580	47.7
1-2 hr. Internet	409	33.6
More than 2 hr. Internet	227	18.7

**Research Methods**

An Exploratory factor analysis (EFA) was conducted for determining the characteristics of consumer decision making styles. The reliability and validity of scales were tested by Cronbach's alpha, Average variance explained and Composite reliability. Similarly EFA was conducted for socialisation scale and reliability and validity were checked. To determine the influence of socialisation agents on the consumer decision making styles linear regression was conducted in two stages. In the first stage the influence of socialisation agents on the composite score of CDMS was measured. In the second stage the socialisation agents were regressed with the composite scores of different characteristics of

CDMS to determine which agent influences a particular style in the teenagers.

**RESULTS**

**Consumer decision making styles**

A factor analysis of the consumer decision making styles using the varimax rotation was carried out. It resulted in eight characteristics with KMO of 0.794 and total variance extracted 57.081 %. All factors had Eigen values above 1. A different set of eight characteristics (Brand Consciousness, Novelty Fashion Consciousness, Quality Conscious, Perfectionist, Price value consciousness, Recreational/Hedonistic, Habitual Brand loyal

**Relationship between Socialisation Agents and Consumer Decision Making Styles:  
An Indian Teenage Perspective**

Consumer, and Confused by over choice) emerged for the Indian teenagers. As compared to the original study of Sproles and Kendall (1986), 'Perfectionist, High quality conscious' factor was split into two while 'Impulsive, careless' was not found in case of Indian teenagers.

The Cronbach's alpha determines the internal consistency of the items in the scale. Most of the factors (Brand consciousness, Perfectionist, Price value consciousness, Recreational/ Hedonistic, and confused by over choice) were found to be in the minimum acceptable range of 0.6 and above (Hair, Black, Babin and Anderson 2010) (Table 2). Since the value of Cronbach's alpha is dependent on the number of items in the scale, more stringent tests (Average Variance Extracted and Composite Reliability) of reliability and validity were carried out.

The Average Variance Extracted (AVE) and Composite Reliability (CR) were calculated

manually by formulas given by Fornell and Lackers (1981) using Microsoft excel. The AVE should be 0.5 and above for adequate convergent validity and CR should be above 0.6 for good construct reliability (Fornell and Lackers 1981). The convergent validity was found to be adequate for only two factors (Recreational/Hedonistic and Confused by over choice) while the construct reliability was above 0.6 for all factors except Novelty fashion consciousness. Thus, indicating that hypothesis H1 'The consumer decision making styles of Indian teenagers will be different from the original Sporles and Kendall's styles' is partially acceptable.

**Socialisation Agents**

The exploratory factor analysis results had a KMO of 0.846 and total variance extracted was 68.259 %. The Cronbach's alpha, AVE and CR of all the socialisation agents were found to be within acceptable ranges (Table 3). Thus, indicating the reliability and validity of the scale.

**Table 2: Validity and Reliability of the CDMS Scale**

	Cronbach's alpha	Factor loading	Eigen value	Variance explained	*AVE	*CR
<b>Factor 1: Brand Consciousness</b>	0.652		1.393	4.096	0.446	0.762
1.1 The most advertised brands of product are usually very good choices.		0.632				
1.2 The most expensive brands of product usually are my choice.		0.697				
1.3 I prefer buying the best selling brands of product.		0.683				
1.4 The well known brands of product are best for me.		0.656				
<b>Factor 2: Novelty Fashion Consciousness</b>	0.419		2.165	6.369	0.334	0.457
2.1 I usually have one or more product of the very newest style .		0.608				
2.2 Fashionable, attractive styling of product is very important to me.		0.473				
2.3 I keep my wardrobe up to date with the changing fashions.		0.641				
2.4 To get variety, I shop different stores and choose different brands of product.		0.553				
6.4 I change brands of product I buy regularly.		-0.600				

**Relationship between Socialisation Agents and Consumer Decision Making Styles:  
An Indian Teenage Perspective**

**Table 2: Validity and Reliability of the CDMS Scale**

	Cronbach's alpha	Factor loading	Eigen value	Variance explained	*AVE	*CR
<b>Factor 3: Quality Conscious</b>	0.525		1.06	3.253	0.460	0.718
3.1 When it comes to purchase product, I try to get the best.		0.652				
3.2 In general, I usually try to buy the best overall quality of product.		0.730				
3.6 I like to get good quality of product.		0.650				
<b>Factor 4: Perfectionist</b>	0.669		1.547	4.547	0.305	0.632
3.4 I make a special effort to choose the very best quality product.		0.448				
3.5 My standards and expectations for the product I buy are very high.		0.490				
3.7 I really don't give my purchases of product much thought or care.		0.646				
3.8 A product does not have to be perfect, or the best, to satisfy me.		0.602				
<b>Factor 5: Price value consciousness</b>	0.637		2.455	7.221	0.390	0.757
4.1 I carefully watch how much I spend.		0.703				
4.2 I consider price first.		0.715				
4.4 I usually compare at least three brands before choosing a product.		0.467				
4.7 I buy as much as possible at sale price.		0.556				
4.8 I look carefully to find the best value for the money.		0.645				
<b>Factor 6: Recreational/Hedonistic</b>	0.809		4.796	14.106	0.551	0.857
5.1 Shopping is not a pleasant activity to me.		0.800				
5.2 Shopping wastes my time.		0.833				
5.3 Shopping is one of the enjoyable activities of my life.		0.848				
5.4 I enjoy shopping just for the fun of it.		0.609				
5.5 Its fun to buy something new and exciting.		0.576				
<b>Factor 7: Habitual Brand loyal Consumer</b>	0.587		1.28	3.763	0.475	0.729
6.1 I have favourite brands of product I buy over and over.		0.595				
6.2 Once I find a product or brand I like I stick with it.		0.765				
6.3 I go to the same product store each time I shop.		0.698				
<b>Factor 8: Confused by over choice</b>	0.703		2.813	8.275	0.506	0.803
7.1 There are many brands of product to choose that often I feel confused.		0.710				
7.2 All the information I get on different product confuses me.		0.765				
7.3 The more I learn about product, the harder to choose the best.		0.736				
7.4 Sometimes it is hard to choose which store to shop.		0.627				

\*AVE- Average Variance Explained; \*CR- Composite reliability

**Relationship between Socialisation Agents and Consumer Decision Making Styles:  
An Indian Teenage Perspective**

**Table 3: Validity and Reliability of the Socialisation Scale**

	Cronbach's alpha	Factor loading	Eigen value	Variance explained	*AVE	*CR
<b>Factor 1: Athlete</b>	0.899		5.560	24.173	0.692	0.918
9.11. My Favourite athlete provides a good model for me to follow.		0.844				
9.12. My Favourite athlete sets an example for me.		0.869				
9.13. My Favourite athlete sets a positive example for others to follow.		0.791				
9.14. I try to follow the behaviour displayed by my Favourite athlete.		0.832				
9.15. My Favourite athlete acts as a role model for me.		0.822				
<b>Factor 2: Father</b>	0.884		3.319	14.431	0.631	0.895
9.6. My Father provides a good model for me to follow.		0.775				
9.7. My Father sets an example for me.		0.819				
9.8. My Father sets a positive example for others to follow.		0.797				
9.9. I try to follow the behaviour displayed by my Father.		0.810				
9.10. My Father acts as a role model for me.		0.768				
<b>Factor 3: Mother</b>	0.830		2.254	9.80	0.538	0.852
9.1. My mother provides a good model for me to follow.		0.796				
9.2. My mother sets an example for me.		0.819				
9.3. My mother sets a positive example for others to follow.		0.716				
9.4. I try to follow the behaviour displayed by my mother.		0.637				
9.5. My Mother acts as a role model for me.		0.683				
<b>Factor 4: Celebrity</b>	0.831		1.623	7.056	0.732	0.891
9.16. I want to be as smart as movie idols.		0.826				
9.17. I want to be as stylist as people appearing in ads.		0.900				
9.18. I want to be as trendy as models in magazines.		0.838				
<b>Factor 5: Internet</b>	0.668		1.576	6.854	0.592	0.813
9.20. I access Internet every day		0.805				
9.21. On holidays, I spend more time than usual surfing net.		0.757				
9.22. I find using internet more enjoyable than watching TV.		0.745				
<b>Factor 6: Friend</b>	0.722		1.367	5.945	0.750	0.857
9.25. My friend and I learn from each other about Sports Apparel .		0.871				
9.26. My friend and I trust each other about buying Sports Apparel .		0.861				

\*AVE - Average Variance Explained; \*CR- Composite reliability



### ***The influence of socialisation agents on consumer decision making styles***

The Linear regression results of socialisation agents with the composite score of consumer decision making styles indicated that the independent variables explained 96 % of the variation in CDMS (R2 = 0.962; Adjusted R2 = 0.962; F = 5166.377; Significance = 0.000). CDMS of Indian teenagers was positively and significantly influenced by: Celebrity beta= 0.250; significance = 0.000), Friends (beta= .208; significance = 0.000), Mother beta= 0.194; significance = 0.000), Internet (beta= .165; significance = 0.000), Athlete (beta= 0.136; significance = 0.000), Father (beta= 0.074; significance = 0.000). Multi collinearity was checked by computing values of tolerance and VIF (Variance inflation factor) and found to be within satisfactory limit (Tolerance more than 0.1 and VIF below 10).

The influence of socialisation agents on the characteristics of consumer decision making styles

It is interesting to note that there was difference in the intensity of influence generated by the socialisation agents on the characteristics of consumer decision making styles. Top three influencers of socialisation agents were found for each of the characteristics of consumer decision making styles (Table 4).

### ***Socialisation agents and Brand consciousness***

The Linear regression results indicated that the independent variables explained 89 % of the variation in Brand consciousness of teenagers (R2 = 0.898; Adjusted R2 = 0.897; F = 1767.872; Significance = 0.000). Although, Brand consciousness of Indian teenagers was positively and significantly (P = 0.000) influenced by different socialisation agents i.e. Celebrity, Friends, Internet, Athlete and Mother.

Celebrity (Beta = 0.288), Friends (Beta = 0.216) and Internet (Beta = 0.170) had the highest influence on the brand consciousness. Father did not significantly influence the brand consciousness of teenagers (Table 4).

### ***Socialisation agents and Novelty Fashion Consciousness***

The Linear regression results indicated that the independent variables explained 90 % of the variation in Novelty Fashion Consciousness of teenagers (R2 = 0.903; Adjusted R2 = 0.903; F = 1885.414; Significance = 0.000). Novelty Fashion Consciousness of teenagers was positively influenced by celebrity, Internet, friend, athlete (p = 0.000) and mother (p = 0.01). Celebrity (Beta = 0.268), Internet (Beta = 0.249) and friend (Beta = 0.227) influenced novelty fashion consciousness more than other agents. Father did not influence Novelty fashion consciousness of teenagers significantly (Table 4).

### ***Socialisation agents and Quality Consciousness***

The Linear regression results indicated that the independent variables explained 87 % of the variation in Quality Consciousness of teenagers (R2 = 0.876; Adjusted R2 = 0.875; F = 1425.732; Significance = 0.000). All socialisation agents (mother, father, celebrity, internet, friends, p = .000; athlete, p = .001) positively and significantly influenced the quality consciousness of teenagers. Quality consciousness characteristic of teenagers was influenced more by friend (Beta = 0.241), celebrity (Beta = 0.182) and Internet (Beta = 0.165) (Table 4).

### ***Socialisation agents and Perfectionist***

The Linear regression results indicated that the independent variables explained 86 % of the

variation in Perfectionist characteristics of teenagers (R2 = 0.863; Adjusted R2 = 0.863; F = 1274.091; Significance = 0.000). All the socialisation agents (athlete, mother, celebrity, internet and friend, p = .000; father, p = .001) positively and significantly influenced the Perfectionist characteristic of teenagers. Friend (Beta = 0.243), Internet (Beta = 0.171) mother (Beta = 0.157) were the highest influencers for perfectionist characteristics of teenagers (Table 4).

### ***Socialisation agents and Price value consciousness***

The Linear regression results indicated that the independent variables explained 86 % of the variation in the price value consciousness of teenagers (R2 = 0.861; Adjusted R2 = 0.860; F = 1245.729; Significance = 0.000). Price value consciousness of teenagers was positively and significantly influenced by all the socialisation agents (mother, father, athlete, celebrity and friend, p = .000; internet, p = .001). Price value consciousness was influenced most by mother (Beta = 0.354) followed by friend (Beta = 0.156) and athlete (Beta = 0.142) (Table 4).

### ***Socialisation agents and Recreational/ Hedonistic***

The Linear regression results indicated that the independent variables explained 87 % of the variation in the recreational/ hedonistic characteristic of teenagers (R2 = 0.879; Adjusted R2 = 0.878; F = 1465.644; Significance = 0.000). Among the socialisation agents mother, celebrity, internet and friend positively and significantly (p = .000) influenced the recreational/ hedonistic characteristic of teenagers while father and athlete did not influence. Athlete (Beta = 0.460) was the highest influencer in recreational / hedonistic characteristics of teenagers followed by

celebrity (Beta = 0.354) and mother (Beta = 0.217) (Table 4).

### ***Socialisation agents and Habitual brand loyal***

The Linear regression results indicated that the independent variables explained 89 % of the variation in the Habitual brand loyal characteristic of teenagers (R2 = 0.899; Adjusted R2 = 0.899; F = 1801.532; Significance = 0.000). Habitual brand loyal characteristic of teenagers was positively and significantly influenced by all the socialisation agents mother, athlete, celebrity, internet, friend (p = 0.000) and father (p = 0.05) (Table 4). Celebrity (Beta = 0.354), mother (Beta = 0.217) and friend (Beta = 0.175) were the top three influencers for habitual brand loyal characteristics.

### ***Socialisation agents and confused by over choice***

The Linear regression results indicated that the independent variables explained 91 % of the variation in the recreational/ hedonistic characteristic of teenagers (R2 = 0.910; Adjusted R2 = 0.909; F = 2027.712; Significance = 0.000). Confused by over choice characteristic of teenagers was positively and significantly (p = 0.000) influenced by all the socialisation agents mother, athlete, celebrity, internet, friend and father (p = 0.01) (Table 4). The top three influencers of this characteristics were celebrity (Beta = 0.250) mother (Beta = 0.219) and friend (Beta = 0.195).

As seen the different consumer decision making styles were significantly influenced by the socialisation agents. Based on the above findings H2: Interaction with socialisation agents (father, mother, friends, athlete, celebrity and Internet) will influence the consumer decision making styles of Indian teenagers was confirmed.

Relationship between Socialisation Agents and Consumer Decision Making Styles:  
An Indian Teenage Perspective

Table 4: Relationship between Socialisation agents and CDMS

	Brnd		NFC		QC		PC	
Socialisation Agents	Beta	t- value	Beta	t- value	Beta	t- value	Beta	t- value
mother	0.111	3.773*	0.079	2.76 **	0.159	4.884 *	0.157	4.606 *
father	0.056	1.957	0.005	0.171	0.132	4.173 *	0.111	3.339 **
athlete	0.149	5.301*	0.164	5.982 *	0.102	3.296 **	0.144	4.425 *
celebrity	0.288	11.201*	0.268	10.727 *	0.182	6.430 *	0.147	4.948 *
Internet	0.170	6.959 *	0.249	10.531 *	0.165	6.149 *	0.171	6.086 *
friend	0.216	8.287 *	0.227	8.970*	0.241	8.418 *	0.243	8.071 *
Top three Influencers	celebrity		celebrity		friend		friend	
	friend		Internet		celebrity		Internet	
	Internet		friend		Internet		mother	
	PVC		Rec		Hbl		Cboc	
Socialisation Agents	Beta	t- value	Beta	t- value	Beta	t- value	Beta	t- value
mother	0.354	10.282 *	0.217	6.769 *	0.217	6.769 *	0.219	7.905*
father	0.119	3.559 *	0.120	0.399	0.012	0.399 ***	0.072	2.651 **
athlete	0.142	4.316 *	0.460	1.486	0.046	1.486 *	0.165	6.231 *
celebrity	0.105	3.498 *	0.354	12.67 *	0.354	12.670*	0.250	10.357 *
Internet	0.092	3.242 **	0.174	6.587 *	0.174	6.587*	0.096	4.199 *
friend	0.156	5.123 *	0.175	6.183 *	0.175	6.183*	0.195	7.957 *
Top three Influencers	mother			athlete		celebrity		celebrity
	friend			celebrity		mother		mother
	athlete			mother		friend		friend

\* significant at .001, \*\* significant at .01, \*\*\* significant at .05, rest not significant

Abbreviations: CDMS - Consumer decision making styles; Brnd- Brand Consciousness; NFC- Novelty Fashion Consciousness; QC- Quality Conscious; PC- Perfectionist; PVC- Price value consciousness; REC- Recreational/Hedonistic; HBI- Habitual Brand loyal Consumer; CBOC- Confused by over choice

## DISCUSSION AND CONCLUSIONS

The findings imply that the Indian teenagers display eight characteristics of consumer decision making styles namely Brand consciousness, Novelty Fashion Consciousness, Quality Consciousness,

Perfectionist, Price value consciousness, Recreational/ Hedonistic, Habitual brand loyal and confused by over choice. Some of the styles had (Recreational/ Hedonistic and confused by over choice) higher reliability and validity as compared to others. Each of the eight characteristics were

Relationship between Socialisation Agents and Consumer Decision Making Styles:  
An Indian Teenage Perspective

influenced by socialisation agents (father, mother, friend, athlete, celebrity and Internet).

The consumer decision making styles of teenagers (as a whole) are most influenced by Celebrity followed by Friend and Mother. The advertisements featuring celebrities can convey the marketing message more emphatically to this segment because the teenagers idolise the movie stars, and want to be as stylist and trendy as models. Communications routed through friends and mother will also have substantial influence on the teenagers. Among the influence of socialisation agents on the characteristics of CDMS, celebrity had the highest influence on Brand consciousness; Novelty fashion consciousness; Habitual brand loyal and confused by over choice characteristics. The teenagers imitate the celebrities as they want to be as smart as movie idols; stylist and trendy as models. The celebrities influence the teenagers in a positive way by inculcating brand loyalty and making them aware of brands and fashion. But these celebrities negatively influence the teenagers by making them more confused by over choice (due to information overload). Friend has the highest influence on quality consciousness and perfectionist characteristics. Thus teenagers not only learn about best quality or perfect products from their friends but also trust each other on buying them. These findings are in line with Dotson and Hyatt (2005) which state that there is an increase in the influence of popular brands on children due to peer pressure and celebrity endorsements.

Mother teaches the teenager to be more price value conscious by becoming aware of prices and sale prices. Athlete on the other hand encourages the teenagers to have fun while shopping i.e. making them more recreation/ hedonistic. Thus as teenagers develop cognitive abilities their capacity to process information from their environment increases. This leads to sophisticated decision making skills (John 1999). The shopping behaviour of teenagers is also of interest to consumer educators which will enable them to educate teenagers on shopping strategies and making purchasing decisions. However, only a few studies have been done in a school environment relating to teenagers consumer behaviour and

consumer socialisation. This study attempts to fill this gap.

### Limitations of the study

The study was carried out in schools of National Capital Region. The students in these schools were coming from well to do families, with higher education level and had exposure of living in a metropolitan culture. Although the sample was a homogeneous one, the results of the study cannot be generalised for the whole teenage population of India.

### Implications

#### Theoretical implications

The study findings show that the existing consumer decision making styles (Sporles and Kendall 1986) which describe the consumers approach to making choices provide only a partial picture of these orientations. It does not answer the question on who influences the teenagers in depicting certain characteristics of consumer decision making styles. The findings of the current study contribute towards forming an improved understanding of the CDMS. The improvement includes: providing a more comprehensive consumer style inventory for teenagers in general and Indian teenagers in particular; including the influence of socialisation agents on the consumer decision making styles. Moreover, the study proposes paying more attention to the role of socialisation agents especially celebrity, friends, mother and athlete in influencing the styles. As the influence of socialisation agents on the consumer decision making styles of Indian teenagers has been probed for the first time, this study contributes to the body of knowledge related to consumer behaviour of teenagers.

### Practical Implications

The above findings have practical implications. The consumer decision making styles are important for further understanding the behaviour of teenage consumer. The recommendation is not to simply segment this young population but to understand the importance of socialisation agents in shaping these styles.



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## Relationship between Socialisation Agents and Consumer Decision Making Styles: An Indian Teenage Perspective

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As regards the teenagers, marketing activity aimed at creating more brand consciousness, fashion consciousness and habitual brand loyal consumers can do so through celebrities. Advertisements can create a positive attitude of products through celebrity endorsements. Since the teenagers idolise celebrities, in store promotions of products by celebrities would help in attracting this segment. However, the marketer has to use caution as over use of celebrities by different brands is likely to cause confusion in the minds of the teenagers. Those Marketers who wish to position their products as best in quality or perfect products should try to create a reference group appeal through friends in their advertisements. Teenagers also see shopping as a recreation activity when they are under the influence of athletes. In store promotion of accessories and merchandise with pictures and logos of popular athletes would help in making shopping a fun activity for the teenagers. Since mothers directly influence the price value consciousness of teenagers, marketers of value based products should target special promotion schemes at them. The findings related to socialisation of teenagers and their effect on consumer decision making styles would enable marketers to keep a tap on the pulse of the market. Marketers should tailor their communication strategies to different socialisation agents to elicit a positive response from teenagers.

### Future research

Future research is needed to examine other factors like culture and demographics which influence the consumer decision making styles of this segment. In addition, it is important to examine the implications of consumer decision making styles on the consumer behaviour of teenagers in market place like malls and other retail outlets. Further an interesting question which needs to be probed is how the online versus off line consumer decision making styles differ.

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## Relationship between Socialisation Agents and Consumer Decision Making Styles: An Indian Teenage Perspective

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Dr. Dey has conducted many training sessions, seminars and workshops in India and abroad. He has served as a resource person at many Faculty and Management Development workshops. He frequently gets invited to conduct courses at various management institutes in India and abroad.

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# Niche vs. Multi-Specialty Firms: A SAP-LAP Analysis of Indian Semiconductor Industry

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The Indian semiconductor industry is one of most dynamic and competitive industry in India. There are several participants of this industry. Some are only semiconductor product companies and some are multi-specialty firms which are dealing in other industries simultaneously. This study will examine whether there exists any similarity between these companies or not? The study has adopted the case study method. Four semiconductor industry companies were selected and tested on SAP-LAP (Situation-Actor-Process Learning-Action-Performance) framework. The findings suggest that except few components and the structure, there is no difference in the competitiveness, the basic work environment of both types of companies.

**KeyWords:** Case study, Indian Semiconductor companies, Information technology (IT), SAP-LAP framework.

## INTRODUCTION

Patents have become an important face of the changing trade environment. It resulted into a factor of key differentiation among companies and countries. Newer and revolutionary patents have now become the part and parcel of all fast-changing industries like IT, bio-technology, pharmaceuticals and engineering. Past decade has seen many new entrants due to change in number of patents counts. These companies have enhanced their businesses and improved their competitive positioning in the market with the help of patent filings worldwide.

Globally, Indian Patent System (IPS) is not considered as the very strong and safe system. This perception has changed considerably since 2005 (when Patent Amendment Act, 2005 was implemented) and IPS is becoming a favourite and a comfortable destination for many big corporates. There exist more scope of flexibility in Indian patent regime. Government of India has already declared some incentives and schemes to promote IP activity throughout India which includes putting up of IP protection system to protect different intellectual property rights and technology development and promotion programs, new millennium Indian technology initiative programs to attract new vendors, small business innovation research

## Niche vs. Multi-Specialty Firms: A SAP-LAP Analysis of Indian Semiconductor Industry

initiatives, setting up of technology parks and establishing pharma R & D (Research and Development) supporting funds.

## INDIAN SEMICONDUCTOR INDUSTRY

Indian semiconductor industry is an up-coming and highly volatile industry. Semiconductor firms sell products that embed hundreds if not thousands of patented inventions, elevating concerns about patent-related hold-up in this sector (Hall and Ziedonis, 2007). According to RNCOS, a research based company, the Indian semiconductor market is anticipated to grow at a CAGR of around 22 percent in 2012-2015. This industry is basically divided into fab and fabless products, which deals with designing and fabrication part, also called the semiconductor foundry, where the final microchip is manufactured. Within semiconductor design, there are technologies related to Very Large Scale Integration (VLSI) design, embedded software and electronic design automation (EDA). The past decade has seen a growing demand and market for smart phones,

intelligent vehicles, renewable energy (especially solar photo-voltaic), solid state lighting (LEDs), electronics in the healthcare sector, tablets, increasingly sophisticated displays, etc.

## REVIEW OF LITERATURE

Many authors had carried out studies and also identified various variables responsible for the number of patents' application filing like R & D level, market characteristics, international collaboration, level of economic development, political environment, legal tradition, examination system after patent grant, technology and system and local and international IP laws (Ginarte and Walter, 1997, Lerner 2002, Hall and Harhoff, 2004). However in the Indian context not many noticeable studies have been conducted to highlight the need and relevance of patent for profitability of organisations. Also, a differentiation between the speciality and non-speciality has not being prominently done before. Some of the studies and their findings are as follows:

Name of author and publication	Title of the study	Sample and research tool	Key findings
Czarnitzki D. and K. Kraft (2003) published in Review of Industrial Organization, Vol. 24 (1).	Management control and innovative activity	Sample: German based 3978 observations. Research tools used is: Tobit regression	The R&D expenditures of manager-led firms depend on the control exerted.
D. Audretsch and Z. Acs (1991) published in Southern Economic Journal, Vol. 57 (3).	Innovation and the size at firm level	Sample: Number of innovations n 1982. Research tool used is: t- statistics	If a firm is motivated to introduce an innovation by relatively poor growth in the past, the amount of efforts that it can expand towards its end will be constrained by its financial position.
Grindley and Teece (1997) published in California Management Review, Vol. 39(2):8-41.	Managing intellectual capital: licensing and cross-licensing in semiconductors and electronics		Excessive patenting stem from dynamic high-tech industries that face highly fragmented markets for technology, such as semiconductors, electronics, and software. If IP fragmentation was the main driver of excessive patenting, less dynamic and
Hall and Ziedonis (2001) published in RAND Journal of Economics, Vol. 32(1), pp 101-128	The patent paradox revisited: an empirical study of patenting in the U.S. semiconductor industry, 1979-1995.	Sample: 95 US semiconductor firms. Research tool used is: Econometric model	



**Niche vs. Multi-Specialty Firms:  
A SAP-LAP Analysis of Indian Semiconductor Industry**

Name of author and publication	Title of the study	Sample and research tool	Key findings
Ziedonis (2004) published in Management Science, Vol. 50(6):804-820	Don't fence me in: fragmented markets for technology and the patent acquisition strategies of firms	Sample: 67 US semiconductor firms. Research tools used are: Citation based fragmentation index	more consolidated industries with highly concentrated patent ownership devise ex-ante solutions to the potential holdup problems, and thus are able to avoid inefficient patent portfolio races.
Noel and Schankerman (2006) published in LSE STICERD Research Paper No. E143	Strategic patenting and software innovations	Sample: 121 firms.	
Buenstorf and Klepper (2004) published in Economics and evolution 2004-07, Max Planck Institute of Economics.	The Origin and location of entrants in the evolution of the U.S. tire industry	Sample: US Tire industry from 1905 to 1980. Research tool used is: Conditional logit regression	New firms may emerge as previous employees start up new businesses locally
Jain, Saini and Verma (2012) published in International Journal of Advanced Computer Research, Special Issue on Emerging Trends and Technology. Volume 2, Number 4, Issue 6:pp-223-229	Technical edge for competitive advantage by patenting: A study of Indian semiconductor industry	Sample: 20 Indian semiconductor companies Research tool used is: Kendall's coefficient of concordance and Chi-square test	Indian patent law is so open that many foreign MNCs with Indian subsidiaries can easily file their patents here and, if lawfully correct, can enjoy the positive inputs from it
Levin, Klevorick, Nelson and Winter (1987) published in Brookings Papers on Economic Activity: 783-820	Appropriating the returns from industrial R&D	Sample: 650 individuals from 130 lines of business Research tool used is: ANOVA	Companies in other industries reported that patents play a secondary, if not negligible, role as a means of protection for their inventions, as they tend to rely more on alternative means such as secrecy, market lead, advance on the learning curve, technological complexity and control of complementary assets
Cohen, Nelson and Walsh (2000) published in NBER Working Paper 7552	Protecting Their intellectual vassets: Appropriability conditions and why US manufacturing firms patent or not	Sample: 1478 R & D labs in US manufacturing labs. Research tool used is: Chi-square test and Wilcoxon z	
Raghavendra (2007) published in Newspaper. May1, 2007, Times of India	IT companies enjoy revenue gains from patents.		Acquisitions were made due to the companies' expertise in niche areas
Scherer (1965) published in Journal of Political Economy. University of Chicago Press. Volume 73, Number 3, pp 290-297	Corporate inventive output, profits and growth	Sample: 448 firms of Fortune 500 firms. Research tool used is: regression analysis.	Successful inventions and innovations increase only in two possible ways i.e. by widening the profit margin earned on a dollar of change and by opening up new opportunities for new profitable sales growth

**Niche vs. Multi-Specialty Firms:  
A SAP-LAP Analysis of Indian Semiconductor Industry**

Review of literature does support speciality and multi-speciality firms in equal manner to enhance the patent scenario in Indian context. Coming sections will discuss the results of Indian semiconductor industry.

## OBJECTIVE OF THE STUDY

The main objective of the study is:

“To establish a relationship between specialty and multi-disciplinary firms, particularly the firms operating in computer software embedded system and VLSI (Very large Scale Integrated Circuits) design.”

On the basis of this objective, all the patent related aspects of the semiconductor company are compared with the help of SAP-LAP framework.

## RESEARCH METHODOLOGY

The objective of the study is based on characteristics of the sampled companies. The sample taken for the study was the Indian semiconductor product manufacturing companies. In present study, the companies dealing in VLSI design and computer software embedded system product shall be included. Along with the niche semiconductor companies, it also includes those companies which are dealing in other industries like telecom, engineering and electronics. In total, there are 45 semiconductor companies in India who are manufacturing the semiconductor products. Rest of the companies are assemblers. It was observed that some major players of this portfolio industry like TCS (Tata Consultancy Services), BHEL (Bharat Heavy Electrical Limited) and Samsung Electronics helped in making semiconductor industry even larger in terms of innovativeness, competitiveness and speciality. Although there is an array of products in semiconductor industry but India is more of an IC chips industry. According to S.

Janakiraman, Advisor and Executive Council Member, India Semiconductor Association (ISA), India needs to find its own niche in a specialized market that can provide major growth opportunities in the future, probably in medical electronics, since the penetration of electronics and software in the medical domain is constantly increasing. This statement shows that there is immense growth opportunity in this area and one needs to explore it.

The study stems to identify whether there exist any similarity in these niche and multispecialty semiconductor firms or they are working independently in their own style. For this, the case study method is being used. The case study method has been used to systematically develop a pattern model of patenting by the companies and also to establish the relationship between various variables and the number of patent applications filed by the respective companies. A case study (or case report) is a descriptive, exploratory or explanatory analysis of a person, group or event. An explanatory case study is used to explore causation in order to find underlying principles. Case studies may be prospective (in which criteria are established and cases fitting the criteria are included as they become available) or retrospective (in which criteria are established for selecting cases from historical records for inclusion in the study). This study is prospective in nature as we divided the complete semiconductor industry in two categories, one representing the niche semiconductor segment and the second representing the multispecialty firms. Two firms of each type are selected randomly. These four companies have been studied deeply from different perspectives based on information collected from different sources for the period of almost 10 years i.e. between 2003 and 2013. The companies selected for the case study are Qualcomm India and STMicroelectronics as niche companies and TCS and Samsung Electronics as multispecialty firms. Companies' websites, personal interviews,

case studies, annual reports and latest news helped in gathering all the information and forming a case study for these companies.

## SAP-LAP FRAMEWORK BASED ANALYSIS

For analyzing the collected data, SAP-LAP framework has been used. This framework is developed by Prof. Sushil Kumar, IIT, Delhi. According to him, "SAP-LAP paradigm is the basis of inquiry in management which is equally applicable in non formal service sector" (Sushil, 1997). This SAP-LAP framework can be used for case analysis, managerial inquiry and problem solving. It comprises of three basic elements i.e. situation, actor and process. The interplay and synthesis of situation actor process (SAP) leads to learning action performance (LAP) (Sushil, 2000). The steps for case analysis using SAP-LAP framework are: understanding situation, actors and roles, evolving processes, learning issues, suggested actions, and expected performance. The situation is to be managed to an organic order by an actor through flexibly evolved self organizing management process, which recreates situation. The actor exercises the freedom of choice and systematically evolves a management process in an interactive and innovative manner. Situation, actor, process and their interplay comprise of SAP framework. A detailed description of all these terms is as follows:

"Situation" defines the external and internal environment of an organization and its performance. In a dynamic sense, the historical development and milestones provide the organizational situation are discussed in it.

The "actor" can be individual managers, or groups, departments or class of actors such as suppliers,

competitors, government, consultants, management, employees, etc. Some important variables in the "actor" domain are motivation, morale, attitude, actor performance, roles, capabilities, world-views, freedom of choice, communication, knowledge, skills and so on. The interface of "actor" and "situation" defines the organizational climate and culture that is important for the evolution of the business processes.

The "process" is the overall transformation process that converts a set of inputs into outputs to recreate the situation. The processes could be of various types, such as, supply chain process, customer interface process, performance management process, technology transfer process, innovation process, investment process, distribution process and so on. Depending upon the situation, one or more processes are to be studied and improved for higher flexibility.

The interface of "actor" and "process" defines the strategy, structure and systems that need to be transformed for organizational change. The interface of "process" and "situation" defines the contingency to be taken care of (e.g. contingency planning) and adaptation and response of the process to the changing situation.

The interplay and synthesis of SAP leads to Learning-Action-Performance (LAP). The researcher needs to learn about the situation, actor and process and bring out key learning issues of interest. Based on the learning, the action is to be taken on situation, actor or process or the relevant interfaces. Depending upon the effectiveness of actions, performance is generated in terms of improved processes/actors and better situational parameters. In a business situation, the performance parameters could be market share, profitability, quality, productivity, competitive advantage, core competence and so on. The SAP-LAP model can be

seen through Figure 1. Here, the "situation" examines the past, present and the expected future; the "actor" explores the world views, roles and capabilities, freedom of choice; the "process" explains the need, what characteristics, how the inputs are converted into outputs, and other alternative ways of doing the process; "learning" refers to the key issues related to the SAP; "action" refers to what ought to be done to improve SAP; "performance" indicates the impact of system's performance on SAP.

In this study, SAP-LAP is used to discuss the situation of patenting in semiconductor sector by selecting four companies, the people behind these

innovations, how these companies follow their patent procedure throughout the past 10 years. It will also discuss the initiatives by the companies to increase their profitability from patent applications and its linkages with hypotheses of the study. Information collected through primary and secondary sources shall help in extracting out some meaningful inferences.

SAP-LAP model of patent scenarios of sample companies is framed through Table 1, 2, 3 and 4. These tables will discuss the working, people, process, issues, actions and performance of the company. It will help in drawing conclusion about the hypotheses framed in the beginning of the study.

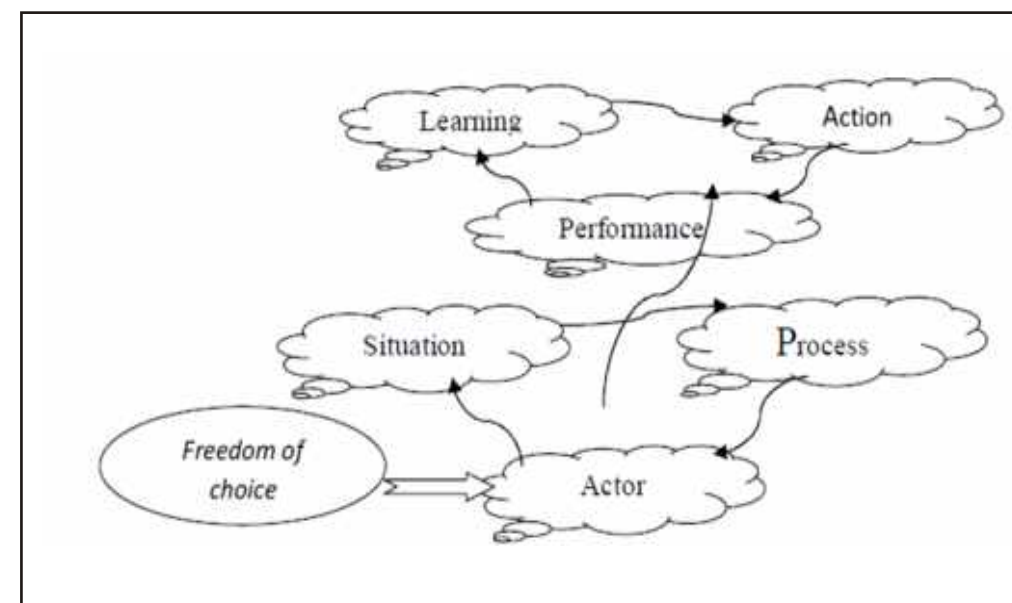


Figure 1 SAP-LAP Model

(Note: Retrieved from Dubey, D K Sen and A ATalankar, 2012. [http://www.vsrjournals.com/ME/Issue/2012\\_12\\_December/Web/1\\_Sandeep\\_Kumar\\_Dubey\\_1065\\_Research\\_Article\\_VSRDIJMAPE\\_December\\_2012.pdf](http://www.vsrjournals.com/ME/Issue/2012_12_December/Web/1_Sandeep_Kumar_Dubey_1065_Research_Article_VSRDIJMAPE_December_2012.pdf))



**Niche vs. Multi-Specialty Firms:  
A SAP-LAP Analysis of Indian Semiconductor Industry**

**Table 1: SAP-LAP Model of patent scenario of semiconductor companies: TCS**

Stages	Issues
<b>Situation</b>	
1. How company entered into semiconductor industry?	1. Tata Consultancy Services Limited (TCS) is an Indian multinational information technology (IT) services, business solutions and consulting company
2. How is the present performance of the company?	2. Tata Research Development and Design Centre (TRDDC) was established in Pune, India in 1981.
3. What is expected from the company?	3. The annual revenues are at Rs. 62989 Cr. which is 28.8% up as compared to last year data.
	4. TCS has 19 Innovation Labs based in three countries
	5. Provides strategic services like product engineering services, manufacturing systems, supply chain management, business services, enterprises services, BPO and analytics, software products and IT infrastructure required for future actions
	6. Global Network Delivery Model (GNDM) for best practices.
	7. TCS has filed 855 patents till date, of which 72 have been granted.
	8. Increasing sales and gross profit shows improved and regular deliverables by the company. Gross profit and net sales are moving in same way and same direction.
<b>Actor</b>	
1. What are the world views?	1. TCS is placed at the 29th position by business magazine Forbes
2. What roles and capabilities are exhibit?	2. Strategic services like product engineering services, manufacturing systems, supply chain management, business services, enterprises services, BPO and analytics and IT infrastructure required for future actions
3. In what domains is freedom of choice available?	3. TCS enhances Return on Investment (ROI) through remote manageability and flexible SLA-based service models on the ITIL framework.
	4. The next-gen solutions in supply chain, Customer Relationship Management (CRM), Business Intelligence (BI), and content management help scale up business and bring agility.
	5. SCM services help reduce costs through automation and IT investments, increase productivity, optimize processes, and support incremental innovation.
<b>Process</b>	
1. What is being done?	1. Country's largest software services firm Tata Consultancy Services (TCS) joined US2020 as a founding leadership partner.
2. What are the variables and parameters	2. The company has plans to get 20 per cent of the company's STEM workforce mentoring students by 2020

**Niche vs. Multi-Specialty Firms:  
A SAP-LAP Analysis of Indian Semiconductor Industry**

Stages	Issues
3. What can be changed?	3. Strategy makers and knowledge workers are the key to success.
4. What it is being done?	4. Evaluation of the strategies has to be continued on yearly basis.
5. How is it being done?	5. Strong commitment by the stakeholders
6. What, why and how else?	6. TCS'co-innovation network partners include Collabnet, Cassatt, academic institutions such as Stanford, MIT, various IITs, and venture capitalists like Sequoia and Kleiner Perkins
<b>Synthesis</b>	
<b>Learning</b>	
1. What are the key issues related to situation?	1. The ability to manage growth, intense competition among Indian and overseas IT services companies.
2. What are the key issues related to actors?	2. An appreciating rupee, the ability to attract and retain highly skilled professionals.
3. What are the key issues related to process?	3. Political instability, legal restrictions on raising capital or acquiring companies outside India, unauthorized use of our intellectual property and general economic conditions affecting our industry.
	4. The ability to manage the international operations and reduced demand for technology in the key focus areas.
	5. The ability to successfully complete and integrate potential acquisitions and the success of the companies in which TCS has made strategic investments
<b>Action</b>	
1. What can be done to improve situation?	1. Assessment of the challenges mentioned earlier is one of the key tasks of this group.
2. What can be done to improve actors?	2. Meaningful domains become the drivers and key stakeholders for the success of the program
3. What can be done to improve process?	3. Communication of the challenges within the organization.
	4. Specialists leading the technology COEs business mains, and program offices can be appointed.
	5. Creation of the right teams, agreeing on an approach and closely coordinated execution can take even the most complex of PAI scenarios to a successful conclusion.
<b>Performance</b>	
1. What will be its impact on situation?	1. Improved and faster patent portfolio
2. How will the actors be affected?	2. Better participation of employees in profit sharing
3. How will the performance of the process be affected?	3. More technology based mergers and acquisitions
	4. Market oriented strategy formulations
	5. Future strategies for mentioned challenges
	6. Better assessment of competitors moves.

**Niche vs. Multi-Specialty Firms:  
A SAP-LAP Analysis of Indian Semiconductor Industry**

**Table 2: SAP-LAP Analysis of STMicroelectronics**

Stages	Issues
<b>Situation</b>	
1. How company entered into semiconductor industry?	1. It is French multinational electronics and semiconductor manufacturer headquartered in Geneva, Switzerland.
2. How is the present performance of the company?	2. It is a hardcore product manufacturing semiconductor company.
3. What is expected from the company?	3. ST focuses its product strategy on sense and power technologies, automotive products and embedded-processing solutions.
	4. Almost one quarter of its employees work in R&D and product design and in 2012 the Company spent about 28% of its revenue in R&D.
	5. Among the industry's most innovative companies, ST owns about 16,000 patents, about 9,000 patent families and 515 new filings
	6. The company has 16 research and development units and 39 design and application centers.
	7. It is world's largest semiconductor companies with net revenues of US\$ 8.49 billion in 2012.
	8. They have a positive relation between sales and gross profit of the company for the last decade.
<b>Actor</b>	
1. What are the world views?	1. STMicroelectronics has been given a triple-A rating in eco-efficiency by Innovest Strategic Value Advisors.
2. What roles and capabilities are exhibit?	2. They confirmed as a leading Secure Element vendor 2 and, during 2012, they added a new secure micro platform that has already been adopted by several card manufacturers for EMV (Eurocard, Mastercard, Visa) Banking migration in China.
3. In what domains is freedom of choice available?	3. In trust and data security, ST diversify into Industrial, Automotive, Digital Still Cameras, and Gaming applications.
	4. ST gained transaction for high-resolution multimedia-monitor controllers in premium monitors and public displays with many of the top manufacturers, including LG, Samsung and others.
	5. ST was the first company in the world to deliver samples of a 28nm FD-SOI System-on-Chip device from our Crolles (France) 300mm facility.
<b>Process</b>	
1. What is being done?	1. Working with breakthrough projects and on-going incremental changes to the products, processes, quality management system and the organization.
2. What are the variables and parameters?	2. Recognition to individual and team contributions to achieving this objective through corporate.
3. What can be changed?	3. Local recognition programs for excellent individual and team performance.
4. What it is being done?	4. ST operates a worldwide network of front-end and back-end plants.

**Niche vs. Multi-Specialty Firms:  
A SAP-LAP Analysis of Indian Semiconductor Industry**

Stages	Issues
5. How is it being done?	5. The company actually improved its net financial position to \$1.19 billion.
6. What, why and how else?	6. The advances and breakthroughs in products and technologies in 2012 contributed to ST gaining market share in several targeted markets.
	7. Major automotive players in Europe, Japan and the US confirmed our leadership by choosing its latest 110nm BCD process for Safety, Power train and Body applications.
	8. It earned key design wins for the world's most powerful set-top box system-on-chip in Set-Top box families for cable, terrestrial & IPTV saw fast adoption globally.
<b>Synthesis</b>	
<b>Learning</b>	
1. What are the key issues related to situation?	1. STMicroelectronics has stayed out of the volatile markets for DRAM and PC microprocessors.
2. What are the key issues related to actors?	2. The time between technology concept and real market adoption is longer.
3. What are the key issues related to process?	3. The issue of coexistence is foreseen as one major threat to WSN mass-market adoption.
	4. To maintain financial flexibility and a strong cash position taking care of operating expenses simultaneously.
<b>Action</b>	
1. What can be done to improve situation?	1. ST's market share in the MEMS mobile and handset market to 48%. 1 — more than 2x of the closest competitor — and ensured that ST has leadership in MEMS across all mobile operating systems.
2. What can be done to improve actors?	2. The setup of standard solutions will definitely help in reducing device costs and creating true interoperability.
3. What can be done to improve process?	3. Leadership in Sense and Power and Automotive Products and embedded processing solutions.
	4. Establishment of new Sales & Marketing organization with a particular focus on our major accounts, as well as expanding our penetration of the mass market.
	5. The innovative products in various areas, combined with the competitive technology and flexible and independent manufacturing capabilities, bring even more opportunities to significantly grow the revenues and gain market share.
	6. Employee suggestion scheme for improving performance.
<b>Performance</b>	
1. What will be its impact on situation?	1. Communication, teamwork and knowledge sharing will allow the company to connect people to information and people to people.
2. How will the actors be affected?	2. The search for excellence addresses quality cost and service items for any processes using fact-based methodologies.
3. How will the performance of the process be affected?	3. More capturing of market share with more satisfied customers.
	4. Creation of new financial model resulting into less dependency on outside partners.



**Niche vs. Multi-Specialty Firms:  
A SAP-LAP Analysis of Indian Semiconductor Industry**

**Table 3: SAP-LAP Analysis of Qualcomm Incorporated**

Stages	Issues
<b>Situations</b>	
1. How company entered into semiconductor industry?	1. Qualcomm has a very distinctive position in the global wireless telecom market.
2. How is the present performance of the company?	2. Qualcomm owns majority IPR to the CDMA (Code Division Multiple Access) wireless standard.
3. What is expected from the company?	3. Qualcomm built the Eudora email program, which they continue to sell.
	4. Qualcomm is among Top 10 companies to work for in India.
	5. It is also among top 100 companies to work for in America and among Top 25 best companies to work for in Canada.
	6. It has a highly engaged and motivated workforce.
	7. It has somewhere more than 13,000 patents in its account.
	8. Qualcomm's annualized attrition rate is down by 5.3% in FY'12 from 9.8% in FY'11.
	9. The core objective of Qualcomm is to be flexible, open and transparent to its employees.
	10. It embraces change with a continuous focus on building organization capabilities.
	11. It generate revenues by licensing portions of intellectual property portfolio
<b>Actor</b>	
1. What are the world views?	1. It generate revenues by licensing portions of intellectual property portfolio
2. What roles and capabilities are exhibit?	2. As per GSA (Global Mobile Suppliers Association), approximately 800 wireless networks support 3G globally.
3. In what domains is freedom of choice available?	3. Each inventor is eligible for a Patent Application Filing Award of upto \$ 1500 upon filing of an application and a Patent Issuance Award of upto \$ 1500 upon issuance of the patent. An inventor is also awarded a plaque commemorating the patent issuance.
	4. The last fiscal year revenue counts to \$12.37 billion.
<b>Process</b>	
1. What is being done?	1. The company has developed a corporate structure in order to address various legal, regulatory, tax, contractual compliance, operations and other matters.
2. What are the variables and parameters	2. QUALCOMM Incorporated completed a corporate reorganization in which the assets of certain of its businesses and functions, as well as the stock of certain of its direct and indirect subsidiaries, were contributed to Qualcomm Technologies, Inc. (QTI) from Oct., 2012.
3. What can be changed?	3. Neither QTI nor any of its subsidiaries has any right, power or authority to grant any licenses or other rights under or to any patents owned by QUALCOMM Incorporated. This may delay the patent processing.
4. What it is being done?	4. Innovation and innovative mind is the key to success.
5. How is it being done?	5. Qualcomm technologies to improve socioeconomics and are committed to helping local governments reach their Information and Communications Technology (ICT) and universal service goals, including increasing teledensity and Internet penetration.
6. What, why and how else?	6. "Each and every community we work in has contributed to our success."

**Niche vs. Multi-Specialty Firms:  
A SAP-LAP Analysis of Indian Semiconductor Industry**

Stages	Issues
<b>Synthesis</b>	
<b>Learning</b>	
1. What are the key issues related to situation?	1. Wireless operators delay 3G and/or 3G/4G multimode deployments, expansions or upgrades and/or delay moving 2G customers to 3G or 3G/4G multimode devices.
2. What are the key issues related to actors?	2. LTE, an OFDMA-based 4G wireless standard, is not more widely deployed or commercial deployment is delayed
3. What are the key issues related to process?	3. Restricting the expansion of 3G wireless connectivity, primarily outside of major population areas
	4. Wireless operators are unable to drive improvements in 3G network performance and/or capacity.
	5. Global economic conditions that impact the communication industry could negatively affect the demand for the products and the customers' products, which may negatively affect the revenues.
	6. Wireless operators and other industries using these technologies deploy other technologies.
	7. Competition may reduce average selling prices for the chipset products and the products of its relative customers and licensees.
<b>Action</b>	
1. What can be done to improve situation?	1. The company expect to continue to face competition throughout the world as new technologies and services are introduced in the future.
2. What can be done to improve actors?	2. The company may continue to make substantial investments in developing improvements to existing and new products and technologies.
3. What can be done to improve process?	3. The price Qualcomm charge for the products and services may continue to decline as competition continues to intensify.
	4. To increase and/or accelerate demand for the integrated circuit products and drive their adoption into the most popular device models and across a broad spectrum of devices.
	5. To be a preferred partner (and sustain preferred relationships) providing products that support Android, Windows Phone/RT and other operating system platforms and the effective commercialization of new devices using these platforms.
	6. To develop brand recognition as Qualcomm can compete against better known companies in mobile computing and other consumer driven arenas.
<b>Performance</b>	
1. What will be its impact on situation?	1. To continue to be a leader in 4G technology evolution, including expansion of its OFDMA-based single mode licensing program, and continue the timely introduction of 4G turnkey, integrated products and services.
2. How will the actors be affected?	2. Qualcomm's comprehensive Health & Safety program ensures that employees' wellbeing is a top priority.
3. How will the performance of the process be affected?	3. Better placement leads to better inspiration leading to more partners leading to more production and results.
	4. Qualcomm strive to ensure compliance with applicable global environmental legislation and various industry initiatives, including Qualcomm's own environmental initiatives.
	5. A fiscally fit enterprise with a great historical record and the financial resources to fund and exploit a large and worldwide growing market, coupled with the expertise to be a leader, can result into a future great company.

**Niche vs. Multi-Specialty Firms:  
A SAP-LAP Analysis of Indian Semiconductor Industry**

**Table 4: SAP-LAP Analysis of Samsung Electronics**

Stages	Issues
<b>Situation</b>	
1. How company entered into semiconductor industry?	1. Samsung is a big corporate dealing in semiconductor, telecommunication, digital media and digital convergence technologies.
2. How is the present performance of the company?	2. Samsung Electronics acquired Korea Telecommunications and renamed it Samsung Semiconductor & Telecommunications in 1980.
3. What is expected from the company?	3. For further expansion, in 1988, Samsung Electronics was merged with Samsung Semiconductor & Telecommunications offering new range of products.
	4. After England, Samsung India Electronics announced the signing of a memorandum of understanding (MOU) with the Government of Tamil Nadu, India to set up the company's second manufacturing complex at Sriperumbudur near Chennai in India.
	5. The company consists of five main business operations comprised of 13 business units.
	6. The company recorded revenues of \$139,167.3 million during the financial year ended December 2010 (FY2010), an increase of 13.4% over FY2009. The operating profit of the company was \$15,566.9 million in FY2010, an increase of 58.3% over FY2009. The net profit was \$14,219.1 million in FY2010, an increase of 65.1% over FY2009.
	7. Samsung Asia accounted for 16.1% of the total revenues in FY2010. Revenues from Asia reached \$22,368.3 million in FY2010, an increase of 14.8% over FY2009.
	8. The company invested approximately 5.9% of its revenue in R&D activities in FY2010.
	9. Digital Media & Communications which encompasses the business units that manufacture and sell digital TVs, monitors, computers, mobile phones, communication systems, air conditioners, refrigerators and other appliances; and Device Solutions which includes businesses that specialize in semiconductor memories, system LSI, LED and other products.
	10. It held more than 600 American patents and more than 2,800 international patents, making it the largest owner of AMOLED technology patents.
<b>Actor</b>	
1. What are the world views?	1. Samsung Electronics is ranked No. 1 in market share for standalone mobile APs for smartphones, CMOS image sensors for mobile cameras, display driver ICs and smart card ICs.
2. What roles and capabilities are exhibited?	2. Samsung is better than anybody else at learning from its competitors.
3. In what domains is freedom of choice available?	3. Samsung is a diverse business with chips, displays, and other technology. This pays dividends, allowing it to compete on price and increasingly.
	4. The company is accused of being overly hierarchical and dominated by its founding family.
<b>Process</b>	
1. What is being done?	1. Organization structure can be more diversified for better and quicker results.
2. What are the variables and parameters?	2. SAMSUNG has maintained a mission statement that responds both to its own change, and to new developments in the world.

**Niche vs. Multi-Specialty Firms:  
A SAP-LAP Analysis of Indian Semiconductor Industry**

Stages	Issues
3. What can be changed?	3. The talent, creativity and dedication of SAMSUNG people are key factors to its efforts, and the strides they've made in technology offer endless possibilities to achieve higher standards of living everywhere.
4. What is being done?	4. SAMSUNG goal is to create the future with its customers.
5. How is it being done?	5. Successful outcomes are encouraged through an incentive program, however they are not subject to penalty if they don't achieve their goals.
6. What, why and how else?	6. Samsung is the world's second largest semiconductor company behind Intel Corp, with over a third of the company's \$US56.7 billion global revenues (2005) generated by the semiconductor business.
<b>Synthesis</b>	
<b>Learning</b>	
1. What are the key issues related to situation?	1. Working with global business partners and its own geographically dispersed facilities.
2. What are the key issues related to actors?	2. Whether Samsung can move from a close-and-gaining second to becoming truly dominant.
3. What are the key issues related to process?	3. Whether it can deliver products that are truly dependent and newer to the world market.
	4. Profits from any Android application.
	5. Internal issues - fostering creativity among employees; employee jumping shifts for start-ups; more emphasis on goods developed in-house; more focused guidance for the company into the global electronics elite and lack of accountability to shareholders.
	6. External issues - compatibility between profit and growth of the company; compatibility with obsolete products; threat of losing patents; cross shareholding among affiliates; outside directors appointed by the Samsung family;
<b>Action</b>	
1. What can be done to improve situation?	1. Samsung must bring innovative products to market faster while ensuring high quality and holding down costs.
2. What can be done to improve actors?	2. Aggressive investment in silicon valley can help it start to lead in software as it already does with hardware.
3. What can be done to improve process?	3. Other focus areas are user experience, design and solutions.
	4. The company's core businesses must strengthen their dominance in technology and global markets to secure "an absolute lead."
<b>Performance</b>	
1. What will be its impact on situation?	1. More thorough and newer innovations by the knowledge workers.
2. How will the actors be affected?	2. More and diversified expansion of business resulting in more profits and growth.
3. How will the performance of the process be affected?	3. Head-on to the big competitors like Intel, Sony, LG, Motorola, etc.
	4. Open work environment will lead to more and innovative knowledge workers leading to core competitive edge in the market.



On the basis of the model framed, some results are extracted. A comparison is done in the form of a comparative table (Refer table 5). This table provided a better outlook to the performance and useful findings for the study. Few basis are shortlisted to get some meaningful and constructive conclusions and the SAP-LAP statements helped in discussing that differentiation and common platforms.

## INTERPRETATION OF SAP-LAP ANALYSIS

This analysis was done to compare the findings of two niche companies and two corporates having product portfolio of various sectors (including semiconductor industry). Among these companies, Qualcomm and STMicroelectronics are the outlier niche company. Samsung Electronics and TCS are the outlier corporate companies. Equal weightage has been given to all companies. With the help of abovementioned comparative sheet, the reason behind the difference in number of patent applications filed was sorted and a comparison other variables was extracted. The basis wise comparison will be done in following paragraphs.

Qualcomm is a CDMA based company while STMicroelectronics is a sensor and power technologies & software embedded solutions' company. They have their unique customer followup in semiconductor industry. On the other hand, TCS is more of a solution based company having its hands on telecom sector, BPO sector and providing IT infrastructure to global customers. Despite of this wide range of market exposition, TCS has some contribution in patent acquiring in semiconductor industry. Another company, Samsung Electronics, is a blend of electronics, electrical, semiconductor and networking industry and has a record of diversified patents. Having a look of patent numbers, it was very much clear that if a company is focusing on only one type of industry

then it will definitely have a competitive edge over other conglomerate companies of that industry. This fact was clear through the patent data of the companies. Qualcomm and Stmircoelectronics have more than 13000 and 16000 patents respectively till June 2013. On the other hand, TCS and Samsung have 855 patent applications and 4000 patent applications respectively till date.

Another thing which was taken into purview was the innovative environment of the firm. All the innovations are created by their innovators and hence to be recognised for their contribution to the firm. It has been observed that all successful firms have a favourable employee friendly environment in the organization. All the firms provide financial or recognitional awards to their employees for their contribution to the firms.

Coming to the financial health of the companies, single stream of products will produce limited revenues. A portfolio of diversified product and services will lead to unlimited value creation from all the corners of the relative market. Big corporate needs to have big and strong financial backing up in comparison to those focused and limited resources requiring niche companies. As per the data collected and graphical presentation done in last chapter, it has been seen that gross profit and sales are positively correlated with each other except in case of Qualcomm (this company focuses more on royalties and licensing). The GPM of the companies are 28.57, 39.65, 34.56 and -0.32 for TCS, STMicroelectronics, Samsung Electronics and Qualcomm respectively for 2011-2012.

There are several issues involved in every company along with the rewards for good work. These counts from illegal penetration, political disturbances, competitors, newer products and disbursement of obsolete products, etc. Other than these, the companies have their own diversified issues related to proper handling of the company. Qualcomm says that delay of products, reduction of average selling price is their main concern due to near competition

products. STMicroelectronics says internal financial position is also one of the biggest concerns for the company. TCS says that legal restriction on raising capital; patent troll and unstable economic condition of the country of parent company are the biggest concerns for the company. Samsung Electronics' biggest hurdle is to maintain balance between various rules and guidelines of various countries worldwide. Management of knowledge workers and their compatibility with various stakeholders is also one of the major and common concerns for the sample companies.

For handling these issues, companies have their respective road maps to follow. Some of the common plans include newer products and services, increased market share in semiconductor industry worldwide, satisfied stakeholders and securing IP information from competitors. Qualcomm plans to add more joint ventures, mergers and acquisition to avoid competition and to have more market penetration. They are also focusing on newer products like Android, Windows Phone/ RT and other operating system and effective commercialization of new devices. STMicroelectronics plans to include Employee suggestion scheme to enhance employees, reduction of device costs, creation of true interoperability and creation of financial model. TCS has plans for more and highly experienced top authorities for the company and lastly, Samsung Electronics is

planning to have more guidance for market penetration, handling of work-in progress products and decrease in the time of its resulting product. It is also focussing aggressively on Indian Semiconductor market.

This shows that innovation and growth of the company are highly related to each other. To acquire more and more competitive edge in the market, every company has to diversify and try newer technologies and save the older and about to be obsolete technologies. The type of ownership structure also impacts the number of patent applications filed by the company. Lastly, niche companies have no botheration about the competitors market but big corporate do like to compete in technologically clustered areas to get a better view of their close competitors.

## CONCLUSION

On the basis of information allocated to several sub-headings, a comparative chart was made. The findings are: according to table 5, in Indian semiconductor industry, there are several participants. Some are specialized while others are portfolio companies. Even if there organization structure is different, there are similarities in their working environment. They have the same resources, almost same external issues, same market but there exists differences also.

**Table 5: A comparative sheet of the inferences drawn from the findings of both outlier companies: Qualcomm India and Samsung Electronics with other same structure companies**

Basis	Qualcomm	STMicroelectronics	TCS	Samsung Electronics
1. Industry profile	Qualcomm is a distinctive global wireless telecom company.	It is a hardcore product manufacturing semiconductor company	Tata Consultancy Services Limited (TCS) is an Indian multinational information technology (IT) services, business solutions and consulting company	Samsung is a big corporate dealing in semiconductor, telecommunication, digital media and digital convergence technologies.
2. Product focus	Qualcomm owns majority IPR to the CDMA (Code Division Multiple Access) wireless standard.	Sense and power technologies, automotive products and embedded-processing solutions.	Provides strategic services like product engineering services, manufacturing systems, supply chain management, business services, enterprises services, BPO and analytics, software	Digital media & communications which encompasses the business units that manufacture and sell digital TVs, monitors, computers, mobile phones, communication systems, air conditioners,

**Niche vs. Multi-Specialty Firms:  
A SAP-LAP Analysis of Indian Semiconductor Industry**

Basis	Qualcomm	STMicroelectronics	TCS	Samsung Electronics
			products and IT infrastructure required for future actions	refrigerators and other appliances; and device solutions which includes businesses that specialize in semiconductor memories, system LSI, LED and other products.
3. Patent profile	It has somewhere more than 13,000 patents in its account.	Among the industry's most innovative companies, ST owns about 16,000 patents, about 9,000 patent families and 515 new filings	TCS has filed 855 patents till date, of which 72 have been granted.	it held more than 1000 American patents and more than 3000 international patents, making it the largest owner of AMOLED technology patents
4. Relationship between Sales and growth of the company	They are not mutually correlated due to dependence of revenue more on licensing and royalties.	They have a positive relation between sales and gross profit of the company.	Increasing Sales and Gross Profit shows improved and regular deliverables by the company. Gross Profit and Net Sales are moving in same way and same direction.	The company recorded revenues of \$139,167.3 million during the financial year ended December 2010 (FY2010), an increase of 13.4% over FY2009. Sales and gross profit are highly correlated.
5. Individual ownership of patent	Financial rewards and recognition for the individual performance in patent creation	Recognition to individual and team contributions to achieving this objective through corporate.	Rewards for the achievements	Successful outcomes are encouraged through an incentive program, however they are not subject to penalty if they don't achieve their goals.
6. Financial position	The last fiscal year revenue counts to \$12.37 billion.	The company actually improved its net financial position to \$1.19 billion.	The annual revenues are at Rs. 62989 Cr. which is 28.8% up as compared to last year data.	\$US56.7 billion global revenues (2005) generated by the semiconductor business
7. Several issues	Delay in deployment of wireless devices, global economic conditions affecting the demand of product, other available technologies and reduction in average selling price of the products due to competition.	Lesser involvement in volatile product market, longer time lag between concept and market adoption, coexistence with competitors, internal financial position and cash position for operating expenses.	Ability to manage growth, intense competition among Indian and overseas IT services companies, Political instability, legal restrictions on raising capital or acquiring companies outside India, unauthorized use of our intellectual property and general economic conditions affecting our industry, The ability to manage the international operations and reduced demand for technology in the key focus areas.	Working with global business partners and its own geographically dispersed facilities, delivery of newer products. Internal issues - fostering creativity among employees; employee jumping shifts for start-ups; more emphasis on goods developed in-house; more focused guidance for the company into the global electronics elite and lack of accountability to shareholders.
8. Prospective solutions for the issues	New technologies and services will be introduced in the future, substantial investments in developing	Establishment of new Sales & Marketing organization with a particular focus on major accounts, as well as expanding the	Meaningful domains become the drivers and key stakeholders for the success of the program, Creation of the right teams, agreeing on an approach and closely coordinated execution can	Bringing innovative products to market faster while ensuring high quality and holding down costs, aggressive investment in silicon valley can help it start to lead in software as it already does with

**Niche vs. Multi-Specialty Firms:  
A SAP-LAP Analysis of Indian Semiconductor Industry**

Basis	Qualcomm	STMicroelectronics	TCS	Samsung Electronics
	improvements to existing and new products and technologies, preferred partner (and sustain preferred relationships) providing products that support Android, Windows Phone/RT and other operating system platforms and the effective commercialization of new devices using these platforms.	penetration of the mass market; Employee suggestion scheme for improving performance; setup of standard solutions will definitely help in reducing device costs and creating true interoperability.	take even the most complex of PAI scenarios to a successful conclusion and Specialists leading the Technology CoEs, Business Domains, and Program Offices can be appointed	hardware and core businesses must strengthen their dominance in technology and global markets to secure "an absolute lead."
9. Future Plans	Developing brand recognition as Qualcomm can compete against better known companies in mobile computing and other consumer driven arenas, Better placement leads to better inspiration leading to more partners leading to more production and results and comprehensive Health & Safety program ensures that employees' wellbeing is a top priority	More capturing of market share with more satisfied customers and creation of new financial model resulting into less dependency on outside partners.	Improved and faster patent portfolio, better participation of employees in profit sharing, competitors watch for better market penetration, technology based mergers and acquisitions.	More thorough and newer innovations by the knowledge workers, head-on to the big competitors like Intel, Sony, LG, Motorola, open work environment for the employees.

Another similarity among all companies is that none of the company provides individual ownership to patents. The ownership rests with company only. One dissimilarity is that the financial health and patent applications count of cases is different. More specialized companies are more concentrated in to one business leading to exclusive R & D and resulting into more patents. On the other hand, multi-speciality companies have to take care of all the businesses simultaneously resulting in less

concentration in one business (as compared to speciality companies dealing in semiconductor industry only) and lesser number of patent applications filing as well. At the last, all the companies are adopting some safety and motivational strategies for the well-being of their employees.

It can be concluded that Indian semiconductor industry has same environment for all of its companies, whether niche or multi-speciality.



Although they have different financial need and different number of patent applications but they are handling the same environment in their own manner. Hence, speciality and multi-speciality firms are related to each other.

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# Commitment and Business Creditworthiness: A Contemporary Issue Enclosing Retailers Perspective

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*The paper throws light on the present commitment status and commitment accredits that ultimately abets the business in establishing, sustaining and maintaining its creditworthiness. The research takes into preview the retailers empirical data collected from 225 retailers functioning in District Udhampur of J&K State. The primary data was collected and subjected to factor analysis in order to disclose the reliability and validity of the construct. The KMO and Cronbach Alpha values also revealed significance of the construct. The results of CFA confirmed all the statements so obtained from EFA which were valid and reliable. The results of hierarchical linear regression revealed that commitment develops coordination among business partners/parties, commitment enhances creditworthiness of businessmen and commitment is considered as core asset of the business.*

**Key Words:** Commitment, Retailers, Creditworthiness, Business.

## INTRODUCTION

Commitment is a promise ensured to other person and performing accordingly. Commitment now-a-days is considered as business asset as customers, firms, creditors, financial institutions are attracted by committed businessmen. Commitment ensures satisfaction even as the committed status is delivered as per the quoted utterances of the words. Commitment however means "an implicit or explicit pledge of relational continuity between exchange partners" (Dwyer et al. 1987) and suggests a future orientation in which a firm attempt to build a relationship that can be sustained in the face of unanticipated problems (Fynes & Voss, 2002). Many scholars, researchers, experts, academicians i.e. Teas & Sibley (1980), Anderson & Weitz (1992), and Wilson (1995) hold the viewpoint that commitment consists of a set of factors including desire, willingness, sacrifice behaviour, expectation of continuity, belief and importance of the relationship (Doney & Cannon, 1997; Morgan & Hunt, 1994 and Smith, Carroll & Ashford, 1995). Anderson & Weitz (1992), define commitment as "a desire to develop a stable relationship, a willingness to make short-term sacrifices to maintain the relationship and a confidence in the stability of the relationship". Moorman, Zaltman & Deshpande (1992), construe commitment as "an enduring desire to maintain a valued relationship", while Morgan & Hunt (1994),

view commitment as “an exchange partner believing that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it”. Contrarily, if partners have a high level of commitment between them, they will be willing to trust and communicate openly and will also accept & bear risk jointly. So, the above stated matter discloses that commitment naturally and gradually enhances the business creditworthiness and promotes the connectivity/sustainability of the business.

## REVIEW OF LITERATURE

**Organisational Commitment:** Organisational commitment is the concept created by Becker (1960) and may be viewed as an organisational member's psychological attachment to the organisation. It is the degree to which an employee identifies with a particular organisation and its goals and wishes to maintain membership in the organisation.

### The following review of the related literature had been done to enhance the research preview:

Fredendall and Bhonsle (2005) investigated the influence of leadership and external & internal cooperation with commitment on purchasing internal service performance for higher product quality and lower total cost. The data were collected from 2500 US purchasing managers of Institute of Supply Management (ISM) and the effective response rate was of 20 percent. The results of Structural Equation Modeling indicated both internal & external cooperation with commitment positively influence internal service performance. Visionary leadership also positively and significantly influences both internal & external cooperation and commitment. Moreover level of commitment and communication positively influences trust and thereby leads to higher external cooperation. The study suggested timely, accurate, complete & credible communication between purchasing managers & their suppliers and

purchasing managers & buyers.

Misra and Sreekumar (2007) proposed a benchmarking scheme for supply chain collaboration and commitment that links the industry collaborative performance and collaborative efforts using Data Envelopment Analysis, a Linear programming problem (LPP). The study concluded that a collaborative and committed performance system requires information sharing, incentive alignment and decision synchronisation to facilitate the improvement of three collaborative performance systems namely, exception cycle, improvement cycle and review cycle. Further, the study made it mandatory among the participating members to design appropriate form that ensure trustworthiness and accountability.

Lakshminarshima, A. (2007) assessed the relationship between trust, commitment and supply chain management for promoting collaboration, flexibility, risk taking, shared information and shared resources. The data for the study were collected through questionnaire consisting of 29 statements covering the various drivers, enablers & disablers of supply chain management, administered on different industries located in Bangalore and its environs including Hosur and Mangalore. The study concluded that 33% companies in India share information with their suppliers, 51% companies are more than willing to treat customers as a part of the company and 43% companies trust and are committed with their suppliers.

Selvi, T. (2007) highlighted the various supply chain factors that go into building a strong brand for a company. Effective supply chain mechanisms increases perfect orders, improves information with supplier & trading partners, ensures improved service & product availability, reduces lead times, costs & inventory levels which go into making brands attractive and thus making customers loyal to brands. The study suggested that by maintaining optimum level of product availability, product

quality and best packaging brand equity is created. Informing references of customers & delivery dates to manufacturers, replenishing the retailer's inventory promptly & at minimum cost and streamlining, manufacturing, scheduling, shipping at the manufacturer's level strengthens the supply chain process. Effective coordination, straight forward commitment, strong links, improved information sharing and overall perspective among members also adds to brand loyalty. Moreover adoption of latest technologies such as Radio Frequency Identification (RFID) technology, Collaborative Planning & Forecasting and Replenishment (CPFR) helps companies push for brand excellence and commitment among supply chain members formulates customer loyalty.

Kwon and Suh (2004) evaluated the factors affecting the level of trust and commitment in supply chain management based on the survey in four supply chain practicing organisations namely American Production and Inventory Control Society (APICS), American Society of Quality (ASQ), the Council of Logistic Management (CLM) and The Institute of Supply Management (ISM). 1800 members were contacted for survey in these organisations and the effective response rate was 9.5 percent. Results of the study indicated that a firms trust in supply chain partner was highly associated with both sides; specific asset investments (positively) and behavioural uncertainty (negatively). It was also found that information sharing reduces the level of behavioural uncertainty, which in turn improves the level of trust & commitment. A partner reputation in the market had a strong positive impact on the trust building process, whereas a partner's perceived conflict creates a strong negative impact on trust & commitment. To foster the level of trust & commitment among supply chain partners, the study suggested the development of a new breed of decision makers whose visions are more towards enterprise optimisation than functional outcomes.

Wagner and Buko (2005) examined the linkages and relationships with customers, competitors and

suppliers to acquire, disseminate and ultimately use market information as inputs to the firms' innovative process. A multi industry mail-survey targeted on top management of 1,738 firms in Germany and Switzerland was carried and effective response was found to be 10.5 percent. The knowledge sharing variables in the construct were satisfaction, communication & resource commitment, degree of knowledge sharing, tactness and control variables. The results of t-test revealed that the means for knowledge sharing (KS) “customer” and KS “supplier” are significantly higher than KS “research”. Results of multivariate Ordinary Least Square (OLS) indicated that the influence of resources on KS “research” and KS “customer” was positive and highly significant but influence of “resources” on KS “supplier” was not significant. The frequency of communication with network partners is positively related to satisfaction but relationship between degree of knowledge sharing with research institution & satisfaction was not significant. The study suggested that managers should carry out right degree of knowledge sharing with different partners of supply networks by paying attention to the effect of knowledge type to be transferred, frequent communication and sufficient resource commitment.

Mowdey et al. (2009) found that collaborative structure for working together is built over certain duration of time, not something that comes naturally, but once build lead to benefit over a long period of time.

## HYPOTHESES DEVELOPMENT

The following hypotheses were proposed for the study:

**Hyp1: Commitment develops coordination among business partners/parties.**

**Hyp2: Commitment enhances creditworthiness of businessmen.**

**Hyp3: Commitment is considered as core asset of the business.**



## OBJECTIVE OF THE STUDY

To assess the impact of commitment that develops business creditworthiness of small retailers and dwells in business reputation.

## RESEARCH DESIGN AND METHODOLOGY

The following research methodology was chosen for the study:

### Sampling and data collection

225 retailers operating in district Udhampur in J&K State were approached for collecting primary response from the respondents. Only those retailers were contacted who were selling the goods/products of small scale firms operating in district Udhampur of J&K State. 203 retailers responded out of 225 representing highly effective response rate of 90.22%. The number of retailers identified was cement (29), pesticide (4), steel (14), battery/lead/alloy (30), menthol (2), conduit pipes (9), gates/grills/varnish (15), maize/atta/dal mills (53) and miscellaneous (47).

### Sampling technique applied

For collecting primary data Snowball/referral sampling was used as only those Retailers were contacted who were using/selling the products manufactured by the above stated units. Some of the major Retailers contacted were Nath ram & sons, Duni chand, Mahakai traders, durga bhagwati traders, gupta hardware, Surbhi enterprises, Army general store, som nath and sons etc.

### The Survey Instrument

A self developed questionnaire was prepared for collecting the effective response. The questionnaire was prepared after consulting academicians, industrialists, businessmen, scholars, experts etc. The questionnaire consisted of general information and 11 statements of commitment. Statements in the questionnaire were in descriptive form, ranking,

dichotomous, open ended and five -point Likert scale, where 1 stands for strongly disagree and 5 for strongly agree.

### Collection of data

Primary data collection was the main focus of the study and it had been collected by making maximum of three to four visits to respondents. Anyhow, secondary information becomes part and parcel of primary information as it assists a lot. The secondary information was collected from various sources namely books, empirical papers, assessing eminent journals like International journal of supply chain management, Journal of supply chain management, International Journal of logistics management, Journal of academy of marketing science. Various multivariate tools such as Mean, standard deviation, regression etc. were used to test hypotheses and for drawing meaningful inferences.

### Reliability and validity of the instrument

**Reliability:** The alpha reliability coefficients for F1 (0.801) and F2 (0.741) is higher than the criteria of 0.77 obtained by Gordon and Narayanan (1984) indicating high consistency and were also seen at a minimum acceptable level of 0.50 as recommended by Kakati and Dhar (2002) thereby obtaining satisfactory internal consistency (Table 1).

**Validity:** The factor obtained alpha reliability higher to 0.50 and satisfactory KMO value at 0.752, indicating significant construct validity of the construct (Hair et al., 1995).

## DATA ANALYSIS AND IT'S INTERPRETATION

With the assistance of SPSS, Factor analysis was performed on the obtained primary response from retailers for arriving at possible significant results In order to deduct unreliable statements, factor analysis portrayed anti image results, statements

having values less than .50 and overlapping statements which were not taken into consideration and were reduced. Three rounds were performed in order to attain suitable KMO value of .752. The BTS (Bartlett's Test of Sphercity) came out to be 3865.823 and (p-value = 0.000), indicating sufficient common variance and correlation matrix (Dess et al., 1997 and Field, 2004). The Principal Component Analysis (PSA) with Varimax Rotation came out with 7 statements out of 11 statements initially developed and presented in the construct/domain of commitment. The significance of the construct was revealed with the assistance of KMO value and Bartlett Test of Sphercity which were acceptable and significant values. The factor loadings also emerged consistent with conservative criteria, thereby ensuring two factors solution using Kaiser Criteria (i.e. eigen value  $\geq 1$ ) with 59.89% of the total variance explained. The communality for 7 items ranged from 0.627 to 0.891, indicating high degree of linear association between the variables. The factor loadings ranged from 0.600 to 0.864 and the cumulative variance explained by each factor is 31.43% and 28.45% respectively. The factors so

emerged are demonstrated in the Table 1. A brief description of factor and its statements emerged are as under:

Factor 1 (Develops coordination & cooperation): This factor emerged with four qualitative statements which were quoted as "Commitment formulates coordination", "Commitment leads to fulfillment of promises", "Commitment enhances creditworthiness of businessmen" and "Commitment develops distinct identity of business". The mean values for all the statements lied within 3.19 - 4.21 representing significant response. The factor loadings ranges between .607 - .864. The factor loading for each statement is: Commitment formulates coordination (.864), Commitment leads to fulfillment of promises (.607), Commitment enhances creditworthiness of businessmen (.809) and Commitment develops distinct identity of business (.839). The statement "emerged with highest factor loadings and the statement "Commitment leads to fulfillment of promises emerged to be the weakest among all with low factor loading. The communalities varied from

Table 1: Results Showing Factor Loadings and Variance Explained After Scale Purification (Rotated Component Method) for Commitment (Retailers' Perceptions)

Factor-wise Dimensions	Mean	S.D	F.L	Eigen value	Variance Explained %	Cumulative Variance %	Comm-unity	$\alpha$
<b>F1 Develops coordination &amp; cooperation</b>	<b>3.78</b>	<b>.541</b>		<b>14.325</b>	<b>31.436</b>	<b>31.436</b>		<b>.801</b>
1. Formulates coordination	4.21	.471	.864				.891	
2. Fulfillment of promises	3.19	.686	.607				.643	
3. Commitment enhances creditworthiness	3.71	.575	.809				.817	
4. Develops distinct identity of business	4.01	.432	.839				.855	
<b>F2 Business asset</b>	<b>3.51</b>	<b>.572</b>		<b>3.276</b>	<b>28.456</b>	<b>59.892</b>		<b>.741</b>
1. Core asset of the business	3.15	.657	.600				.627	
2. Ensures satisfied customers	4.10	.450	.847				.854	
3. Strong pooling power	3.28	.611	.700				.742	

Footnotes: KMO Value =.752; Bartlett's Test of Sphercity = 3865.823, df = 177, Sig. =.000; Extraction Method Principal Component Analysis; Varimax with Kaiser Normalisation; Rotation converged in 3 iterations; 'FL' stands for Factor Loadings, 'S.D' for Standard Deviation and ' $\alpha$ ' for Alpha.

.643 - .891 indicating significant values and high degree of linear association among the variables. The communalities for each statement is: Commitment formulates coordination (.891), Commitment leads to fulfillment of promises (.643), Commitment enhances creditworthiness of businessmen (.817) and Commitment develops distinct identity of business (.855). For commonality again, the statement "Commitment formulates coordination" enriched with highest communality and the statement "Commitment leads to fulfillment of promises" emerged to be the weakest. Overall, It could be proclaimed that commitment really acts as a tool for judging the reliability on other person and for determining the relationship viability.

Factor 2 (Business asset): Factor 2 emanated three variables namely "Commitment acts as core asset of

the business", "Commitment Ensures satisfied customers" and "Commitment had strong pooling power". The factor lied within the mean values 3.15 4.10, factor loadings .600 - .847 and communalities between .627 - .854. This factor clearly portrays that commitment really acts as an expensive asset of the business than any other asset of the business.

**Confirmatory Factor Analysis**

After EFA, CFA on Commitment construct has been applied by keeping two factors i. e. Develops Coordination and Asset of the Business as latent variables. All variables in this construct have factor loadings greater than 0.5 along (Table 2). The model was found to be as fit (CMIN/DF = 2.677, GFI = .913, AGFI = .932, CFI = .960, TLI = .940, NFI = 0.937 and RMSEA = .06).

CONSTRUCT	CMIN/DF	GFI	AGFI	CFI	NFI	TLI	RMSEA
Information	2.677	0.913	0.932	0.960	0.937	0.940	0.060

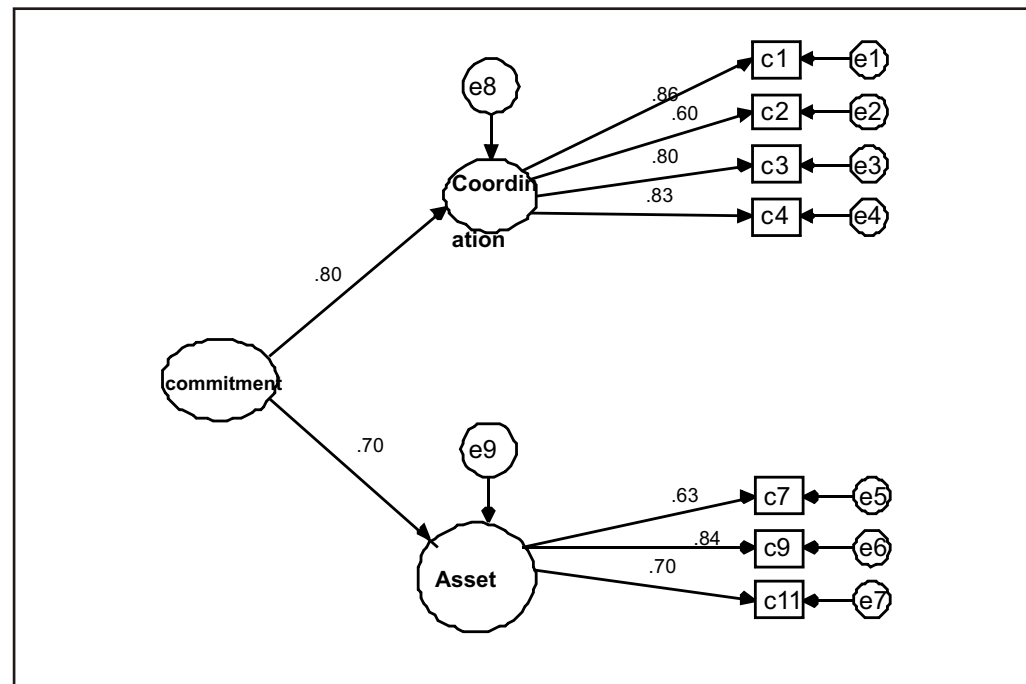


Fig: Measurement Model of Commitment Construct

**Regression Analysis**

Table 3 outlays the outcome from regression analysis for acknowledging the impact of commitment (dependent variable) on develops coordination (predictor). The linear regression model summary revealed the values of R, R<sup>2</sup>, Adjusted R<sup>2</sup>, Standard error of estimate, ANOVA, Beta, t value and significance level. The model summary explained:

R = .711 i.e. 71% association between commitment and develops coordination.

R<sup>2</sup> = .610 i.e. 61% of variation in commitment can be explained from develops coordination.

Adjusted R<sup>2</sup> = .634 i.e. if another independent variable is added, the value of R<sup>2</sup> will increase.

β = .374 i.e. significant relationship of independent variable (develops coordination) with dependent variable (commitment).

F = 38.439 i.e. significant at 5% confidence level.

t = 9.714 i.e. acceptable & significant value.

Significance level = .001 i.e. p < .05.

Hypothesis = accepted i.e. "Commitment develops coordination among business partners/parties"

In Table 4 the p value (.000) reports the significant

value and thus supports the formulated hypothesis that "Commitment enhances creditworthiness of businessmen". In the table the dependent variable is commitment and the predictor is "Enhances creditworthiness". The output from regression analysis divulges the value of R as .724 which ensures strong correlation (72%) between commitment and enhances creditworthiness. T value of 11.525 approved its significance and acceptance as it determines the acceptance region of hypothesis. The value of R-Square came out to be .617 ensuring that 61% of difference in commitment can be explained from the independent variable (enhances creditworthiness). Adjusted R square value .640 implied that if anytime another independent variable is added to existing variable, the value of R-square will enhance. The beta value .293 is acceptable and significant that reveals significant relationship of independent variable with dependent variable. F-value 40.117 is significant at 5% confidence level. Thus, the hypothesis is accepted as represented by its significance level p < .05.

The regression model summary of Table 5 reveals that the hypothesis "Commitment is considered as core asset of the business" is accepted as depicted by its p value (p < .05) i.e. .021. The R value .692

Model	R	R <sup>2</sup>	AdjustedR <sup>2</sup>	Std. Error of Estimate	F value ANOVA	Sig. level	β	t	Sig. level
1.	.711	.610	.634	.3421	38.439	.000	.374	9.714	.001

a. Predictor: (Constant), Develops coordination  
b. Dependent Variable: Commitment

Model	R	R <sup>2</sup>	AdjustedR <sup>2</sup>	Std. Error of Estimate	F value ANOVA	Sig. level	β	t	Sig. level
1.	.724	.617	.640	.3922	40.117	.000	.293	11.525	.000

a. Predictor: (Constant), Enhances creditworthiness  
b. Dependent Variable: Commitment



establishes 69% of correlation between commitment and considered as core asset of the business. The value of R square .581 reveals that 58% of variation in dependent variable i.e. commitment can be explained from the independent variable. Adjusted R square value .600 connotes that if another independent variable is added to the existing variable the value of R square will improve. Beta value and ANOVA value are significant and acceptable. Thus the table explains the acceptability of the formulated hypothesis.

## CONCLUSION

Commitment is seen as vital asset that assists in promoting the image of the business. In this cut throat contemporary world there are number of loopholes which can ruin the business and failure to perform the commitment is one amongst them. Commitment and straightforwardness on the part of businessmen is demand of the hour and those who have maintained it are surely enjoying laurels. The study puts in new research insights and added flavor to the existing literature. The present research has examined commitment as a major factor in organisational planning to improve business capabilities of small Retailers of district Udhampur. The results of CFA confirmed all the statements so obtained from EFA fostering validity and reliability of the construct. The framed hypotheses were proved with the help of regression. The results of hierarchical linear regression revealed that commitment develops coordination among business partners/parties, commitment enhances creditworthiness of businessmen and commitment is considered as core asset of the business. A wide

openness should be there among businessmen to come up for commitments and fulfilling the committed words. Further transformational leadership must be developed to build commitment to both the internal users of purchased items and suppliers of the items. As the retailers possess repositories of information as they are the last link in the supply chain and are very close to customers, so, it even becomes their obligation to perform the committed statements ethically so as to make mature deals both upward and downward.

Further, the results of the study are limited to small retailers operating in district Udhampur, the results so obtained could not be generalised for other retailers operating in other parts of the world having dissimilar business environment.

Future researches can be taken from the wholesalers' perspective and other related dimensions could also be covered.

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Model	R	R <sup>2</sup>	AdjustedR <sup>2</sup>	Std. Error of Estimate	F value ANOVA	Sig. level	β	t	Sig. level
1.	.692	.581	.600	.4821	34.521	.000	.425	6.457	.021

a. Predictor: (Constant), Core asset of the business  
b. Dependent Variable: Commitment

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# Study on Awareness about Agri-Supply Chain Management Among Farmers of Uttar Pradesh

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*In India a lot of changes have taken place in the domain of agricultural commodities business operations especially in horticulture. While deciding on the purchase of these commodities, besides the price of the product, a number of factors have been taken into consideration, such as appearance, convenience and also the perceived quality. It is critically important to understand the process of supply chain management at primary level which maintains the quality of horticultural commodities, since it contributes in the production, packing, storage, transport, and distribution processes. Those who understand how the supply chain can be optimised, they can improve logistic processes to get enhanced customer satisfaction, loyalty, lower costs and also maximum share in end users' price. This study was conducted in two districts of Uttar Pradesh, in an effort to know the farmers' awareness about horticultural supply chain management. Using data from a questionnaire survey conducted among 120 respondents, the study assesses the level of awareness about five aspects of horticultural supply chain management. The study indicates that maximum farmers (32.5 per cent) in Uttar Pradesh are aware of the fact that packaging and transportation are the main components of supply chain management in horticulture. Therefore, from the practical standpoint of view, it is needed to increase awareness among farmers in Uttar Pradesh about importance and holistic approach in horticultural supply chain management.*

**Keywords:** Agri., horticultural, supply chain, management, farmers, awareness.

## INTRODUCTION

The agriculture especially horticulture is being considered an engine of growth as it provides nutrition to the masses. The contribution of the state of Uttar Pradesh is 19.41% in fruits and 29.55% of vegetables in our country's horticultural production. It ranks 1st in mango, aonla and 4th in guava production, (Food Processing Policy, 2012). The Horticulture in India contributes about 30 % to the Agricultural GDP and the share of horticultural food has increased to more than 50 percent in the food basket of consumers. The post-harvest horticultural losses worth over Rs 2 lac crore each year in our country due to the absence of proper awareness and supply chain management facilities.

The horticultural farmers tends to be characterized by small and marginal growers in dispersed locations with disparate products of variable quality. Hence, the farmers share in consumers' rupee is only about 30-40% due to the in-efficient supply chain management, comprising of multilayer channels and large number of intermediaries.

Therefore, this sector needs more attention by policy makers, research institution and the corporate sectors, (ASSOCHAM, 2013). To prevent post harvest losses and maintain the quality of horticultural commodities, the awareness about various aspects of supply chain management of farmers is critically important, which contributes in the production, packing, storage, transport,

## Study on Awareness about Agri-Supply Chain Management Among Farmers of Uttar Pradesh

distribution and marketing of horticultural commodities and to deal with everything properly in the supply chain from field to the end users. Keeping this in view, the potential background of Lucknow and Kanpur districts of the Uttar Pradesh was found quite suitable for the study on awareness about agri-supply chain management among farmers of Uttar Pradesh.

## OBJECTIVES

The study was an attempt to explore the awareness about the following aspects of agri-supply chain management among the farmers' of Uttar Pradesh: -

- (i) Crop Harvesting,
- (ii) Primary Processing,
- (iii) Packaging and Transportation,
- (iv) MIS and Storage,
- (v) All of Above.

## REVIEW OF LITERATURE

The Supply Chain Management is an important issue facing farmers and farmers cannot themselves easily assess quality risks. The farmers' know how about supply chain management is a part, a matter of awareness in horticultural supply chain management. The review of work previously done is mentioned in the following sections:-

The term 'supply chain' is regarded as being synonymous with value chain or demand chain. It is defined as 'a chain of events which initiates the process of Source, Make and Deliver a product to customer to satisfy the ever changing needs of a customer in the Market place' Sangam (2002).

According to Ricks et al., (2002) supply chain management [SCM] 'represents a collection of management activities exercised between vertically related firms to improve efficiency, vertical integration, and overall performance of the participating firms within an industry'. Bowersox et al., (2002) defined SCM as 'consisting of firms

collaborating to leverage strategic positioning and to improve operating efficiency'.

The logistics is that part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, services and related information from the point of origin to the point of consumption in order to meet customer's requirements' (Bowersox, et al., 1992). The horticultural supply chain management in the Uttar Pradesh is too complex and challenging with numerous parties involved, which often do not possess knowledge of the best practices. The farmers tend to be of an independent mindset, selling their products to agents who tend to offer the best price (Kumar, 2013).

Horticulture sector do experiences fluctuations in volume and quality between seasons, much of which is driven by variations or extremes in weather patterns and also is characterized by many small producers, often in dispersed regions throughout the state with many different market outlets, ranging from road side sales to domestic market stores, to international chains of supermarkets in diverse countries. The grower also develops awareness of the demands of the customer, the importance of product quality and maintenance of optimal postharvest shelf life conditions in order to ensure maintenance of quality for the marketing period, (Hewett, E. W., 2002)

## RESEARCH METHODOLOGY

The study titled "Awareness about agri-supply chain management among framers of Uttar Pradesh" was carried out in the month of June; 2013. The research methodology followed to accomplish the objectives was divided into three sub-sections. The first sub-section deals with the study area, the second one describes the data collection and the final sub-section deals with the statistical tools adopted for analysis of data.

### Study Area

The study area selection was based on the production of horticultural commodities,



Study on Awareness about Agri-Supply Chain Management Among Farmers of Uttar Pradesh

considering its share in the production and the strategic position in the intra and inter state horticultural business. Therefore, Lucknow and Kanpur Nagar districts were purposely selected for the study.

Sample Size

The samples of 120 horticultural farmers were selected randomly for the study area, i.e. 60 farmers from each Lucknow and Kanpur.

Data Collection

The study is based mainly on the primary data, collected from selected horticultural farmers through field survey through using structured and close ended questionnaires.

The study also utilizes the secondary data collected from Journals, books, reports and publications of

various departments and websites of Government of Uttar Pradesh, Central Government and international organizations.

Statistical Tools Used

Simple descriptive statistical techniques like averages, percentages, graphical analysis, etc have been used to describe the basic features of the data collected, (Kothari, 2005)

FINDINGS AND DISCUSSION

The findings of “study on awareness about agri-supply chain management among farmers of Uttar Pradesh” based on observations recorded, arranged, analysed and presented in following Table:-

It is evident from the table and Figure-1 that there were much variability in awareness about agri-supply chain management aspects among farmers in Lucknow and Kanpur Nagar.

Study Area	Lucknow		Kanpur Nagar		Uttar Pradesh	
		%		%		%
Crop Harvesting	07	11.67	06	10.00	13	10.83
Primary Processing	09	15.00	13	21.66	22	18.33
Packaging and Transportation	19	31.66	20	33.34	39	32.50
MIS and Storage	14	23.34	16	26.67	30	25.00
All of above	11	18.33	05	08.33	16	13.34
Total Respondent	60	100.00	60	100.00	120	100.00

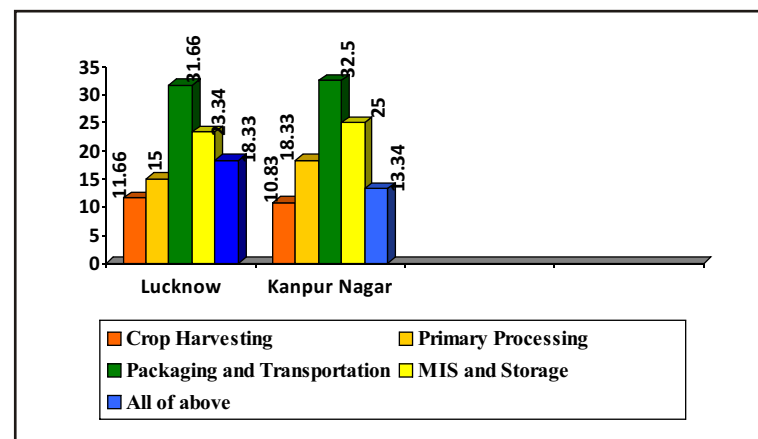


Figure 1: Bar diagram of awareness about various aspects of agri-supply chain management among farmers in Lucknow and Kanpur Nagar.

Study on Awareness about Agri-Supply Chain Management Among Farmers of Uttar Pradesh

The understanding of farmers in Lucknow about agri-supply chain management aspects like Crop Harvesting, Primary Processing, Packaging and Transportation, MIS and Storage and about all of these aspects were analysed and findings reveal that 31.66 per cent farmers reported that Packaging and Transportation is the major component of agri-supply chain followed by MIS and Storage (23.34 percent), Primary Processing (15 per cent), and Crop harvesting by 11.67 per cent farmers, while only 18.33 per cent farmers reported all the aspects of agri-supply chain management i.e. Crop Harvesting, Primary Processing, Packaging and Transportation, MIS and Storage. In Kanpur Nagar, understanding of farmers regarding same aspects of agri-supply chain management were analysed and it was found that 33.34 per cent farmers do understand that Packaging and Transportation is the major component of agri-supply chain followed by MIS and Storage (26.67 percent), Primary Processing (21.66 per cent) and Crop harvesting by 10.00 per cent farmers, while 8.33 per cent farmers reported that Crop Harvesting, Primary Processing, Packaging and Transportation, MIS and Storage all are important aspects of horticultural supply chain management. It is obvious from the above table and Figure-1 that 11.67 per cent farmers in Lucknow reported that Crop Harvesting, Primary Processing, Packaging and Transportation, MIS and Storage all are important aspects of supply chain in

horticulture, while only 8.33 per cent farmers reported the same in Kanpur Nagar.

The understanding of farmers in Uttar Pradesh, is obvious from average data of Table and Figure-2 which highlights that there was variable awareness of farmers about different aspects of agri-supply chain management. It showed that 32.50 per cent farmers perceived that Packaging and Transportation is the main component of agri-supply chain followed by MIS and Storage (25.00 percent), Primary Processing (18.33 per cent), and Crop harvesting by 10.83 per cent farmers. Where as 13.34 per cent farmers reported other aspects i.e. Crop Harvesting, Primary Processing, Packaging and Transportation, MIS and Storage are important components of supply chain management in agriculture particularly in horticulture.

CONCLUSIONS

The majority of farmers (32.5 per cent) in Lucknow and Kanpur understood that Packaging and Transportation were the major component of supply chain management in horticulture and only 13.34 per cent farmers understand all the aspects i.e. Crop Harvesting, Primary Processing, Packaging and Transportation, MIS and Storage which are very important for supply chain management in horticulture.



Figure-2: Pie diagram of awareness about various aspects of agri-supply chain management among farmers of Uttar Pradesh.

## LIMITATIONS

The findings of the study were based on the survey conducted in Lucknow and Kanpur Nagar, therefore, it will not be sufficient to portray exact picture of awareness about horticultural supply chain management among farmers in the entire state.

## RECOMENDTIONS

It is evident from the findings of the study that farmers were not fully aware about the complete agri-supply chain management and were also unaware about the importance and contribution of supply chain management in maintaining quality.

Therefore, from the practical standpoint of view, it is essential to generate awareness amongst the farmers of Uttar Pradesh about the relevance and holistic approach in agri-supply chain management.

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He has about 16 years of corporate experience and more than 5 years of teaching experience. His research papers have been published in reputed journals of Progressive Horticulture, and Food Safety. He has done research work in agricultural marketing, supply chain and post harvest management in Reliance Food Processing Ltd. Gurgaon, (India) while being in the corporate world. His research interests are in the area of Agribusiness management, domestic and international marketing.

# An Analytical Study on Consumer Preferences towards Private and National Brands in Men's Apparel

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*The purpose of this research was to study preference towards private and national brands in men's apparel among consumers in Delhi NCR. Variables to be investigated include psychographic & demographic characteristics.*

*The current study argues, based on theoretical framework that psychographic and demographic dimension also have an impact on attitude toward men's apparel. Delhi-NCR has been selected for the study. The research design is crosssectional based on descriptive methodology. The mall intercept survey, structured questionnaire was employed to collect the primary data in Delhi NCR. A total of 460 respondents completed and returned useable questionnaires.*

*Brand preference of men's wear depended on the demographics and psychographics, thus a combination of demographic factors and psychographic factors are useful in determining brand preference. The major implication for the retailer is that they need to develop favorable attitude towards private brands among consumers. No significant relationships were found between consumers' preference for brand (i.e. private and national brand) and demographics; for psychographic factors were found positively correlated with brand preferences. Price & quality consciousness were found significant determinant across the most of the variables studied under psychographic factors.*

**Key Words:** Men's apparels, National brand, Private brand

## INTRODUCTION

A brand of which the copyright is owned by a party other than the producer of the product such as a retailer, wholesaler or other intermediary is called a private brand (Sampson, 2006). A brand name of a distributor, retailer, or a brand name owned by the seller may be carried by the product, but the name of the producer or manufacturer remains unknown to the customer. Private brands are generally sponsored by large wholesalers, departmental stores, cooperative chains or consumer cooperatives. These brands are also known as store brands, private labels, distributor's brands, reseller brands, middleman brands, own brands and dealer brands. Generic products which are also described as brand-free, no-names, house brands and unbranded products are also a type of private brand.

Since there are such a variety of different terms worldwide to describe these brands, the term private brand is used, for the purpose of this study.

### Major Private Brand Players

Major players in private brands which are offered by giant retailers such as Raheja's Shoppers Stop offer stop! In apparels, Future group owned by Kishore Biyani having apparels brands John Miller, Bare DJ&C, Shrishti. Major retailers Pantaloon retail, Globus, Reliance Retail Trendz, Vishal Mega Mart, Vishal fashion also lies in this category



National Brand (manufacturer brand), which is available nationally and is distinct from a regional or test-market brand, is also known as a national brand (Baker, 1990). National brands are advertised nationally by the manufacturer and often carry a distinctive and widely recognised brand name or trademark.

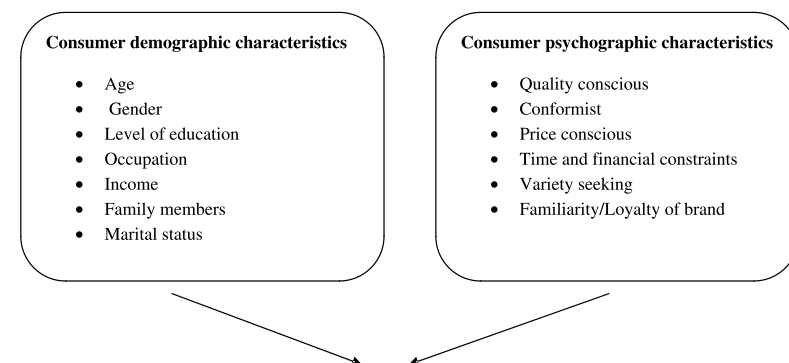
### Major National Brand Players

Players in this group include Madura garments (Louis Phillippe, Van Heusen, Allen Solly, Peter England, Byford), Arvind Mills (Arrow, Newport, Lee, Wrangler, Flying Machine, Ruggeres, Excalibur, Ruf and Tuf), Zodiac, Raymond (Raymond, Park Avenue, Parks) and Colour Plus. These are mainly the domestic brands including strategic partnership, licensing agreement with foreign brand, which have established themselves very firmly in the market and have created substantial customer awareness. A large number of players from the international markets are already operating in India through the licensing route-lee, Benetton, Levi's, Lacoste, Nike, Reebok, Adidas, Mango, Lee Cooper and John player among others.

### OBJECTIVES

- To examine consumers' preferences for private and national brand in men's apparel.
- To study the relationship between demographics and consumer preferences for private and national brand in men's apparel.

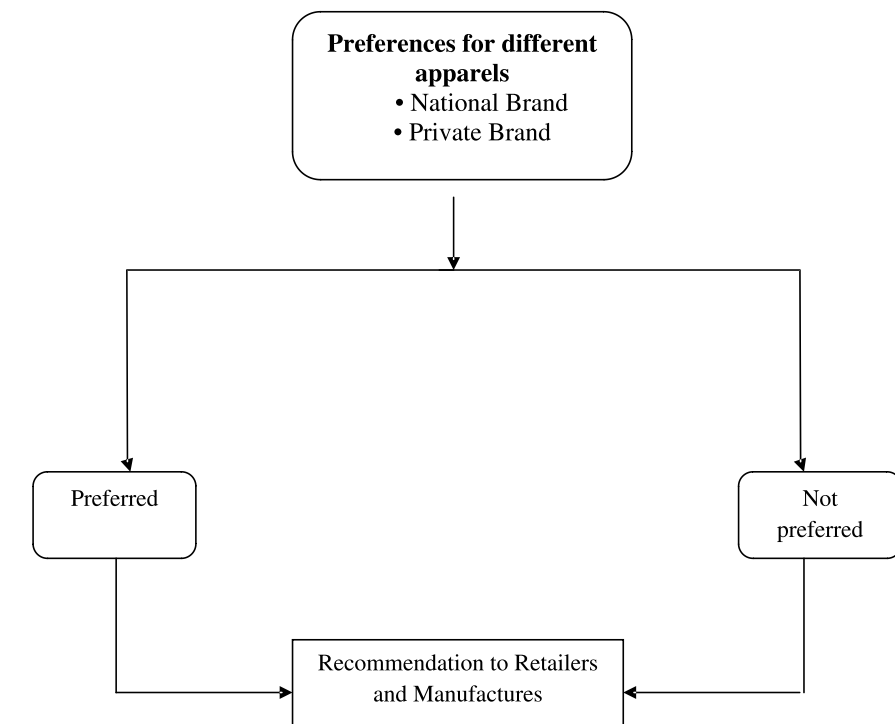
### CONCEPTUAL FRAMEWORK



- To study the relationship between psychographics and consumer preferences for private and national brand in men's apparel.

### RESEARCH GAP

Studies on private and national brands have mostly focused on the United States and European markets. Whereas there has been relatively little research of markets, like India where brands in men's apparels are not so well established or where they are in earlier stages of development. In other words as the concept of emergence of private brands through malls is of recent origin in India, so not much researches has been conducted in this area covering Indian markets. Furthermore, research on preferences to private and national brand has been largely examined in general, even though there is some evidence to suggest that preference to specific label/brand is more important than generalized attitudes. Few studies have examined preference to specific label/brand in the grocery market and various product categories and the evidence from those few studies is mixed. Consequently the research problem to be addressed in the current study is: consumers' preferences for private and national brand men's apparel attributes through a study of the psychographic and demographic characteristics in Delhi NCR malls. On the basis of literature review, it identified across time and geography that psychographic and demographic alignment leading to preferences of specific brand is yet to be established in apparels.



### HYPOTHESES

- H1<sub>0</sub>:** There is no relationship between demographics of consumers and their preference for specific men's apparel brand.
- H2<sub>0</sub>:** There is no relationship between consumers' psychographics and their preference for specific men's apparel brand.

### SAMPLING DESIGN

**Area of Study** National Capital Region (NCR)

**Sampling frame and unit** primary sampling units (PSU) -20 selected malls. Secondary sampling units (SSU) - consumers visiting these malls

**Sampling Method** cluster sampling. Out of these clusters, sample malls have been selected through randomization so as to avoid any bias in the study. The respondents for the study were approached through interception in the vicinity of the mall and as per the judgment of researcher & convenience of the respondent.

**Sample Size** Sample size was calculated using Mendenhall et al. (1993) formula. Accordingly 413 respondents were to be approached for data collection. Instead of 413 we approached 500 respondents which yielded 460 usable questionnaires.

### List of Malls Selected For Primary Data Collection

Out of total population of 83 malls (As per report of Asipac Mall Services Pvt. Ltd. on May 2011) in Delhi NCR, a sample of 20 malls was chosen for the study. The malls were chosen from all the segments of the region the breakup of which is given below:

### DATA COLLECTION AND PROCEDURE:

The data for this study is based on primary and secondary sources. Primary data has been collected through a questionnaire. The questionnaire so administered was pre-tested before actual use.

DELHI	GURGAON	NOIDA-GREATER NOIDA	GHAZIABAD	FARIDABAD
MGF Metropolitan Mall (Saket)	Sahara Mall (MG Road)	Great India Palace (Sector 38)	East Delhi Mall (EDM) (Kaushambhi)	Eldeco Station (Mathura Rd.)
North Ex Mall (Rohini)	Ambience Mall (NH-8)	Centre Stage Mall (Sector 18)	Pacific Mall (Sahibabad, Industrial Area)	Ansal Crown Plaza (Sector 15)
DLF Emporio (Vasant Kunj)	Central Mall (MG Road)	MSX Mall (Pari Chowk)	Shipra Mall (GT Road)	Crown Interiorz (Mathura Rd.)
V3S East Centre Mall (Luxmi Nagar)	DLF Grand Mall (MG Road)	Omaxe C. Place (Beta 2)	MMX Mall (Mohan Nagar)	SRS Mall (Sector 12)

### Primary Data:

Intercept Survey method has been used to collect the primary data in the vicinity of the malls visited after seeking permission from the mall managers to do so in and around the store premises. Primary Data collected during June 2014 to December 2014.

### Secondary Data:

Secondary data has been collected mainly from related publications of Deloitte Touche Tohmatsu India Private Limited (Consultancy), Retail Authority of India (RAI), Retail books, KPMG, Confederation of Indian industry (CII) and also through web sources, books, journals and newspapers.

### PILOT TEST

The combination of psychographic and demographic variables needed to be tested. The data collected through pilot study was not included in the actual data collected for the study.

Construct (Multi-Item Measure)	Number of Items	Cronbach Alpha ( $\alpha$ )	Scale
Psychographic Behaviour statements	20	.694	5 Point

### SCALE PURIFICATION FOR FACTOR ANALYSIS

In order to check the reliability and validity of overall collected data through questionnaire, the Cronbach Alpha for each sub dimension of psychographic statements has been calculated. (Refer below table no. 4). It was found that the value of the Cronbach Alpha for each dimension of the psychographics was more than .76 except familiarity/loyalty of brand which was reported on lower side being 0.61.

### PSYCHOGRAPHIC CHARACTERISTICS OF THE SAMPLE

The data analysis is attempted to identify the key psychographic factors among the NCR consumers. Factor analysis was conducted to reduce the number of variables and compressed the data into a more meaningful manner that makes it more manageable and easier to understand.

The table below shows two tests which indicate the suitability of our data for factor analysis. KMO and Bartlett's test were used to verify the factor analysis for consumer preferences for private and national brand, and provided a value of 0.722 which is a high score.

### DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

Demographic Profile	No. of Valid Responses	Percent
<b>Gender</b>		
Male	257	55.9
Female	203	44.1
<b>Total</b>	<b>460</b>	<b>100</b>
<b>Marital status</b>		
Single	183	39.8
Married	277	60.2
<b>Total</b>	<b>460</b>	<b>100</b>
<b>Age</b>		
18 – 28	172	37.4
29 – 39	107	23.3
40 – 50	82	17.8
51 – 60	99	21.5
<b>Total</b>	<b>460</b>	<b>100</b>
<b>Education</b>		
Below Matric	37	8.0
Undergraduate	113	24.6
Graduate	169	36.7
Post Graduate	141	30.7
<b>Total</b>	<b>460</b>	<b>100</b>
<b>Occupation</b>		
Service	91	19.8
Business	117	25.4
Student	145	31.5
Home Maker	73	15.9
Others	34	7.4
<b>Total</b>	<b>460</b>	<b>100</b>
<b>Yearly Household Income</b>		
Less than 2 Lac	87	18.9
2 Lac- up to 6 Lac	105	22.8
6 Lac- up to 10 Lac	162	35.3
More than 10 Lac	106	23.0
<b>Total</b>	<b>460</b>	<b>100</b>
<b>Family members</b>		
1	68	14.8
2-3	166	36.1
4-5	134	29.1
6 and above	92	20.0
<b>Total</b>	<b>460</b>	<b>100</b>
<b>Place</b>		
Delhi	94	20.4
Noida Gr. Noida	97	21.1
Ghaziabad	80	17.4
Faridabad	94	20.4
Gurgaon	95	20.7
<b>Total</b>	<b>460</b>	<b>100</b>

The Kaiser-Meyer-Olkin (KMO) test shows the suitability of Factor Analysis. It Measures sampling adequacy which indicates the proportion of variance. This measure varies between 0 and 1, if it is close to 1.0 then factor analysis is useful for the given data. If the KMO value shows less than .50, the results of the factor analysis won't be very useful. In this study KMO measure is .722 thus confirming the appropriateness Factor Analysis.

Bartlett's test of sphericity indicates that whether the correlation matrix is an identity matrix, which indicates about the relation of variables. The significance level shows the result of the test. If value is less than .05, it means that there are probably significant relationships among given variables. A value higher than .10 or so may indicate that given data is not appropriate for factor analysis. As indicated above in table 5 that significance level has a very small value i.e. .000 which is less than .05. Hence, given variables are highly correlated.

The most common method of factor analysis is the Principal Component Analysis and the most common method of factor rotation is the varimax rotation. So Principal Component technique looks at the correlation of different variables to reveal the relationship between them, and then reduces the variables by empirically summarising them or combining them into a small number of factors under common themes. Usually, a few components will account for most of the variation, and these components can be used to replace the original variables.

The mathematical technique for simplifying the results of the factor analysis results is called factor rotation. Varimax rotation was favoured since it minimized the correlation across factors and maximized within the factors. This helped to yield 'clear' factors. Psychographic characteristics were tested using Principal Component Factor Analysis with varimax rotation.



An Analytical Study on Consumer Preferences towards Private and National Brands in Men's Apparel

TABLE 4: Scale Purification for Factor Analysis

Factor (Psychographic statements)	Item (Label)	Convergent Validity	Reliability (Cronbach Alpha $\alpha$ )
Quality Conscious	Q 10.5	.822	.916
	Q 10.7	.743	
	Q 10.11	.734	
	Q 10.13	.010**(Deleted)	
Conformist (Pre Conceived Mindset)	Q 10.2	.694	.916
	Q 10.6	.676	
	Q 10.14	.969	
	Q 10.18	.713	
Price Conscious	Q 10.8	.792	.765
	Q 10.10	.617	
	Q 10.16	.745	
Time and Financial Constructs	Q 10.12	.973	.974
	Q 10.19	.888	
	Q 10.20	.916	
Variety Seeking	Q 10.1	.939	.986
	Q 10.9	.961	
	Q 10.17	.977	
Familiarity/Loyalty of Brand	Q 10.3	.511	.613
	Q 10.4	.597	
	Q 10.15	.602	

\*\* One item loaded poorly on the Quality conscious construct, therefore caution need to take while interpreting the construct.

Note: - Item with poor loading have been deleted

TABLE 5: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.722
Bartlett's Test of Sphericity	Approx. Chi-Square	8309.733
	Df	171
	Sig.	.000

Through Factor Analysis we have been able to extract six (6) factors out of 19 psychographic related behavior statements. In other words we have transformed 19 statements of psychographic into 6 representative Factors.

The set of questions measuring "Conformist (Pre Conceived mind)" all loaded onto Factor 1.

An Analytical Study on Consumer Preferences towards Private and National Brands in Men's Apparel

TABLE 6: Factor Analysis Results of Psychographics

Research variables (Psychographics)	Item (Label)	Factor loading	Eigen value	Percent of variance
F1 Conformist (Pre Conceived Mindset)	When I choose brand, I do not usually doubt myself.	.938	3.739	19.680
	I like tasks that don't require much thinking once I have decided.	.843		
	When deciding on a brand, I feel confident of my choice.	.837		
	I consider myself capable of choosing a good brand	.926		
F2 Variety Seeking	I am often among the first people to try new apparel.	.974	3.126	16.450
	I buy different brands to get some variety.	.980		
	I like to try new and different things.	.988		
F3 Time and Financial Constructs	I always seem to be in hurry during shopping.	.976	2.627	13.828
	My budget is always tight.	.985		
	I never seem to have enough time for the things I want to do.	.955		
F4 Quality Conscious	I always buy the best apparels.	.883	2.182	11.484
	A cheaper product makes me suspicious about the quality.	.931		
	Usually, I care a lot about selection of apparel.	.923		
F5 Price Conscious	I compare prices of at least a few brands before I choose one.	.876	1.958	10.304
	I find myself checking the prices even for small items.	.770		
	I am somewhat an expert in negotiation of price when it comes to shopping.	.822		
F6 Familiarity/Loyalty of Brand	I know the available brand well in apparel category	.838	1.670	8.790
	I am willing to make an effort to search for my favourite brand.	.626		
	Generally, I am quite familiar with all available brand	.779		
			<b>Cumulative %</b>	<b>80.536</b>

The set of questions measuring "Variety seeking" all loaded onto Factor 2.

The set of questions measuring "Time and financial constraints" all loaded onto Factor 3.

The set of questions measuring "Quality conscious" all loaded onto Factor 4.

The set of questions measuring "Price conscious" all loaded onto Factor 5.

The set of questions measuring "Familiarity/ Loyalty of brand" all loaded onto Factor 6

## TESTING OF HYPOTHESES

The descriptive statistics discussed earlier and factor analysis results were used to further analyze the brand preference in men's apparel. Inferential statistical techniques like chi-square, Mean scores were used for testing the formulated hypotheses. The results are presented in the preceding paragraphs.

**Brand Preferences of Consumer and Demographics**

The relationship between consumer preferences for men's apparel brand and the demographic variables, namely gender, marital status, age, education, occupation, income level and family members were examined using Chi-Square. The hypotheses under discussion are:

**H1<sub>0</sub>a:** There is no relationship between gender and brand preferences. (i.e. private and national brand)

The Chi-square analysis of the hypothesis shows (Chi Square  $\chi^2 = 0.120$ ,  $df = 1$ ,  $p > 0.05$ ). As  $p = 0.729$  which is greater than 0.05 level of significance. Hence, we can conclude that the brand preference is not dependent on gender status.

**H1<sub>0</sub>b:** There is no relationship between marital status and brand preferences. (i.e. private and national brand).

The Chi-square analysis of the hypothesis shows (Chi Square  $\chi^2 = 0.401$ ,  $df = 1$ ,  $p > 0.05$ ). As  $p = 0.527$  which is greater than 0.05 level of significance. Hence, we can conclude that brand preference is not dependent on marital status alone; there may be other demographic factors that affect the brand preference.

**H1<sub>0</sub>c:** There is no relationship between age and brand preferences. (i.e. private and national brand)

The Chi-square analysis of the hypothesis shows (Chi Square  $\chi^2 = 2.702$ ,  $df = 4$ ,  $p > 0.05$ ). As  $p = 0.609$  which is greater than 0.05 level of significance. Hence, we can conclude that the brand preference is not dependent on age.

**H1<sub>0</sub>d:** There is no relationship between education and brand preferences. (i.e. private and national brand)

The Chi-square analysis of the hypothesis shows (Chi Square  $\chi^2 = 2.322$ ,  $df = 3$ ,  $p > 0.05$ ). As  $p = 0.508$  which is greater than 0.05. Hence, we can conclude

that there is not enough evidence to support relationship between brand preferences and education. So, we accept H0 at the 5% level of significance.

**H1<sub>0</sub>e:** There is no relationship between occupation and brand preferences. (i.e. private and national brand)

The Chi-square analysis of the hypothesis shows (Chi Square  $\chi^2 = 5.112$ ,  $df = 4$ ,  $p > 0.05$ ). As  $p = 0.276$  which is greater than 0.05. Hence, we can conclude that there is not enough evidence to support relationship between brand preferences and occupation. So, we accept H0 at the 5% level of significance.

**H1<sub>0</sub>f:** There is no relationship between income and brand preferences. (i.e. private and national brand)

The Chi-square analysis of the hypothesis shows (Chi Square  $\chi^2 = 0.864$ ,  $df = 3$ ,  $p > 0.05$ ). As  $p = 0.834$  which is greater than 0.05. Hence, we can conclude that there is not enough evidence to support relationship between brand preferences and income. So, we accept H0 at the 5% level of significance.

**H1<sub>0</sub>g:** There is no relationship between family members and brand preferences. (i.e. private and national brand)

The Chi-square analysis of the hypothesis shows (Chi Square  $\chi^2 = 3.657$ ,  $df = 3$ ,  $p > 0.05$ ). As  $p = 0.301$  which is greater than 0.05. Hence, we can conclude that there is not enough evidence to support relationship between brand preferences and family members. So, we accept H0 at the 5% level of significance.

**Brand Preferences of Consumer and Psychographics**

**H2<sub>0</sub>:** There is no relationship between consumers' psychographics and brand preferences (i.e. private and national brand).

There were six psychographic factors which were

extracted after rotation factor analysis. These six sub-dimensions of the psychographic behaviour of consumer are Conformist (Pre-Conceived mind set), Variety seeking, Time and financial constraints, Quality conscious, Price conscious, Familiarity/Loyalty of brand. In each factor, number of items was added and the total was divided by number of items in order to get mean scores of their brand preference influence in the mind of consumer. Preference wise factors have been computed in the following manner. F1 is Conformist, F2 is Variety seeking, F3 is Time and financial constraints, F4 is Quality conscious, F5 is Price conscious, F6 is Familiarity/Loyalty of brand

The SPSS computes the above parameters as below.

COMPUTE F1 = (Q10.2+Q10.6+Q10.14+Q10.18)/4

COMPUTE F2 = (Q10.1+Q10.9+Q10.17)/3

COMPUTE F3 = (Q10.12+Q10.19+Q10.20)/3

COMPUTE F4 = (Q10.5+Q10.7+Q10.11)/3

COMPUTE F5 = (Q10.8+Q10.10+Q10.16)/3

COMPUTE F6 = (Q10.3+Q10.4+Q10.15)/3

In order to treat the all factors of psychographics, mean scores have been calculated and are arranged in descending order as shown in table below:

Mean values  $\geq 3.5$  were seen as positive,  $\leq 2.5$  negative and between these two values as neutral/ indecisive.

Sr. No.	Psychographic Sub Dimensions	MEAN SCORES	S.D.
1	Quality conscious F4	3.881	0.923
2	Price Conscious F5	3.568	1.175
3	Time and financial constraints F3	3.130	1.214
4	Familiarity/Loyalty of brand F6	2.841	1.437
5	Variety seeking F2	2.782	0.903
6	Conformist F1	2.540	1.073

The majority of respondents tended to be positive (mean = 3.88) towards factor 4 related to "quality conscious". The fact that the majority of respondents in the present study were male (55.9%) and that more than 67% of respondents had a graduate or post graduate education might explain respondents' positive response towards quality consciousness. This shows that more educated male consumers are associated with quality consciousness.

Most respondents tended to agree (mean = 3.56) with variables from factor 5 related to "price conscious". Price consciousness is expected to have a positive influence on brand preference. Price consciousness might imply that the respondents purchase private brands which are on promotion to save money due to reasonable price.

Respondents in this study tended to be indecisive (mean = 3.13) towards factor 3, related to "time and financial constraints". The respondents being indecisive towards time constraints might explain their tendency to be national brand prone. Financial constraints are not necessarily associated with private brand proneness. Individual respondent's characteristics would, however, give a better indication of the above, since some respondents were more negative, while others were more positive which yielded an undecided mean.

Respondents in this study also tended to be indecisive (mean = 2.84) towards factor 6 related to "Familiarity/Loyalty of brand". The undecided mean of respondents in this study implies that the majority of respondents were not loyal to a particular brand.

Most respondents tended to be more indecisive than positive (mean = 2.78) towards factor 2 related to "variety seeking". Respondents being more undecided towards variety seeking related attributes.

Respondents tended to be indecisive (mean = 2.54) towards factor 1 related to "conformity (pre-conceived mindset)". Respondents' indecisive



response to the questions related to conformity implies that respondents had other reasons to prefer a particular brand (i.e. private and national brand).

In the present study, respondents were only positive towards two of the six psychographic factors, namely factor 4, "quality conscious" and factor 5, related to "price conscious". This indicates that these were the only psychographic factors describing respondents' psychographic profile, since they tended to be positive towards all the other psychographic factors of respondent.

Quality consciousness and price seems to be the key drivers and concerns for the consumers during their preference for apparels. Time and financial constraints, loyalty of brand, variety seeking, and conformist behavior of consumers are also relatively important.

## HYPOTHESES TESTING RESULTS

Accept Null Hypothesis (H10) as anticipated; these demographic factors are not having any association with brand preferences (i.e. private and national brand). Null hypothesis: gender (H10a), marital status (H10b), age (H10c), education (H10d),

occupation (H10e), monthly household income (H10f), and family size (H10g) were accepted.

Reject Null Hypothesis (H20), as alternative hypothesis H2 was supported by quality and price conscious of psychographic factors. This indicates that these were the only psychographic factors describing respondents' psychographic profile, since they tended to be indecisive towards all the other psychographic factors of respondent.

## CONCLUSION

Demographic characteristics of respondents have no statistically significant influence on choice of a brand irrespective of the type of brand. As Null hypothesis: gender (H10a), marital status (H10b), age (H10c), education (H10d), occupation (H10e), monthly household income (H10f), and family size (H10g) were accepted. With regard to impact of psychographic characteristics, the results indicate that quality and price conscious are the two important psychographic factors which affect the choice of brand needs, hence proper attention from marketers. Other psychographics behaviour are indecisive towards brand preferences.

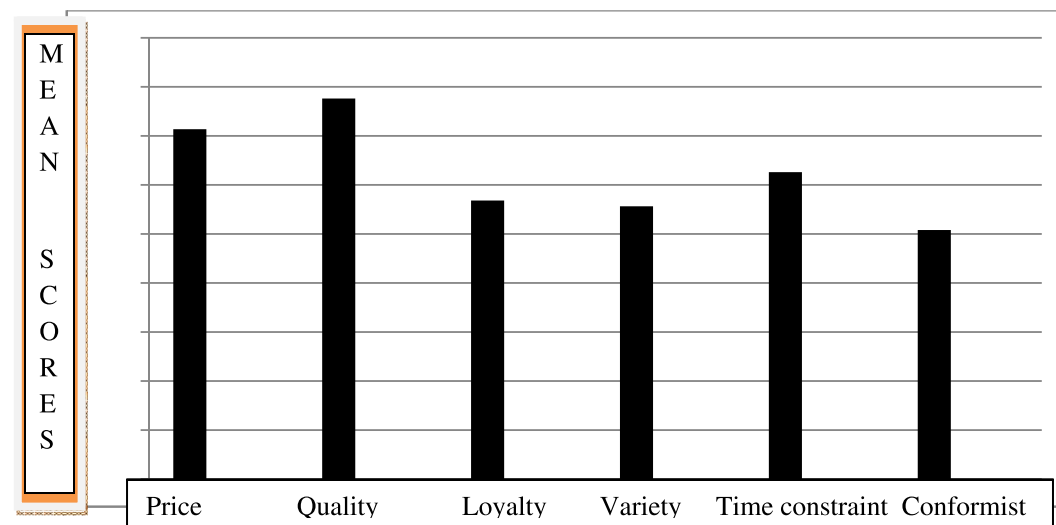


Figure-1: Means Scores

The findings of the researchers such as Eckman et al. (1990); Forsythe et al. (1999) also found that price is the most frequent attribute used by consumers in evaluating the value of apparel. Although Hoch & Banerji (1993) found that price was given more importance than quality but this study shows that quality is the prime concern among all the consumers and even low financially weak consumers also desire to get the best quality in terms of the price. The concern for quality remains there with all consumers but a lower price demands though not a higher quality but at least a compatible quality. This forces the consumers with low financial profile to make a choice between or among many private brands when offering an identical product. For quality, the result corroborate with the findings of Lang and Crown (1993) which pointed out that quality is among most important consideration when buying decisions for clothing items are made. Similarly, Glynn & Chen (2009) argue that quality, price consciousness, price -quality association & brand loyalty are the major determinants to influence consumer choice.

Consumer psychographics have been found to exercise a reasonable influence upon consumer attitude towards brand preference. The consumer psyche is more tilted towards better quality while making a brand choice as the mean score of 3.881 indicates. The second attribute i.e., price with mean score of 3.568 has more or less an impact on consumer psychographics while purchasing a particular brand. The other factors like time and financial constraint, variety seeking, brand loyalty and a preconceived mind set (conformist) have a mild influence upon brand preference.

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# Developing a Causal Linkage between High Performance Work Practices and Employee Engagement

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*With a budding number of researches linking systems of High Performance Work Practices to employee engagement, recent scholars have pushed for revelation of the underlying factors that enable this connection. In this study, based on thirty-five HPWPs, the role of awareness level of employees and that of employees' perception regarding effectiveness of high performance practices is explored in depth. The study provides insights into how high performance work systems influence the engagement level of the employees. Both i.e. employees' awareness level and their perception are found to explain significant variation in employee engagement. Further, when thirty-five HPWPs are subjected to factor analysis, it results into reduction of data to nine performance factors. The nine extracted performance factors are investigated for linkage with employee engagement through regression equation.*

**Key Words:** Employee Engagement, High Performance Work Systems, HR Practices, Team Orientation, Employee Empowerment

## INTRODUCTION

The concept of Employee Engagement at work has seen increased interest in this new era of Strategic Human Resource Management. One can easily observe the growth in the number of practitioners, theories and writings on concepts, constructs, drivers and utility of employee engagement. Employee engagement is the connection people feel to their work and to their organization that results in higher levels of performance, productivity, commitment and loyalty. It has gained prominence as one of the pivotal topic in the sphere of human resource management (Baldev and Anupama, 2010). The greater an employee's engagement, the more likely the employee is ready to 'go the extra mile' and is keener to deliver the results. In addition, engaged employees are expected to have longer stay with the organization. Engaged employees are stated to play a key role in achieving organizational success and competitive advantage in the environment of throat-cut competition. A large number of studies explore the relation between employee engagement and performance based outcome variables. Shuck et al. (2011) suggested that ensuring higher employee engagement could create convincing competitive gains for the organizations across the globe. Employee engagement is the vital element affecting organizational effectiveness, innovation and competitiveness (Welch, 2011). Higher level of



employee engagement results into higher productivity, efficiency and effectiveness, lower absenteeism and less turnover intention, superior service quality, more satisfied and loyal customers, high job satisfaction, and increased organizational citizenship behavior. Employee engagement is not a naturally occurring phenomena rather it has to be induced through sustained efforts. Various HR practices are implemented to enhance engagement of the employees. Researchers have highlighted various positive associations of different human resource department interventions with engagement level of the employee. Wright et al. (1994) concluded that HR practices could shape up the employee perceptions, attitudes, and behaviors and hence greater employee engagement and loyalty could be induced. Company's investment in employee facilitation and development leads to greater employees' obligation towards the organization and therefore increase employees' motivation to work hard to support organizational effectiveness (Asad et al., 2011). With the advent of High Performance Work System (HPWS), there is renewed interest among scholars and practitioners to explore association between employee engagement level and various aspects of High Performance Work Practices. The present paper tends to investigate the relationship between employee engagement and two different aspects of HPWS i.e. awareness of employees for various high performance work practices and employees' perception regarding effectiveness of HPWPs. A brief review of previous studies on employee engagement, HPWPs and on importance of study of employees' awareness and perception is given below.

## LITERATURE REVIEW

### *HPWPs and Employee engagement*

Previous researchers have highlighted the positive alliance of implementation of various human resource practices with engagement level of the employees. Masroor and Fakir (2009) conducted a

research on nurses of Malaysia. The study revealed that with effective use of HRM practices, the level of intentions to leave the job is considerably reduced. HRM practices are viewed by employees as a 'personalized' commitment of organization for them. This systematic organizational effort for the betterment of employees is reciprocated back to the organization by employees through positive attitudes and behavior (Hannah and Iverson, 2004). Scott et al. (1994) suggested that whether employees give their best wholeheartedly to the organization and works to their potential depends to a large part on the way they feel about their job and work environment. And employees' perception for work and environment is dependent on how well HRM practices are implemented. Many other researchers also come up with the findings that human resource practices like the employee participation, team building and total quality management results into lower turnover intentions and increased satisfaction and engagement of the employees (Huselid, 1995, Pfeffer, 1994, Cho et al., 2006).

Further, contemporary research work on 'best practice' i.e. high performance and human capital instrumental human resource management (HRM) revealed that organizations offer resources and opportunities that improve the motivation, skills, attitudes and behaviors of their employees (Kuvaas, 2008). And hence involvement and commitment of employees increases. These modern best HR practices have been synchronized to institute a system known as High Performance Work System. High Performance Work System has been defined as 'a group of separate but interconnected HR practices designed to enhance employees' skills, knowledge and efforts' (Takeuchi et al., 2007). Major constructs of HPWS includes practices related to structured and holistic approaches to recruitment and selection, training and development of both general and job specific skills, pay based on performance and merit, other incentive based compensation plans, information sharing and Management Information Systems, rigorous performance and potential appraisal processes (Datta et al., 2005, Huselid, 1995).

Owing to strong relationship between performance practices and employee engagement, these practices are also known as 'high commitment' or 'high involvement' practices. Guthrie et al. (2009) concluded that High Performance Work Systems, a set of complementary HRM and management policies and practices tend to have lower rates of employee absenteeism and voluntary turnover along with high labor productivity and lower labor costs. HPWPs are thought to endow employees with greater levels of skills, information, motivation and discretion. Wright et al., (1994) regarded human resource practices as an instrument through which employees' perceptions, attitudes, and behaviors could be guided. Hence, they affirmed that the role of human resource practices in enhancing employee engagement cannot be overlooked. Asad et al. (2011) and Sardar et al. (2011) conducted two different studies to find out the impact of human resource practices on employee engagement in the banking sector of Pakistan. The results of both studies were quite same and they articulated a significant relationship between human resource practices (Coordination, decision-making, Performance Reward and Employee Involvement) and employee engagement.

Despite growing body of work highlighting the positive association between HPWS and indirect performance parameters like motivation, engagement, morale, theorists have highlighted a lack of clear understanding of the key employee related mediating factors that link the utilization of HPWS to these parameters (Becker and Huselid, 2006, Chadwick and Dabu, 2009). In simple words, academicians could visualize that High Performance Work Practices are beneficial for a firm but they are less clear as to exactly how relationship between employee related factors like their awareness, perception for HPWS affect employees engagement level. Numerous researchers have recommended that HPWS operate by acting on employee skills, motivation, and opportunities to contribute (Lepak et al., 2006, Liao, Toya, Lepak, & Hong, 2009). Thus same HR practice could not

induce similar level of engagement among all employees of the firm. Kumar (2014) clarified that individual differences like attitude, perception, awareness, belief and value system mediates the connection between HPWS and employee engagement. This approach has tended to emphasize on employees' perception, awareness and attitude towards HR systems of the organizations.

### *Importance of Employees' awareness and perception:*

Das (2012) stated that HPWS and its benefits like contribution to employee engagement have been studied in great depth. But most of the work discussed HPWPs from the point of view of management or employer and workforce's aspect is highly ignored. Yadav and Yadav (2013) stated that employees' perception and their willingness to adapt new work system have significant effect on success of HPWS and hence on benefits associated with it. Combs et al. (2006) found considerable relationship between employees' perception of success towards ongoing change effort and perceived sense of competence. Datta et al. (2005) concluded that employee retention, revenue, sales and profits are positively correlated with employee attitude and perceptions of work conditions. Nishii et al. (2009) also gave similar sort of conclusion. They elaborated that perception of employees for HRM practices is related with organisational outcome and productivity. Further innumerable other researches also indicate importance of employees' perception. A group of employees having positive and favourable perception for any practices is essential for optimization. Same is more relevant in the case of High Performance Work System as it consists of bundles of practices. Differences in employees' perception could arise because employee tends to observe same situation or information through different cameras. They experiences same HRM practices differently. According to Nishii et al. (2009) people have an inbuilt mechanism to filter external information. This filtering mechanism depends

upon a number of factors like experience, attitude, belief system, aspiration, qualification, surroundings etc. Thus it differs from person to person. As a result of which same external information is filtered differently and thus elicit various attitudinal and behavioural responses.

Further other studies have suggested that awareness of any practice or phenomenon is of utmost importance as this leads to its proper implementation and facilitation. When the employees are aware of these practices they will resort to innovative work practices which will ultimately affect the individual and organizational performance in an affirmative way. Kumar (2014) stated that awareness for a practice reduces the fear of uncertainty and apprehensions regarding changes undergoing within an organisation. Aware workforce adapts to new practices relatively easier than unaware employees.

Though relevance of employees' perception for accruing maximum benefits from HPWS has been studied by previous scholars but work on exploring direct association between perception and employee engagement is still in nascent stage. Literature review highlights the dearth of research work done in the field. Research on awareness and its utility is even more neglected than employees' perception. The present study explores these two deserted but important aspects of individual differences.

## RESEARCH FRAMEWORK

The main aim of the present research was to study linkage between HPWS and employee engagement. This linkage was studied from the relatively newer dimensions of the organisational behaviour. The dimensions are employees' awareness and employees' perception regarding effectiveness of HPWPs. Although employee's perception has been a topic of much discussion among scholars and practitioners but study of perception regarding effectiveness of a practice and that of awareness level is a novel idea.

The study is based upon exploratory-cum-descriptive research design. Primary data is collected through a structured questionnaire consisting of 35 HPWPs has been used. Part A of the questionnaire captured the respondents' demography such as age, gender, work experience and educational qualification and was analyzed using the descriptive statistics. Part B and Part C consisted of 35 HPWPs questions. Part B measured employees' awareness for HPWPs and Part C accessed worker's perception regarding effectiveness of HPWPs. Five-point rating scales ranging from highly available to unavailable and from highly effective to ineffective were used. Part D investigated employee engagement level with the help of 72 statements. The main constructs of employee engagement were work environment (14 statements), leadership and direction (11 statements), relationship with immediate seniors and co-workers (14 statements), compensation programme (4 statements), job security and career development (7 statements), policies and work procedures of the company (6 statements), work life balance (6 statements), and workplace wellbeing (10 statements).

Random sampling has been used to collect data from various organisations. The industries mainly includes banking, insurance, textile, BPO, sugar, shoe, consultancy, cold drink, rice, etc. Sample size is 210. Employees were taken from top and middle level as they are more likely to encounter HPWPs. For analysis purpose, it has been strictly ensured that an array of manufacturing, service, private, public, Indian and foreign companies are approached. Further, while administering questionnaire, it has been ensured that data come from all categories like men, women, highly experienced to less experienced ones, aged personnel to fresh recruits, etc. Factor analysis was employed to reduce data. Further regression analysis is used to explore relation between extracted factors of HPWPs and employee engagement.

## RESULTS

### Demographical Profile

Female respondent comprised of 49.5%, which means 104 of the total respondents and male employee contributed 51.5% that is 106 of the total respondents. The study revealed that out of the total sample surveyed, 11.91% of them were below the age of 25 years. 44.7% of respondents were found within the age category of 26-35 years. 19.5% were within the age range of 36-45 years. 14.20% were within the age group of 46-55 years and the remainder 9.52% were found above the age of 55 years. The majority of the surveys participants (38.09%) have been employed for more than 5 years. 33.33% of employees were within the category of 5-10 years of work experience and 28.52% falls within the category of more than 10 years of work experience. 57.10% of respondents were found to be Graduate. Out of 200 respondents 70 were under Graduate and only 20 were Post Graduate.

**Table-1: Mean and Standard Deviation of Variables**

Table 1 stated the mean and the standard deviation of the variables of the present study. Awareness and

effectiveness were taken as Independent Variables thus there correlation significance was required to be studied. It was noticed that significant correlation of  $r = 0.54$  (5% level of significance) existed between awareness and effectiveness level. But t-test showed a significant difference,  $t = -2.014$  (at 5% level of significance). These results clarified that although awareness and effectiveness level correlates but both measures are significantly different for participants of this research.

**Table-2: KMO, Bartlett's Test and Cronbach's Alpha Test**

Table 2 indicated results of KMO, Bartlett's and Cronbach's Alpha test. The values of various tests confirmed sampling adequacy, validity, normality, factorability and reliability of questionnaire. Field (2000) stated any value of Cronbach's Alpha greater than .08 shows higher reliability. Higher value of KMO and Bartlett's test established data is appropriate for application of factor analysis. Thirty-five High Performance Work Practices were studied for awareness and effectiveness level of employees. When factor analysis was applied to reduce data into easily interpretable form, factors for which factor loading exceeded 0.4 were considered. Principal component factor analysis resulted into following

Table-1: Mean and Standard Deviation of Variables			
Variable	Mean	Standard Deviation	N
Awareness Level	119.4	4.352	210
Perceptual Effectiveness Level	123.9	4.028	210
Employee Engagement	224.1	3.852	210

Table-2: KMO, Bartlett's Test and Cronbach's Alpha Test		
Type of Test	Value	
Kaiser-Meyer-Olkin measure of sampling adequacy	.720	
Bartlett's Test of Sphericity	Approx. Chi Square	.720
	df	1378.453
	Sig.	595
Cronbach's Alpha	.871	



nine performance factors.

**F-1: Reward Oriented HPWPs** included incentive pay, flexi timing, team reward, job rotation, job enrichment and job sharing. The factor has an Eigen value of 4.752 and it defines 13.577 % of variance.

**F-2: Traditional HRM Practices** consisted of regular performance appraisal, competency and potential test, postretirement benefit plan, training and development, and formal recruitment and interview. The factor has an Eigen value of 3.905 and it defines 11.157 % of variance.

**F-3: Value Creating HPWPs** incorporated human resource audit, human resource accounting, multi-skilling and yoga and meditation. The factor has an Eigen value of 3.140 and it defines 8.972 % of variance.

**F-4: Employee Engagement HPWPs** integrated attitude surveys, feedback mechanism, human resource information system, highlight best employee, counseling session, and formal grievance redressal procedure. It has an Eigen value of 2.947 and it defines 8.420 % of variance.

**F-5: Team Oriented HPWPs** included problem solving team, continuous improvement team and semi-autonomous team. It has an Eigen value of 2.854 and it defines 8.155 % of variance.

**F-6: Social and Safety Need Driven HPWPs** comprised of social gathering, family insurance plan and Safe, healthy and happy workplace. The factor-6 has an Eigen value of 2.478 and it defines 7.081 % of variance.

**F-7: Employee Empowerment HPWPs** summed up employee stock option plan, management by objective and quality circle. The factor has an Eigen value of 2.387 and it defines 6.819 % of variance.

**F-8: Procedural Improvement HPWPs** summarized staff suggestion scheme and team briefing. The factor has an Eigen value of 2.303 and it defines 6.581 % of variance.

**F-9: Psycho-Strengthening HPWPs** incorporated corporate social responsibility and surprise factor.

The factor-9 has an Eigen value of 2.13 and it defines 6.088 % of variance.

Further, regression analyses were conducted to study linkage between awareness and perceptual effectiveness of nine extracted factors of HPWPs with employee engagement. Two regression equations: first for awareness of employees for HPWPs and second for perceptual effectiveness of HPWPs were used. Following equation is formulated to access relation between employee engagement and employees' awareness for nine extracted factors of HPWPs.

$$EE = \beta_0 + \beta_1 F_1 + \beta_2 F_2 + \beta_3 F_3 + \beta_4 F_4 + \beta_5 F_5 + \beta_6 F_6 + \beta_7 F_7 + \beta_8 F_8 + \beta_9 F_9$$

Here, EE refers to Employee Engagement,  $\beta_0, \beta_2, \dots, \beta_9$  are constants, F1, F2,.....F9 are nine factors of HPWPs.

**Table-3: Multiple Regression Analysis Results of Nine Factors Predicting Engagement (Awareness Level)**

Hair et al. (1998) stated that optimum value for tolerance and VIF have to above 0.10 and below 10 respectively to avoid problem of multi co-linearity. Hence, the result above indicated that there is no multi co-linearity problem in this study.

**Table-4: Model Summary and Result of ANOVA (Awareness Level)**

Results from table 3 and table 4 suggested that awareness of employee is significant predictor of engagement of employees in the organizations. 44.89% of variance in employee engagement could be explained through awareness of employees for HPWPs. All nine factors of HPWPs were found to contribute positively (standardized coefficient  $\beta > 0$ ) and significantly (Sig. value  $< .05$ ) at 5% level of significance.

Similar methodology was adopted to study linkage between employee engagement and employees' perception regarding effectiveness of High

**Table-3: Multiple Regression Analysis Results of Nine Factors Predicting Engagement (Awareness Level)**

Predictor Variables	Unstandardized Coefficient $\beta$	Standardized Coefficient $\beta$	t-value	Sig.	Tolerance	VIF
Constant	5.087		7.412	.000		
F1	0.058	0.064	6.254	.001	.780	1.125
F2	0.235	0.847	2.012	.004	.845	1.114
F3	0.233	0.007	5.697	.002	.774	1.255
F4	0.058	0.254	5.421	.000	.695	1.480
F5	0.680	0.748	4.687	.047	.214	2.041
F6	0.753	0.075	4.410	.032	.950	1.058
F7	0.572	0.716	3.698	.000	.170	4.202
F8	0.078	0.081	6.385	.001	.768	1.322
F9	0.510	0.680	2.658	.004	.652	1.547

**Table-4: Model Summary and Result of ANOVA (Awareness Level)**

Regression Model Summary			ANOVA	
R	R Square	Std Error of Estimate	F-Value	Sig.
0.67	0.4489	.4502	74.514	.044

**Table-5: Multiple Regression Analysis Results of Nine Factors Predicting Engagement (Effectiveness Level)**

Predictor Variables	Unstandardized Coefficient $\beta$	Standardized Coefficient $\beta$	t-value	Sig.	Tolerance	VIF
Constant	6.924		5.685	.002		
F1	0.050	0.058	2.354	.014	.110	4.685
F2	0.606	0.614	7.655	.000	.588	2.540
F3	0.354	0.004	1.871	.004	.432	2.002
F4	0.021	0.024	6.247	.007	.411	1.659
F5	0.065	0.071	3.647	.000	.435	1.697
F6	0.274	0.287	5.937	.040	.620	3.621
F7	0.521	0.534	3.627	.002	.115	4.652
F8	0.428	0.439	8.352	.031	.546	2.354
F9	0.530	0.537	8.652	.013	.410	1.611

**Table-6: Model Summary and Result of ANOVA (Effectiveness Level)**

Regression Model Summary			ANOVA	
R	R Square	Std Error of Estimate	F-Value	Sig.
0.70	0.490	.3704	68.279	.039

Performance Work Practices. Here also regression comes out to be:

$$EE = \delta_0 + \delta_1 F_1 + \delta_2 F_2 + \delta_3 F_3 + \delta_4 F_4 + \delta_5 F_5 + \delta_6 F_6 + \delta_7 F_7 + \delta_8 F_8 + \delta_9 F_9$$

Here, EE refers to Employee Engagement,  $\delta_0, \delta_2, \dots, \delta_9$  are constants,  $F_1, F_2, \dots, F_9$  are nine factors of HPWPs (Perceptual effectiveness of HPWPs).

**Table-5: Multiple Regression Analysis Results of Nine Factors Predicting Engagement (Effectiveness Level)**

Here also value of tolerance and that of VIF was above 0.10 and below 10 respectively. Hence, the result above indicated that there is no multi collinearity problem in this study too.

**Table-6: Model Summary and Result of ANOVA (Effectiveness Level)**

Again, results from table 5 and table 6 recommended that employees' perception for effectiveness of High Performance Work Practices was a significant predictor of employee engagement in the organizations. Here 49% of variance in employee engagement could be explained through perceptual effectiveness for HPWPs. All nine factors of HPWPs were found to contribute positively (standardized coefficient  $\beta > 0$ ) and significantly (Sig. value  $< .05$ ) at 5% level of significance.

## DISCUSSION

Berg (1999) argued that HR practices were designed to motivate workers in different ways and encourage them to put forth their best efforts. These practices link job resources with organizational outcomes via employee engagement (Schaufeli et al., 2006). Based on this premise Guthrie (2009) concluded that HRM practices as a predictor of employee engagement. Direct researches on the relationship between human resource practices and employee engagement are currently scarce and hard to come by (Guthrie, 2012). HPWS is new concept in Indian

context thus its relation with engagement is not explored much. This study is among the pioneer work that explores the linkage between High Performance Work System and employee engagement. Another contribution of the study is regression equation that relates nine different factors of HPWPs with employee engagement. Organizations can target more contributing practices or factors to consolidate employee engagement. For interference factor 2 i.e. Traditional HRM practices contributes most to engagement thus these practices could be emphasize. Value creating HPWPs that included HRIS, HRA, Yoga and meditation etc. are weakly but significantly linked with employee engagement. Thus organization could seek to actualize the potential of these modern practices.

This study also addresses the concern about lack of academic literature on awareness and perceptual effectiveness. Previous studies have not emphasized on employees' perception angle while dealing with effectiveness of HR practices. Both awareness and perceptual effectiveness are found to be significantly related with employee engagement. Therefore, organisations are required to construct the high performance work system of the organization based employees' awareness and perceptual effectiveness to enhance employee engagement. Another option is organizations must enhance the awareness level of the employee and mould their perception before institutionalizing any HPWS. This would help to bridge the gap between the appropriate high performance work systems to what is actually practiced in the organizations.

## CONCLUSION

The present study has both theoretical and practical significance. Theoretical it could highlight the scarcity of studies on employees' perception and awareness for HR practices. The present work will help to establish perceptual effectiveness and awareness as two important paradigm of optimization of HPWS. Linkage between HPWPs

and employee engagement has been recognized but more importantly nine constructs/factor of High Performance Work System has been associated with employee engagement. The study concludes that organizations are required to focus on awareness and perception of employee to derive utmost benefits from linkage of HPWPs and employee engagement.

The study is marred with few limitations too. Firstly, a larger sample size would have made the study more worthwhile. Secondly owing to lack of previous observations, results of the study could not be compared for continuity or deviation. Future researchers could take this initiative to higher levels. Individual related factors like attitude, belief system, values etc. could also be explored for their possible mediating effect. Now employee engagement could be enhanced further by utilizing results of the present research work.

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### BRIEF PROFILE OF THE AUTHOR

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# An Empirical Study on Effects of Globalization on Marketing Strategy and Performance

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*This study advances the knowledge of globalization and its impact empirically on the formulation of marketing strategies and performance of garment firms. In order to test the significant results, a structured questionnaire was formulated and the data was collected using the non-probability convenience sampling technique. Reliability and validity tests were done using the cronbach's alpha and the kmo and bartlett's test of sphericity. Data was analyzed using the Pearson coefficient of correlation. The results of the analysis provided considerable support for literature arguing that globalization acts as a two-edged sword: one that can be beneficial on one hand and detrimental to business on the other hand. It has such beneficial implications as quick movement in the quality of local goods, inflow of foreign investment and improved relations between countries. The negative effects included brain-drain, reduced patronage of locally-manufactured goods, job losses and the effect which recession in other countries" economies has on the local economy. It is therefore recommended that innovative and effective strategies should be designed and implemented to enable the garment firms capitalize on global opportunities while carefully managing the inherent threats*

**Key Words:** Globalization, Strategy, Marketing, Performance, Marketing Strategy

## INTRODUCTION

Globalization is a process of interaction and integration amongst people, companies, and governments of different nations. It is a process driven by international trade and investment and aided by information technology. This process has effects on the environment, on culture, on political systems, on economic development and prosperity, and on human physical well-being in societies around the world.

The study is empirical research designed to examine the effects of globalization on the performance of exporting firms in India. The study examines the relationships between the effects of globalization and the degree of co-marketing alliance and international marketing performance of firms. The study also makes an empirical investigation of the effects of globalization on the degree of co-marketing alliance and international marketing performance of firms from two distinct economic contexts developed and emerging economies, which are represented by Indian firms, respectively.

The advantages and disadvantages of globalization have been heavily scrutinized and debated in recent years. The proponents of globalization say that it helps developing nations "catch up" to industrialized nations much faster through increased employment and technological advances.

Critics of globalization say that it weakens national sovereignty and allows rich nations to ship domestic jobs overseas where labor is much cheaper.

## GLOBALIZATION AND ITS EFFECTS

“Globalization” is currently a popular and controversial issue, though often remaining a loose and poorly-defined concept. Sometimes too comprehensively, the term is used to encompass increases in trade and liberalization policies as well as reductions in transportation costs and technology transfer. As far as its impact is concerned, discussion of globalization tends to consider simultaneously its effects on economic growth, employment and income distribution - often without distinguishing between- countries and within-country inequalities and other social impacts such as opportunities for poverty alleviation, human and labour rights, environmental consequences and so on. Moreover, the debate is often confused from a methodological point of view by the interactions between history, economics, political science and other social sciences. Partially as a consequence of the lack of clear definitions and methodological choices, the current debate is characterized by an harsh divide between the supporters and the opponents of globalization, where both groups appear to be ideologically committed and tend to exploit anecdotes (successfully or unsuccessfully respectively), rather than sound, comprehensive empirical evidence to support their cause.

Globalization is an interesting phenomenon since it is obvious that the world has been going through this process of change towards increasing economic, financial, social, cultural, political, market, and environmental interdependence among nations.

On the positive side, globalization enables firms to outsource and find customers around the world, e.g., the auto and electronics industries. The globalization of production and operations benefits firms through the realization of economies of scales and scope (Corswant, 2002; Reyes, Raisinghani, and Singh, 2002). Hence, no one can deny that

globalization has changed the way we conduct business.

Matusz and Tarr (1999) survey the studies carried out before 1995 on the impact of globalization on employment in DCs. Comparing the level of employment before and after trade liberalization the authors conclude that trade and FDI liberalization has been beneficial for labour except in the transition countries of Eastern Europe. Ghose (2000 and 2003) analyses the relationship between trade liberalization and manufacturing employment. He highlights that - although increasing trade and FDI have been relevant only in a small bunch of newly industrialized countries - for those countries the growth of trade in manufactured products has implied a large positive effect on manufacturing employment. More evidence has been collected at the national level mostly for the manufacturing sector. It draws a contrasted picture of the effect of globalization. In successfully integrating DCs, the employment effects of trade liberalization has been mixed (mostly negative) in Latin America (Rama, 1994; Revenga, 1997; Levinsohn, 1999; ILO, 2002; Cimoli and Katz, 2003) whereas they seem globally positive in Asian countries (Lee, 1996; Orbeta, 2002).

## GLOBALIZATION AND BUSINESS

The opportunities and threats evoked by globalization have caused firms to adapt their organizational structures and strategies accordingly (Jones, 2002; Knight, 2000). Firms that respond to these trends have been found to improve their performance (Knight, 2000). Although many scholars have often discussed these two effects of globalization, a review of related literature reveals that empirical work on such effects and business firms is still scarce (Clougherty, 2001; Eden and Lenway, 2001; Oxley and Schnietz, 2001). Therefore, this dissertation specifically aims at analyzing the effects of global market opportunities and threats on 1) a firms' overall performance, and 2) a firms' cooperation in marketing alliances and international marketing performance.

The effects vary a lot from one part of the world to another, and from one area of business to another. Communications infrastructure is important to modern businesses, but not all countries have got one. There is also the 'non-traded' sector ie goods and services which are not traded internationally. Domestic services, for example, have to be provided where the house is; you can't export a clean house.

Businesses are now much freer to choose where they operate from, and can move to a cheaper and more efficient location. In the last decade the UK has been seen by many businesses as an attractive business location, especially in financial services, and many businesses have located in the UK which has boosted the UK economy but also provided increased competition for UK businesses. This increased movement of businesses and jobs has, to some extent, forced governments to compete with each other in providing an attractive and low-cost location. Ireland, for example, offers 'tax holidays' to businesses relocating there. Manufacturing businesses are increasingly relocating to low-wage countries such as Indonesia. Inputs vary in price across the world, and businesses now have more freedom of movement in moving to get hold of those cheaper inputs eg labour in developing countries, or financial advice in the City of London. One limitation on this is that managers won't always move to some countries if living conditions are unpleasant or even dangerous.

## GLOBALIZATION EFFECTS AND FIRM PERFORMANCE

In the past two decades, the world has gone through the process of globalization, one that causes increasing economic, financial, social, cultural, political, market, and environmental interdependence among nations. Yet, limited empirical studies have been conducted to investigate how globalization actually affects firms. International business scholars (Clark & Knowles, 2003; Eden & Lenway, 2001) point out the need to explore further the effects of globalization on firms.

Therefore, we aim to investigate the effects of globalization on firm performance. In this study, globalization is defined as the process of increasing social and cultural inter-connectedness, political interdependence, and economic, financial and market integrations (Eden et al., 2001; Molle, 2002). At the macro level, globalization is found to undermine autonomy in domestic airline competition policy (Clougherty, 2001). At the micro level, globalization (operationalized as trade liberalization) is found to improve the performance of U.S. multinational enterprises (Oxley & Schnietz, 2001). From these two studies, we have learned that globalization is a multi-faceted construct. Therefore, the classification of its effects into different dimensions and the study of their impact on firms prove to be worthwhile.

In this study, globalization is defined as the process of increasing social and cultural inter-connectedness, political interdependence, and economic, financial and market integrations (Eden and Lenway, 2001; Giddens, 1990; Molle, 2002; Orozco, 2002). Although much descriptive and theoretical literature is published on the impact of globalization, very little empirical work exists that tests globalization effects. A few exceptions of empirical studies examining the impact of globalization include, for example, Clougherty (2001), and Oxley and Schnietz (2001). While Clougherty's (2001) study is related to industry-level variables (i.e., domestic competition policy in the airline industry), the study conducted by Oxley and Schnietz (2001) is more focused on firm-level variables by relating globalization to firm performance. At the macro level, globalization is found to undermine autonomy in domestic airline competition policy (Clougherty, 2001). At the micro level, globalization (operationalized as trade liberalization) is found to improve the performance of U.S. multinational enterprises (Oxley and Schnietz, 2001). From these two studies, we have learned that globalization is a multi-faceted construct. Therefore, the classification of its effects into different dimensions and the study of their impact on firms prove to be worthwhile.



## REVIEW OF LITERATURE

**Table 1: Contribution of Researchers**

YEAR	AUTHOR(S)	FINDING
1991	Grossman and Helpman	In particular, a relaxation of the hypothesis of homogeneous production functions across different countries allows for either the possibility of multiple equilibrium, or for quite differentiated employment trends in the evolutionary "catching-up" models.
1991	Castrogiovanni	Due to the multi-level and multi-dimensional nature of the environmental construct, the level and dimension of the environment to be studied must be clearly specified to minimize conceptual ambiguity and over abstraction.
1993	Burgers, Hill, and Kim	The expansion of a firm's strategic capabilities and the reduction of competition are two main motives for the proliferation of cooperative strategies such as strategic alliances in today's business environment.
1993	Bucklin and Sengupta	They involve the coordination of one or more aspects of marketing—ranging from research and development to production.
1995	Varadarajan and Cunningham	Among the various types of cooperative arrangements mentioned above, co-marketing alliances are the focus of this dissertation since they are considered a specific type of strategic alliances whose scope is limited to marketing activities
2000	Ghose	He analyses the relationship between trade liberalization and manufacturing employment. He highlights that – although increasing trade and FDI have been relevant only in a small bunch of newly industrialized countries – for those countries the growth of trade in manufactured products has implied a large positive effect on manufacturing employment.
2000	Hitt, et al.	Emerging-economy firms are usually different from developed-economy firms in various ways. On average, the former are usually relatively young with limited foreign and market-oriented experiences.
2001	Berg and Taylor	Job displacement effect can be further amplified when FDI inflows are accompanied by financial liberalization and consequent increases in the interest rate, in turn leading to shrinking domestic investments.
2001	Czuchry and Yasin	Changes in the business environment enable firms to not only access new markets but also lower costs by relocating their operations and exploiting cheap resources around the world.
2002	Hafsi	Trade liberalization, technological developments, and convergence of governmental macroeconomic policies associated with globalization have made it easy for firms around the globe to enter different geographic markets, and thus, intensify the competitive atmosphere for firms around the world.
2002	Jones	Many forms of organizational restructuring (such as downsizing, reengineering, implementation of cooperative strategies) have been witnessed as responses to globalization.
2004	Lall	Shifting our focus from trade to FDI inflows, when a developing country opens its borders to foreign capital, FDIs generate positive employment impacts both directly and indirectly through job creation within suppliers and retailers and also a tertiary employment effect through generating additional incomes and so increasing aggregate demand.
2004	Spiezia	He studies the employment impact of trade on the manufacturing sector. By comparing labour intensities of exported, imported and non-trade goods the author concludes that in 21 out of 39 sampled DCs an increase in the volume of trade resulted in an increase in employment; however, in the second group of 18 countries, increased integration produced a reduction in employment (in contrast with the HO theorem). As far as FDI is concerned, the author finds out that the impact of FDI on employment is increasing with per-capita income, resulting not significant for low- income DCs.

## BROAD OBJECTIVES OF STUDY

The broad objectives of study are as follows:-

- (1) To establish and investigate the relationship between Globalization and formulation of strategies of firms with special reference to Garments Industry.
- (2) To investigate the relationship between Globalization and performance of firms with special reference to Garments Industry.

## HYPOTHESES OF STUDY

The following Hypotheses were formulated as follows:-

Here HO represents Null Hypothesis and HA represents Alternative Hypothesis.

### Hypothesis 1:-

**H01:** There is no significant relationship between Globalization and formulation of strategies of firms with special reference to Garments Industry.

**HA1:** There is significant relationship between Globalization and formulation of strategies of firms with special reference to Garments Industry.

### Hypothesis 2:-

**H02:** There is no significant relationship between Globalization and performance of firms with special reference to Garments Industry.

**HA2:** There is significant relationship between Globalization and performance of firms with special reference to Garments Industry.

## RESEARCH DESIGN

The research design is descriptive in nature. In order to collate the responses, 5- point likert's scale is employed. The responses obtained from the respondents are analyzed using the Pearson

Moment Correlation Coefficient. The test of significance is done with the help of t moment correlation. This study is restricted to Garment exporters in Delhi and NCR. The importance of this study is that it focuses on investigating the impact of globalization on the formulation of strategies and performance of Garment industry firms.

### Sources of Data

To cater the need of the research, the researchers have used primary data through self-constructed structured Questionnaire and as far as the secondary data is concerned that was obtained from web sites, journals etc. to explore the significance of impact of globalization on the strategy formulation and the performance of Garment Industry firms.

### Data Collection Technique

Primary data were collected from garment export firms. There were 150 respondents from garment export firms used for this study. Structured questionnaire was constructed to interview the top management and managerial staffs of garment firms of Delhi and NCR. The responses of the respondents are measured on Likert's five point scale (ranging from strongly agree to strongly disagree).

### Sampling Technique

As far as the sampling technique is concerned, non-probability convenience sampling is used to collect data.

### Statistical Tools Used

IBM SPSS 20 (Statistical Package for the Social Sciences), for data analysis and as far as for hypothesis testing the statistical tools used is regression analysis and for the reduction of factors the factor analysis is done using Rotated component matrix and for the reliability the cronbach's alpha was calculated and sample adequacy was tested on KMO and Bartlett's Test.

## DATA ANALYSIS AND INTERPRETATION

### Reliability Analysis

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
0.859	0.852	13

In order to check the reliability of the questionnaire, the Cronbach's Alpha test was applied. The value of Cronbach's alpha is found to be 0.859. As the value of Cronbach's Alpha is more than 0.6, which considers the data to be reliable for hypothesis testing.

### Karl Pearson Coefficient of Correlation

		Globalization	Marketing Strategy	Performance
Pearson Correlation Coefficient	Performance	0.252	0.217	1
N		5	5	5
Sig. (2 - tailed)		0.532	0.628	-
Pearson Correlation Coefficient	Marketing Strategy	0.931	1	0.217
N		5	5	5
Sig. (2 - tailed)		0.000	-	0.628
Pearson Correlation Coefficient	Globalization	1	0.931	0.252
N		5	5	5
Sig. (2 - tailed)		-	0.000	0.532

It is found that there is a high degree of correlation between some independent and dependent variables, as it can be observed from table 4 that there is very high degree of correlation between Formulation of Market Strategy and Globalization in garment industry. This correlation between the formulation of marketing strategy

### Validity Analysis

KMO and Barlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.748
Bartlett's Test of Sphericity	Approx. Chi-Square	1384.273
	Df	14
	Sig.	0.000

From table 3, it is found that the value for Kaiser-Meyer-Olkin Measure of Sampling Adequacy was more than 0.6, and it is 0.748 also Bartlett's Test of Sphericity has sig value less than 0.05 at 5 % level of significance. So factor analysis was conducted successfully for data reduction.

and the globalization is found to be 93.1% which is of very high degree. There is also positive correlation between the globalization and the performance of firm that is 25.2%. It is also observed that there is a low degree of Coefficient of Correlation between the dependent variables.

### Parametric Test (t test)

In order to test the model parameters, t test is used which is shown in table

Variable	t - value	Sig.
Constant	1.843	0.032*
Marketing Strategies	11.179	0.000*
Performance	4.813	0.582

From table 5 it is clear that the independent variable Formulation of Marketing Strategies is statistically significant at 95% confidence level of interval and it plays a vital role in garment industry. It is also observed that the independent variable Performance does not play any vital role in deciding the effect of globalization as it is not statistically significant at 95% confidence level of interval.

## HYPOTHESIS TESTING

### Simple Regression Analysis

Variables	Marketing Strategies	Performance
B0	29.724	43.842
B	0.922	-0.074
T	5.247	1.482
F	28.482	0.68
R2	0.867	0.063
Sig.	0.003	0.853

### Hypothesis 1:-

H01: There is no significant relationship between Globalization and formulation of strategies of firms with special reference to Garments Industry.

HA1: There is significant relationship between Globalization and formulation of strategies of firms with special reference to Garments Industry.

From table 6 it is clear indication that there is a positive relationship between the globalization and the marketing strategies of garment firms. As the value of R2, is 0.867 which means that 86.7% of variations in the dependent variable that is marketing strategies is explained by the independent variable globalization. The significant value is found to be 0.003 which is less than 0.05, so it is significant at 5% level of significance hence in this case the null hypothesis is rejected and the alternative hypothesis is accepted. It means there is significant relationship between Globalization and formulation of strategies of firms with special reference to Garments Industry.

### Hypothesis 2:-

H02: There is no significant relationship between Globalization and performance of firms with special reference to Garments Industry.

HA2: There is significant relationship between Globalization and performance of firms with special reference to Garments Industry.

From table 6 it is clear indication that there is an inverse relationship between the globalization and the performance of garment companies. As the value of R2, is 0.063 which means that 6.3% of variations in the dependent variable that is globalization is explained by the independent variable performance of garment firms. The significant value is found to be 0.853 which is more than 0.05, so it is not significant at 5% level of significance hence in this case the null hypothesis is accepted and the alternative hypothesis is rejected. It means there is no significant relationship between Globalization and formulation of strategies of firms with special reference to Garments Industry.



## CONCLUSION

This study provides considerable support to the assertion that globalization could be beneficial to garment firms through the quick movement of goods and services, inflow of foreign investment, on the one hand, or detrimental to business through job losses, reduction in profit margins, brain-drain. These effects have far reaching strategy implications in terms of management of monetary liquidity in the garment firms, protection of the domestic economy from shocks and transfer of sound management and business practices.

## RECOMMENDATIONS

- There is need for garment firms to always be on the lookout for innovations and technology that would help in mitigating the adverse effects of globalization.
- Innovative and effective strategies should be designed and implemented to enable garment firms to capitalize on global opportunities while managing the inherent threats.
- Alliance formation and strategic flexibility are also means to maneuver firms through globalization.

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# Performance Analysis of Indian Mutual Funds with S&P CNX Nifty Index

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*The Mutual Funds play a vigorous role in financial intermediation under the changed environment through which development of Capital Markets and the growth of the corporate sector also takes place. This paper attempts to investigate the financial performance of the mutual funds with the tools of return, standard deviation and beta. Statistical ratios have been used like Treynor ratio, Sharpe ratio, standard deviation, beta, co variance etc. The performance of HDFC, Birla sun life and ICICI equity have been analysed with the S&P CNX Nifty Index. It is being found that HDFC mutual fund and ICICI prudential mutual fund return has outperformed the market whereas Birla Sun life Insurance has been lowest in the performance when compared to stock market in terms of returns.*

**Key Words:** Mutual funds, Treynor Ratio, Sharpe Ratio, Beta

**JEL Classification:** D90, D92

## INTRODUCTION

During the last decade, unparalleled developments witnessed by the Indian Capital Market. This unprecedented growth was the result of new financial institutions and new financial instruments like Mutual Funds and many other instruments. For the investors who lack the knowledge of investing in the market, mutual fund is the best financial instrument for them. Mutual Funds is that type of an investment instrument which deploy savings of individuals and institutions and direct these savings into corporate securities to deliver the investors a steady stream of returns and capital appreciation. The Mutual Funds play a vigorous role in financial intermediation under the changed environment through which development of Capital Markets and the growth of the corporate sector also takes place. For average Indian investors, Mutual funds have become important medium of investment. This allows investors to invest indirectly into the capital market and gain the knowledge and skills from professionals. Risk can be diversified if proper diversification will be done. Through information gathered in advance one can reduce the magnitude of the risk for investment decisions.

## LITERATURE REVIEW

Mohamed.zaheeruddin, Pinninti Sivakumar, K.Srinivas Reddy(Feb 2013) explains the advantages of investing in the mutual fund over stock market. And examining the performance of mutual funds based on their fund return, risk and performance ratios.

## Performance Analysis of Indian Mutual Funds with S&P CNX Nifty Index

Dr. Sarita Bahl and Meenakshi Rani (July 2012) evaluated the performance of the mutual fund. They investigated the performance of 29 open-ended, growth-oriented equity schemes for the period from April 2005 to March 2011 (six years) of transition economy. Monthly NAV of different schemes have been used to calculate the returns from the fund schemes. BSE-sensex has been used for market portfolio. The historical performance of the selected schemes were evaluated on the basis of Sharpe, Treynor, and Jensen's measure whose results will be useful for investors for taking better investment decisions.

Sahil Jain (August 2012) in his paper made an attempt to analyze the performance of equity based mutual funds. A total of 45 schemes offered by 2 private sector companies and 2 public sector companies, have been studied over the period 15 years. The analysis has been made using the risk-return relationship and CapitalAssetPricingModel (CAPM). The overall analysis finds that HDFC and ICICI have been the best performers, UTI an average performer and LIC the worst performer which gave below- expected returns on the risk-return relationship.

Dr. R. Narayanasamy, V. Rathnamani(April 2013) In his study mainly focused on the performance of selected equity large cap mutual fund schemes in terms of risk- return relationship. The main objectives of this research work is to analysis financial performance of selected mutual fund schemes through the statistical parameters such as (alpha , beta, standard deviation, r-squared, Sharpe ratio) and concluded that all the funds have performed well in the high volatile market movement.

According to studies of Ercetin (1997), Karacabey (1999), Gursoy and Erzurumlu (2001), Kilic(2002), Canbas and Kandir (2002), Vuran (2002), and Arslan (2005), comparative analysis of Turkish mutual Funds performances is relatively low to other countries' mutual funds performances" (Arslan & Arslan, 2010). On the other hand, Christensen (2003) claims that Danish mutual funds have weak

performances. Those funds either perform neutral or negative. Therefore, Danish and Turkish mutual fund assets are proper to make a comparison between them.

Timotej Jagric, Boris Podobnik, Sebastjan Strasek, Vita Jagric studies the mutual fund industry and applies various tests to evaluate the performance capacity of mutual funds. Calculated the performance measures of mutual funds and ranked them according to the results. The rankings were obtained by performing both the Sharpe and Treynor rules to be almost the same, implying that funds are well diversified and revealed that all analyzed funds outperformed the market on a risk-adjusted basis.

Dr H. Sadak(2003) basically focused on the growth and development of mutual funds in India. The entire gamut of the theoretical aspects of the fund management has been critically examined in the context of the performance of mutual funds and it provides an insight into fund management and the areas of weakness.

### Objectives of the Study

- To investigate the financial performance of the mutual funds with the tools of return, standard deviation and beta.
- To evaluate the selected funds assessment on the basis of various performance ratios (Sharpe, Treynor, Jensen)
- To compare HDFC, Birla sun life and ICICI equity performance with the S&P CNX Nifty Index, to give rankings of mutual funds by their outstanding performance.

### Data Collection:

#### Secondary Data

Stocks Selected :

- HDFC INDEX FUND
- Birla Sun Life INDEX FUND
- ICICI Prudential INDEX



Performance Analysis of Indian Mutual Funds  
with S&P CNX Nifty Index

The data has been mainly collected from the secondary sources. Secondary Data has been collected from:

- Capitaline Database
- NSE Website
- BSE Website
- Mutualfundsindia.com
- AMFI Module

Research Design

The research study is descriptive in nature.

Tools and Techniques Used

- Microsoft Excel is used to analyze the data.

- Statistical ratios have been used like Treynor ratio, Sharpe ratio, standard deviation, beta, co variance etc.

LIMITATIONS OF THE STUDY

- The study is limited to selected mutual fund schemes.
- The lack of information sources for the analysis part.
- The study is limited to the different schemes available under the mutual funds selected.
- The time constraint was one of the major problems.

COMPARISON OF THE PERFORMANCE OF MUTUAL FUND WITH STOCK MARKET

Table.1: Calculation of monthly returns and risk and covariance of CNX NIFTY and HDFC mutual fund.

CNX NIFTY					HDFC INDEX FUND					
NAV date	NAV	R	D	D <sup>2</sup>	NAV date	NAV	R	D <sub>1</sub>	D <sub>1</sub> <sup>2</sup>	Cov.= D <sup>∧</sup> D <sub>1</sub>
30-Apr-09	3359.83	-	-	-	30-Apr-09	92.40	-	-	-	-
30-May-09	3957.96	17.80	16.52	272.99	30-May-09	110.02	19.07	17.71	313.73	292.65
30-Jun-09	4436.37	12.09	10.81	116.80	30-Jun-09	124.07	12.77	11.41	130.11	123.27
30-Jul-09	4343.10	-2.10	-3.38	11.44	30-Jul-09	122.73	-1.07	-2.43	5.93	8.24
30-Aug-09	4571.11	5.25	3.97	15.76	30-Aug-09	129.22	5.28	3.92	15.39	15.57
30-Sep-09	4859.31	6.30	5.02	25.25	30-Sep-09	136.79	5.86	4.50	20.29	22.63
30-Oct-09	4994.11	2.77	1.49	2.23	30-Oct-09	140.45	2.67	1.31	1.73	1.96
30-Nov-09	4953.54	-0.81	-2.09	4.38	30-Nov-09	139.54	-0.65	-2.01	4.03	4.20
30-Dec-09	5099.74	2.95	1.67	2.79	30-Dec-09	142.74	2.29	0.93	0.87	1.56
30-Jan-10	5156.22	1.11	-0.17	0.03	30-Jan-10	144.14	0.98	-0.38	0.14	0.07
28-Feb-10	4839.57	-6.14	-7.42	55.07	28-Feb-10	135.18	-6.22	-7.58	57.39	56.22
30-Mar-10	5178.15	7.00	5.72	32.67	30-Mar-10	144.23	6.69	5.33	28.42	30.47
30-Apr-10	5294.76	2.25	0.97	0.94	30-Apr-10	146.81	1.79	0.43	0.19	0.42
30-May-10	5052.97	-4.57	-5.85	34.18	30-May-10	139.83	-4.76	-6.12	37.45	35.78
30-Jun-10	5186.13	2.64	1.36	1.84	30-Jun-10	144.09	3.05	1.69	2.87	2.29
30-Jul-10	5359.75	3.35	2.07	4.28	30-Jul-10	148.78	3.25	1.89	3.57	3.91
30-Aug-10	5457.24	1.82	0.54	0.29	30-Aug-10	151.70	1.96	0.60	0.37	0.33
30-Sep-10	5811.48	6.49	5.21	27.16	30-Sep-10	161.74	6.62	5.26	27.62	27.39
30-Oct-10	6096.11	4.90	3.62	13.09	30-Oct-10	169.19	4.61	3.25	10.57	11.76
30-Nov-10	6055.33	-0.67	-1.95	3.80	30-Nov-10	167.87	-0.79	-2.15	4.60	4.18
30-Dec-10	5971.32	-1.39	-2.67	7.11	30-Dec-10	166.55	-0.78	-2.14	4.59	5.71
30-Jan-11	5782.71	-3.16	-4.44	19.70	30-Jan-11	161.08	-3.29	-4.65	21.59	20.63

Performance Analysis of Indian Mutual Funds  
with S&P CNX Nifty Index

CNX NIFTY					HDFC INDEX FUND					
NAV date	NAV	R	D	D <sup>2</sup>	NAV date	NAV	R	D <sub>1</sub>	D <sub>1</sub> <sup>2</sup>	Cov.= D <sup>∧</sup> D <sub>1</sub>
28-Feb-11	5400.92	-6.60	-7.88	62.13	28-Feb-11	150.37	-6.65	-8.01	64.10	63.11
30-Mar-11	5538.42	2.55	1.27	1.60	30-Mar-11	153.07	1.79	0.43	0.19	0.55
30-Apr-11	5839.09	5.43	4.15	17.21	30-Apr-11	160.98	5.17	3.81	14.53	15.82
30-May-11	5492.20	-5.94	-7.22	52.14	30-May-11	151.82	-5.69	-7.05	49.71	50.91
30-Jun-11	5472.64	-0.36	-1.64	2.68	30-Jun-11	151.44	-0.25	-1.61	2.59	2.64
30-Jul-11	5596.59	2.26	0.98	0.97	30-Jul-11	154.88	2.27	0.91	0.83	0.90
30-Aug-11	5076.74	-9.29	-10.57	111.70	30-Aug-11	140.59	-9.23	-10.59	112.11	111.90
30-Sep-11	5015.58	-1.20	-2.48	6.17	30-Sep-11	138.96	-1.16	-2.52	6.34	6.26
30-Oct-11	5060.02	0.89	-0.39	0.16	30-Oct-11	139.69	0.52	-0.84	0.70	0.33
30-Nov-11	5004.28	-1.10	-2.38	5.67	30-Nov-11	138.55	-0.82	-2.18	4.74	5.19
30-Dec-11	4782.36	-4.43	-5.71	32.66	30-Dec-11	132.60	-4.30	-5.66	31.98	32.32
30-Jan-12	4920.02	2.88	1.60	2.55	30-Jan-12	136.09	2.64	1.28	1.63	2.04
29-Feb-12	4920.02	0.00	-1.28	1.64	29-Feb-12	148.16	8.86	7.50	56.30	-9.60
30-Mar-12	5409.09	9.94	8.66	75.00	30-Mar-12	144.55	-2.43	-3.79	14.38	-32.84
30-Apr-12	5298.48	-2.04	-3.32	11.05	30-Apr-12	143.44	-0.77	-2.13	4.53	7.07
30-May-12	5254.48	-0.83	-2.11	4.45	30-May-12	136.12	-5.11	-6.47	41.86	13.65
30-Jun-12	5074.21	-3.43	-4.71	22.19	30-Jun-12	139.63	2.58	1.22	1.50	-5.76
30-Jul-12	5222.01	2.91	1.63	2.67	30-Jul-12	143.94	3.09	1.73	2.98	2.82
30-Aug-12	5333.28	2.13	0.85	0.72	30-Aug-12	147.15	2.23	0.87	0.76	0.74
30-Sep-12	5497.45	3.08	1.80	3.23	30-Sep-12	151.84	3.19	1.83	3.35	3.29
30-Oct-12	5688.63	3.48	2.20	4.83	30-Oct-12	132.60	-12.68	-14.04	197.00	-30.84
30-Nov-12	5679.62	-0.16	-1.44	2.07	30-Nov-12	156.22	17.81	16.45	270.71	-23.67
30-Dec-12	5890.96	3.72	2.44	5.96	30-Dec-12	161.83	3.59	2.23	4.99	5.45
30-Jan-13	6023.12	2.24	0.96	0.93	30-Jan-13	166.03	2.59	1.23	1.52	1.19
28-Feb-13	5893.59	-2.15	-3.43	11.77	28-Feb-13	162.53	-2.11	-3.47	12.04	11.90
30-Mar-13	5782.26	-1.89	-3.17	10.04	30-Mar-13	159.76	-1.70	-3.06	9.36	9.69
30-Apr-13	5699.76	-1.43	-2.71	7.33	30-Apr-13	157.21	-1.60	-2.96	8.74	8.00
30-May-13	6064.52	6.40	5.12	26.21	30-May-13	166.88	6.15	4.79	22.92	24.51
30-Jun-13	5782.08	-4.66	-5.94	35.25	30-Jun-13	160.64	-3.74	-5.10	25.97	30.26
30-Jul-13	5909.24	2.20	0.92	0.85	30-Jul-13	165.95	3.31	1.95	3.79	1.79
30-Aug-13	5510.44	-6.75	-8.03	64.46	30-Aug-13	157.33	-5.20	-6.56	42.98	52.64
30-Sep-13	5797.48	5.21	3.93	15.44	30-Sep-13	165.72	5.33	3.97	15.77	15.60
30-Oct-13	6083.87	4.94	3.66	13.40	30-Oct-13	173.05	4.42	3.06	9.37	11.20
30-Nov-13	6128.64	0.74	-0.54	0.30	30-Nov-13	174.00	0.55	-0.81	0.65	0.44
30-Dec-13	6246.87	1.93	0.65	0.42	30-Dec-13	177.09	1.77	0.41	0.17	0.27
30-Jan-14	6223.16	-0.38	-1.66	2.75	30-Jan-14	176.80	-0.16	-1.52	2.31	2.52
28-Feb-14	6098.74	-2.00	-3.28	10.75	28-Feb-14	173.37	-1.94	-3.30	10.88	10.82
30-Mar-14	6507.98	6.71	5.43	29.49	30-Mar-14	184.04	6.15	4.79	22.96	26.02
30-Apr-14	6758.17	3.84	2.56	6.58	30-Apr-14	190.33	3.42	2.06	4.23	5.28
	<b>TOTAL</b>	<b>76.71</b>		<b>1317.23</b>			<b>81.30</b>		<b>1772.90</b>	<b>1103.64</b>

Source: [http://www.kotaksecurities.com/stock-market-news/mutual-fund/2017/HDFC-INDEX-SENSEX-\(G\)-historical-nav/14051141.00/2066/2008-04-1/2014-04-29/49](http://www.kotaksecurities.com/stock-market-news/mutual-fund/2017/HDFC-INDEX-SENSEX-(G)-historical-nav/14051141.00/2066/2008-04-1/2014-04-29/49)

Performance Analysis of Indian Mutual Funds  
with S&P CNX Nifty Index

**Table.2: Calculations and comparison of the returns of CNX NIFTY and HDFC mutual fund.**

Return:	$\sum R/n-1$	
Calculation of HDFC Return	=	1.36

**Table.3: Calculations and comparison of the risk of the HDFC and CNX nifty fund**

RISK:	$\sqrt{D^2/N-1}$	
Calculation of HDFC's (S.D) Risk	=	0.70
Calculation of S&P CNX Nifty's (S.D) Risk	=	0.60

**Table.4: Calculation of covariance of HDFC and CNX NIFTY.**

COVARIANCE	$Cov.= D \cdot D_1$	
Calculation of Covariance = Avg. covariance	=	18.39

**Table.5: Calculations of Beta.**

BETA VALUE( $\beta$ )	$Cov. / \sigma_m \cdot \sigma$	
Calculation of ( $\beta$ ) Beta value	=	0.83

\*Risk free return considered is the 91 days interest rate.

Table.6: Calculation of the ratio's of the HDFC mutual fund.			
Calculation of Sharpe's ratio	=	$(R_m - R_f) / \sigma$	1.90
Calculation of Treynor's ratio	=	$(R_m - R_f) / \beta$	1.59
Calculation of Jensen's Alpha	=	$(R - R_m)$	0.08

**Table.7: Calculation of monthly returns and risk and covariance of CNX NIFTY and Birla Sun Life Index mutual fund.**

CNX NIFTY					Birla Sun Life INDEX FUND					
NAV date	NAV	R	D	D <sup>2</sup>	NAV date	NAV	R	D <sub>2</sub>	D <sub>2</sub> <sup>2</sup>	Cov.
30-Apr-09	3359.83	-	-	-	30-Apr-09	13.03	-	-	-	-
30-May-09	3957.96	17.80	16.52	272.99	30-May-09	15.25	16.98	15.96	254.74	263.71
30-Jun-09	4436.37	12.09	10.81	116.80	30-Jun-09	17.19	12.74	11.72	137.38	126.67
30-Jul-09	4343.10	-2.10	-3.38	11.44	30-Jul-09	16.76	-2.49	-3.51	12.34	11.88
30-Aug-09	4571.11	5.25	3.97	15.76	30-Aug-09	17.67	5.45	4.43	19.63	17.59
30-Sep-09	4859.31	6.30	5.02	25.25	30-Sep-09	18.77	6.21	5.19	26.91	26.07

## INTERPRETATION

As the Covariance of this mutual fund with respect to the market is positive, this tells that the movement of the NAV of this scheme depends on the movement of the market. The covariance clears the point that the moves are in the same direction and in parallel with the stock market either upwards or downwards.

A beta of less than 1 means that the security will be less volatile than the market, this volatility measure is supposed to give you some sense of how far the fund will fall if the market takes a dive and how high the fund will rise if the bull starts to climb. So we can say that the investing in the fund is not risky as it might provide with return, even when the market is going at a downfall.

If we look at the return of this fund it has clearly outperformed than market. Where the return from investing in market is 1.28%, fund gave the return of 1.36%.

Performance Analysis of Indian Mutual Funds  
with S&P CNX Nifty Index

CNX NIFTY					Birla Sun Life INDEX FUND					
NAV date	NAV	R	D	D <sup>2</sup>	NAV date	NAV	R	D <sub>2</sub>	D <sub>2</sub> <sup>2</sup>	Cov.
30-Oct-09	4994.11	2.77	1.49	2.23	30-Oct-09	19.25	2.54	1.52	2.32	2.27
30-Nov-09	4953.54	-0.81	-2.09	4.38	30-Nov-09	19.09	-0.81	-1.83	3.34	3.82
30-Dec-09	5099.74	2.95	1.67	2.79	30-Dec-09	19.67	3.02	2.00	3.98	3.34
30-Jan-10	5156.22	1.11	-0.17	0.03	30-Jan-10	19.86	0.96	-0.06	0.00	0.01
28-Feb-10	4839.57	-6.14	-7.42	55.07	28-Feb-10	18.66	-6.04	-7.06	49.83	52.39
30-Mar-10	5178.15	7.00	5.72	32.67	30-Mar-10	19.91	6.71	5.69	32.43	32.55
30-Apr-10	5294.76	2.25	0.97	0.94	30-Apr-10	20.32	2.04	1.02	1.05	1.00
30-May-10	5052.97	-4.57	-5.85	34.18	30-May-10	19.38	-4.60	-5.62	31.57	32.85
30-Jun-10	5186.13	2.64	1.36	1.84	30-Jun-10	19.94	2.87	1.85	3.43	2.51
30-Jul-10	5359.75	3.35	2.07	4.28	30-Jul-10	20.67	3.66	2.64	6.98	5.46
30-Aug-10	5457.24	1.82	0.54	0.29	30-Aug-10	21.05	1.83	0.81	0.66	0.44
30-Sep-10	5811.48	6.49	5.21	27.16	30-Sep-10	22.07	4.83	3.81	14.53	19.87
30-Oct-10	6096.11	4.90	3.62	13.09	30-Oct-10	23.41	6.09	5.07	25.69	18.34
30-Nov-10	6055.33	-0.67	-1.95	3.80	30-Nov-10	23.20	-0.89	-1.91	3.65	3.72
30-Dec-10	5971.32	-1.39	-2.67	7.11	30-Dec-10	23.16	-0.20	-1.22	1.48	3.25
30-Jan-11	5782.71	-3.16	-4.44	19.70	30-Jan-11	21.96	-5.15	-6.17	38.13	27.41
28-Feb-11	5400.92	-6.60	-7.88	62.13	28-Feb-11	20.70	-5.73	-6.75	45.50	53.17
30-Mar-11	5538.42	2.55	1.27	1.60	30-Mar-11	21.15	2.16	1.14	1.29	1.44
30-Apr-11	5839.09	5.43	4.15	17.21	30-Apr-11	22.31	5.46	4.44	19.72	18.42
30-May-11	5492.20	-5.94	-7.22	52.14	30-May-11	20.88	-6.39	-7.41	54.87	53.49
30-Jun-11	5472.64	-0.36	-1.64	2.68	30-Jun-11	20.86	-0.11	-1.13	1.28	1.85
30-Jul-11	5596.59	2.26	0.98	0.97	30-Jul-11	21.36	2.43	1.41	1.98	1.39
30-Aug-11	5076.74	-9.29	-10.57	111.70	30-Aug-11	19.41	-9.14	-10.16	103.30	107.41
30-Sep-11	5015.58	-1.20	-2.48	6.17	30-Sep-11	19.18	-1.21	-2.23	4.97	5.54
30-Oct-11	5060.02	0.89	-0.39	0.16	30-Oct-11	19.28	0.54	-0.48	0.23	0.19
30-Nov-11	5004.28	-1.10	-2.38	5.67	30-Nov-11	19.06	-1.12	-2.14	4.59	5.10
30-Dec-11	4782.36	-4.43	-5.71	32.66	30-Dec-11	18.19	-4.55	-5.57	31.07	31.85
30-Jan-12	4920.02	2.88	1.60	2.55	30-Jan-12	18.73	2.92	1.90	3.61	3.04
29-Feb-12	4920.02	0.00	-1.28	1.64	29-Feb-12	20.55	9.75	8.73	76.18	-11.17
30-Mar-12	5409.09	9.94	8.66	75.00	30-Mar-12	20.08	-2.27	-3.29	10.85	-28.53
30-Apr-12	5298.48	-2.04	-3.32	11.05	30-Apr-12	19.90	-0.94	-1.96	3.84	6.51
30-May-12	5254.48	-0.83	-2.11	4.45	30-May-12	18.75	-5.76	-6.78	46.00	14.31
30-Jun-12	5074.21	-3.43	-4.71	22.19	30-Jun-12	19.25	2.69	1.67	2.78	-7.85
30-Jul-12	5222.01	2.91	1.63	2.67	30-Jul-12	19.85	3.11	2.09	4.38	3.42
30-Aug-12	5333.28	2.13	0.85	0.72	30-Aug-12	20.26	2.07	1.05	1.09	0.89
30-Sep-12	5497.45	3.08	1.80	3.23	30-Sep-12	20.86	2.93	1.91	3.66	3.44
30-Oct-12	5688.63	3.48	2.20	4.83	30-Oct-12	21.57	3.42	2.40	5.77	5.28
30-Nov-12	5679.62	-0.16	-1.44	2.07	30-Nov-12	21.52	-0.24	-1.26	1.58	1.81
30-Dec-12	5890.96	3.72	2.44	5.96	30-Dec-12	22.29	3.56	2.54	6.47	6.21
30-Jan-13	6023.12	2.24	0.96	0.93	30-Jan-13	22.61	1.47	0.45	0.20	0.43
28-Feb-13	5893.59	-2.15	-3.43	11.77	28-Feb-13	20.26	-10.42	-11.44	130.82	39.24



Performance Analysis of Indian Mutual Funds  
with S&P CNX Nifty Index

CNX NIFTY					Birla Sun Life INDEX FUND					
NAV date	NAV	R	D	D <sup>2</sup>	NAV date	NAV	R	D <sub>2</sub>	D <sub>2</sub> <sup>2</sup>	Cov.
30-Mar-13	5782.26	-1.89	-3.17	10.04	30-Mar-13	19.86	-1.96	-2.98	8.86	9.43
30-Apr-13	5699.76	-1.43	-2.71	7.33	30-Apr-13	19.70	-0.82	-1.84	3.40	4.99
30-May-13	6064.52	6.40	5.12	26.21	30-May-13	20.80	5.59	4.57	20.89	23.40
30-Jun-13	5782.08	-4.66	-5.94	35.25	30-Jun-13	19.90	-4.31	-5.33	28.45	31.67
30-Jul-13	5909.24	2.20	0.92	0.85	30-Jul-13	20.40	2.52	1.50	2.24	1.38
30-Aug-13	5510.44	-6.75	-8.03	64.46	30-Aug-13	19.08	-6.47	-7.49	56.08	60.13
30-Sep-13	5797.48	5.21	3.93	15.44	30-Sep-13	20.07	5.18	4.16	17.27	16.33
30-Oct-13	6083.87	4.94	3.66	13.40	30-Oct-13	21.06	4.92	3.90	15.19	14.26
30-Nov-13	6128.64	0.74	-0.54	0.30	30-Nov-13	21.20	0.67	-0.35	0.12	0.19
30-Dec-13	6246.87	1.93	0.65	0.42	30-Dec-13	21.62	2.01	0.99	0.99	0.65
30-Jan-14	6223.16	-0.38	-1.66	2.75	30-Jan-14	21.31	-1.46	-2.48	6.14	4.11
28-Feb-14	6098.74	-2.00	-3.28	10.75	28-Feb-14	20.12	-5.59	-6.61	43.75	21.69
30-Mar-14	6507.98	6.71	5.43	29.49	30-Mar-14	21.46	6.69	5.67	32.17	30.80
30-Apr-14	6758.17	3.84	2.56	6.58	30-Apr-14	22.27	3.74	2.72	7.39	6.97
	<b>TOTAL</b>	<b>76.71</b>		<b>1317.23</b>			<b>61.08</b>		<b>1479.05</b>	<b>1198.01</b>

Source: [http://www.moneycontrol.com/stocks/hist\\_index\\_result.php?indian\\_indices=9](http://www.moneycontrol.com/stocks/hist_index_result.php?indian_indices=9)

**Table 8: Calculations and comparison of the returns of CNX NIFTY and BSL mutual fund.**

Return:	$\sum R/n-1$
Calculation of BSL Return	= 1.02
Calculation of S&P CNX Nifty Return	= 1.28

**Table 9: Calculations and comparison of the risk of CNX NIFTY and BSL mutual fund.**

RISK:	$\sqrt{D^2/N-1}$
Calculation of BSL's (S.D) Risk	= 0.64
Calculation of S&P CNX Nifty's (S.D) Risk	= 0.60

**Table 10: Calculations of covariance CNX NIFTY and BSL mutual fund.**

COVARIANCE	Cov.= D*D <sub>2</sub>
Calculation of Covariance = Avg. covariance	= 19.97

**Table 11: Calculations of Beta of CNX NIFTY and BSL mutual fund.**

BETA VALUE(β)	Cov. /σ <sub>m</sub> σ <sub>m</sub>
Calculation of (β) Beta value	= 0.90

## INTERPRETATION

As the Covariance of this mutual fund with respect to the market is positive, this tells that the movement of the NAV of this scheme depends on the movement of the market. The covariance clears the point that the moves are in the same direction and in parallel with the stock market either upwards or downwards.

A beta of less than 1 means that the security will be less volatile than the market, this volatility measure is supposed to give you some sense of how far the fund will fall if the market takes a dive and how high the

fund will rise if the bull starts to climb. So we can say that the investing in the fund is not risky as it might provide with return, even when the market is going at a downfall.

If we look at the return of this fund it has underperformed than market. Where the return from investing in market is 1.28%, fund gave the return of 1.02%.

Performance Analysis of Indian Mutual Funds  
with S&P CNX Nifty Index

**Table 12: Calculation of the ratio's of the BSL mutual fund.**

Calculation of Sharpe's ratio	=	(R <sub>m</sub> - R <sub>f</sub> )/σ	1.56
Calculation of Treynor's ratio	=	(R <sub>m</sub> - R <sub>f</sub> )/β	1.10
Calculation of Jensen's Alpha	=	(R - R <sub>m</sub> )	-0.26

**Calculation of monthly returns and risk and covariance of CNX NIFTY and ICICI Prudential Index mutual fund.**

CNX NIFTY					ICICI Prudential INDEX Fund					
NAV date	NAV	R	D	D <sup>2</sup>	NAV date	NAV	R	D <sub>3</sub>	D <sub>3</sub> <sup>2</sup>	Cov.
30-Apr-09	3359.83	-	-	-	30-Apr-09	31.12	-	-	-	-
30-May-09	3957.96	17.80	16.52	272.99	30-May-09	36.48	17.19	15.86	251.58	262.07
30-Jun-09	4436.37	12.09	10.81	116.80	30-Jun-09	33.66	-7.73	-9.06	82.03	-97.88
30-Jul-09	4343.10	-2.10	-3.38	11.44	30-Jul-09	40.26	19.61	18.28	334.22	-61.84
30-Aug-09	4571.11	5.25	3.97	15.76	30-Aug-09	42.34	5.18	3.85	14.82	15.28
30-Sep-09	4859.31	6.30	5.02	25.25	30-Sep-09	45.03	6.35	5.02	25.19	25.22
30-Oct-09	4994.11	2.77	1.49	2.23	30-Oct-09	46.13	2.43	1.10	1.21	1.65
30-Nov-09	4953.54	-0.81	-2.09	4.38	30-Nov-09	45.81	-0.69	-2.02	4.06	4.22
30-Dec-09	5099.74	2.95	1.67	2.79	30-Dec-09	47.08	2.78	1.45	2.11	2.43
30-Jan-10	5156.22	1.11	-0.17	0.03	30-Jan-10	47.54	0.96	-0.37	0.13	0.06
28-Feb-10	4839.57	-6.14	-7.42	55.07	28-Feb-10	44.64	-6.10	-7.43	55.25	55.16
30-Mar-10	5178.15	7.00	5.72	32.67	30-Mar-10	47.65	6.74	5.41	29.29	30.94
30-Apr-10	5294.76	2.25	0.97	0.94	30-Apr-10	48.69	2.19	0.86	0.73	0.83
30-May-10	5052.97	-4.57	-5.85	34.18	30-May-10	46.47	-4.55	-5.88	34.57	34.37
30-Jun-10	5186.13	2.64	1.36	1.84	30-Jun-10	47.96	3.20	1.87	3.51	2.54
30-Jul-10	5359.75	3.35	2.07	4.28	30-Jul-10	49.71	3.63	2.30	5.31	4.76
30-Aug-10	5457.24	1.82	0.54	0.29	30-Aug-10	50.63	1.86	0.53	0.28	0.29
30-Sep-10	5811.48	6.49	5.21	27.16	30-Sep-10	53.97	6.60	5.27	27.75	27.45
30-Oct-10	6096.11	4.90	3.62	13.09	30-Oct-10	56.61	4.89	3.56	12.65	12.87
30-Nov-10	6055.33	-0.67	-1.95	3.80	30-Nov-10	56.12	-0.87	-2.20	4.83	4.28
30-Dec-10	5971.32	-1.39	-2.67	7.11	30-Dec-10	55.45	-1.19	-2.52	6.35	6.72
30-Jan-11	5782.71	-3.16	-4.44	19.70	30-Jan-11	53.66	-3.22	-4.55	20.72	20.20
28-Feb-11	5400.92	-6.60	-7.88	62.13	28-Feb-11	50.12	-6.60	-7.93	62.92	62.52
30-Mar-11	5538.42	2.55	1.27	1.60	30-Mar-11	51.39	2.53	1.20	1.43	1.51
30-Apr-11	5839.09	5.43	4.15	17.21	30-Apr-11	54.07	5.23	3.90	15.19	16.17
30-May-11	5492.20	-5.94	-7.22	52.14	30-May-11	50.99	-5.70	-7.03	49.43	50.77
30-Jun-11	5472.64	-0.36	-1.64	2.68	30-Jun-11	50.96	-0.06	-1.39	1.94	2.28
30-Jul-11	5596.59	2.26	0.98	0.97	30-Jul-11	52.15	2.33	1.00	1.00	0.98
30-Aug-11	5076.74	-9.29	-10.57	111.70	30-Aug-11	47.58	-8.75	-10.08	101.70	106.58
30-Sep-11	5015.58	-1.20	-2.48	6.17	30-Sep-11	47.07	-1.08	-2.41	5.82	6.00
30-Oct-11	5060.02	0.89	-0.39	0.16	30-Oct-11	47.42	0.76	-0.57	0.33	0.23
30-Nov-11	5004.28	-1.10	-2.38	5.67	30-Nov-11	47.01	-0.86	-2.19	4.80	5.22
30-Dec-11	4782.36	-4.43	-5.71	32.66	30-Dec-11	45.00	-4.29	-5.62	31.59	32.12

Performance Analysis of Indian Mutual Funds  
with S&P CNX Nifty Index

CNX NIFTY					ICICI Prudential INDEX Fund					
NAV date	NAV	R	D	D <sup>2</sup>	NAV date	NAV	R	D <sub>i</sub>	D <sub>i</sub> <sup>2</sup>	Cov.
30-Jan-12	4920.02	2.88	1.60	2.55	30-Jan-12	46.28	2.85	1.52	2.31	2.43
29-Feb-12	4920.02	0.00	-1.28	1.64	29-Feb-12	50.59	9.31	7.98	63.68	-10.21
30-Mar-12	5409.09	9.94	8.66	75.00	30-Mar-12	49.49	-2.17	-3.50	12.25	-30.31
30-Apr-12	5298.48	-2.04	-3.32	11.05	30-Apr-12	49.04	-0.90	-2.23	4.99	7.43
30-May-12	5254.48	-0.83	-2.11	4.45	30-May-12	46.38	-5.43	-6.76	45.69	14.27
30-Jun-12	5074.21	-3.43	-4.71	22.19	30-Jun-12	47.56	2.54	1.21	1.46	-5.70
30-Jul-12	5222.01	2.91	1.63	2.67	30-Jul-12	49.02	3.09	1.76	3.09	2.87
30-Aug-12	5333.28	2.13	0.85	0.72	30-Aug-12	48.23	-1.63	-2.96	8.73	-2.51
30-Sep-12	5497.45	3.08	1.80	3.23	30-Sep-12	51.50	6.79	5.46	29.79	9.81
30-Oct-12	5688.63	3.48	2.20	4.83	30-Oct-12	53.22	3.33	2.00	4.02	4.40
30-Nov-12	5679.62	-0.16	-1.44	2.07	30-Nov-12	53.12	-0.19	-1.52	2.31	2.18
30-Dec-12	5890.96	3.72	2.44	5.96	30-Dec-12	54.95	3.45	2.12	4.50	5.18
30-Jan-13	6023.12	2.24	0.96	0.93	30-Jan-13	56.11	2.10	0.77	0.59	0.74
28-Feb-13	5893.59	-2.15	-3.43	11.77	28-Feb-13	54.92	-2.10	-3.43	11.80	11.78
30-Mar-13	5782.26	-1.89	-3.17	10.04	30-Mar-13	53.91	-1.86	-3.19	10.15	10.10
30-Apr-13	5699.76	-1.43	-2.71	7.33	30-Apr-13	53.08	-1.52	-2.85	8.13	7.72
30-May-13	6064.52	6.40	5.12	26.21	30-May-13	56.41	6.27	4.94	24.40	25.29
30-Jun-13	5782.08	-4.66	-5.94	35.25	30-Jun-13	54.02	-4.24	-5.57	31.04	33.08
30-Jul-13	5909.24	2.20	0.92	0.85	30-Jul-13	55.36	2.48	1.15	1.32	1.05
30-Aug-13	5510.44	-6.75	-8.03	64.46	30-Aug-13	51.79	-6.44	-7.77	60.44	62.42
30-Sep-13	5797.48	5.21	3.93	15.44	30-Sep-13	54.72	5.65	4.32	18.69	16.99
30-Oct-13	6083.87	4.94	3.66	13.40	30-Oct-13	57.46	5.01	3.68	13.54	13.47
30-Nov-13	6128.64	0.74	-0.54	0.30	30-Nov-13	57.79	0.57	-0.76	0.58	0.41
30-Dec-13	6246.87	1.93	0.65	0.42	30-Dec-13	58.93	1.98	0.65	0.42	0.42
30-Jan-14	6223.16	-0.38	-1.66	2.75	30-Jan-14	58.71	-0.37	-1.70	2.88	2.82
28-Feb-14	6098.74	-2.00	-3.28	10.75	28-Feb-14	57.53	-2.01	-3.34	11.15	10.95
30-Mar-14	6507.98	6.71	5.43	29.49	30-Mar-14	61.39	6.70	5.37	28.84	29.16
30-Apr-14	6758.17	3.84	2.56	6.58	30-Apr-14	63.70	3.76	2.43	5.91	6.24
	<b>TOTAL</b>	<b>76.71</b>		<b>1317.23</b>			<b>79.78</b>		<b>1605.43</b>	<b>868.47</b>

Source: <http://www.icicipruamc.com/icici-prudential-scheme-nav-dividends.aspx>.

Calculations and comparison of the returns of CNX NIFTY and ICICI Prudential Index mutual fund.		
Return:	$\sum R/n-1$	
Calculation of ICICI prudential Return	=	1.33
Calculation of S&P CNX Nifty Return	=	1.28

Table: Calculations and comparison of the risk of CNX NIFTY and ICICI Prudential Index mutual fund.		
RISK:	$\sqrt{D^2 / N-1}$	
Calculation of ICICI prudential's (S.D) Risk	=	0.67
Calculation of S&P CNX Nifty's (S.D) Risk	=	0.70

Performance Analysis of Indian Mutual Funds  
with S&P CNX Nifty Index

Table: Calculations of covariance CNX NIFTY and ICICI Prudential Index mutual fund.		
COVARIANCE	Cov.= D*D <sub>i</sub>	
Calculation of Covariance = Avg. covariance	=	14.5

Table: Calculations of Beta CNX NIFTY and ICICI Prudential Index mutual fund.		
BETA VALUE(β)	Cov. / σ <sub>m</sub> σ <sub>m</sub>	
Calculation of (β) Beta value	=	0.66

Table: Calculation of the ratio's of the ICICI mutual fund.			
Calculation of Sharpe's ratio	=	(R <sub>m</sub> - R <sub>f</sub> ) / σ	1.96
Calculation of Treynor's ratio	=	(R <sub>m</sub> - R <sub>f</sub> ) / β	1.99
Calculation of Jensen's Alpha	=	(R - R <sub>m</sub> )	0.05

Analysis of Performance of three funds

Sr. no.	Name of the Fund	Average return	Risk(S.D)	Beta	Sharpe Ratio	Treynor's ratio	Jensen's Alpha
1	HDFC INDEX FUND	1.36	0.7	0.84	1.90	1.59	0.08
2	Birla Sun Life INDEX FUND	1.02	0.64	0.90	1.56	1.10	-0.26
3	ICICI Prudential INDEX FUND	1.33	0.67	0.66	1.96	1.99	0.05

Ranking of funds according to 3 performance ratios.

Sharpe Ratio	RANK	Treynor's ratio	RANK	Jensen's Alpha	RANK
HDFC INDEX FUND	2	HDFC INDEX FUND	2	HDFC INDEX FUND	1
Birla Sun Life INDEX FUND	3	Birla Sun Life INDEX FUND	3	Birla Sun Life INDEX FUND	3
ICICI Prudential INDEX FUND	1	ICICI Prudential INDEX FUND	1	ICICI Prudential INDEX FUND	2

INTERPRETATION

As the Covariance of this mutual fund with respect to the market is positive, this tells that the movement of the NAV of this scheme depends on the movement of the market. The covariance clears the point that the moves are in the same direction

and in parallel with the stock market either upwards or downwards.

A beta of less than 1 means that the security will be less volatile than the market, this volatility measure is supposed to give you some sense of how far the fund will fall if the market takes a dive and how high the fund will rise if the bull starts to climb. So we can



say that the investing in the fund is not risky as it might provide with return, even when the market is going at a downfall.

If we look at the return of this fund it has outperformed than market. Where the return from investing in market is 1.28%, fund gave the return of 1.33%

INTERPRETATION: Out of the selected financial intermediaries, the interested investor can invest in ICICI mutual fund as it is ranked in the top position as per the performance ratios.

## FINDINGS

- It is being found that HDFC mutual fund and ICICI prudential mutual fund return has outperformed the market whereas Birla Sun life Insurance has been lowest in the performance when compared to stock market in terms of returns.
- Among the selected funds HDFC has been the fund providing highest return.
- The entire three funds have high market risk in comparison to the Benchmark.
- In terms of market risk among the selected funds HDFC and ICICI mutual funds have been high, whereas Birla sun life insurance is exposed to the low market risk in comparison.
- ICICI has the lowest systematic risk among the selected funds, which makes it profitable for the investors to invest in such fund where the probability of earning the high profit increases.
- Where in the Birla Sun Life Insurance has been exposed to the highest systematic risk after HDFC mutual fund.
- As per the performance ratios i.e. Sharpe and the Treynor ratios the ICICI has remained the top ranked performing fund in market.
- Jensen's alpha gave a bit different result, as per this HDFC mutual fund has been ranked at the top.

## CONCLUSION

The study has investigated the mutual fund schemes of three different top performing mutual fund and has been compared its performance with the performance of the stock market. It's been clear that funds have been performing well in market. With the covariance its has been clear that funds have been moving in the direction of the market and beta proved that funds have volatility with market as the beta is near 1 for all the selected funds. In the ultimate analysis, it can be concluded that the Mutual funds are one of the best investment source available for Indian small investors to make an investment, if thoroughly assessed it may give big returns with little savings. The above performance ratios are very much helpful for the evaluator to assess the fund's performance. As the Mutual Fund investment is subject to market conditions, therefore for the risk averse investors there are so many other investment alternatives available apart from the mutual funds, such as investment in other Financial Assets (stock market, debentures, Bonds, Treasury bills etc) and other Non Financial Assets (post office certificates, Bank deposits, Pension schemes, Real estate's) to avoid risk. As per the performance ratio the ICICI mutual fund has been the best performing in the market though in comparison to return it is providing a little low return but when looked at the systematic risk being faced by the fund it can be seen that ICICI has been the lowest followed by HDFC mutual fund and Birla Sun life Insurance has been the worst performing fund. Therefore it is important for the investor to consider these performance ratios before investing. Market return have been considered average when compared with the returns provided by the mutual fund, except the Birla sun Life insurance which has been the lowest performer being exposed the maximum to the market risk. In the overall analysis it has been analysed that mutual funds have performed well ahead than stock market.

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# Decision-Economic Factors and Demographic Factors Influencing the Psychology of Investors towards Investing in Gold: An Empirical Study

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*The paper is an exploratory attempt to analyze the perception of individual investors of stock market of Punjab towards investing in gold. For the purpose, factors affecting the decisions of individual stock investors to invest in gold were gauged. A pre-tested, well-structured questionnaire which was administered personally and the responses of 207 respondents were analyzed. The responses have been analyzed with the help of Factor Analysis applied to group variables into identifiable categories. Variables could be grouped into eight factors with the help of factor analysis influencing investors to invest in gold i.e. Benefits factor, market information factor, credibility factor, security needs factor, personal financial needs factor, opinions factor, pocket friendly factor, pre-investment analysis factor. Significant difference is found in preferences of investors for gold across various age groups and income groups. However, no difference in preference for gold across gender is found. The current research will be helpful for financial service providers in understanding the psychology of the individual stock investors on the basis of factors influencing their preferences to invest in gold and suggest them investment options as per their needs and also provides implications to marketers of gold who need to seek information concerning psychology of customers towards investing in gold.*

**Keywords:** individual investors, factor analysis, weighted average scores, gold, investor behaviour.

## INTRODUCTION

Every investor has his own motive behind investment. The primary motive of investment among the small and individual investors is to earn a regular income either in the form of interest or dividend on the investment made (Chandra, P., 1995). Investors are generally selective in investing. The investment behavior of individuals is methodical and logical function of personal circumstances and hence attitudes. Investment attitudes result in selecting particular instruments in portfolio (Kiran, D. and Rao, 2004). Today, the financial services and the economic sector are more highly diversified than ever. This diversification means that the individual investors have a wider range of investments and a greater choice of how to invest their money (Warren, et.al, 1990).

Investing is not a game but a serious subject that can have a major impact on investor's well being. Virtually everyone makes investments. Even if the individual does not select specific assets such as stock, investments are still made through participation in pension plan and employee saving programme or through purchase of life insurance or a home or by some other mode of investment like investing in Real Estate or in banks or in saving schemes of post offices. Each of this investment has common characteristics such as potential return and

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the risk one must bear. The future is uncertain, and one must determine how much risk you are willing to bear since higher returns is associated with accepting more risks (Kabra, G. et.al, 2010).

Unlike any consumer goods, the investments have several distinct characteristics. Investment products have their own value and can be further sold, pledged at different period of the time and places (Kumar S. K. et.al, 2008). While choosing a specific investment, investors need to understand and know regarding the features their investments should possess. There are many assets (e.g. stocks, bonds, derivatives, fixed deposits, gold real estate etc) which an investor can include in his portfolio (Mayo, B.H., 2009). Each of this investment has common characteristics such as potential return and the risk one must bear. The future is uncertain, and one must determine how much risk you are willing to bear since higher returns is associated with accepting more risks (Kabra, G. et.al, 2010).

## LITERATURE REVIEW

Lease, Lewellen and Schlarbaum (1974) focused on finding out who the individual investor is, how he makes his decisions, his dealings with his broker, and analysis of his asset portfolio among the U.S. investors. With the help of questionnaire, the investment strategies followed by investors were determined. The responses portrayed that the investors followed a fundamental approach preferring a balanced and well-diversified portfolio of income. It was found that investors preferred long term capital appreciation securities with dividend income instead of short-term gains. The decision framework of investors revealed by their responses was that the groups preferred journals and newspapers as sources of information. The factors such as age, income level and sex (in descending order) were found as dominant elements in effecting individual investor's behavior regarding taking investment decisions and forming strategies. Kumar, et.al (2008) studied the financial product preferences of Tiruchipalli investors to rank their

product preferences among investment choices i.e. post office savings, bank deposits, gold, real estate, equity investment, mutual fund. The preferences of the respondents were known according to their attributes i.e. safety of principal, liquidity, stability of income, capital growth, tax benefit, inflation resistance and Concealability. The authors studied this concept as they found that the investors are unlikely to determine the financial product preference i.e. which is better on each attribute. So, the investors needed to make choices depending on what is available and what are his own priority ratings of attribute he wants in his product. The rank preferences of investors were post office, bank deposits, gold, real estate, equity investment and mutual fund. Walia, et.al (2009) evaluated the investor's perception towards risk-return trade off for mutual fund services in comparison to other avenues like insurance, government securities and shares. The authors made use of a structured questionnaire to know the experience of existing investors. Selective systematic sampling was taken for consideration. For reliability of questionnaire 100 individual investors were selected from different regions of Punjab which included selective investors who were assumed to be having complete knowledge of financial environment. Age constraint considered in. The authors identified critical gaps in the existing services and found the need of some innovations and added quality dimensions in the existing services. It was concluded that due to stock market volatility movements, most of the investors were holding stock with calculated risk in shape of mutual funds. Age constraint considered in this questionnaire was minimum 18 years. Another objective was to find critical gaps in mutual funds services towards transparency and disclosure practices. Chi-square test was applied on the data collected. So, the mutual funds were proved to be the most preferred financial avenue as compared to other avenues provided they were put before the investors in the desired form in addition to quality services.



Kabra et.al (2010) studied the various factors that influenced investment risk tolerance and decision making process among men and women and among different age groups. The major variables considered for the study were investing background, opinion, leadership, duration of investment, awareness of investments and security. The authors concluded that risk averse people opted for insurance policies, fixed deposits with banks, post office, PPF and NSC. Bashir, T., et.al. (2013) analyzed the differences across demographics regarding investment preferences consisting of stock investment and gambling decisions of the salaried individuals of finance teachers and bankers of Gujarat and Sialkot of Pakistan. A sample of 120 individuals was distributed questionnaires developed by Lennar Sjoberg and Elisabeth Engelbergare distributed among bankers and finance teachers of Gujarat and Sialkot. Out of 150 questionnaires distributed, 120 were returned. The main objectives of the study included measuring the risk level of salaried individuals was determined according to their income, education and age, analyzing the risk differential between salaried males and females and gauging the preferences of salaried individuals in stocks and gambling. To test the reliability of the questionnaire of Cronbach's Alpha coefficient of gambling, stock investment and risk level was calculated. Correlation Analysis was done to find significant differences between demographics vis a vis with investment and gambling. Females were found more risk averse than males. The factors such as emergence of frequent religious issues, non conducive economic environment and culture were found to be the main factors having negative relationship with gambling. The young and educated people were found attracted towards new risky investment opportunities.

## NEED OF THE STUDY AND OBJECTIVE

The need for the study arises, as in Punjab; the research focusing on identifying the factors that influence the preferences of investors for gold on the

basis of the studied variables, has not been researched so far. So, the present study aims to fulfill the gap with the following objective:

- To gauge the factors that influence individual investors of Punjab to invest in gold.
- To identify the level of significance of each factor to investors of Punjab towards investing in gold.

## METHODOLOGY

The present study is based on responses of 207 individual stock investors of Punjab. The total primary data was collected from 607 individual stock investors from three major cities of Punjab i.e. Amritsar, Jalandhar and Ludhiana. The investors were interviewed through a pre-tested, well structured questionnaire which was administered personally. Convenience cum Judgmental Sampling Technique has been used to select Stock Broking Houses in three Districts of Punjab. To select the respondents', list of regular investors were taken from broking houses and investors were selected from the list provided with the help of simple random sampling. Further, the process was repeated unless required sample was not fulfilled. The lists included the name and contact number of the individuals. It is worthwhile to mention here that the individual stock investors were residents of the cities surveyed and the study is confined to the octroi limits of the mentioned cities. Out of 675 questionnaires distributed, 607 complete and usable responses were used for analysis purpose.

## RESEARCH INSTRUMENT (QUESTIONNAIRE)

Twenty eight variables were retrieved from the review of literature to identify the variables that influence the purchase decisions of investors for low and medium risk investment. The responses of the respondents were sought on a five point likert scale ranging from Most Important to Least Important. To analyze these responses, weights were assigned to

these responses (5 for Most Important, 4 for important, 3 for Indifferent, 2 for Unimportant and 1 for Least Important). The investors were asked about one of the highly preferred low or medium risk investments by them and then rate variables on scale of 28 variables of most important to least Important that influence their preference.

207 respondents out of 607 respondents preferred gold as a highly preferred low risk investment. Likewise 241 respondents stated their preference for fixed deposits and 124 respondents retorted real estate as their highly preferred investment, 10 respondents stated insurance, 14 respondents stated mutual funds, 5 respondents stated infrastructure bonds/ govt. securities and 6 respondents stated SIP's as their highly preferred investment. So, in the present study responses of 207 respondents who stated gold are considered for analysis purpose. Factor analysis is applied to the data to group the variables that influence individual investors to purchase gold into identifiable categories.

### *Identifying the most and least influencing variables while investing in gold*

This section deals with identifying the variables that most and least influence the purchase decisions of the individual investors while investing in gold. The investors were asked about one of the highly preferred investment by them except stocks and 207 respondents out 607 respondents preferred gold as a highly preferred investment even when investing in stocks. As done in Part A, weights have been allocated to the responses ranging from Most Important to Least Important (5 for Most Important, 4 for important, 3 for Indifferent, 2 for Unimportant and 1 for Least Important). Twenty eight variables were retrieved from the review of literature and the responses were sought on a five point likert scale ranging from Most Important to Least Important. To analyze these responses, weights were assigned to these responses (5 for Most Important, 4 for important, 3 for Indifferent, 2 for Unimportant and 1 for Least Important) The responses of the individual

investors have been interpreted according to the following criteria:

- MImp/ Imp if  $WAS < 3.25$
- Indifferent if  $2.25 < WAS > 3.25$
- Unimp/ Limp if  $WAS > 2.25$

A description of these variables in terms of frequencies, percentages, values, weighted average scores and standard deviation is given in Table 3. However, ranks have been assigned according to the importance of each variable to the respondents as per the weighted average score of each variable.

The table below shows that the respondents have been found agreeing 19 variables as MImp/ Imp i.e. High returns, Liquidity, Convenience, Safety of principal, Capital growth, Future Security, Flexibility, Concealability, Diversification needs, risk associated, Professional management, Current economic indicators, religious reasons, inflation resistance, financial analyst and advisory recommendation, past performance of your portfolio, coverage in financial news, family member opinion, fluctuation in stock index and 8 variables as indifferent i.e. tax benefit, low transaction cost, legality, rumors, competing financial needs, terms and conditions, friend or peer recommendation and general trend of investments in public and only one variable i.e. stability of income has been found as the Unimp/ Limp influencing variable while making decision to purchase gold.

## FACTORS INFLUENCING INVESTORS TO INVEST IN GOLD

There are several key factors that influence investment behaviour and the decision making process of individual investors. There is a need to identify the factors that appear to have the greatest influence on the individual stock investor while investing in gold.

Table 3: Most and least influencing variables affecting purchase decisions of gold								
Variables	Mimp (Freq.)	Imp (Freq.)	ID (Freq.)	Unimp (Freq.)	Limp (Freq.)	WAS	Standard Deviation	Rank
High Returns	130	76	1	0	0	4.62	.496	2
Liquidity	125	81	1	0	0	4.60	.501	4
Convenience	111	81	12	3	0	4.45	.673	9
Tax Benefit	23	50	73	25	36	3.00	1.229	25
Safety of Principal	127	78	2	0	0	4.60	.510	3
Capital Growth	113	84	10	0	0	4.50	.590	8
Future Security	122	75	10	2	0	4.54	.589	6
Flexibility	127	74	6	0	0	4.58	.550	5
Concealability	42	47	84	28	6	3.44	1.050	12
Diversification Needs	33	70	54	89	11	3.36	1.119	19
Stability of Income	2	3	43	86	73	1.91	.837	28
Low Transaction Cost	32	55	66	34	20	3.22	1.181	20
Risk Associated	116	84	7	0	0	4.53	.564	7
Professional management	40	94	45	16	12	3.65	1.060	17
Legality	17	31	110	41	8	3.04	.913	22
Rumors	12	34	112	41	8	3.00	.867	26
Competing financial needs	29	52	72	31	23	3.16	1.178	21
Terms and conditions	17	31	106	45	8	3.02	.924	24
Current economic indicators	43	128	36	0	0	4.03	.618	14
Religious reasons	110	82	14	1	0	4.45	.644	10
Inflation Resistance	138	68	1	0	0	4.66	0.484	1
Financial analyst and advisor recommendation	46	103	36	11	11	3.78	1.022	16
Past performance of your portfolio	27	90	39	32	19	3.36	1.165	18
Coverage in financial news	45	126	36	0	0	4.03	.618	15
Family member opinion	109	83	15	0	0	4.45	.628	11
Friend or Peer recommendation	23	50	72	32	30	3.02	1.194	23
General trend of investment in public	15	35	91	53	13	2.93	.983	27
Fluctuations in stock index	47	128	32	0	0	4.07	.615	13

Table 1: KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.701
Bartlett's Test of Sphericity	Approx. Chi-Square	2243.822
	df	378
	Sig.	.000

## RESULTS AND DISCUSSION

Before applying the factor analysis, testing of the reliability of the scale is very important as it shows the extent to which a scale produces consistent results if measurements are made repeatedly. This is done by determining the association between scores obtained from different administrations of the scale. If the association is high, the scale yields consistent results, thus, is reliable. Cronbach's alpha is most widely used method. It may be mentioned that its value varies from 0 to 1 but, satisfactory value required is more than 0.6 for the scale to be reliable (Malhotra, 2002). In the present study, the value of Cronbach's alpha comes out to be 0.791 which is significant.

Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is a useful method to show the appropriateness of data for factor analysis. The KMO statistics varies between 0 to 1. It is recommended that the value greater than 0.5 is acceptable. Kaiser-Meyer-Olkin measure of sampling adequacy is found to be 0.701. It is indicated that the sample is good enough for survey. The overall significance of correlation matrices is tested with Bartlett test of sphericity, approx chi-square = 2243.822 and significant at 0) provided as well as support for validity of the factor analysis of the data set. Table 1 indicates that data is appropriate for factor analysis.

## PRINCIPAL COMPONENT FACTOR ANALYSIS

Principal Component Factor Analysis followed by varimax rotation (Hair, et.al, 1990) is employed for extracting factors. Only the factors with latent roots greater than one are considered significant and all the factors with the latent roots less than one are considered insignificant and disregarded. Table 2 depicts the construct that can be represented by eight factors (Eigen values > 1) with their respective

loadings, Eigen values and cumulative percentage of variance explained.

These factors explained 79.475% of the total variance, which is very much acceptable for the Principal Component Varimax rotated factor loading procedure i.e. 50 % (Johnson and Wichern, 2002). In interpreting factors, there is a need to determine that which factor loadings are to be considered.

## INTERPRETATION OF FACTORS

In interpreting factors, a decision must be made regarding which factor loadings are worth considering. Factor loadings are the correlation of each variable and its factor (Hair et.al, 2010). The higher factor loading makes the variable more representative of the factor. The criterion given by Hair, et.al. (1990), where factor loading based on sample size is taken as the basis for decision about significant factor loading, was adopted. For our sample of 207 respondents, a factor loading of 0.4 and above has been considered significant.

### Factor 1: Benefits Factor

The first factor explains 20.499 % of the variation. The factor includes eight variables i.e. Capital growth, Risk Associated, Religious reasons, Tax benefit, Convenience, Future Security, Flexibility and Safety of Principal revealing that the benefits derived like appreciation of capital in future, security, marriage purposes form as major factor for investing in gold.

### Factor 2: Market Information Factor

This factor explains 13.514% of variance and includes the following variables i.e. Coverage in financial news, Current economic indicators, fluctuations in stock index, financial analyst and advisory recommendation and professional management revealing the influence of information retrieved from financial newspapers, indicators, stock indexes and financial advisors recommendations on investment decisions.



**Factor3: Credibility factor**

The third factor explains 12.456% of variance. It includes variables i.e. legality, terms and conditions, rumors, Concealability and stability of income. The factor explains that the investors consider investments that are within applicable laws.

**Factor4: Security Needs Factor**

The fourth factor explains 12.676% of variance and includes variables High Returns, Liquidity, Inflation resistance portraying that investors expect investment in gold to give high returns and conversion into cash easily and has power to beat inflation which fulfills their security needs.

**Table 2: Principal Component Analysis with varimax rotation**

	Component							
	1	2	3	4	5	6	7	8
Capital growth	.942	.028	.042	.051	.036	-.016	.029	-.095
Risk Associated	.925	.053	.012	.047	.054	.088	.111	.057
Religious reasons	.899	.066	-.004	.018	.029	.008	.008	-.168
Tax benefit	.881	-.011	-.002	-.060	.066	-.039	.017	-.062
Convenience	.853	.146	-.025	-.062	.095	.005	-.046	-.019
Future Security	.850	.022	.033	.122	.047	.101	.134	.084
Flexibility	.723	.044	.036	.080	-.080	.076	-.105	.259
Safety of Principal	.571	.024	-.038	-.150	.009	.098	-.030	.531
Coverage in financial news	.084	.953	.088	-.022	-.092	.038	-.061	.091
Current economic indicators	.092	.939	.098	-.095	-.055	.014	-.096	.045
fluctuations in stock index	-.018	.938	.077	-.040	-.091	.088	.002	.167
Financial analyst and advisory recommendation	.117	.680	.009	.122	.177	.103	.487	-.109
Professional management	.140	.678	-.130	.067	.237	.078	.428	-.221
Legality	-.007	.072	.947	.126	.108	-.014	.060	.024
Terms and conditions	.030	.073	.942	.106	.118	-.038	.027	-.017
Rumors	-.052	.045	.903	.010	-.012	-.073	.137	-.027
Concealability	.110	.007	.748	.049	.044	.006	-.316	.021
Stability of Income	-.015	.001	.439	-.101	-.095	.186	.352	.025
High Returns	.074	-.019	.117	.953	-.020	-.056	-.039	.041
Liquidity	.066	-.037	.070	.946	-.032	-.051	-.029	.074
Inflation resistance	-.043	.003	.019	.917	.010	-.001	.081	-.074
Competing financial needs	.063	-.021	.019	-.011	.958	.033	-.013	.049
Diversification needs	.117	-.045	.139	-.015	.944	-.005	-.015	.051
Friend or peer recommendation	.084	.090	-.012	-.041	.033	.968	.006	-.032
Family member opinion	.084	.102	-.019	-.054	.005	.966	.030	-.014
Low Transaction Cost	.056	.025	.025	.027	-.038	-.029	.679	.159
General trend of investment in public	-.034	.049	-.040	.115	.039	-.073	.102	.686
Past performance of your portfolio	-.010	.141	.219	-.191	.282	.031	.286	.496
Eigen value	6.142	3.904	3.507	2.669	1.963	1.812	1.173	1.082
Percent of variance explained	20.499	13.154	12.456	10.094	7.376	7.097	4.605	4.195
Cumulative percentage of variance	20.499	33.653	46.109	56.203	63.579	70.676	75.280	79.475

**Factor5: Personal Financial Needs**

The fifth factor explains 7.376% of variance and includes variables i.e. competing financial needs and diversification needs revealing the need of investors to diversity their investments.

recommendation, Family member opinion revealing the influence of opinion of friends, peers and family members on the decision of investors towards investing in gold.

**Factor6: Opinions factor**

The sixth factor explains 7.097% of variance and includes variables i.e. Friend or peer

**Factor7: Pocket friendly factor**

The seventh factor explains 4.605 % of variance and includes only one variable i.e. Low Transaction Cost revealing that low cost involved towards making investment influences decision to invest on gold.

**Table3: Factor Summary of factors influencing investors to invest in gold**

Factor Number	Factor Name	Factor Loading	Constituent Variables included in factor
1	Benefits Factor	.942	Capital growth
		.925	Risk Associated
		.899	Religious reasons
		.881	Tax benefit
		.853	Convenience
		.850	Future Security
		.723	Flexibility
		.571	Safety of Principal
2	Market Information Factor	.953	Coverage in financial news
		.939	Current economic indicators
		.938	fluctuations in stock index
		.680	Financial analyst and advisory recommendation
		.678	Professional management
3	Credibility factor	.947	Legality
		.942	Terms and conditions
		.903	Rumors
		.748	Concealability
		.439	Stability of Income
4	Security Needs Factor	.953	High Returns
		.946	Liquidity
		.917	Inflation resistance
5	Personal Financial Needs	.958	Competing financial needs
		.944	Diversification needs
6	Opinions factor	.968	Friend or peer recommendation
		.966	Family member opinion
7	Pocket friendly factor	.679	Low Transaction Cost
8	Pre-investment analysis factor	.686	General trend of investment in public
		.496	Past performance of your portfolio

**Factor8: Pre-investment analysis factor**

The eighth factor explains 4.195 % of variance and includes variables i.e. general trend of investment in public and past performance of your portfolio revealing the influence of trends in people and returns from past investment influence investor behavior.

The eight factors, their names and the variables loaded on these factors have been summarized in Table 3 below.

After grouping the variables into eight factors, these factors were further analysed. In order to find out which factor is most significant one in influencing the decision to purchase gold, the average scores of these factors were examined and analysed with the help of following measure:

Average Score	Significance Level
4.00-5.00	Highest
3.00-3.99	Moderate
2.00-2.99	Slightest
1.00-1.99	Lowest

The average scores of the eight factors are explained in Table 4 showing that factors have been found in the bracket of highest to slightest significance level. The results reveal that Security needs factor and

Benefits factor with WAS of 4.62 and 4.33 respectively are the two factors that highly influence the purchase decisions of individual stock investors to invest in gold. Factors i.e. Market information factor, personal financial needs factor pocket friendly factor, pre-investment analysis factor and opinions factor have moderate significance level. However, Credibility factor with WAS of 2.88 has the slightest significance level towards purchase decisions of gold.

**Investment Preferences and Demographics**

One among other objectives, the objective of study is to have analysis of the investment preferences for gold across their demographics. The survey results in this regard are scrutinized across number of dimensions such as age, gender and family income of the individual investors in Punjab. To explore in depth whether these demographic variables exert significant impact on the choice of gold, chi-square test has been applied.

The study also explores whether there is any significant difference in the investment preferences of respondents across the demographics i.e. age, gender and income. To explore in depth whether these demographic variables exert significant impact on their preference for gold, chi-square test has been applied.

**Table 4: RANKING OF FACTORS INFLUENCING INVESTORS TO INVEST IN GOLD**

Factor	Average Score	Significance Level	Rank
F4: Security needs factor	4.62	Highest	1
F1 : Benefits factor	4.33	Highest	2
F2: Market Information factor	3.91	Moderate	3
F5: Personal financial needs factor	3.26	Moderate	4
F7: Pocket friendly factor	3.22	Moderate	5
F8: Pre-investment analysis factor	3.14	Moderate	6
F6: Opinions factor	3.16	Moderate	7
F3: Credibility factor	2.88	Slightest	8

So, the hypothesis to be tested here is:

H<sub>01</sub>: There is no significant difference in preference for gold across the age groups of the investors.

H<sub>02</sub>: There is no significant difference in preference for gold across the gender of the investors.

H<sub>03</sub>: There is no significant difference in preference for gold across the income groups of the investors.

There have been several studies which have studied the influence of age on the preferences of the various investment avenues (Nagpal and Bodla, 2007, Rajarajan, 1998). The results achieved regarding the preferences for gold across various age groups are exhibited in Table 5.

The results achieved in Table 5 reveals that hypothesis H01 rejected revealing that there is significant difference in investment preferences of the investors across their age groups regarding preference for gold.

From the Table 5 above, it can be seen that for preference for gold, hypothesis H01 is rejected revealing that there is significant difference in preferences of investors for gold across various age groups. No difference is found in preference for gold across gender of the investors as the hypothesis H02 is accepted. Among the income groups of investors, there is found significant difference in the preferences of the investors for gold i.e. hypothesis H03 is rejected revealing that the psychology of investing towards gold differs with the income status of the investors.

**DISCUSSION, IMPLICATION AND CONCLUSION**

The present study is an exploratory study to identify the factors that influence the individual stock investors of Punjab towards investing in gold. Information about the major factors that influence an individual investor is sought out by various financial service providers and marketers so as to adjust their marketing activities to achieve successful performance. A successful investor is not the one who makes short term huge profits but the one who sets the clear cut investment objectives, decides the time and period of investment, studies the market, understands his risk taking ability along with the expected rate of return and also determines the major assets traded on the financial system. Several investment avenues available in the market differ in various attributes such as liquidity, marketability, maturity, risk, return, tax concessions. Moreover, investors also differ in their attitudes towards such attributes and each investor chooses an investment as per his requirements, demographics and psychographics as well. So, investors should have a more diversified portfolio. Variables could be grouped into eight factors with the help of factor analysis influencing investors to invest in gold i.e. Benefits factor, market information factor, credibility factor, security needs factor, personal financial needs factor, opinions factor, pocket friendly factor, pre-investment analysis factor. The results revealed that Security needs factor

**Table 5: Preference for gold and demographics of the investors**

Investment Alternatives	Age		Gender		Income	
	Chi-square statistic	Null Hypothesis	Chi-square statistic	Null Hypothesis	Chi-square statistic	Null Hypothesis
Gold	p=27.853*** df=12 sig=0.006	Rejected	p=3.708 df=4 sig=0.447	Accepted	p=35.079** df=20 sig=0.020	Rejected



and Benefits factor are the factors that highly influence the purchase decisions of individual stock investors to invest in gold and credibility factor has the slightest significance level towards purchase decisions of gold. Significant difference is found in preferences of investors for gold across various age groups. No difference is found in preference for gold across gender of the investors as the hypothesis. Among the income groups of investors, there is found significant difference in the preferences of the investors for gold revealing that the psychology of investing towards gold differs with the income status of the investors. The findings of the study would enable financial advisors to provide more effective advice to the investors according to their specific needs and the current stated attitude towards investing in gold. The study also provides implication for marketers of gold who need to seek information regarding attitude of customers towards investing in gold.

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She has also authored a book on *Marketing of Financial Services*. She has an avid interest in micro financing interventions by banks and has conducted a major research project sponsored by UGC.

# Book Reviews

## European Best Practices in Quality Assurance of Agricultural Programs: Analytical Report

*European Best Practices in Quality Assurance of Agricultural Programs: Analytical Report, May 2015, Tempus project Nr. 543902-Tempus-1-2013-SK-Tempus-SMGR Development of Public Accreditation of Agricultural programs in Russia.*

The content of the publication is based on studying the experience of universities and Accreditation Agency of the European Union (Slovakia, Lithuania, Spain, Estonia). Target group of the publication is represented by a wide range of academic community, employers, the agricultural industry, students of agricultural specialties of higher education. Emphasis is focused on actual topic quality assurance of study programs at universities with orientation on agriculture across Europe and Russian Federation.

In the European Union the significant role plays the quality of products and services. International standards defining quality assurance models and

systems in various economy and social sectors, including the higher education sector. Quality assurance in higher education is surely not only the European issue, but the rest of the world shows the interest for quality and standards, accepted as a basic framework and concept for the total higher education development process as well.

The content of the publication is divided into three chapters, which give well balanced and complex view on the problematics.

The first chapter "Standards and Guidelines for Quality Assurance in Higher Education European space" (the European Association for Quality Assurance) presents the general review about the main framework of the quality assurance system in Europe. In a concise manner, the authors described the European standards for quality assurance and the role of quality assurance agencies in participants' countries from EU.

Second chapter "The system of Quality Assurance (QA) of higher education in Europe (case study of Slovakia, Lithuania,

Spain, Estonia)" focuses attention on the EU partners' institutions Slovak University of Agriculture in Nitra, Aleksandras Stulginskis University in Kaunas, Estonian University of Life Sciences in Tallinn and University of Lleida description of their research and educational activities, offered study programs and the way of applied quality assurance tools and methods.

The last chapter, "Guidelines for the Use of European experience when creating system of professional accreditation of agricultural programs" presents how to use common basis quality assurance systems of higher education - Standards and Guidelines for Quality Assurance in Higher Education in the European space (ESG), developed by the European Association for Quality Assurance in Higher Education (ENQA) with the aim to ensure the unity of the approaches and enables mutual understanding and recognition of accreditation of agricultural programs in Russia. This chapter described the experiences and the good practices of universities from EU partners' countries.

In conclusion, I can declare that the reviewed publication "European best practices in quality assurance of agricultural programs: analytical report" is unique in Europe and its professional level is very high,

useful reading for university management and academic staff.

The Book has been published in May 2015 as a result of Tempus project Nr. 543902-Tempus-1-2013-SK-Tempus-

SMGR Development of Public Accreditation of Agricultural programs in Russia.

**Prof. RNDr. Zdenka Gálová, CSc,**  
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**Challenging Boardroom  
Homogeneity: Corporate Law,  
Governance, and Diversity**

**Author: Aaron A. Dhir**  
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As women are increasingly becoming a larger proportion of the workforce in the corporate world, gender diversity has garnered much attention from both the academic and the corporate world in the past some years. Though there is literature suggesting that diversity leads to higher creativity, innovation and quality decision-making at individual and group levels, yet global statistics indicate that women are evidently underrepresented on the boards of the world's most significant publicly listed companies. The newly enforced Companies Act 2013 in India has also tried to address this issue by making it mandatory for the publicly listed companies to appoint at least one women director on their Boards. In this context the book is topical and ground-breaking in addressing the lack of diversity in international corporate boardrooms which has ignited a heated global debate. In fact the book brings together two ostensibly dissimilar spheres -

corporate governance regulation and gender diversity.

The book is divided into eight chapters. Chapter 1 contains the introduction to the topic and builds a roadmap for the subsequent chapters. The author in this chapter presents the global statistics on women representation on the Boards and writes "Regionally, Europe displays the most noteworthy movement toward balanced representation levels. North America lags behind Europe (with Canada trailing the United States), and Asia (especially Japan and China) remains virtually stagnant. Norway, Sweden, and Finland exhibit the highest percentages of women in global boardrooms....." It also discusses the two approaches to introduce gender inclusion on the company boards- the quota approach and the disclosure approach.

Chapter 2 lays the foundation for understanding recent regulatory developments in this area. The chapter explains the statistics from the United States and Canada and considers possible explanations for existing low levels of representation. The author questions the often offered justification of "the pool problem" i.e. shortage of qualified women candidates. The author addresses the question "Why is diversifying the board actually important?" and

develops rationale for increased boardroom heterogeneity. Chapter 3 focuses on the two primary modes of legal regulation which the regulators have adopted as formal corrective measures in an endeavor to curb the existence of male-dominated corporate leadership structures.

Chapters 4 and 5 investigate the quota-based approach in greater depth. The author presents quotas as a form of "command-and-control regulation". The author employs qualitative methodology and makes an analysis on the basis of twenty-three in-depth, semi-structured interviews with directors of Norwegian corporate boards. Norwegian corporate law was the first in the world to mandate gender balance on the Boards. Thus, these interviews constitute the core original research of the book which provides useful insights into the lived experiences of the directors. It is important to note that Norway example was followed by other countries like Iceland, Italy, France, and Belgium.

Chapters 6 and 7 critically scrutinize the second approach to gender inclusion-diversity disclosure. The author takes United States as a second case study as the U.S. Securities and Exchange Commission (SEC) has since 2009 mandated disclosure of board diversity efforts. In



Chapter 6, author uses a mixed-methods content analysis to investigate the U.S. approach and examines how corporations have responded to the disclosure rule during the first four years. The author highlights that the US disclosure rule does not define “diversity,” thus leaving it to the firms to give this term meaning which has resulted in firms having adopted different interpretations. The author finds that US disclosure law has not done much to increase gender diversity, making it hard to assess diversity's effects. Norway quota mandate on the other hand has increased board diversity significantly. Chapter 7 contextualizes the findings of the previous chapter in terms of social norms and the expressive function of law and offers possibilities of reform that might serve to strengthen the U.S. approach. The author also considers the possibility of a “hybrid model” and highlights the role of shareholders in improving the socio-demographic diversity of corporate boards.

Chapter 8 concludes by drawing out key lessons from the analysis conducted in the previous chapters. The author holds that diversity has positive effects on the substance of board decision making and on the board's

overall governance culture. In this chapter the author revisits the two approaches studied in the previous chapters and discusses the case of Canada where reform is in a nascent stage. Author suggests that the impact of disclosure requirements could be strengthened by defining diversity more accurately, including identity-based diversity, and by adopting the comply-or-explain model used in the United Kingdom and a larger part of the European Union. Secondly, the author brings out future lines of research and concludes that the underlying theoretical basis for inclusion must be further developed and amplified. The appendix to the book provides elaborate details about the methodology followed in research.

The book essentially considers the lack of women in the higher rungs of business corporations and the relationship between gender and economic governance. The book examines the two most ubiquitous approaches to increasing gender diversity on corporate boards today - quotas and disclosure. The author clearly demonstrates the legal interventions which have been made around the world for achieving inclusion by researching on the legal

developments in Norway and the United States. The author has commendably combined theory and research and laid the path for future research on the subject. This book provides depth to the current policy conversations and offers new insights into the role law can play in remodeling the gender dynamics of various corporate governance cultures. This book should be read by everyone interested in understanding the plethora of policies around the globe addressing equal opportunities in the corporate world especially the corporate boardrooms.

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