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Available Online at www.indianjournals.com

RNI No. 64562/96

Online ISSN No: 0973-9343

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## ***Editor's Desk***

Everyone is talking about GST! It is time that India moved on to a new concept of uniform indirect taxation instead of being taxed differently on different products. France was the first to introduce GST. Seeing the advantage other countries also began to adopt GST. In India, the concept of Goods and Services Tax (GST) was first introduced in 2006-07 by the Union Finance Minister Shri. P. Chidambaram. Several meetings continued and though it was to be introduced in 2010 it could not be implemented. In August 2016, the 101th (Constitution) Amendment Bill was passed to bring about GST to be started in India in April 2017.

The main advantage of GST in India will be to bring about transparency and make it easy for producers as well as consumers by having only one tax instead of paying different types of taxes currently. GST is an important reform in the taxation structure and it is hoped that it will be useful in the growth of the business sector and economy.

GST is expected to affect business in the economy in different ways. The small business sector is currently paying taxes in various slabs of mandatory VAT and it will now bring about a uniform rate for all items whether normal or luxury. On real estate sector is plagued with various taxes, stamp duties and contract services tax. It will now have unified taxation rate which is expected to reduce the extra burden of taxation from 25% to 18%. The automobile sector will also have something to cheer about as the on road price of vehicle has a taxation of about 26% and this will also probably reduce with the new GST system. The Food Manufacturing Consumer Goods (FMCG) sector will also provide enhanced purchasing powers to consumers as it is expected to bring about cost benefits directly to consumers.

The service sector comprising of financial and banking sector, telecommunication, IT sector may not benefit as an analysis shows that the present rates are about 15% and with GST it may be increased to 18%. The picture should be clear by the end of November.

Implementation of GST will amalgamate various Central and State taxes into a single tax. This will have the effect of a common national market and it will avoid double taxation and create competitive Indian products in the national and international markets. Its major advantage is expected to be for consumers whose overall tax burden on goods will be reduced from the present high tax burden.

In November 2016, GST is expected to have a common and shared IT infrastructure for implementation and it will provide details of approximately 80 Lacs assesses of excise, custom's tax, service tax and value added tax. GST can be paid online using debit and credit cards. These assesses can do business from April 1st 2017 as there will be a smooth transition into the new system.

*Preeti Singh*  
(Preeti Singh)

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# MARKETING STRATEGIES OF PRIVATE AND PUBLIC SECTORS BANKS IN INDORE CITY

Sanjay Sharma★ Priyanka Sharma★★

*Marketing plays an important role to increase the institutional sales. It provides the awareness to business customers about their products and services and explains the benefits of using their products and services so that they can deliver the best to their customers. For example a hotel chain that sources its raw material from a quality raw material supplier ensures that it will deliver good food and services to end user. Business to business selling is expanding its footprint across all the industries. There are very limited researches available which explains how marketing strategy impacts the institutional selling. With this view, this research has been conducted to understand how marketing strategy impacts the institutional sales. In order to provide a clear focus, the research covers banking industries both private and public banks. This research is also based on the Impact of marketing strategies on Institutional sales in Indore District.*

*Keywords: Banks, Customer, Institutional sales, Investment, Marketing mix, Marketing strategies*

Marketing strategy is a process through which an organization can concentrate to utilize its resources with the aim of increasing their sales and during this course of action organization can also attained a sustainable competitive advantage as defined by David Aaker.

Types of Marketing Strategies:

Marketing strategies may differ depending on the unique situation of the individual business. A brief description of the most common categorizing strategies is given below:

•Strategies based on market dominance - In this strategy, firms are divided on the basis of their market share. Typically there are four types of market dominance strategies:

- a) Leader
- b) Challenger
- c) Follower
- d) Niches

• Porter generic strategies - strategy on the dimensions of strategic strength and strategic scope. Strategic strength defines the firm's sustainable competitive advantage while Strategic scope defines the market penetration. As per Porter (1984), the generic strategy framework comprises of two alternatives with two alternative scopes.

- a) Product differentiation (broad)
- b) Cost leadership (broad)
- c) Market segmentation (narrow)

• Innovation strategies - This deals with the firm's aspiration to develop the new product development and business model innovation. There are three types:

- a) Pioneers
- b) Close followers
- c) Late followers

•Growth strategies-: The following are the different growth strategies.

1. Horizontal integration
2. Vertical integration
3. Diversification
4. Intensification

Recently Godrej Appliances offered ICICI Bank employees a fantastic deal and it was a big hit. If employee of the bank purchased a Godrej microwave oven they received a free diamond locket with it. Another very good example of sales through institution is a tie up Godrej Company with ICICI bank. There was offer from the Godrej Air conditioners for the ICICI credit card users that they could book a Godrej Air conditioner for just Re 1 and can pay the rest of money in 9 installments.

## I. Review of literature

H.C. Purohit & Avinash D. Parthardikar (2008) conducted study on Service Quality Measurement and Consumer Perception about the Services of Banking Institutions. This study reveals that the perception of the consumers on different nationalized banks may differ due to the behavior of the individual employees or officers. Except for mortgage facilities and loaning interest rate, respondents

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have rated all the services good.

Hakansson (2005) also find the same result that promotion appears as an issue of how to create an optimal mix of marketing communication tools in order to get a product's message and brand from the producer to the consumer. The impact of marketing strategies followed by the banks have not affected the business performance of the banks as the study revealed that customers not very keen to take credit from their bank.

Dixit, V.C. (2004) in his study revealed that for more effective and successful marketing, a company have to identify the customer needs by designing new products as per customer's desire. The staff should be well trained with adequate knowledge to fulfill the customer's query. For a customer-oriented organization one should adopt long-term strategies.

Zeithaml (1988) is of the view that cost is one of the very important factors that influence consumer's perception towards the product. In the studies of Colpan, (2006); Doole et al., (2006) and Owomoyela et al, (2013) they also establish a very significant relationship between price and business performance. The price you fix for the product or service plays a significant role in marketability.

Nikhil Chandra Shil & Bhagban Das in their study Customer Satisfaction with regard to Banking finds that customers are very choosy nowadays how to spend their money. Quality is the first and last preference. Past researchers have clearly suggested that product have a significant impact on business performance (Ogunmokun and Esther, 2004; Kazem and Heijden, 2006; Kemppainen, Vepsäläinen, and Tinnilä, 2008; Owomoyela et al, 2013). On the other hand McNaughton, (2002) also agree that place has significant effect on business performance.

#### Rationale of the Study

In the current digital era, there are many ways for marketers to reach out to their target customers and market its products and services by different means of marketing channels which are cost effective and efficient in nature. It provides opportunities to reach out to their target customers at minimal cost and time. However, businesses are still untouched with the factor that how to use such strategies effectively to increase the sales. Even it is important to understand how marketing impacts the customer perception before studying their effective usage. Hence research aims to understand the relationship between marketing strategies and perception of customer domain.

#### Significance of the Study

While most of the banks are successfully employing the new forms of marketing to target various types of customers, the current business and customer changing trends are continuously creating new challenges as well as opportunities for increasing profitability in all over the world. The success of these strategies is yet to be tested in country like India. These strategies may have different implications for both public and private banks operating in India.

#### Research Gap

Based on the above review on the subject, it was felt that the research is conducted in the areas of banking performance, a comparative study between private and public sector banks, their marketing mix, also on communication strategies and product strategies etc but there is no research is conducted by covering impact of comprehensive strategies on customer perception relating to banking sector.

#### Objectives of the Study

- 1.To study marketing strategies of Private and Public Sectors Banks in Indore city.
- 2.To study the impact of marketing strategies on customer's preferences of investments with the banks.
- 3.To suggest various measure for formulation of appropriate marketing strategies for Private and Public Sectors Banks.

## II. Research Design & Methods

The current study, on one hand, considers many issues related to impact of marketing strategies of institutional sales which require exploration of ideas and flexibility of research design but on the other hand, it requires accurate description of association of some variables. Hence the study is exploratory cum descriptive in nature.

#### Sampling Design:

Universe: The universe for the study is all private and public banks of Indore District.

Sampling Area: The participants are selected from the directory of private and public banks of Indore city.

Sampling Unit: The unit of analysis is the chief executive officer/managing director or marketing/sales manager and the customers of private and public banks of Indore City.

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Sampling Method: The stratified random sampling method is applied. The population is divided into the following strata:

- a. Private banks (ICICI and HDFC)
- b. Public banks (SBI and Corporation Bank)

From each strata random sample are chosen and targeted to fill the questionnaires.

Pilot Study: To ensure that questionnaire was administered well and results were correct, a pilot study was carried out by administering to 10 management faculties, 20 customers and 2 managers of banks that gave us direction to modify the questions and explanations of technical words.

Procedure: Physically filling up of questionnaire in person and Interview. Majority of them were got filled and collected personally from the managers and customers of Indore city, to ensure authenticity and correctness.

Data Collection: In order to collect the information, 10 persons at the level of chief executive officer/managing director or marketing/sales manager, 30 executives and 480 customers of both the banks from the Indore city were targeted. The secondary data was also collected from various sources like published articles, research papers, business magazines, journals, periodicals and Internet.

Respondents Population: Total targeted population was 600 (response sheets received 552 and selected 520 on judgment basis), as 32 of them were found incomplete or facts appeared to be filled up casually with irrelevant information, hence not considered. In respondents population the 40 managers and sales executives and 480 customers from the selected private and public banks.

Test for Reliability and Validity: Again, it was of importance to state that the data for this study also satisfied the reliability test, which is highly necessary for the findings of any research of this nature to be valid and reliable. The rating used in this study is the Likert Scale Method. It consists of statements where respondents indicate their responses on a five- point scale -Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. In order to measure the reliability of the scale, the reliability coefficients (Cronbach's) of the product, promotion, place, price, physical evidence, process and people were 0.88, 0.86, 0.81, 0.76, 0.83, 0.76, and 0.77 respectively. Sales growth scale was used to assess respondent's level of their profitability, return on investment market share, and expansion compare with their competitors. The scale was subjected to item analysis in order to ensure it is valid and reliable and it yielded reliability alpha of .795.

### Limitations of the Study

The following are limitation of study:

1. The sample is selected conveniently and in single phase so as the perception is influenced by time in which data was collected and the context in which the respondents were at the time of data collection.
2. The primary data and observational methods of research have its own limitations and based on respondent the study is limited to Indore City.
3. The availability of the time and limited knowledge of researcher in the area is also to be considered.
4. The field study and survey approach is not without potential limitations. The major limitation was the unwillingness of the respondents to objectively articulate the situation of the bank due to stiff competition in the industry and the fear that information could be used for competitive advantage by their rivals.

## III. Results & Analysis

Factor analysis is a tool to reduce the number of variables to such a small number that could be capable enough to explain the observed variance in the large number of variables. It reduces the number of variables to such a small number which could be capable enough to explain observed variance in the large number of variables. Initially the communalities of variables have been calculated to represent the amount of variation extracted from each variable. Variable with higher value is expected to represent better one. The extraction of variable is done by principal component analysis method. Factor Analysis was conducted on SPSS 17.0 software.

1. Product: The Five Factors from Product:  
Factor 1: Internet Banking and Electronic Fund Transfer (EFT)  
Factor 2: ATM  
Factor 3: Personal Loan Scheme  
Factor 4: Insurance Linked Saving Bank Account  
Factor 5: Housing Loan Scheme
2. Price:  
Factor 1: Debit/credit/ATM Charges  
Factor 2: Loans charges  
Factor 3: Account handling charges  
Factor 4: Online banking services Charges

3. Place:

Factor 1: Comfortable bank layout

Factor 2: Good number of ATM's

Factor 3: Good number of branches in different area of city

4. Promotion:

Factor 1: Hoardings

Factor 2: Friends/Relatives/Colleagues

Factor 3: News papers

5. Physical Evidences:

Factor 1: Logo and punch line/tag line

6. Process:

Factor 1: Reduced paperwork. (Documentation and Identification)

Factor 2: Speedy delivery

7. People:

Factor 1: Attitude and behavior of employees

Factor 2: As a Customer, when you have a problem, you get proper response from the concerned employee.

Test of Hypothesis:

The general form of the model was as follows

Sales = α + β1X1 + β2X2+ β3X3+ β4X4+ β5X5+ β6X6+ β7X7+e Where, S = Sales, X1 = Product, X2 = Promotion, X3 = Place, X4 = Price, X5 = Physical Evidence, X6 = Process, X7 = People. And α is constant and β1, β2, β3, β4, β5, β6 and β7 are coefficient to estimate, and e is the error term.

The result in table no. I shows that the relationship between sales and product offered to the market, promotion, channel of distribution, price charge, physical evidence, process and people were positive and significant (r = 0.422; df = 7; p<.05; r = 0.339, df = 7; p <.01; r = 0.469, df = 7, p <.01; r = 0.503, df = 7, p <.01, r = 0.308, df = 6, p <.05, r = .534; df = 7; p<.01 and r = 0.339, df = 7, p <.05) respectively. This result implies that the product/services offered by banks, the effective channel of distribution process and place employed by the banks, the affordable price charged, the physical evidence and the effective employees service engaging in, the higher the sales, in term of profitability, market share, return on investment, and expansion.

Table No. II, III, and IV, show that the independent variables (i.e. Product, Promotion, Place, Price, Physical evidence and people) were significant joint predictors of sales in

term of profitability, market share, return on investment, expansion and etc.(F(7, 97) = 14.040;R2 = 0.455; P< .05). The independent variables jointly explained 45.5% of variance in sales. Furthermore, product (β = 0.131; P<.01); promotion (β = 0.126; P<.01); place (β = 0.062; P<.05); price (β = 0.422; P<.01); physical evidence (β = 0.174; P<.05), process (β = 0.038; P<.05) and people (β = 0.063; P<.05) were significant independent predictors of sales.

Hypothesis	Test	Result
Ho1	Multiple Regression	Rejected
Ho2	Multiple Regression	Rejected
Ho3	Multiple Regression	Rejected
Ho4	Multiple Regression	Rejected
Ho5	Multiple Regression	Rejected
Ho6	Multiple Regression	Rejected
Ho7	Multiple Regression	Rejected

### Findings & Discussion

In present study on the marketing mix banks managers and executives is thought that price (cost) matters the most while availing any products/services of the banks. The banks are more focused on lucrative interest rates offered to their customers on different financial products/services and banks differentiate their product/services through their flexibility and easy processing in terms of payment duration, interest rate, identification, documentation and processing fees etc. Most of the respondents revealed that if the bank's branch is working with any particular institutions or organization or industry, customer identification are very easy.

It is also stated from the present study that offers related to new product is the most of the preferred promotional strategies for all the banks. Promotion through media is the second preference for them.

It is also revealed that the impact of promotional strategies related to sales is on the overall market and financial performance of the banks i.e., increase in turnover, retaining and maximizing of customers, increase in market share and increase in profits.

Nikhil Chandra Shil & Bhagban Das in their study Customer Satisfaction with regard to Banking finds that customers are very choosy nowadays how to spend their money. Quality is the first and last preference. In the present study, it is revealed that to retain and maximize the

customers most of the banks concentrate on competitive rates and hospitality strategy and also for improving the customer's loyalty the banks use the mix strategies of accountability, transparency and best practices.

On the product mix in the present study, the customers are more focused on personal loan scheme, ATMs, Electronic fund transfer, housing loan scheme and internet banking in Indore city. Past researchers have clearly suggested that product have a significant impact on business performance (Ogunmokun and Esther, 2004; Kazem and Heijden, 2006; Kempainen, Vepsäläinen, and Tinnilä, 2008; Owomoyela. et al, 2013).

On the price mix, it stated that most of the respondents have selected their banks on the ground of Loans charges, Debit/credit/ATM Charges and Cheque book charges as the respondents from the present study are mostly from the service sector. Zeithaml (1988) is of the view that cost is one of the very important factors that influence consumer's perception towards the product. In the studies of Colpan, (2006); Doole. et al., (2006) and Owomoyela et al, (2013) they also establish a very significant relationship between price and business performance. The price you fix for the product or service plays a significant role in marketability.

Most of the respondents have chosen their branches because of comfortable bank layout, good number of ATMs and branches. That is the reason majority from the respondents have their accounts in State Bank of India. On the other hand McNaughton, (2002) also agree that place has significant effect on business performance.

From the present study, it is also revealed that a customer has come to know about the financial products/services of their banks from their friend/relatives/colleagues, newspaper and internet. It revealed that logo is appeared to be the best physical evidence which is followed by the financial reports and punch lines and have selected their banks because of the speedy delivery and reduced paper work such as documentation and identification. Standardized process is also one of the reasons for the transactions. Bank employees and their attitude towards the customer are seems to be the main factors in the banks from the customers point of view.

#### **IV. Conclusion**

Post liberalization era has provided a progressive growth in India, but it has also posed some challenges. Banks have now in India is become customer centric than product centric because of technology and competition. If the banks understand their customers, the banks will be more

successful in meeting their customer's needs. In order to overcome the above mentioned challenges Indian banks must low their cost, upgrade their technology and have product differentiation. Apart from Indian traditional banking services, banks must go for some product innovation so that they can compete in institutional sales. Nowadays consumers are more aware about the market and the products and services available. In the current scenario they need ATM services, mobile banking and internet banking, which is very good for institutional sales. Thus the study implies that for a effective banking marketing strategies for institutional sales, bank should make only policies and design the product which are helpful in fulfilling the needs of customers.

#### **Suggestions and Implications**

Following are the some important point we should keep in mind before designing the marketing strategies for the banks related to institutional sales:

- Need Based Product/services.
- Quality of service.
- Competitive interest rate.
- Employee's attitude and behavior towards the customers should be very positive.
- Create awareness among the customers about the financial products/services.
- Word of mouth is the main form of communication for that bank should concentrate on customer satisfaction and retention.
- Increased number of ATMs and branches.
- Technology.
- Trained Staff.
- Trust of Customers.

#### **Implications**

The possible applications and extensions in terms of implications of the study could be enumerated as under:

- From this study, bank managers can refer the important attributes and their levels which are important and preferred according to the customers while responding to the marketing mix elements to achieve the efficiency and effectiveness of the marketing strategies related to institutional sales.
- Strategy formulators(RBI) and implementers (bank managers and executives) can utilise the findings of this study to formulate the future policy of their banks.
- Indian banking sector needs to adopt appropriate viable marketing strategy framework for competitive marketing

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strategies for institutional sales which focus on accessible and affordable financial products, synergistic partnerships with other entities for efficient handling of banking business, particularly in urban areas have to be cover can be derived from this study.

- In making adaption decisions, strategy formulators and implementers must realize that the various aspects of marketing may require varying degrees of modifications. The key is to find the combination that yields maximum success in financial market.
- This study also shows that increase in purchasing power is a significant factor of banking customers in institutional sales. Therefore, a bank needs to ensure that it provides the best quality of products/services with reasonable cost.

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**Table 1: Profile of Respondents**

S.No.	Items	N	%
1.	<b>Age:</b>		
	18-30	76	15.83
	31-40	176	36.67
	41-50	132	27.50
	51-60	86	17.92
	61 and above	10	02.08
		480	100
2.	<b>Gender:</b>		
	Male	406	84.58
	Female	74	15.42
		480	100
3.	<b>Education:</b>		
	Illiterate	9	01.88
	Below SSC	17	03.54
	SSC	24	05.00
	HSC	64	13.33
	Graduate	162	33.75
	Post graduate	204	42.50
		480	100
4.	<b>Occupation:</b>		
	Govt. Service	112	23.33
	Private Service	216	45.00
	Own Business	60	12.50
	Farmer	10	02.08
	Housewife	02	00.42
	Professional	80	16.67
		480	100
5.	<b>Monthly Income:</b>		
	Less than Rs. 20,000	96	20.00
	Rs. 20,000 to Rs. 40,000	178	37.08
	Rs. 40,000 to Rs. 60,000	104	21.67
	Rs. 60,000 to Rs. 80,000	64	13.33
	Greater than Rs. 80,000	38	07.92
		480	100

(Source: Researcher's Computation)

**Table I: Zero-Order Correlation Showing the Relationship between Sales and Marketing Strategies**

Variables	Mean	SD	Sales	Product	Prom- otion	Place	Price	Physical Evidence	Process	People
Sales	3.625	0.486	-	.422*	.339**	.469**	.503**	.308*	.534**	.339*
Product	3.737	0.496		-	.089**	.473	.357*	.363*	.399c	.356*
Promotion	3.373	0.496			-	.077	.053	-.127	.011	.010
Place	3.500	0.493				-	.502	.035*	-.013	.376**
Price	3.950	0.488					-	.292	.373	.432*
Physical Evidence	3.598	0.471						-	.332	.292**
Process	3.542	0.488							-	.435*
People	3.868	0.471								-

Key: \*P&lt;.05, \*\*P&lt;.001

**Table II: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin- Watson
1.	.692a	.455	.422	.38673	2.585

a. Predictors: (Constant) Product, Promotion, Place, Price, Physical Evidence, Process and People.

b. Dependent Variable: Sales.

**Table III: ANOVA**

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	11.330	7	1.888	14.040	.000b
Residual	13.045	467	.134		
Total	24.375	474			

a. Dependent Variable: Sales.

b. Predictors: (Constant) Product, Promotion, Place, Price, Physical Evidence, Process and People.

**Table IV: Multiple Regression Analysis**

Model	Un-standardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
<b>(Constant)</b>	.483	.609		.793	.430	-.725	1.69
<b>Product</b>	.129	.089	.131	1.439	.003	-.049	.306
<b>Promotion</b>	-.038	.076	.126	-.499	.019	-.188	.112
<b>Place</b>	.062	.095	.062	.651	.016	-.126	.250
<b>Price</b>	.436	.094	.422	4.629	.000	.249	.623
<b>Physical Evidence</b>	.173	.083	.174	2.085	.040	.008	.338
<b>Process</b>	.130	.090	-.038	1.442	.012	-.049	.308
<b>People</b>	.262	.095	.063	2.035	.008	.032	.307

## E-RETAILING: RESPONSIBLE FACTORS ON ITS ACCEPTANCE ACROSS DEMOGRAPHICS

B. Angamuthu ★

*Simply put, e-retailing or e-tailing is the sale of goods online and its success depends on the innovations adopted by e-tailers and acceptance of customers who buy the products through online. Now-a-days, consumers move online buying due to increasing broad band internet with 3G/4G penetration, availability of Smartphones, busy lifestyle, lack of time for offline shopping, evolution of the online marketplace model with numerous e-tailer, improved convenience and the wider availability of various brands at cheaper prices etc. So, this descriptive research focus on the customer side analysis which aims to explore the responsible factors on acceptance of e-retailing across demographics. Self-designed questionnaire has been used to collect primary data from 150 respondents in Coimbatore District of Tamil Nadu State. This study identified seven factors that have responsible for acceptance of e-retailing. They are reliability of product's information, sales policies, brand options, timely delivery, user growth, reputation of e-tailer, technology acceptance and reasonable price with discount.*

*Keywords: Online shopping, Consumer perception, Factors affecting e-tailing*

Electronic commerce (e-commerce) as part of the information technology revolution became widely used in the businesses across globe. Today, e-commerce is a common word in Indian society and it has become an integral part of our daily life (Sharma & Mittal; 2009). India has witnessed a phenomenal technological shift in the e-commerce industry over the past decade because rising internet and mobile phone penetration has changed the way we communicate and execute business actions. At present, country has an Internet user base of 400 million which is the second-largest Internet market globally in terms of users and the country is adding three internet users every second. The most well-known form of e-commerce is online shopping, also known as Business to Consumer e-commerce (B2C), where individual customers should be able to order various products which they then receive by courier or postal mail. Another category of e-commerce focuses on transactions between companies, such as manufacturers and wholesalers, or wholesalers and retailers is called Business to Business e-commerce (B2B). The third category of e-commerce involves transactions from Consumer to Consumer (C2C). In the financial year 2015 – 2016, India's e-commerce sector has been touched its revenue of US\$30 billion and the market expected to reach US\$ 120 billion by 2020 (ASSOCHAM-Forrester Research; 2015) whereas US\$ 220 billion with 530 million shoppers by 2025 (Reports from India Brand Equity Foundation; 2016). E-commerce is expanding steadily in the country and also customers have the ever increasing choice of products at the lowest rates with discount.

E-Retailing in India: An overview

Presently, India's population is taking to online retail in a big way. It is only in the last few years, online shopping

has started gaining traction among consumers. In FY 2015-2016, the online retail market growth is US\$ 12 Billion (Report from Avendus; 2016) and it is expected to grow US\$ 70 billion in 2020. The major factors driving this growth are increased internet penetration, decreasing cost of personal computer and mobile phones, improved security measures, convenience and low pricing online retailers can offer. Apart from these, e-retailing has become one of the most sought-after channels due to the growth of smart phones in the country and about 65% of the total e-commerce sales are being generated through smart phones. A decade ago, the Indian retail market had been largely dominated by unorganized sector but today, retail sector moves electronic base with more than 10 million online shoppers and it has been present since 2000 but it gained popularity only with deep discount model of various e-tailers. In India, e-retailing continued to have strong growth with the contribution over 20% in the overall e-commerce market. E-retailing is definitely equipped to have a lasting impact and it has brought about is in the shopping habits of Indian consumers. Today, customers can access a virtual megamall from the comfort of their homes and offices and buy the latest products on the day of their launch, at the best prices through online. That is the convenience offered by e-retailing and two out of three Indians today are shopping online (Sachin Bansal, CEO Flipkart).

Statement of the problem

E-Retailing is starting to be recognized as a major industry in India with more than 50 websites currently operating in

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the retail business. Flipkart, Snapdeal, Amzon and Jabong are well-known e-tailers in the country whereas many of them not familiar among the online shoppers. The success of e-retailing depends on the acceptance level of both demand (customers) and supply side (sellers). This study focuses on the customer-side story so far, specifically the responsible factors on acceptance of e-retailing in the shopping space, and thereby attempt to identify the opinion towards difference on such factors across demographic factors when purchasing online. From the marketer's perspective, this study is more valuable. From the result, they come to know that user segment of e-retailing as well as the factors that more responsible to consumers acceptance of e-retailing.

### 1.3 Objectives of the Study

- To find out the user segment of e-retailing across demographic factors
- To explore that the responsible factors on acceptance of e-retailing
- To analyze the difference on overall perception towards responsible factors on acceptance of e-retailing across demographics.

### 1.4 Hypotheses of the study

Ho1: There is no significant association between demographic factors of the respondents and their experience in e-retailing

Ho2:  $f_1, f_2, f_3 \dots f_n$  will have a lesser impact of respondents' acceptance of e-retailing.

Ho3: There is no significant difference on opinion towards responsible factors on acceptance e-retailing across demographics.

## I. Review of Literature

Shwu-Ing (2013) in his study concludes that the consumer characteristics were important influence factors on consumer attitudes and online shopping decisions. Wen et.al. (2013) in their study analyze the effects of user demographic characteristics towards online shopping intention among consumers in China. The authors reported that the consumers' age, income, education and marital status, and their perceived usefulness are significant predictors of online shopping intention. Vegiayan et al. (2013) in their study reported that the purchase quality factor (wide range, covers interest, purchases process, adequate security and safety) under online shopping shows to have highest relationship with the customer satisfaction in Malasiya.Ling etal. (2012) identified that

the key convenience dimensions of online shopping includes that access, search, evaluation, transaction, and possession/post purchase convenience. Sajjad et al (2012) their survey focus on the how online shopping is getting popularity in the young generation suchas students and professionals in Pakistan. The authors reported that price, confidence, security, convenience, time, after sale service and discounted deals are the most influencing factors have been identified to affect the consumer shopping. Spijkerman (2008) in his paper studied consumers' appreciation of apparel e-tailing in Netherland and this study reported that only15% had bought garments on the internet. The personal factor like age and gender of the consumers were not significantly positive effect on their appreciation. Security worries about payment, privacy and delivery is major inhibiting factors on consumers, appreciation of e-tailing. Seung-Eun and Mary (2008) in their web survey aims to investigate consumers' shopping values and web site beliefs that influence their intention to shop for cultural products through Theory of Reasoned Action (TRA) model. In order to test the interrelationships among consumers' internet shopping value, beliefs about the web site, shopping attitude, and shopping intention. Finally, this study concluded that the consumers' beliefs about the web site influenced their intention to shop for cultural products in the future. Overall, the findings confirmed elements of the TRA such as belief structures as determinants of attitudes and attitudes as determinants of behavioral intention. Amit (2007) in his online survey aims to find out demographic factor of individuals who shop online for personal reasons is different from that of those who shop for professional reasons and this study concluded that individuals with children, high incomes, and large internet experience are more likely to shop online for personal purposes and younger men with large internet experience are more likely to shop online for professional purposes. Yingjiao & Ann Paulins (2005) reported that the students who intended to shop online for apparel products had more positive attitudes than those who did not have the intention. The internet usage, employment status, and car access had significant influence on students' attitudes toward online shopping for apparel products. Belanger et al (2002) reported that consumers have a low perception and trust of online merchants, making them unwilling to make purchases online and also three out of five respondents did not trust web merchants. Bellman et al (1999) concluded that demographic variables such as income, education and age have a modest impact on the decision of whether to buy online whereas the most important determinant of online shopping was previous experience of the respondents.

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## II. Research Design & Methods

This descriptive research design mainly depends on the primary data and the data were collected from Coimbatore District of Tamil Nadu State. The self-designed questionnaire has been used to collect primary data and it has two parts. The first part of the questionnaire consists various demographic factors like gender, age group, education, occupation, family income (Rs. Per month), marital status and place of living. The second part of the questionnaire has different attributes related to factors that responsible for acceptance of e-retailing. The responses against various attributes collected through five-point scaling technique like strongly disagree, disagree, neither agree nor disagree, agree and strongly ranging from 1 to 5. Totally, 150 responses were collected from public with the use of purposive sampling technique. The theoretical inputs of the present research collected from magazines, journals, websites and news papers. The primary data were collected from during the months from April to August' 2015. The statistical applications like % analysis, cross tabulation, chi-square test [ $\chi^2 \{ \sum (O - E)^2/E \}$ ], t-test, one way ANOVA and on the recommendation of Kaiser-Meyer-Olkin Measure of Sampling Adequacy ( $KMO \geq 0.05$ ), Bartlett's Test of Sphericity (Approx.  $\chi^2 1632.525^{**}$  with  $df 231, p < 0.01$ ), factor analysis has been applied. The final research model of current research is shown in the figure – 1.

## III. Results & Analysis

Relationship between demographic factors and Experience under e-retailing.

The Chi-square test is an important test among the several tests of significance developed by statisticians. It is statistically measured and used in the context of sampling analysis for comparing an obtained variance to a theoretical variance. As a non-parametric test, it can be used to evaluate the contingencies between two nominal measures

Ho: There is no significant association between gender, age group, education, place of living, occupation, family income marital status of the respondents and their experience under e-retailing. It is observed from the Table 1 that the calculated value of  $\chi^2$  between gender, education, place of living, marital status of the respondents and their experience under e-retailing shows lesser than the table value at 5% significant level. Therefore, accept the null hypothesis and it can be concluded that there is no significant association between gender, education, place of living, marital status of the respondents and their experience under e-retailing.

On the other hand, the calculated value of  $\chi^2$  between age group, occupation, family income of the respondents and their experience under e-retailing shows greater than the table value at selected significant level. Therefore, reject the null hypothesis and it can be concluded that there is a significant association between age group, occupation, family income of the respondents and their experience under e-retailing.

Responsible Factors on Acceptance of E-Retailing – Factor analysis approach

A total of 22 items namely X1, X2, X3... and X22, were used to identify the dimensions that the responsible factors on acceptance of e-retailing. Factor analysis is performed in order to group the variables on priority basis based on the strength of inter-correlation between these opinions, called 'Factors' and clustering these variables in to the factors extracted and the results are presented in the following tables. Table - 2 gives the rotated factor loadings, communalities, eigen values and the percentage of variance explained by the factors. . The Eigen values for seven factors were 3.216, 2.542, 2.440, 2.266, 2.228, 2.053 and 2.038 respectively. Thus the factor analysis condensed and simplified the 22 variables and grouped into 7 factors explaining 76.284 % of the variability of all the variables. So, reject the hypothesis and it can be reported that the derived factors have a greater impact of respondents' acceptance of e-retailing. In order to reduce the number of factors and enhance the interpretability, the factors are rotated. The rotation increases the quality of interpretation of the factors. There are several methods of the initial factor matrix' to attain simple structure of the data. The varimax rotation is one such method to obtain better result for interpretation is employed and the results are given in Table – 3.

Table-3 explains that the four attributes X19, X18, X22 and X21 were grouped together as factor I and accounts 14.620% of the total variance. The four attributes X14, X15, X9 and X3 constituted the factor II and accounts 11.552% of the total variance. The four attributes X7, X11, X10 and X1 constituted the factor III and accounts 11.090% of the total variance. The two attributes X16 and X15 constituted the factor IV and accounts 10.299% of the total variance. The three attributes X12, X13 and X20 constituted the factor V and accounts 10.126% of the total variance. The three attributes X4, X6 and X17 constituted the factor VI and accounts 9.332% of the total variance. The two attributes X8 and X2 constituted the factor VII and accounts 9.265% of the total variance. Finally, the derived factors has been named as reliability of available

information (f1), Sales policies (f2), brand options (f3), User growth (f4), trust of e-tailer (f5), technology aspects (f6) and discounted price (f7). All these factors were considered as the predominant predictors on acceptance of e-retailing among the respondents.

Overall perception towards Responsible factors on Acceptance of E-Retailing across demographics

This part has been studied about opinion level towards responsible factors on acceptance level e-retailing among various demographic factors. Respondents' perception can be classified into lower and higher opinion based on their obtaining total score using the technique of mean which is representing responses against twenty two statements. It indicates that the respondents who have taken the score  $<52.75$  have lower perception and  $\geq 52.75$  consists higher perception. Based on the above technique difference on respondents' opinion across demographic factors studied through application of t-test and One way analysis of variance.

Ho: There is no significant difference on opinion towards responsible factors on acceptance of e-retailing among various gender, age groups, educational qualifications, occupations, family incomes, marital status and place of living.

It is observed from the Table 4 that the calculated value of 't/f' between gender, age groups, educational qualifications, occupations, family incomes, place of living of the respondents and their opinion towards responsible factors on acceptance of e-retailing shows greater than the critical value at 5% level. So, the null hypotheses are rejected and it can be concluded that the respondents' opinion towards responsible factors on acceptance of e-retailing do not differ among the said demographic factors. Furthermore, it can be inferred from the Table 4 that the calculated value of 't/f' between marital status of the respondents and their opinion towards responsible factors on acceptance of e-retailing shows lesser than the critical value at 5% level. So, the null hypothesis is rejected and it can be concluded that the respondents' opinion towards responsible factors on acceptance of e-retailing significantly different between married and unmarried respondents.

#### IV. Conclusion

In present scenario of globalised economy, information and communication technology (ICT) particularly internet has brought drastic changes in the way businesses are done. E-retailing is one such changed and it has become a popular trend in urban and rural India. People have been enjoying the convenience of having their order shipped right to their

doorstep. The acceptance of e-retailing completely depends on service quality of e-retailing like availability of product information in the web portal, product's sales policies, more brand options, timely delivery of the products, user growth, reputation of e-tailer, reasonable price with heavy discount and technology acceptance of online shoppers. Shopping through internet depends on customers' age group, occupation and their income level. Finally, this study suggest that the e-retailers must develop their reputation through high quality of service that includes develop their websites with adequate information, fast delivery of goods in rural areas, quick and secured payment gateway etc which are influence to gain customer loyalty and increase awareness about various products of the consumers.

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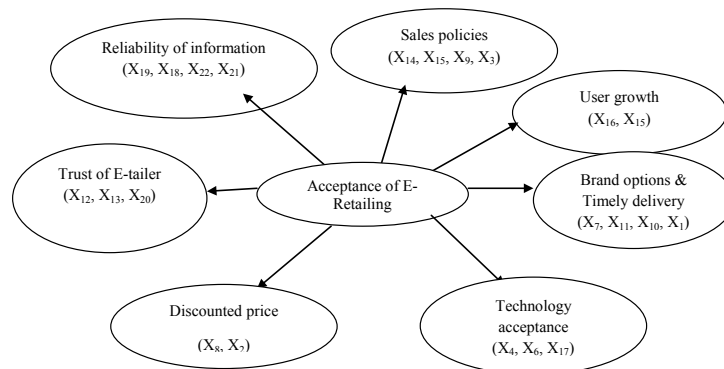
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Figure 1: Responsible Factors on Acceptance of E-Retailing



**Table 1: User segment of Online shopping across Demographic factors**

Online Shopping	Gender		Age group (in Years)				Education			Place of living		
	Male	Female	Upto 25	26-35	35-45	Above 45	UG	PG	Diploma /ITI	City	Semi-Urban	Rural
Used	73 (70.9)	30 (29.1)	66 (62.9)	21 (75)	10 (100)	3 (42.9)	60 (64.5)	25 (65.8)	15 (78.9)	53 (67.9)	40 (65.6)	7 (63.6)
Not used	27 (57.4)	20 (42.6)	39 (37.1)	7 (25)	0 (0)	4 (57.1)	33 (35.5)	13 (34.2)	4 (21.1)	25 (32.1)	21 (34.4)	4 (36.4)
Statistical test	$\chi^2 = 2.618$ df = 1 TV = 3.84 Result = NS		$\chi^2 = 8.346^*$ df = 3 TV = 7.81 Result = S				$\chi^2 = 1.496$ df = 2 TV = 5.99 Result = NS			$\chi^2 = 0.136$ df = 3 TV = 5.99 Result = NS		
Online Shopping	Occupation				Family Income (Rs. Per month)				Marital Status			
	Govt./Pvt. Employee	Business	Professional	Student	Upto 10,000	10,001-20,000	20,001-30,000	Above 30,000	Married	Un-married		
Used	46 (64.8)	34 (79.1)	7 (100)	13 (44.8)	41 (56.2)	48 (85.7)	4 (36.4)	7 (70)	29 (72.5)	71 (64.5)		
Not used	25 (35.2)	9 (20.9)	0 (0)	16 (55.2)	32 (43.8)	8 (14.2)	7 (63.6)	3 (30)	11 (27.5)	39 (35.5)		
Statistical test	$\chi^2 = 12.814^{**}$ df = 3 TV = 11.34 Result = S				$\chi^2 = 17.362^{**}$ df = 3 TV = 11.34 Result = S				$\chi^2 = 0.835$ df = 1 TV = 3.84 Result = NS			

Source: Field Survey (The values in brackets are Percentages) \* Sig. at 5% level and \*\* Sig. at 1% level.

**Table 2: Responsible Factors on Acceptance of E-Retailing**

Attributes	1	2	3	4	5	6	7	Communalities
X1	0.465	-0.287	0.543	0.038	0.157	-0.322	-0.125	0.739
X2	0.315	-0.108	0.13	0.253	0.176	0.018	0.804	0.869
X3	0.557	0.577	0.142	0.29	0.1	0.088	0.115	0.778
X4	-0.083	0.111	-0.133	-0.017	-0.093	0.84	-0.009	0.751
X5	-0.012	-0.018	-0.011	0.789	-0.199	-0.026	0.331	0.773
X6	0.255	0.111	-0.292	-0.018	-0.17	0.696	-0.26	0.743
X7	0.028	0.074	0.843	0.104	-0.086	-0.099	0.163	0.772
X8	0.097	-0.045	-0.112	0.045	0.042	0.251	0.853	0.819
X9	-0.103	0.635	-0.206	0.247	-0.198	0.096	-0.314	0.665
X10	-0.014	0.446	0.642	-0.031	-0.138	0.075	0.093	0.646
X11	-0.203	0.368	0.674	0.223	-0.047	-0.059	0.078	0.692
X12	-0.009	-0.031	-0.022	-0.282	0.846	-0.028	0.162	0.824
X13	0.155	-0.034	-0.312	-0.423	0.744	-0.144	0.072	0.881
X14	-0.008	0.798	0.084	0.019	-0.062	0.15	-0.249	0.733
X15	0.222	0.649	0.327	0.381	0.062	-0.24	-0.087	0.792
X16	-0.078	0.07	0.223	0.87	-0.155	-0.031	-0.11	0.854
X17	0.193	-0.271	0.284	-0.002	0.153	0.672	-0.154	0.69
X18	0.827	0.128	0.059	-0.036	0.08	-0.047	0.001	0.714
X19	0.893	0.139	-0.016	0.082	0.2	0.145	0.051	0.887
X20	0.092	-0.35	0.064	-0.381	-0.517	-0.146	0.365	0.702
X21	0.531	-0.14	-0.142	-0.228	-0.447	0.168	0.164	0.628
X22	0.754	-0.169	-0.037	-0.058	-0.422	0.182	0.138	0.832
Eig. Value	3.216	2.542	2.44	2.266	2.228	2.053	2.038	16.784
% of Vari.	14.62	11.552	11.09	10.299	10.126	9.332	9.265	
Cumu. % of Vari.	14.62	26.173	37.262	47.562	57.687	67.019	76.284	
Extraction Method: Principal Component Analysis								
Rotation Method: Varimax with Kaiser Normalization								
Source: Primary data								

**Table 3: Clustering of Parameters into Responsible Factors on Acceptance of E-Retailing**

Factor	Variables	Factor loadings
I – (14.62%); Reliability of information	Physical appearance of the products (X <sub>19</sub> )	0.893
	Review about products (X <sub>18</sub> )	0.827
	Availability of global brand (X <sub>22</sub> )	0.754
	Complete information about products (X <sub>21</sub> )	0.531
II – (11.552%); Sales policies	Insurance of goods (X <sub>14</sub> )	0.798
	Return policy (X <sub>15</sub> )	0.649
	Guarantee / Warrantee (X <sub>9</sub> )	0.635
	After sales service (X <sub>3</sub> )	0.577
III – (11.09%); Brand options & timely delivery	More brand options (X <sub>7</sub> )	0.843
	Timely delivery (X <sub>11</sub> )	0.674
	Packaging style (X <sub>10</sub> )	0.642
	Payment mode (X <sub>1</sub> )	0.543
IV – (10.299%); User growth	Time saving (X <sub>16</sub> )	0.870
	User trend (X <sub>15</sub> )	0.789
V – (10.126%); Trust of e-tailer	Reputation of e-tailer (X <sub>12</sub> )	0.846
	Personal information privacy (X <sub>13</sub> )	0.744
	Payment security (X <sub>20</sub> )	0.517
VI - (9.332%); Technology acceptance	Convenience while shopping (X <sub>4</sub> )	0.840
	Technology acceptance (X <sub>6</sub> )	0.696
	Reference group (X <sub>17</sub> )	0.672
VII – (9.265%); Discounted price	Low price (X <sub>8</sub> )	0.853
	Discount offers (X <sub>2</sub> )	0.804

Source: Field Survey

**Table 4: Difference on Perception towards Responsible factors on Acceptance of E-Retailing across demographics**

Factor	Characteristics	N	Mean	t/f value (df 98/99)	Sig. value	Result
Gender	Male	73	53.34	1.329	0.187	NS
	Female	27	51.15			
Age group (in years)	Upto 25	66	52.85	0.391	0.76	NS
	26 - 35	21	53.38			
	35 - 45	10	52.00			
	Above 45	3	48.67			
Education	Under graduation	60	52.17	0.478	0.622	NS
	Post graduation	25	53.76			
	Diploma / ITI	15	53.40			
Occupation	Government / Private employee	46	53.28	0.151	0.929	NS
	Business	34	52.21			
	Professional	7	52.29			
	Student	13	52.54			
Family income (Rs. Per month)	Upto 10, 000	41	51.88	0.433	0.73	NS
	10, 001 - 20, 000	48	53.13			
	20, 001 - 30, 000	4	55.25			
	Above 40, 000	7	53.86			
Marital status	Married	29	50.28	2.19*	0.031	S
	Unmarried	71	53.76			
Place of living	City	53	53.13	0.849	0.431	NS
	Semi-urban	40	52.85			
	Rural	7	49.29			

Source: Field Survey

\* Sig. at 5% level and \*\* Sig. at 1% level

# JOB SATISFACTION OF EMPLOYEES IN PRIVATE ENGINEERING COLLEGES IN ANDHRA PRADESH

P Srivalli★ B. Vijayalakshmi★★ Kota Neela Mani Kanta★★★

*Job Satisfaction is defined as contentment arising out of interplay of employees positive and negative feelings towards their work. This study is sought to understand the levels of Job Satisfaction among faculty in private engineering colleges in Kadapa district of Andhra Pradesh. The study is conducted among 110 faculty members of six private engineering colleges working in Kadapa district of Andhra Pradesh. The study follows descriptive research design, as the study discusses the levels of Job Satisfaction among faculty working in private engineering college. The study follows probabilistic, multi stage sampling method in selection of sample. The study administers structured questionnaire among engineering college faculty for collection of primary data.*

*Keywords: Employee, Organization, Demographic, Faculty*

According to Nancy C. More (1997) “Satisfaction refers to the level of fulfillment of one’s needs, wants and desire. Satisfaction depends basically upon what an individual wants from the world, and what they get.” Job Satisfaction is a measure of how happy workers are with their job and working environment. It is sure that there may be many factors affecting the organizational effectiveness and one of them is the Job Satisfaction. Effective organizations should have a culture that encourages the job satisfaction for employees Bhatti and Qureshi (2007). Validated measure of employee’s satisfaction is the most important information relating to human resources in an institute Roznowski and Hulin (1992).

Behavioral and social sciences indicated that there is positive relationship between work satisfaction and employee performance Bowran and Todd (1999). Pearson and Seiler (1983) investigated in academician’s satisfaction level with their working environment to the context of Herzberg theory. They found that academicians were satisfied with their working environment but dissatisfied with compensation. Manger and Eikeland (1990) postulated that relationships with co-workers have direct impact on employee’s turnover. They found that academicians those who are not satisfied with intrinsic factor are intended to leave their jobs so economic resources do not make reason to continue or leave the job. Such studies gave us an idea about those factors which motivate employees to stay in organization or to quit.

## I. Review of Literature

The literature on job satisfaction theory exhibits that it is more difficult to give an accounting of the importance of job satisfaction as a construct than might be expected.

One controversial and now famous theory was proposed by Herzberg, Mausner, Petersen, and Capwell (1957), namely that job satisfaction differs from job dissatisfaction in terms of the causes of each (as cited. in Dawis, 2004, p. 471). According to Herzberg the factors are different which elevate Job Satisfaction and Dissatisfaction (Hygiene factors and Motivating Factors). Presence of Hygiene factors, employees will not have dissatisfaction and factors will not enhance satisfaction; but absence of Hygiene factors creates dissatisfaction. Consequently presence of motivating factors enhances motivation and Job Satisfaction, However absence of Motivating Factors will not create dissatisfaction.

Further Herzberg’s theory, states job dissatisfaction arises from the “hygiene” factors of job context Miner (2007), The first hygiene factor is company policy and administrative practices, very important for defining context; second, the quality of interpersonal relations, particularly with one’s supervisors; third, the physical state of the working conditions; fourth, job security; fifth, benefits; and sixth, salary. When these factors are managed well, they will serve to prevent dissatisfaction; one might even think of them as a kind of protective fence that serves to prevent employees from tumbling down the demotivational cliff and therefore experiencing low morale. However, management of these factors is a responsibility that the organization will receive

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little thanks for, because employees will expect such management and be disgruntled and disaffected if their expectations are not met. This point itself serves as an important connection back to the construct of organizational socialization. Consequently, the organization must employ the positive motivational factors if it wishes to increase employees' job satisfaction.

A theory of job satisfaction was articulated by Vroom (1964): the valence instrumentality- expectancy (VIE) theory of work motivation Dawis (2004). Valence in this context refers to job satisfaction, which is determined by the valences of other factors, such as lifestyle, and the job's efficacy or "instrumentality" in realizing expectations. The importance of expectation to this theory cannot be overstated. For Vroom, expectation more than any other factor determined employees' levels of job satisfaction Dawis (2004).

Hackman and Oldham (1974) has developed Job Diagnostic Survey, explains five characteristics of a job from the dimensions along which job satisfaction can be measured: "skill variety, task identity, task significance, autonomy and job feedback" Frazier (2005, p. 26). The work of Hackman and Oldham (1974) was built upon prior research conducted by Hackman and Lawler who sought to develop a conceptual framework that identified conditions in which an employee would develop an "internal motivation for effectiveness" (Hackman and Oldham 1974).

Hackman and Lawler (1971) sought to add scientific rigor and improved methodology to the previously conducted research on job simplification and the impact on motivation and employee satisfaction. Previous studies had identified that job simplification, a practice that employers had been engage in to reduce costs, training, and required skill levels, was actually decreasing production, motivation and satisfaction (Hackman and Lawler, 1971).

Ostroff(1992) demonstrated that job satisfaction was related to relationships and routines developed by employees and that those who developed greater personal relationships in the workplace were more likely to be satisfied and committed to the success of the organization. The link between job satisfaction and workplace relationships identified by Ostroff further demonstrates the connectivity between the constructs of organizational socialization and satisfaction(Ostroff, 1992).

Purk and Lindsay (2006) found that the factor that counted the most in determining employees' intentions to quit was overall job satisfaction. However, specific metrics, such as "pay, promotion, supervision, and people at work,"

were not significantly correlated with intentions to quit, even though they did impact employees' satisfaction, even employees that were dissatisfied with these factors were not more likely to quit as a result. Of further interest, these authors did find that job commitment was correlated significantly with intention to quit; indicating that the more committed an employee was, the less likely they were to quit Purk and Lindsay (2006).

Scott, Bishop and Chen (2003) hypothesized that job satisfaction would be negatively correlated to employees' intentions to quit, and identified a number of factors that they hypothesized would have a positive effect on job satisfaction. One factor identified was participation, which relates to an employees' ability to give input to the processes of the workplace, and in turn should positively affect employee perceptions of being connected to the group and its social being Scott, Bishop and Chen (2003).

Second, they hypothesized that perceived group support would be important; after all, merely being a member of the group is not enough if the group is not supportive of one Scott, Bishop and Chen (2003). Groups that lack much cohesion are likely to be lackluster at best, and may even be dysfunctional at worst. A cohesive, supportive group, on the other hand, ought to be able to reduce tensions in the workplace and help employees to feel that they belong. Perceived task interdependence was the next factor proposed, and this follows quite logically from group support. The two factors together should make a powerful combination, especially because they facilitate cooperation. All of these factors together facilitate increased job satisfaction, which should decrease employees' intent to quit. This is precisely what Scott, Bishop and Chen (2003) found; job satisfaction was positively correlated with the aforementioned factors, and negatively correlated with intentions to leave.

The consequences of the workplace's ethical environment and employee trust in supervisors were highlighted in a study of salespeople by Mulki, Jaramillo, and Locander (2006). Mulki, Jaramillo, and Locander (2006) argued through their hypothesis that there would be a relation between perceptions of ethical climate and trust in supervisors. Likewise if employees perceive ethical climate of their organization is truly fair and just, it will translate to greater levels of trust in their supervisors. This should be associated with job satisfaction and organizational commitment: After all, presumably a more honest and transparent organization is more desirable to work for than one that is the reverse. This should also translate to lower intentions of leaving.

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Negative and uncivil workplace behaviors exert a significant impact on the health of the organization as a whole. They diminish employee morale and workplace cohesiveness, and may include such serious concerns as bullying and harassment. In a study of workers in a variety of industries, Reio and Ghosh (2009) has bring into being that nearly 54% had involved in uncivil interpersonal workplace behaviors at least once over the course of the preceding year. Nearly 12% of the sample confessed that they have engaged in such behaviors several times a year, and 3% confessed that they do daily. The common uncivil behaviors in organizations are hurtful speech, making fun of someone, or acting rudely. About 46% of the participants confessed to uncivil organizational behaviors, i.e. taking longer breaks or “speaking about the company in unflattering terms;” 10% did so several times a year and 2%, every day Reio and Ghosh (2009).

### 3. Hypothesis Development

H1: There is difference in Job Satisfaction levels among men and women faculty.

H2: Older age group faculty exhibit higher Job Satisfaction compared to younger age group.

H3: Higher the experience of faculty greater will be the Job Satisfaction.

H4: Higher degree holders have greater Job Satisfaction.

H5: Faculty in diverse designations exhibit different levels of Job Satisfaction.

## II. Research Design & Methods

The objective of this study is to understand the levels of Job Satisfaction among various demographic groups of engineering faculty. The study is descriptive in nature, since the study examines and describes the influence of demographical factors on Job Satisfaction. Demographical factors likewise, Age, Gender, Education Qualification, Year of Experience and Designation are considered as independent variables and Job Satisfaction as dependent variable.

The study collected data through self administered questionnaire. The sampling design followed for the study is probabilistic, multi stage sampling method technique is used to select sample. The study has collected opinions from 110 faculty members from six Engineering Colleges in Kadapa District. The basis for selecting faculties rather than top management and administrative staff in the study; faculty are the significant sample and have direct

influence on Teaching Effectiveness. Similar studies have been conducted by Anwar, Nadeem, Sabir, Faiz and Hina (2012), Malik and Basharat (2011).

The respondents were asked to rate on 5-point Likert scale from “strongly agree” to “strongly disagree”. The questionnaire consists of two sections, in the first section, questions were asked to measure demographic factors like Age Group, Gender, Year of Experience, and Qualification, Designation. In the second section, the questions related to Job Satisfaction. Analysis of Variance and Independent sample t-test was employed using SPSS 16.0 to analyze the direction levels of Job Satisfaction towards the organisation.

## III. Results & Analysis

The following Table 1 explains the statistic details of demographic factors like Age Group, Gender, Year of Experience, Qualification and Designation.

It is observed from the data, there are 60 (54%) of respondents are in the age groups of 25-30 years, 42(38.2%) of 31-40 Years, 5(4.5%) of 41-50 years, 3(2.7%) of 51-60 years. The sample comprises 73(66.4%) male and 37 (33.6%) female faculty. Around 60(54.5%) faculty members have 0-5 Years of Experience, 34(30.9%) faculty have 6-10 Years, 10(9.1 %) faculty have 11-15 Years, 4(3.6 %) faculty have 15-20 Years and 2(1.8 %) faculty have 20 and above years of experience.

Around 11 (10 %) faculty have graduation degree, 87 (79.1 %) have Post Graduation, 3(2.7%) faculty have NET/SLET, 6 (5.5%) have M. Phil and 3(2.7%) faculty have PhD degree. 97(88.2%) faculty are Assistant Professor, 10(9.1 %) faculty are Associate Professor, 3(2.7%) faculty are Professor and 0 (0%) faculties have other designation like visiting and guest faculty.

The weighted means and Cronbach’s alpha of variables of Job Satisfaction is analyzed. Cronbach’s alpha is concerned with the degree of interrelatedness among the set of items designed to measure a single construct. The Cronbach’s Alpha for Job Satisfaction is resulted as 0.81, which is above the standard norms Malhotra, Baalbaki and Bechwati (2013). The weighted mean score of Job Satisfaction is observed at 2.8, is interpreted that faculty has marginally average level of Job Satisfaction.

### 5.1 Analysis of Job Satisfaction among Men and Women faculty

The study examines the variance of Job Satisfaction among men and women faculty members. To analyze the variance

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of Job Satisfaction, independent sample t-test is been employed. Job Satisfaction is considered as dependent variable and gender is considered as grouping variable. The results are been briefed in the following Table 2.

It is observed from the table that there is significant difference in Job Satisfaction among men and women faculty ( $t = -.386, p < 0.05$ ). It can also be observed from the table that men have lower Job Satisfaction when compared to women. Therefore it is evident from the results that there is significant difference in weighted mean scores of men and women faculty. It can be interpreted that men and women faculty have difference in Job Satisfaction. Further it is observed Women have more Job Satisfaction in teaching comparatively with men.

The results are similar with the studies conducted by Okpara, J. O., Squillace, M., & Erundu, E. A. (2005), they found that women faculty exhibited more satisfaction than men. The reasons could be that women faculty emphases on more of intrinsic values (Autonomy, Accomplishment and Recognition) were as men faculty emphasis on extrinsic values (Salary and Job security). Since the values are different among men and women faculty, the management might be providing more of intrinsic rather than extrinsic values could be the reason for having differences in levels of Job Satisfaction among men and women faculty. Further the women exhibiting more satisfaction than men faculty in their jobs. Hence, Hypothesis 1 There is difference in Job Satisfaction levels among men and women faculty is been accepted.

#### Analysis of Job Satisfaction among various Age Group of the faculty

The study measures the variance of Job Satisfaction among various age groups of faculty. The study divides the faculty members into five groups based on age, Likewise 25-30 Years, 31-40 Years, 41-50 Years, and 51-60 Years. The study adopts Analysis of Variance, were age group is taken as grouping variable and Job Satisfaction as dependent variable. The results of the data analysis are tabulated as follows in Table 3.

It can be interpreted from the above table that there is no significance difference in Job Satisfaction among various age groups ( $F=1.863, p > 0.05$ ). Therefore it can be interpreted that faculties among different age groups have similar levels of Satisfaction. So, there is no influence of age of the faculty on their level of satisfaction. In a similar study of Oshagbemi, T. (2003) found insignificant difference in levels of Job Satisfaction among diverse age groups of faculty. Hence the Hypothesis 2, older age

group faculty exhibit higher Job Satisfaction compared to younger age group is rejected.

#### Analysis of Job Satisfaction with respective to Year of Experience

The study analysis the Job Satisfaction among the faculty by grouping based on years of experience. To analyze the data Analysis of Variance is been employed with Year of Experience as Grouping variable and Job Satisfaction as dependent variable. The results are been tabulated as in the following Table 3.

The study findings from the above table reveals that there is no significant difference in Job Satisfaction among the faculty members with diverse years of experience ( $F=.925, p > 0.05$ ). It is evident from the results that faculty with different levels of experience have similar levels of Job Satisfaction. There is no influence of years of experience on the level of Job Satisfaction among the faculty. Similar results are obtained by Castillo and Cano (2004), Paul and Phua (2011), Hence the Hypothesis 3, Higher the experience of faculty greater will be the Job Satisfaction is rejected.

#### Analysis of Job Satisfaction of faculty based on Qualifications

In this section, the study analysis the Job Satisfaction of faculty based on their education levels of the faculty. To obtain the appropriate results, Analysis of Variance is been employed, education qualification is taken as grouping variable and Job Satisfaction as dependent variable. The results are been tabulated in the following Table 4.

It can be observed form the above table there is no significant difference in Job Satisfaction of faculty ( $F=0.580, p > 0.05$ ). The faculty with different educational backgrounds is having similar levels of Job Satisfaction. The results are consistent with the research of Malik (2011), Paul and Phua (2011). Hence Hypothesis 4 Higher degree holders have greater Job Satisfaction is rejected.

#### Analysis of Job Satisfaction of faculty based on Designation

In this section, the study analysis the Job Satisfaction of faculty based on their designation of the faculty. To obtain the appropriate results, Analysis of Variance is been employed, designation is taken as grouping variable and Job Satisfaction as dependent variable. The results are been tabulated in the following Table 5.

The study findings are summarized in the following table. The study observes there is no significant difference in

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Job Satisfaction among faculty ( $F= 1.008, p > 0.05$ ). It is evident from the results that faculty working in different designations have similar levels of Job Satisfaction. Consequently the study opines the diverse designation groups of faculty have similar levels of Job Satisfaction. The results are consistent with the study conducted by Saifuddin, Nawaz and Farzand (2012). Hence Hypothesis 4 Faculty in diverse designations has different levels of Job Satisfaction is been rejected.

#### Managerial Implication

The study findings are useful to academicians, researchers, college management in giving insights on levels of Job Satisfaction among faculty groups working in Engineering Colleges of Andhra Pradesh. It gives directions in designing policies and programmes for enhancing Job satisfaction. Since the studies on Work Characteristics are few in the field of higher education and in light of higher demand for teaching effectiveness, the findings of this study are helpful to researchers for exploring more variables to study among the faculty. Further the study adds to the body of Knowledge regarding the Job Satisfaction of faculty working in engineering colleges.

#### Limitations

First, the sample size was small; therefore, these findings may not be representative of the whole population from which they are drawn and may not be generalized to other populations. The study is limited to employee and organisational factors like Job Satisfaction, the future studies need to explore the demographic influence on Organisational Commitment, Employee Engagement, Organisational Citizenship Behavior, Organisational Politics, Support, Student Engagement and Teaching Effectiveness. Further the demographic variables like marital status, Salary and Family size need to be studied.

The study is limited to Kadapa District of Andhra Pradesh; the results might be different in other regions. The study is limited to private engineering colleges; the findings of the present study may differ if the same study is conducted at other kind of colleges like Government and Aided colleges. Replicating the study with a diverse demographic composition has the potential to uncover data that supports or contradicts the findings of this study.

#### Future Research

The study finds insignificant moderation of Organisational Support, Politics and Student Engagement. Hence the study opines the future studies need to explore other moderating variables effecting Teaching Effectiveness.

Further the study observes insignificant mediation of Organisational Citizenship Behavior and Employee Engagement between the relationship of Job Satisfaction and Teaching Effectiveness. So the future studies should discover the reasons and new mediating variables.

The future studies can focus on measuring Teaching Effectiveness including students and non teaching staff. The studies ought to focus on antecedents and consequences of Job Satisfaction, Organisational Commitment, Citizenship Behavior and Employee Engagement in the context of Private engineering colleges.

Demographical variables like tenure in the institution, marital status and religion are found to be critical factors need to be focused in future studies of engineering colleges. Future studies has to extend the present context from private engineering colleges to other courses like degree colleges, professional colleges like MBA, MCA, Law, Medical and so forth. Future studies need to focus on other category colleges like Government and unaided colleges.

## IV. Conclusion

In light of the findings and information obtained from the literature, the following implications have been identified. Faculty of Private Engineering colleges has opined neutral level of satisfaction with their jobs. The indifference faculty regarding Job Satisfaction is a concern to be addressed. They need to review how policies are administered and the perception of those affected. It is beneficial for the management of engineering colleges to try to identify those motivating factors that influence the workers in an effort to promote greater job satisfaction.

In a general observation, recognition of faculty for achievement is absent in majority of engineering colleges. Hence this factor should receive greater attention by the college management. Engineering college management should evaluate the reward system in place in light of the many contemporary changes taking place in higher education to determine if the current reward systems are meeting the needs of the workers. Cumulative effect of employees who routinely receive recognition for their accomplishments increase self-esteem and confidence, along with increased respect for the individual giving praise. The Management should continue to recognize and reward employees for their longevity and commendable contributions to service, teaching, and research. Awards for Teacher of the Year, Researcher of the Year, and Employee of the Year should be celebrated annually. Along with focusing on intrinsic satisfiers or motivator factors might be more beneficial for

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the management of private engineering colleges to make intentional efforts to review the organizational policies and authority structures to ensure that employee satisfaction needs are met. This is in light of the fact that organizational policies and administration was cited as the most common factor contributing to the lower level of job satisfaction for all faculties. Further management could try to improve the organizational climate by having workers contribute more to the decision-making process of the organization, thereby creating a feeling of ownership.

The administration could help workers to understand why policies are important and identify employees, perceptions of current policies through talk-back sessions, special workers' luncheons, interviews and monthly workers' meetings. It would also be beneficial for the institution to continue informing new workers of the policies of the organization, and if changes are made they should be properly communicated to the entire workforce.

An improvement in the working conditions could help to create high levels of morale and a positive working environment for the faculty. Private engineering college management should therefore continue to improve the physical working conditions at the institution. This may include having up-to-date and adequate equipment and supplies, having more comfortable and accommodating offices with proper lighting and ventilation for workers, easy access to the faculty and staff lounge, and flexible work schedules. Another area for improvement at the colleges is related to salary. The compensation policy needs to be reviewed in light of present inflation. The management needs to ensure their compensation policy is attractive for new incumbents and retain the existing faculty. This may include developing a system to reward excellence of performance while offering tangible benefits to outstanding employees.

The results from this study also revealed that the institution would benefit more if greater emphasis were placed on growth and advancement, especially for faculty. This is very important because opportunities for professional growth are more likely to enhance advancement possibilities or change in status. This could be achieved by having a worker's development plan, which would function as a guide in selecting and developing career enrichment opportunities. This plan could include financial support for higher studies, active membership in professional organizations, regular attendance to local and international conferences, and participation in faculty exchange programs. It would be advantageous for the institution to have a system that would require workers who benefited

from the financial support program of the colleges to work with the institution for a mutually agreed upon period of time after completion of their program of study. The professional plans, focusing on growth and achievement, would ultimately result in greater satisfaction on behalf of the individual and the institution.

An improvement in this area of providing intrinsic rewards for the faculty could lead to greater productivity, more vitality, and reduction in faculty turnover. Further one of the greatest satisfiers is work itself. Employees who are recognized by Management for their effectiveness in contributing to the accomplishment of the objectives of the University are more likely to develop a high level of job satisfaction. The work environment should have high level of autonomy so that the workers are encouraged to participate in planning and decision making.

The study is required to find the levels of Job Satisfaction of faculty among private engineering colleges in Kadapa. The study has employed cross sectional analysis based on demographic characteristics. The study considers Gender, Age Group, Year of Experience, Education Qualification and Designation are the demographic factors on which is analyzed. It is found that entire faculty holds similar levels of Job Satisfaction.

The reason for this is almost all the private engineering colleges are not caring about the employees. Employees are the most important factor which helps to effective functioning of any organization. But in today's environment employees are facing so many problems in their working environment. They don't find necessary support from the organization and moreover they are not satisfied towards their job.

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**Figure 1: Schematic diagram of demographical influence on Employee Engagement**



**Table 1: Descriptive Statistics of Demographic factors of Faculty**

S.No.	Demographic Factors		Number of Respondents	Percentage
1	Age Group	25-30 Years	60	54.5
		31-40 Years	42	38.2
		41-50 Years	5	4.5
		51-60 Years	3	2.7
2	Gender	Male	73	66.4
		Female	37	33.6
3	Year of Experience	0-5 Years	60	54.5
		6-10 Years	34	30.9
		11-15 Years	10	9.1
		15-20 Years	4	3.6
		21 and above Years	2	1.8
4	Qualification	Graduation	11	10.0
		Post Graduation	87	79.1
		NET/SLET(CSIR)	3	2.7
		M. Phil	6	5.5
		Ph. D	3	2.7
5	Designation	Assistant Professor	97	88.2
		Associate Professor	10	9.1
		Professor	3	2.7
		Others	0	0.0

**Table 2: Analysis of Job Satisfaction levels among Men and Women faculty**

S.No.	Gender	No of Respondents	Weighted Mean Scores of Job Satisfaction	t statistic and p-value (Sig)
1	Men	73	3.52	-.386, .049
2	Women	37	3.56	

Source: Analysis of Tabulated data  
Sig at  $p < 0.05$

**Table 3: Analysis of variance of Job Satisfaction among Age groups of faculty**

S.No.	Age Group (In Years)	No. of Respondents	Weighted Mean Scores of Job Satisfaction	F ration and p-value (Sig)
1	25-30	60	3.41	1.863, .140
2	31-40	42	3.66	
3	41-50	5	3.80	
4	51-60	3	3.66	

Source: Analysis of Tabulated data  
Sig at  $p < 0.05$

**Table 3: Analysis of Job Satisfaction levels with respective to Year of Experience**

S.No.	Year of Experience (In Years)	No of Respondents	Weighted Mean Scores of Job Satisfaction	F ration and p-value (Sig)
1	0-5	60	3.45	.925, .452
2	6-10	34	3.64	
3	11-15	10	3.60	
4	15-20	4	3.50	
5	20 and above	2	4.00	

Source: Analysis of Tabulated data  
Sig at  $p < 0.05$

**Table 4: Analysis of Job Satisfaction of faculty based Qualifications**

S.No.	Education Qualification	No of Respondents	Weighted Mean Scores of Job Satisfaction	F ration and p-value (Sig)
1	Graduation	11	3.45	.580, .677
2	Post Graduation	87	3.54	
3	NET/SLET(CSIR)	3	3.33	
4	M. Phil	6	3.50	
5	Ph. D	3	4.00	

Source: Analysis of Tabulated data  
Sig at  $p < 0.05$

**Table 5: Analysis of Job Satisfaction of faculty based Designation**

S.No.	Education Qualification	No of Respondents	Weighted Mean Scores of Job Satisfaction	F ration and p-value (Sig)
1	Assistant Professor	97	3.51	1.008, .368
2	Associate Professor	10	3.60	
3	Professor	3	4.00	
4	Other/Principal	0	0.00	

Source: Analysis of Tabulated data  
Sig at  $p < 0.05$

# INVESTIGATING THE IMPACT OF INTELLECTUAL CAPITAL ON FINANCIAL PERFORMANCE IN INDIAN MANUFACTURING SECTOR

Ramandeep★ Karam Pal Narwal★★

*This paper empirically examine the association of intellectual capital efficiency with financial performance measures namely productivity, profitability and market valuation in Indian manufacturing sector respectively. Value added intellectual coefficient (VAICTM) has been used for measuring intellectual capital efficiency. 10 years data of Top 50 companies from the manufacturing sector have been selected from CMIE Prowess database. The result evince that IC is significantly affecting the profitability, while it is not playing any significant role in increasing the productivity and market valuation of the companies. There is an immediate need for companies to utilize their intellectual capital effectively and efficiently to increase the financial performance.*

*Keywords: Intellectual capital, market valuation, productivity profitability and market valuation.*

True value of a company cannot be ascertained only by financial reports of the company for they don't show the intangible assets which are a major source of economic growth in this modern economy. The gap between book value and market value of firms in the stock market, which is often referred to as hidden value is because of intellectual capital (hereafter IC). As a result of globalization, intangible assets have become the key drivers of economic growth. The effective and efficient use of intellectual capital has direct influence on the financial performance of the firms. The concept of IC efficiency measurement is quite popular in the developed economies of the world but very few studies have been conducted in the developing economies for evaluating the impact of IC on financial performance.

## I. Review of Literature

### Intellectual Capital

Till now, there has been no universal definition of intellectual capital. Stewart (1997) defined IC as "packaged useful knowledge". Edvinsson and Malone (1997) defined value of IC as the difference between a firm's market value and book value as the value of IC. Chu et al., (2006) defined Intellectual capital as the group of knowledge assets that are attributed to the value creation of an organization. According to Peng et al., (2007) "Intellectual capital is "all non-monetary and non-physical resources that are fully or partly controlled by the organization and that contribute to the organization's value creation".

### Classification of Intellectual Capital

IC is a broad concept which is often split into different categories – most commonly are the human, structural and

relational capital respectively.

Human capital is "the knowledge that employees take with them when they leave the firm (Ricceri, 2008). Human capital is defined as the knowledge, skills and experiences that stay with the employees when they leave the company (Roos and Roos, 1997).

Structural capital is the knowledge that stays within the firm. It includes organizational system, cultures and databases (Bontis, 1998).

Relational capital is defined as the sum of all assets which manage the firm's relations with the environment. It contains relations with customers, suppliers, shareholders, community, the official institutions and society (Bozburu et al., 2007; Lee, 2010).

### Intellectual Capital and Financial Performance

Several researchers have studied the performance of intellectual capital and found positive relationship with financial performance measures respectively. Deep and Narwal (2014) examined the relationship of IC with financial performance measures in Indian textile industry and found that IC has a significant relationship with profitability of the companies. Komnenic and Pokrajcic (2012) studied the relationship between IC components

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and business performance and found that human capital has positive relationship with corporate performance measures. Clarke et al., (2011) examined the effect of IC on firm performance in Australia and found that IC efficiency has a direct effect on the financial performance of the firms. Pal and Soriya (2011) examined the relationship between IC and company performance in Indian IT Industry and concluded that IC has a significant role to play in increasing the profitability of the company.

Zeghal and Maaloul (2010) in his study on UK companies found that IC has a significant relationship with economic and financial performance respectively. Sharabati et al., (2010) in a survey on the pharmaceutical industry of Jordan found that intellectual capital is successfully managed by the Jordanian companies. It is also found that IC components have a positive association with business performance.

Chan (2009a, 2009b) in her study on Hong Kong companies found that no significant relationship exists between IC and financial performance measures. Physical capital is the most significant factor in improving the financial performance and market valuation of the companies. Ghosh and Mondal (2009) examined association between IC and financial performance measures in Indian software and pharmaceutical companies and found that IC is positively associated only with the profitability of the companies.

Tan et al., (2007) analyzed association between IC and financial performance in Singapore and found that IC efficiency is significantly related with financial performance of the companies. Chen et al., (2005) in a study of IC in Taiwan found that IC has a significantly related with financial performance and market valuation of the companies.

There are some studies in different parts of the world which found that that intellectual capital has varied and mixed relationship with financial performance of the company. Firer and Williams (2003) investigated whether IC has any association with corporate performance in South African firms. From the study it is found that the association between IC and financial performance is limited and mixed.

## II. Research Design & Methods

### Research Objectives, Sample Size and Data Collection

This study has selected a sample of top 50 companies of the manufacturing sector on the basis of their market capitalization in the year 2014 respectively. Data have been taken from the Prowess database, which is maintained by

Centre for Monitoring Indian Economy (CMIE) for a period of 10 years i.e. from 2004-05 to 2013-14. Correlation and panel data regressions have been conducted to check the impact of intellectual capital on the financial performance. For measuring the intellectual capital efficiency, Value added intellectual coefficient (VAIC) method developed by Prof. Pulic has been employed in the study. The selected companies are listed on both NSE and BSE respectively. The objective of the present study is to measure the intellectual capital efficiency in Indian manufacturing sector and to find out the relationship between intellectual capital efficiency and financial performance measures respectively.

### Hypothesis Development

For achieving the aforesaid objectives, following hypotheses have been constructed:

H01: There is significant association between “value added intellectual capital coefficient (VAIC)” and productivity (ATO) of the company.

H02: There is significant association between “value added intellectual capital coefficient (VAIC)” and profitability (ROA) of the company.

H03: There is significant association between “value added intellectual capital coefficient (VAIC)” and market valuation (MB) of the company.

### Independent Variables

For measuring intellectual capital efficiency, Value added intellectual coefficient (VAIC) method has been applied. For measuring VAIC, first of all, Value Added of the company is calculated as follows:

$$VA = W + I + T + NI \dots\dots\dots(i)$$

Where,

W = Wages and salaries;

I = Interest expenses;

T = Taxes paid and

NI = Profit after taxes.

VAIC as intellectual capital efficiency measurement includes three independent variables as human capital efficiency, structural capital efficiency and capital employed efficiency (Pulic 1998). After calculating VA, next step is to calculate the efficiency of human, structural and physical capital on the value creation of the firm. It is calculated as:

$$(1) HCE = VA/HC$$

$$(2) \text{ SCE} = \text{SC}/\text{VA}$$

$$(3) \text{ CEE} = \text{VA}/\text{CE}$$

Where, HC=Wages and salaries; VA=Value added of the firm; HCE=human capital efficiency; SC=VA-HC =Structural capital of the firm; SCE=structural capital efficiency; CE=Capital employed of the firm; CEE= Capital employed efficiency.

Finally,  $\text{VAIC} = \text{HCE} + \text{SCE} + \text{CEE}$

#### Dependent Variables

To conduct the analysis, three traditional accounting performance measures namely, productivity (ATO), profitability (ROA) and Market to book value (MB) has been used as dependent variables respectively. These variables are calculated as:

- Assets turnover ratio (ATO): It reflects the productivity of firm. It is calculated as:

$$\text{ATO} = \text{Total Revenue}/\text{Average total assets}$$

- Return on assets (ROA): It measures the profitability of the companies and calculated as:

$$\text{ROA} = \text{Net income}/\text{Average total assets}$$

- Market to book value (MB): It reflects the market valuation of the companies. It is ratio of market value (MV) with the book value (BV) of common stocks. It is calculated as:

$$\text{MB} = \text{Market capitalization}/\text{Book value of common stock}$$

#### Control Variables

Two control variables such as Leverage and company SIZE have also been used for their effect on company performance.

- Leverage (DER): Financial leverage is used to control for the impact of debt on financial performance. It is calculated as:

$$\text{DER} = \text{Total debt}/\text{Total equity}$$

- Size of the firm (size): Size of the firm as measured by the natural log of total sales, used here to control for the impact of size on wealth creation.

#### Regression Models

Since the data is of panel nature consisting of both time series and cross sectional data, OLS panel regression is used for the purpose of analysis For carrying out the analysis following regression models have been developed:

$$\text{ATO} = \alpha_{it} + \beta_1 \text{VAIC}_{it} + \beta_2 \text{DER}_{it} + \beta_3 \text{SIZE}_{it} + \epsilon_{it} \dots \dots \dots (ii)$$

$$\text{ROA} = \alpha_{it} + \beta_1 \text{VAIC}_{it} + \beta_2 \text{DER}_{it} + \beta_3 \text{SIZE}_{it} + \epsilon_{it} \dots \dots \dots (iii)$$

$$\text{MB} = \alpha_{it} + \beta_1 \text{VAIC}_{it} + \beta_2 \text{DER}_{it} + \beta_3 \text{SIZE}_{it} + \epsilon_{it} \dots \dots \dots (iv)$$

Where,  $\alpha_{it}$  = Constant term; VAIC = Value Added Intellectual Co-efficient; ATO = Asset turnover ratio; ROA = Return on asset; MB = Market to book value; DER = Debt equity ratio; SIZE = Market capitalization and  $\epsilon_{it}$  = Error term.

### III. Results & Discussion

#### Correlation Analysis

To analyze the association between intellectual capital and financial performance measures, correlation has been applied. Table 1.1 represents the correlation analysis which found that in manufacturing industry, IC is not having any significant correlation with productivity (ATO) and profitability (ROA) while significant negative association found with market valuation of the companies implying that higher value of IC results in decreasing value of market valuation. VAIC is also having significant positive relation with DER and market size respectively. Overall, VAIC has no significant relationship with productivity, profitability and market valuation of the companies.

#### Regression analysis

In this study, OLS regression has been used for taking a depth view of the relationship between IC and financial performance measures. The Hausman (1978) specification test has been used in the selection of the model. When, the Hausman test result is found significant, then the fixed effect model is used and when Hausman test result is found insignificant, then random effect model is preferred for the analysis.

Table 2.1 Shows the result of OLS panel regression, where VAIC is considered as independent variable and financial performance measures i.e., productivity (ATO), profitability (ROA) and Market valuation (MB) as dependent variables respectively. Hausman (1978) test result found that random effect model is preferred for productivity (ATO) variable and fixed effect model is preferred for the profitability and market valuation variable has been applied as dependent variable respectively. Result evince that adjusted R<sup>2</sup> is 13.2 for productivity which is quite low, 72.6 percent for profitability and 72.2 percent for market valuation implies good exploratory power of the model.

The Results of the table show that IC is having positive association with productivity at a significant level implies

that IC is playing a significant role in increasing the productivity of Indian manufacturing companies. However, control variable SIZE is significantly affecting the productivity of the companies implying that productivity is greatly influenced by SIZE factor. Hence, in the light of above result, H01 is rejected implying that IC is not having any role in increasing the productivity of the companies. Present study is consistent with Firer and Stainbank (2003) and Pal and Soriya (2012) who found that IC is negatively associated with productivity of the firm.

Result also show that IC is having a significant association with profitability (ROA) of the selected companies. Result show that profitability is increased by 0.004 percent, when efficiency of IC is increased by 0.001 percent. Hence, H02 is accepted implying that IC plays an important role in increasing the profitability of the company. Present study is in line with Firer and Stainbank (2003), Chen et al. (2005), Tan et al. (2007), Yalama and Coskun (2007) and Pal and Soriya (2012) who concluded that IC has positive association with profitability of the firm.

Finally, when the impact of IC on market valuation was analyzed it was found that VAIC has no impact on market valuation of the companies. Control variable SIZE has significant impact on market valuation of the companies. Hence, H03 is not accepted which means IC has no relation with market valuation of the companies. Same result has been observed by Kamath (2008), Ghose and Mondal, (2009) and Pal and Soriya (2012). It can be said that Indian investors still do not consider the value of intellectual capital at the time of investment decisions.

#### IV. Conclusion

The purpose of this study was to empirically analyze the relationship between IC and of financial performance measures in Indian manufacturing sector of. From the results it is it is concluded that IC is significantly affecting the profitability, while it is not playing any significant role in increasing the productivity and market valuation of the companies. Findings of the study prove that profitability can be enhanced to a significant level, if companies manage their intellectual capital in an efficient manner. The traditional accounting measurement systems are insufficient to report IC of the firm; therefore there is a need for companies to voluntarily measuring and managing its IC to get competitive advantage in the market (Kamath, 2008). Managers may measure the IC efficiency performance in their organization and may compare it against other competitors in the market. The study may help policymakers and managers to start measuring and use the

intellectual capital in an effective and efficient manner for increasing the profitability of the business organizations. There is an immediate need for companies to utilize their intellectual capital effectively and efficiently to increase the financial performance respectively. For this companies should commence voluntary disclosure of non- financial information along with their financial reports.

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**Table 1.1: Correlation analysis of all variables**

	VAIC	ATO	ROA	MB	DER	SIZE
VAIC	1.000					
ATO	0.051	1.000				
ROA	-0.008	0.254*	1.000			
MB	-0.117**	0.184*	0.612*	1.000		
DER	0.199*	-0.110	-0.372*	-0.316*	1.000	
SIZE	0.206*	0.312*	-0.026	-0.068	-0.126*	1.000

Note: Significant at \* 1% and \*\* 5 per cent levels respectively.

**Table 2.1: Panel regression results for financial performance**

	ATO		ROA		MB	
	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
C	0.398**	2.143	0.202*	6.441	-1.458**	-2.451
VAIC	0.008**	2.541	0.004*	6.702	0.005	0.491
DER	-0.044*	-4.646	-0.007*	-4.273	-0.231*	-5.754
SIZE	0.208*	4.793	-0.011	-1.278	0.850*	5.471
Adj. R <sup>2</sup>	0.132		0.726		0.722	
F-value	23.473*		23.595*		22.224*	
Hausman test	X <sup>2</sup> (3) 1.554		X <sup>2</sup> (3) 17.782*		X <sup>2</sup> (4) 16.908*	

Note: Significant at \* 1% and \*\* 5 per cent levels respectively.

# THE ROLE OF INTERNAL COMMUNICATION IN ENHANCING ORGANIZATIONAL COMPETITIVENESS

## A CASE STUDY OF RETAIL INDUSTRY IN VISAKHAPATNAM

A.V. Nageswara Rao ★

*The present article examines the role of Internal Communication in stimulating the individual employee outcomes and Organizational outcomes in the era of Globalization. The study investigates the relationship between Internal communication and Organizational competitiveness. A sample of 150 respondents from Retail Industry in Visakhapatnam consisting of various Departments viz Logistics and Supply chain Management, Information systems, Accounting and Human Resource management are taken as respondents. A Hypothesis is formulated to examine the relationship between constructs of Internal communication and Organizational competitiveness. Exploratory Factor Analysis is conducted and Varimax Rotation is applied for all the items of variables. The statistical results conclude that Internal Communication plays a significant role in enhancing Organizational competitiveness.*

*Keywords: Internal communication, Organizational Learning, Organization communication policy, Organizational Competitiveness, Globalization*

During the last few decades there are number of inter-disciplinary studies highlighting the issues of Organizational competitiveness. Despite spread over diversified disciplines, significant amount of Knowledge management strategies has been devised regarding Organizational competitiveness. The approaches for promoting Organizational competitiveness have a common theme among the participants in Organization. The current Globalization trends put Organizations under tremendous pressure with higher degree of complexity and challenges. The everchanging Global markets are characterized by small product margins and product life cycles (Ulrich, 1998). The way of achieving Organizational competitiveness is to re-define utilization of Organization resources with focus on everchanging harsh Global Markets.. This is the main theme of RBV of the firm. (Resource Based View theory) (Barney, 1991). Barney's RBV economic theory primarily focuses on effective Utilization of Organization resources to achieve sustainability and competitiveness. Human Resources utilization are considered as an effective means, in formulating strategic pathway for achieving competitiveness( Rose &Kumar,2006).

The present state of reasoning and awareness regarding the role of Organizational resources for achieving Organizational competitiveness is widely accepted by Academicians and practicing managers (Luthans & Sommer, 2005; Orlitzky, 2007). The conclusions and Research are outcomes of several decades practical work with prime focus on the role of Utilization of Organization resources to achieve Organizational competitiveness (Sanchez-Gardey, 2008). Various specific fields of

Research have contributed for the strong foundation and development of empirical knowledge regarding utilization of Organizational resources in achieving Organizational competitiveness(Gomes & Neves,2010).

### Internal Communication

Internal communication plays a prominent role in facilitating competitive contributes for achieving Organizational competitiveness (D'Almeida &Libart, 2000). It involves in a nutshell all the required Communication Acts and strategies which are essential for gaining competitive edge. Internal Communication focuses on competitive contributes for Organization effectiveness and co-ordination among the participants in Organization. (Kunsch, 2003). It is also concerned and connected with the overall development of Organizational culture, competitive environment (Brault,1992) and Cohesion (Thevenet,1997). These competitve contributes are in focus during the last two decades since several Academicians and Practitioners have established that Internal Communication (IC) offers wide variety of inputs for achieving Organizational competitiveness. (Westphalen, 1998).

In Organization, Internal Communication has to be properly planned and managed in order to achieve competitiveness. Internal Communication should not be developed in isolation and Internal communication (IC) needs to be aligned with a two-way strategic reference model

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- 1) The Organizational communication policy
  - 2) The Organizational Global Development policy

This model helps in designing strategic model for Internal Communication and supports the functions which are commonly attributed to Internal Communication (IC.)

#### Organizational Communication Policy (OCP)

The Organizational Communication Policy (OCP) deals with all the strategic communications activities designed and developed by Organizations. Internal Communication (IC) needs to be integrated with Organizational Communication Policy for achieving competitiveness. On the other way, dis-integration and incoherent communication leads to several internal and external implications. The importance of integration demand has been widely acknowledged by Academicians and Practitioners who insisted upon Integrated communications system in Organizations (Kunsch, 2003, 2007; Argenti et al., 2005; Van Riel & Fombrun, 2007). This further states that all communication goals and objectives needs to be strategically aligned with respective identities in Organization considering the Diversity of respondents who will receive communication (Kapferer, 1994; Van Riel, 1995, Argenti et al., 2005). The importance of Internal communications with respect to Organizational Communication Policy (OCP) needs to be highlighted as it presents an interesting framework(Kunsch's ,2003). The content and the extension of Organization communication policy with focus on achieving competitiveness. The model proposes a communication framework which integrates four main communication components viz:

1. Administrative communication
2. Internal Communication
3. Market Communication
4. Institutional Communication

Administrative Communication refers to the type of Communication which is processed within the Organization in view of administrative functions and makes viable the entire Organizational system with its networks(Kunsch, 2003). The Organizational structure, coherence between identity, mission, the values and the Organization image are widely focused . Internal Communication focuses on the various modes of communication which are directed towards the Internal publics of the Organization. Market Communication primarily focuses on sending messages regarding the marketing purposes of the Organization. This form of Communication integrates wide range of techniques which aim to attain the Organization's product promotion

and services. Institutional communication focuses on highlighting the Brand image and Identity building by means of effective public relations management. It seeks to establish long-lasting relationship and trust among all the stakeholders. The Organization vision, mission, values and objectives are considered in formulating a policy for Institutional Communication. The Organizational Global communication policy lays emphasis on formulating important guidelines for leveraging management sub-systems (Ex: human resource management, marketing, finance, production and operations etc). Based on this policy it provides a strong and strategic initiatives for inputs in Internal Communication(IC).

### I. Review of Literature

According to Henderson and McAdam (2003), effective communication lends itself to Organizational learning, comprised of knowledge acquisition, information distribution and interpretation (Argyris and Schon, 1996) in order to solve or overcome Organization problems. A learning organisation strives to make learning central rather than peripheral. Lampel et al. (1998) outline the basic fabric of the learning organisation in a set of five principles:

- 1.Organisations can learn as much, if not more, from failure as from success.
- 2.A learning organisation facilitates change and Knowledge management.
- 3.Learning organisations assume that managers and workers closest to the design, manufacturing, distribution and sale of the product often know more about these activities than their superiors.
- 4.A learning organisation actively seeks to move knowledge from one part of the organisation to another to ensure that relevant knowledge finds its way to Organization competitiveness
- 5.Learning organisations spend a lot of time looking outside their own boundaries for knowledge management.

#### Competitive Advantage

The literature suggests that competitive advantage is a mediated outcome of internal communication, a result of effects more directly produced by the communication process. Competitive advantage results in part from knowledge sharing, service focus, change acceptance, trust and employee satisfaction, all of which can result from an effective internal communication process. Kalla (2005) points out that the knowledge sharing function of internal communications helps to maintain a competitive edge

(Doz et al, 2001; Grant, 1996; Kogut and Zander, 1993; Spender, 1996). Dolphin (2005) states that at times of change or stress the internal message enables management to get employees on its side, contributing towards winning and sustaining a competitive advantage. Further, where conditions of trust, trustworthiness and cooperation exist between Organizations and their stakeholders, opportunistic behaviour is minimized and the contracts between the parties may be executed more efficiently, reducing costs and creating a source of competitive advantage (De Bussy et al. 2003). As we have seen, internal communication plays a key role in employee satisfaction, which leads to satisfied customers, better customer retention and, ultimately, a sustainable competitive advantage (Asif and Sargeant, 2000; Gronroos, 1988; Berry, 1981; George, 1990; Morvis, 1984). In general, internal communication as a source of competitive advantage derives from the importance now widely attributed to human capital (and to everything that enhances its value). The increasingly competitive environment has forced Organizations to consider the role that their employees play in achieving competitive advantage. Internal communication has thus acquired added significance as Organizations strive to communicate customer needs, Organizational values, and other key information to staff at every level and to encourage a two-way dialogue with management (Asif and Sargeant 2000).

## II. Research Design & Methods

As per Myers and Myers (1982), Internal Communication has primarily three functions: (1) Co-ordination and regulation of Production activities (2) Integration and Socialization of Organizational Human Resources (3) workplace Innovation. As per Brault(1992), Internal Communication has seven main functions which offer precious inputs for competitive Organization:

1. Informative
2. Integrative
3. Retroactive
4. Signalling
5. Behavioral
6. Organizational change promoter
7. Image management

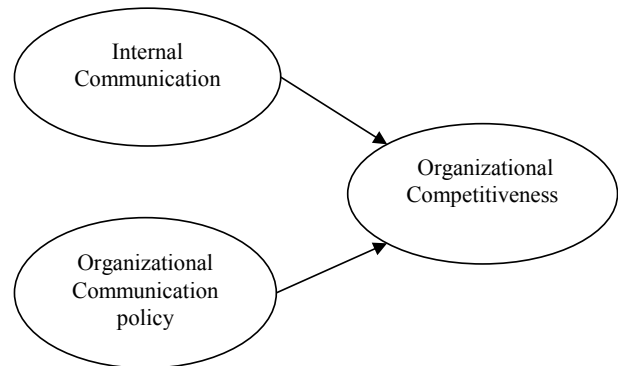
As per Westphalen(1998) Internal Communication has three main global functions

1. Information exposition and presentation
2. Information transmission
3. To counsel and include employees in the Organization day to day functions

## Hypothesis Formulation

Ho1: Internal Communication(IC) plays a significant role in achieving Organization competitiveness

Ha1: Internal Communication(IC) do not play a significant role in achieving Organization Competitiveness



## Research Model

### Research Methodology

### Methods and Procedure

The total number of respondents for the Research study are 150 employees in the Retail Industry. The employees are from various departments viz: logistics and supply chain, Accounting, Information Systems and Human Resource Management departments. The drafted Questionnaire is pre-tested with Academicians and practicing managers in the area of Logistics and Supply chain management. The sample characteristics consists of majority male respondents (60%) and with Integration in various departments. The Qualification of the respondents varied from Diploma, Graduation to Post Graduation. The respondents were informed that the filled in Information will be used only for Research purpose and primarily to evaluate the Organization competitiveness. Several precautionary measures were taken into consideration for minimizing and to control the potential systematic errors which occur in the validation of data. In the validation and analysis of the Data we have followed Lee and Podasakoff,'s(2003) recommendations. Much emphasis is laid on controlling the impact of potential systematic errors which occur in any area of Research viz: item characteristics, item adaptation( equidistance assumed between all points of scale), context and construct of items ( combination of items of different constructs which are from the same sections in the Questionnaire. The different Items categorized for measures are Internal Communication (6 items),Organizational communication policy( 5 items),Organizational competitiveness (3 items).

### III. Results & Discussion

To test the collected Data 'Harman's Single Factor Test' is performed to assure that the Data do not account for a significant common method bias (Podsakoff, Mackenzie, Lee & odsakoff,2003).

Table I:Factor Analysis of the Constructs

After performing the test Exploratory factorial analysis (EFA) with varimax rotation is applied for all the items of variables. The above table 1 exhibits the results of Exploratory Factor analysis (EFA) performed with all the given items loaded resulting in a tri-component structure. It further corresponded to the study variables and accounted for 65% common variance. The composite variables are formulated based on the results of Exploratory Factor Analysis. The factorial weights above 0.40 (which are relevant for interpretation in reference) . (Hair, Anderson, Tatham and Black, 1998).

Table II Descriptive Statistics and Correlation among Constructs

The above table II shows the Mean and Standard Deviations for the Variables Internal communication, Organizational communication policy and Organizational Competitiveness. The reliability values for the variables demonstrate the scales reliability and fitness. From the values mentioned above it is found that Internal communication is positively and significantly correlated with Organizational communication policy and Organizational competitiveness. Therefore this statistical evidence supports the Ho1 Hypothesis which states that Internal communication plays a significant role in achieving Organizational competitiveness.

Baron and Kenny's (1986) Linear Regression Method is used to examine the existence of mediation effect which states that (1) Predictor variable should affect the mediator variable in the first Regression equation and (2) the Predictor variable needs to be affected by the Dependent variable in the second equation and (3) the Mediator variable should affect the Dependent variable in the Third Regression equation.

Table III : Regression Model on Dependent Variable Organizational Communication policy

From the above Table III, following the procedure we found that Internal communication and Organizational communication policy were positively and significantly related ( $B=.615$ ;  $p<.01$ ). Based on the statistical results we have verified that Internal communication and

Organizational competitiveness have revealed positive and significant results.

Table IV: Regression Model on Dependent Variable Organizational competitiveness

From the above Table IV, the statistical results mean that effective Internal communication facilitates Organizational communication policy which will further lead to enhancement of Organizational competitiveness. In the process employees after being involved in Internal communication have the feeling and satisfaction that they are participating in the overall communication policy of the Organization which in itself is the foundation for achieving Organizational competitiveness. The employees usually feel that being part of the Organization would also like to contribute to the overall competitiveness and development of the Organization

### IV. Conclusion

In the last few decades there is tremendous amount of Research on Internal Communication which is well addressed by Academicians, Practitioners and Professionals. There is a consensus that Internal communication is an important component in the overall design and implementation of Organizational communication policy. There are number of contributions by Researchers in the area of Internal communication which lay emphasis on innovative Internal communication practices to stimulate Organizational competitiveness. During the last few decades, over the years, several Academicians and Researchers in the area of Internal communication have contributed wide array of functions and innovative practices. ( Thévenet, 1997; Henriet & Boneu, 1990 . From the analysis we have come to a conclusion that there is a possibility of articulation between Internal communication and Organizational competitiveness with various referenece pillars viz: effective design of Organization communication policy, Organizational growth and development, the employee participation in the design and implementation of Internal communication in Internal publics of the Organization. Based on the empirical evidence it may be stated that Internal communication do have a positive effect on employee attitude formation which will influence the internal environment and Organizational competitiveness. In view of the statistical results and findings in the area of Internal communication and its impact on Organizational competitiveness, subsequent research challenges may be addressed on employees attitude formation and behavioral changes. The ideas from the study are consistent with the global trends of Organizational communication policy

design with varied Diversity and interdisciplinary nature at the work place. ( Passos, 2002). Taking into consideration the articulation between the constructs may highlight the positive outcomes in terms of stimulating Diversity at work place and achieving respective objectives. It is also important for Organizations to apply strategic Internal communication practices when dealing with core Human resource functions viz: Job Descriptions, Promotions, Internal communication conflicts, performance appraisals, employee motivation and participation etc. The Limitations of the study do exist , and the statistical results needs to be interpreted with given conditions and different characteristics of the sample taken for the study. It should be made clear that inspite of various procedures which are applied to minimize and control systematic analytical methods , there is still scope for common errors. It is important to note that the present model for the study is recursive and it is theoretically driven based on previous research papers. Further research and analysis in these areas will further contribute to Literature and achieve stability and refinement in the statistical results.

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# HEALTH PROBLEMS AMONG SANITARY WORKERS

## A COMPARATIVE STUDY

D. Rajan★

*This survey based descriptive research work has been undertaken in Tirunelveli city, Tamilnadu to understand and differentiate perception of sanitary workers working in both private multi-speciality and single speciality hospitals towards various health related issues arising as a result of work and work place. In order to know the health related problems, the present study has examined twenty variables related to both physical and mental health. The study has sampled 120 sanitary workers (60 from multi-speciality hospitals and 60 from single speciality hospitals) using judgement sampling technique. Primary data for the study have been collected using schedule method. Secondary data have been collected from books, journals and websites. Mean and standard deviation have been administered to understand and differentiate perception of sanitary workers towards various health related problems. The results of the study has proved that the health related issues such as pain in back, neck, waist and shoulder, low energy, difficulty in sleeping and getting up from the bed, weight loss, loss of appetite and irregular sleep, hypertension hair fall and digestive disorder have been the health related issues commonly perceived by sanitary workers working in both kinds of hospitals. Skin problems, respiratory problems, minor work related injuries have been highly perceived by sanitary workers working in multi-speciality hospitals than single speciality hospitals.*

*Keywords: Sanitary worker, health, multi-speciality hospital, single speciality hospital, Tirunelveli city*

Sanitary workers are non-medical group of employees. Their nature of work is same in both multi-speciality and single speciality hospitals. Their functions are to clean and mop all kinds of rooms, floors, walls of the room and to provide care to the patients such as stool cleaning, giving bath, transporting the patients for operation theatre and diagnostic centres, and separating biomedical wastes and assisting for all departmental staffs in number of ways. All these tasks are physical oriented. Hence, there is much scope for them to get their health affected physically. Moreover, heavy work load, ill-defined role, inequity in the work place, inferior estimation, poor salary are some of the problems they face in the working place because of their lack of education and poverty. Although the second tier cities like Tirunelveli have developed profoundly, the quality of work life of sanitary workers has still been low. Their illiteracy level get them to have too much workload, poor salary, long working hours, unhealthy shift work system being and unfair discrimination. Despite serious rules and regulations have been established by the government to protect their rights, their illiteracy and poverty are used as primary weapons to get them work without proper job descriptions by many organizations. Thus unsociable working hours, shift system, ill defined work, two shift work system and lack of protective devices given affect the physical and mental health of sanitary workers working in both multi-speciality and single speciality hospitals seriously and vigorously.

Many factors are involved in determining sound health of the employees. Among them, working hours, work load, shift schedule, treatment of the employees by manager, approach and cooperation of the co workers, work environment including space, ventilation and lighting, types of resources used, fairness in the allocation of work, leave, off and rest are some of the important factors deciding health of the employees. When these factors are fair and healthy, the employees would have sound health and would extend productive contribution towards the organization. When these factors are unfair and when discrimination is followed seriously both physical and mental health of the employees would be affected. The impairment of health of sanitary workers would lead absenteeism which will subsequently increase workload of the existing employees. It will also lead the existing employees to avail leave. If it takes place regularly it will affect routing functioning of the hospital very severely as sanitary workers play an important role in maintaining cleanness in the hospital which prevents spread of infection and safeguard health of the patients. Therefore, it remains important to know the perception of the sanitary workers towards their health status. It will further help the management to take necessary steps towards protecting their health by eliminating the factors which causes health related issues among them. Hence, the present study

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has been undertaken as comparative study to know the perception of the sanitary workers working in both multi-speciality and single speciality hospitals.

#### Scope of the Study

The study has focused sanitary workers working in both private multi-speciality hospitals and single speciality hospitals in Tirunelveli city.

#### Objectives of the study

The objectives of this research are to identify and differentiate the perception of sanitary workers working in both multi-speciality and single speciality hospitals towards various health related problems that arise as a result of work related factors and to offer suitable suggestions to overcome health related problems.

### I. Review of Literature

According to World Health Organization 1948, "Health is a state of complete physical, mental and social well being and not merely an absence of disease or infirmity" (Park K 2000). Disease is a physiological or psychological dysfunction. Mental health has been defined as "a state of balance between the individual and the surrounding world, a state of harmony between oneself and others, a coexistence between the realities of the self and that of other people and that of the environment" (Park K 2000). The state of physical health implies the notion of 'perfect functioning' of the body. The signs of physical health in an individual are: a good complexion, a clean skin, bright eyes, lustrous hair with a body well clothed with firm flesh, not to fat, a sweet breath, a good appetite, sound sleep, regular activity of bowels and bladder and smooth, easy, coordinated bodily movements (Park K 2000)

Rokho kim (2010) in his study, 'healthcare workers in Europe and WHO programmes' found that the major occupational or health related diseases or injuries were injury due to an accident, musculoskeletal disorders in the back, limbs or other body part, cardiovascular disease, respiratory disease, mental disorder, neurological or sensory disorder, digestive track disease and skin disorders.

Laura Alfes (2010) undertook research on occupational health and safety for informal workers in Ghana as a cast study of market and street traders in Accra. The study found that dehydration, head ache, waist pain, back pain, neck pain, disorganized mind, diarrhoea, vomiting, high blood pressure, malaria, fever and dizziness, vaginal infection, skin and nail infection on hands, sore ribs and chest, neck and upper back pain, arm pain, blurred vision,

breathing problem and knee pain were the major problems of informal workers in market and street traders in Accra.

Al Batony MA and El-Shafie MK (2011) examined some work related health effects with special emphasis on the most common infections as well as cardio pulmonary disorders. The study assessed 43 workers. The study also analysed equal number of non-exposed comparison group. The result showed most of the workers was suffered from body ache, abdominal pain, wheeze, asthma and dyspnoea than comparison group. The study also identified that the workers had high risk of developing various infections and cardiopulmonary disease.

Rajan D (2012) studied occupational stress of sanitary workers working in multi-speciality type of private hospitals. The results of the study proved that receiving mixed and conflicting messages from the same person, long working hours and two shift working system, lack of salary and performing multiple works at the same time are the top most stressors of the sanitary workers. Tired, exhausted and having low energy and not able to spend time with family members are the foremost impact of stress on individual and family and social life sanitary workers. Talking to someone is the foremost coping strategy being followed by sanitary workers. The result of the chi square value showed that relationship of age with role and motivation and work shift and working hour related stressors are significant. Moreover, the relationship of marital status with organization and sanitary workers specific stressors are significant.

Garima Gupta and Tarique (2013) analysed musculoskeletal disorders in farmers of Kanpur – Rural India from 300 farmers of Kanpur district aged between 20 and 70 years. The study found that low back pain, knee pain, shoulder pain and back pain were the major problem and they persisted for more than a year. The study observed that poor posture and lack of ergonomic awareness were the principal causative factors contributing to the development of musculoskeletal disorders.

Rajan D (2014) analysed and compared sources and impacts of occupational stress of sanitary workers working in both multi-speciality and single speciality hospitals and examined coping strategies being followed by them. The study analysed sources of stress under four dimensions namely rank role and motivation related stressors, work sift and working hour related stressors, organization related stressors and sanitary workers' specific stressors. Impact of stress has been discussed under two dimensions namely individual life especially at work place and health and family and social life of the

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sanitary workers. The analysis of the data identified that almost majority of stressors of all dimensions of source of stress and impact of stress on individual and family and social life were equally experienced by sanitary workers of both types of hospitals. Hypotheses of the study explained that demographic variables (sex and marital status) had not had significant relationship with dimensions of sources of stress.

Kretchy JP et al., (2015) studied about exposure, protection and self-reported health problems among solid waste handlers in a coastal peri-urban community in Ghana from the sample size of 280 waste handlers. The result of the study indicated that majority of the waste handlers were females and they had only basic level education. A high proportion of waste handlers were engaged in multiple-tasks including sweeping, collection and disposal. The study further showed that majority of the waste handlers performed their work with uncovered mouth and nose. Observation result also showed that pregnant and breast feeding mothers also engaged in waste handling with uncovered mouth, nose, hands and feet. Few breast feeding waste handlers who brought their children to work with no form of physical protection also performed their work whilst carrying the children at their work. The study reported that inhaling bad smell of waste eating with dirty hands were mostly prevalent. The study showed that bodily pains, head ache, fever, feeling of discomfort, diarrhoea, dizziness, cough, skin disorders, asthma, eye problems, stomach pain and stress and tiredness were the common problem.

Mahesha Ihabagedara and Mallika Pinnawala (2015) studied, problems related to sanitary labours in solid waste management in Matale Municipal Council, Srilanka. The result explained that Matale municipal council faced the problems such as shortage of labours for work, high number of labour absenteeism and frequent drop outs, labours finished their work untimely and leave quickly, lack of safety equipment for labour, lack of care on safety and health among labours. The study also explained that the following were the reasons for the problems: labours are engaged in another jobs other than in Matale municipal council work, no any welfare for the labours, political influence and personal relationship, lack of education, temporary nature of work, family related problems and alcohol addiction among labours. The study found the following impacts: risk of diseases, disorganization of working arrangements risk for accidents and failure of execution of efficient waste collection.

Omesh Kumar Bharti et al., (2016) studied high disease

burden among sanitation workers from 380 municipality workers by face to face interview. The result of the study showed that majority of the respondents had sustained injuries from sharp objects in the course of packing refuse with bare hands. The hazards they experienced ranged from injuries of all kinds, musculoskeletal and hearing disorders to respiratory and gastro intestinal tract infections. The study also reported that death due to heart attack, alcoholic hepatitis, accidents, brain haemorrhage due to high blood pressure, kidney failure and cancer. Analysis indicated that majority of the respondents had the risk of cardiovascular diseases such as blood pressure and blood sugar.

Rajan D and Vijayalakshmi D (2016) studied health problems of sanitary workers working in private multi-speciality hospitals in Tirunelveli city, Tamilnadu. The results of the study proved that pain in neck, back, waist, shoulder, sleeplessness, weight loss and skin problem are some of the important and foremost health related problems of sanitary workers. The perception of the respondents towards health related problems was at medium level.

It could be understood from the above literature that the research undertaken with regard to health problems of sanitary workers has talked about health related problems of sanitary workers working in single speciality hospitals and it has not studied sanitary workers working in multi-speciality hospitals. Therefore, there is a space to study about health related problems of sanitary workers working in multi-speciality hospitals. Hence, the present study fills that gap.

## II. Research Design & Methods

This survey based research work having qualitative approach has adopted descriptive research design. The population of this research work are sanitary workers working in leading private multi-speciality hospitals and single speciality hospitals in Tirunelveli city, Tamilnadu. The study has sampled 120 respondents (60 from multi-speciality and 60 from single speciality hospitals) using purposive sampling technique. The primary data were collected using scheduled method with the help of self-made structured questionnaire. The questions which had been constructed in English were translated in Tamil language and answers were obtained. The questionnaire had been constructed with two sections. Section 'A' dealt with profile of the respondents. Section 'B' talked about various healths related problems the sanitary workers are facing as a result of their work. The questionnaire had been constructed based on Likert's Five Point Scale namely Strongly Agree, Agree, Neutral, Disagree and Strongly

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Disagree. The five scales used in the questionnaire had been allocated the values of 5, 4, 3, 2 and 1 respectively. The secondary data were collected from books, journals and websites to support the study. The study has used mean and standard deviation to understand and differentiate the perception of sanitary workers towards various health related issues they are facing.

### III. Results & Analysis

It can be understood from Table 1 that among the respondents in multi-speciality hospitals that majority of the respondents were female (66.67%) and married (96.67%). Majority of the respondents were in age of above 40 years (30%). Of them, majority of the respondents were in between the work experience of 4 and 6 years (31.67). Moreover, majority of the respondents were drawing the salary between Rs. 4000 and 6000 (43.33).

It can also be understood from Table 1 that among the respondents in single-speciality hospitals that majority of the respondents were female (70%) and married (90%). Majority of the respondents were in age between 35 and 40 years. Of them, majority of the respondents were in between the work experience of 4 and 6 years (30%). Moreover, majority of the respondents were drawing the salary between Rs. 4000 and 6000 (40%).

It can be understood from Table 4.2 that the perception of sanitary workers working in both kinds of hospitals have been same towards the following health related issues: back pain due to long bending activities such as sweeping, mopping and lifting up of too much weight, neck pain due to long pending activities, waist and shoulder pain due to sweeping, mopping and lifting of weight, tired, exhausted and having low energy because of too much work load, generalized body pain including leg pain due to excessive physical work, finding difficulty in sleeping and getting up from the bed, weight loss due to heavy physical work, loss of appetite and irregular sleep, hypertension due to high stress and sleeplessness, hair fall due to high stress and anxiety, pain and swelling in knee joint and hip joint because of climbing of steps and prolonged standing, depression and anxiety and digestive disorder such as constipation and duodenal ulcer because of inability to sleep on time, inadequate sleeping and shift work. The same level of perception revealed by sanitary workers working in both kinds of hospitals has shown that they have been facing too much work load, long working hours, lack of manpower, unhealthy shift schedule, poor welfare facilities and rigid leadership style.

It can also be understood from Table 4.3 that sanitary workers working in both kinds of hospitals have shown some differences in their perception score towards the factors named skin problems due to exposure to chemical used for cleaning and mopping purpose, respiratory problems (breathing difficulties and breathlessness) due to the mopping floor and cleaning dust and biomedical wastes, minor work related injuries such as needle stick injuries taking place when segregating the biomedical wastes and carrying weight to the segregation place and urinary tract infection due to dirty toilet. Sanitary workers working in multi-speciality hospitals have revealed high perception than sanitary workers working in single speciality hospitals. The reason may be due to that the area (floor, wall, toilet and other areas) to be cleaned and mopped by sanitary workers working in multi-speciality hospitals are wide than the sanitary workers working in single speciality hospitals. Moreover, the volume of biomedical wastes accumulated in multi-speciality hospitals is high than in single speciality hospitals. Hence, the workload of segregating those accumulated wastes is high among sanitary workers working in multi-speciality hospitals than in single speciality hospitals. These kinds of tasks causes skin related problem and respiratory problems as all those tasks involve chemicals. As far as level of perception is concerned, it has been same and at middle level among the sanitary workers working in both kinds of organizations.

### Discussion

Result of the present study shows that pain, skin problems and gastrointestinal disorders are the health problems of sanitary workers. This result is corroborated with the study of Norman et al., (2013) who found that health problem including bodily pains and Dorevitch and Marder, (2001); Rushton, (2003) who discovered that eye, skin, and gastrointestinal problems were associated with solid waste handling. Present research also proves that pain in neck and back are the problems of sanitary workers working in both single speciality and multi-speciality hospitals. This finding provide support for the study of Quansah (2005), Kanchanomai et al., (2011); Abou-ElWaf et al., (2012); Thirarattanasunthon et al., (2012) and Norman et al., (2013) who reported that waste handlers were prone to develop bodily pains, such as neck, wrist, lower and upper back pains from engaging in strenuous physical activities.

The present research has found that high work load causes undue stress which further affects their health. This finding is consistent with the study of Shah MZ (1990), Sprusinska E and Z Makowska (1992); Maslach (1986), who have found that physiological stress is associated with

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headache, migraine, abdominal pain, lethargic, backache, chest pain, fatigue, heart palpitation, sleep disturbance and muscle ache, as well as changes in eating, drinking, sleeping and smoking habits. The present study has found that depression, angry and sleeplessness are some of the health problems of sanitary workers. This result goes along with the result of NIOSH (1998) which explained that presence of headache, sleep disturbances, difficulty in concentration, short temper, upset stomach, job dissatisfaction and low morale tightness in the chest, arguing with others, aggressive or hostile behaviour, blaming others or administration for tension, absenteeism and high staff on job turnover have been observed in hospital nursing staff, which may have negative effects on their health, personal and work behaviours.

#### IV. Conclusion

##### Suggestion

The following suggestions are given by the researcher based on the findings of the study to improve health of the sanitary workers working in multi-speciality hospitals.

- i. Necessary changes should be made in working hours and shift pattern. Three shift working system with eight hours duty can be implemented so that the work load of the employees can be reduced since long working hours affect their health very severely. Adequate rest at frequent interval should be given to cope up with long working hours. Leadership skills of managers of house-keeping department should be enriched so that the sanitary workers should be treated respectfully and motivated. Education with regard to handling and segregation of biomedical wastes should be given to the sanitary workers as biomedical wastes are the primary source causing infection and injuries among sanitary workers. Ergonomics training with regard to bending, weight lifting, stair climbing, mopping and cleaning activities should be given so that they can perform their work simply and easily without getting injuries or hurt physically. Weight lifting and weight carrying tasks can be replaced by appropriate machines.
- ii. Welfare facilities such as rest room, medical facilities with frequent medical check up, nutritious food at concession rate, immunization and infection free environment should be given in order to maintain and improve their health. Health education such as diet control and importance of physical exercises should be given to comply with diabetes mellitus, hypertension and mental stress. Yoga should be taught to control their

emotion and make peaceful mind. Get together and picnic should be arranged at frequent intervals in order to make them motivated. Safety devices such as hand gloves, face masks and shoes should be provided with health education on how to use them when they mop the floor and giving care for the patients in order to avoid infection.

##### Managerial implications

The study will be useful for the hospital management to have an understanding how various factors affect both physical and mental health of the sanitary workers and to what extent they are suffered. This understanding will overwhelmingly encourage them to protect their health by creating necessary policies and making changes in the existing rules and regulations. The study will also help the sanitary workers to review their perception towards their health related issues which is affected as a result of work related factors. The concepts and findings of this research will serve as secondary data for future research scholars.

##### Agenda for future research

The future research can be undertaken covering large number of samples. Future research can also be undertaken adding sanitary workers working in government hospitals also. Health problems of the sanitary workers can be compared with other non-medical and paramedical group of employees.

##### Limitations of the study

The study has focused the sanitary workers working in multi-speciality hospitals and single speciality hospitals. It has not focused the sanitary workers working in government hospitals and diagnostic centres. Hence, generalisation of the results of this research needs caution.

##### Conclusion

The results of the study found that the health related issues such as pain in back, neck, waist and shoulder, low energy, difficulty in sleeping and getting up from the bed, weight loss, loss of appetite and irregular sleep, hypertension hair fall, digestive disorder, skin problems, respiratory problems and minor work related injuries have been foremost health related problems among sanitary workers working in multi-speciality hospitals than single speciality hospitals. As human resource remains as main asset in the organization, it is principally important to give greater importance for their health. Since sanitary workers play major place in protecting the environment from infections, it remains important for the hospital management to keep

them healthy both physically and mentally. In order to keep them healthy, the hospital management should make necessary policy changes in working hours, work load, manpower allocation, shift system, fair treatment and welfare facilities so that they can deliver their tasks very healthily without disease or deformity.

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# GLOBAL FINANCIAL INCLUSION ENVIRONMENT

## THE NEXUS TO INDIA

C. Viswanatha Reddy★

*Financial inclusion can really pick up the financial conditions and standards of living of the disadvantaged groups. Various countries are promoting financial inclusion across the world. The list includes Peru, Colombia, Philippines, Pakistan, Chile, Tanzania, Bolivia, Mexico, Bangladesh, South Africa, Kenya and Brazil. Particularly, Brazil has succeeded in financial inclusion using Business Correspondent Model. India also has a similar demographic profile can emulate the policies as successfully as implemented by Brazil. Financial inclusion has been accorded high importance by the Reserve Bank to aid the inclusive growth process of the economy. There have been formidable challenges in this area such as bringing sections of society that are financially excluded within the ambit of the formal financial system, providing financial literacy and strengthening credit delivery mechanisms. The present paper explains the Financial Inclusion: Global Scenario, Financial Inclusion Environment Ranking Methodology, Region-wise trend analysis of Average Financial Inclusion Index, Current Scenario of Financial Inclusion in India, Key Parameters of Financial Inclusion in India, Trends in India's overall Financial Inclusion Index Score, Challenges of Financial Inclusion in India and the measures to overcome such challenges.*

*Keywords: Financial Inclusion, Financial Exclusion, Inclusive Growth, Global Financial Inclusion Index (Findex), 'No-frills' Accounts, etc.*

Promotion of financial inclusion is a common developmental theme for the most developing countries in Asia and the Pacific and is the key to inclusive and balanced economic growth. Providing the poor with improved facilities to save and to have better access to credit and insurance helps them manage risk, build assets, increase income, and enjoy a better life. Today, all the countries across the world are focusing on inclusive growth. Therefore, financial inclusion is not only the requirement of developing nations, but also the developed countries (Shweta Bambuwala, 2013). There has been significant but uneven progress towards financial inclusion around the world in recent years (Alfred Hanning., et al., 2010). Some countries in Asia, such as India and Indonesia, have a long tradition of emphasizing access to finance. At the regional level, these policy priorities have paid off-25 per cent of the households living on less than \$2 a day now have access to formal and semi-formal financial services, compared to 40-50 per cent of the population as a whole (Collins., et al., 2009). Particularly in Asia, the poor are often served by public banks or non-bank entities, including NGOs, with private sector banks playing a similar role. Key examples of these public banks and non-bank entities, viz., Post Savings Bank in Pakistan, Post Offices in India, Rural Development Board in Bangladesh, Bank for Agriculture and Rural Development in Vietnam, Government Savings Bank in Thailand, State Banks in Sri Lanka. Various countries in the world have adopted different models, strategies and mechanisms to achieve the aim of inclusive financial growth. Despite the impressive achievements, half of the world's population is still without access to

savings accounts, insurance, and other financial services, and about 95 per cent of the unbanked are in developing countries.

Though the RBI and GoI have initiated many concerted measures in favour of financial inclusion, but, the impact of these did not yield satisfactory results. Lack of awareness and financial literacy among the rural population of the country is hindering the growth of the economy as majority of the population does not have access to formal credit. This is a serious issue for the economic progress of the country. As the majority of the rural population is still not included in the inclusive growth, the concept of financial inclusion became a very crucial and challenging issue for the Indian economy. With a view to overcome such barriers, the banking sector has emerged with lot of innovative, technological banking products and services. But, the introduction of such innovative and technological products and services have brought a change in urban society, a majority of the rural population is still unaware of these changes and is excluded from formal banking.

### I. Review of Literature

46 per cent of adults in the world do not have access to formal financial services. The situation is even worse in the developing world with 64 percent of adults unbanked. Anecdotal evidence says that informal financial services are 5-10 times costly and also less reliable than formal

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ones. Hence, making formal and affordable financial services available for the unbanked would definitely have positive consequences on the lives of these people (Oya Pinar Ardic., et al., 2011).

Financial inclusion enhances the economy, increases the quality of life of the people of the country and also ensures an orderly growth. It will also reduce the gap between the rich and the poor. This is what Mahatma Gandhi visualised our India should be (Akhil Damodaran, 2012). The breadth of financial inclusion in a region of a country is usually measured by the percentage of the people in the region who have access to the bank accounts (Beck & De La Torre, 2006). Access to financial services allows lower income groups to save money outside the house safely, prevents concentration of economic power with a few individuals and mitigates the risk that poor people face as a result of economic shocks (Beck, Demirguc-Kunt and Peria 2006). Therefore, sufficient provisions should be in-built in the business model to ensure that the poor are not driven away from banking. This requires training the banks frontline staff and managers as well as business correspondents on the human side of banking (Rao N.S., et al., 2012).

India is at moderate level regarding financial inclusion when compared to the developed countries. For achieving complete financial inclusion, the RBI, GoI, NABARD and the implementing agencies have to work together so that the financial inclusion can be taken forward. There should be proper financial inclusion regulation and access to financial services should be through SHGs and MFIs. The RBI had adopted various models and strategies, viz., BCs model, no-frills account, simplified KYC norms, etc., for strengthening the financial inclusion. To cope up with the challenges, there is a need for an appropriate regulatory work and risk management policies to ensure financial inclusion (Raja Babu P., 2015, & Neha Dangi., et al., 2013). Financial inclusion will play a vital role to drive away not only the rural but also the urban poverty in India. It is the duty of every Indian citizen to take part actively in achieving 100% financial inclusion (Devendra Prasad Pandey., et al., 2013).

Banks have adopted several strategies and expanded their services in order to promote financial inclusion. But, the banks in India need to redesign their business strategies to incorporate specific plans to promote financial inclusion of low income group treating it as business opportunity as well as the corporate social responsibility (Leeladhar V., 2005 & Rajani Chauhan., 2014). Banking enables the poor households to perform important financial functions, viz., saving money safely outside the house, accessing credit,

making loan or premium payment and transferring money within the country. Thus, although a bank account cover only one aspect of financial inclusion, it may determine access for many other financial services (Littlefield, et al, 2006). Indian banking sector is grappling with the issue of financial inclusion. But, it is not altogether a new exercise. Financial inclusion was envisaged and embedded in Indian credit policies in the earlier decades also, though in a disguised form and without the same nomenclature (Rao, 2009).

Objectives of the Paper:

- 1.To understand the financial inclusion environment around the world, Global Financial Inclusion Index scoring methodology.
2. To highlight the Global Financial Inclusion Environment Scores and Ranking among microscope countries.
- 3.The underline financial inclusion timeline and the current financial inclusion environment in India.
- 4.To examine the challenges of financial inclusion in India.
- 5.To suggest some viable solutions to make the financial inclusion as a viable business proposition in India to reach its leftover masses.

## II. Research Design & Methods

In view of the objectives of the study listed above an exploratory research design has been adopted. Exploratory research is one which largely interprets the already available information and it lays particular emphasis on analysis and interpretation of the available secondary data.

Sources of data: The data and literature required for the study has been collected from various published and unpublished secondary sources, viz., the annual reports of 'The Global Microscope – The Economist Intelligence Unit', various issues of GOI and RBI Reports, etc ranging for the past 5 years.

Hypothesis:

H01: There is no significant difference between different regions with respect to their overall financial inclusion scores during different years of study period.

H02: There is no significant difference between different years with respect to the overall financial inclusion scores across the regions.

Tools for Data Analysis:

The data collected for the study has been analyzed logically and meaningfully to arrive at meaningful conclusions. The statistical tools applied for data analysis are simple

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percentages, simple and compound annual growth rate (CAGR), correlation analysis and linear regression analysis.

Scope of the study:

The scope of the present paper is divided into four parts. Part-I of the paper deals with the financial inclusion environment around the world, global financial inclusion index scoring methodology, global financial inclusion environment scores and ranking among the microscope countries. Part-II of the paper contains the region-wise trend analysis average financial inclusion index. Part-III of the paper highlights the key parameters of financial inclusion in India. Part-IV examines the challenges of financial inclusion in India and some viable suggestions to make financial inclusion as an instrument to bring the financially excluded population into the formal financial system.

Limitations of the Study:

The information used is primarily from historical annual statistics available to the public and the same doesn't indicate the current situation of financial inclusion in India and abroad. Detailed analysis could not be carried for the research work because of the limited time.

### III. Results & Analysis

Part-I: Financial Inclusion-Global Scenario:

Financial inclusion is not an end in itself, but a means to an end - there is growing evidence that it has substantial benefits for individuals. Several studies show that when people participate in the formal financial system, they are better able to start and expand businesses, invest in education, manage risk, and absorb financial shocks. Access to formal financial system, i.e., bank accounts, savings and payment mechanisms increases savings, empower women, and boosts productive investment and consumption. Greater access to financial services for both individuals and firms may help reduce income inequality and accelerate economic growth. An increasing number of national governments are introducing comprehensive measures to improve access to and use of financial services. International organizations, including the G-20 and the World Bank, are also beginning to formulate strategies to promote financial inclusion. In recent years more than 50 countries have set formal targets and determined goals for financial inclusion. Over 2 billion people worldwide are financially excluded and 200 to 250 million medium-to-small enterprises are underserved because neither pure cash systems nor the traditional banking model can effectively

serve them. Despite proven demand for financial services at all levels of income, the market has failed to meet those demands, forcing billions of individuals and millions of micro, small, and medium size enterprises to rely on riskier and more expensive methods to save, borrow, and secure their assets.

Financial Inclusion Environment Ranking Methodology:

Reaching full financial inclusion by 2020 will require supportive policies in every country around the globe. The Economist Intelligence Unit "Global Microscope on Financial Inclusion" assesses the policy environment for financial inclusion in 55 countries. The Microscope examines 12 policy dimensions essential for creating an inclusion-friendly regulatory and institutional framework' viz., (1)Government support for financial inclusion, (2)Regulatory and supervisory capacity for financial inclusion, (3)Prudential Regulation, i.e., appropriate entry and licensing requirements and ease of operation, (4)Regulation and supervision of credit portfolios, (5) Regulation and supervision of deposit taking activities, (6) Regulation of insurance targeting low income populations, (7)Regulation and supervision of branches and agents, (8)Requirements for non-regulated lenders, (9)Electronic payments, (10)Credit reporting system, (11)Market conduct rules, (12)Grievance redress and operation of dispute-resolution mechanism, and (13) Adjustment factor, which considers the general political stability and shocks and policies impacting financial inclusion. The rigorous methodology incorporates input from "hundreds of policy makers" and "participants in the financial sector" and a "review of existing policies" and "implementation". The resulting rankings represent the best readily available source for judging the state of financial inclusion policy around the world.

Each of the indicators contain between one and three sub-indicators and, in turn, each sub-indicator is composed of between one and four questions that were scored from 0-4, 0-3 or 0-2 where the highest number is the best and 0 = worst. Once the indicator score has been assigned, these were normalized and weighted according to a consensus among clients and experts, then aggregated to produce an overall scoring range of 0-100, where 100 = best and 0 = worst. Each of the 12 indicators was given equal weight (1/12=8.33%). Finally, the adjustment factor, stability, adjusts each country's score for political stability and policies that impact financial inclusion. The data relating to the Global Financial Inclusion environment scores and ranking is presented in table No.1.

The data provided in the above table shows a number of

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improvements in the last three years. A few highlights about the global financial inclusion are as follows:

1. The average global financial inclusion index score of 55 countries has increased from 44/100 in 2013, 46/100 in 2014 to 48/100 in 2015. The average score of the top ten countries has improved from 63.1/100 in 2013, 66.7/100 in 2014 to 69.4/100 in 2015.
2. The most striking development is at the bottom of the rankings. In 2014, five countries received overall scores of 25 or less. Four of these countries are covered again in 2015 year index. Of these, three countries, viz., Democratic Republic of Congo, Egypt and Madagascar have moved above 25 points. The other, Haiti, nearly made it 24 points (rose from 16 to 24 points).
3. Of the 55 countries covered in the 2015 indices, 37 countries saw improvement in their overall score from the previous year, while only 9 countries experienced a decline. In the 2014 indices, 25 countries saw the advancement in their overall score, while 27 countries experienced a decline and in the 2013 indices, only 20 countries experienced up trend in their overall score, 24 countries saw their declining position as compared to their overall ranking in 2012. It shows the accelerated commitment towards financial inclusion around the world. When seen in a different perspective, majority of the countries have implemented several new policies towards financial inclusion besides strengthening the existing schemes.
4. The most important aspect here is number of countries saw improvement in their overall score have increased from 20 in 2013, 25 in 2014 to 37 in 2015. It indicates the world wide growing importance for financial inclusion, progress in the launch of comprehensive financial inclusion strategies, as well as the effective implementation of existing programmes and policies.
5. During the year 2015, only 22 out of 55 countries (only 18 out of 55 in 2013) are more than halfway (overall score is greater than 50) towards a robust and functioning policy environment that fully promotes all aspects of financial inclusion, and just three are more than three quarters (greater than 75) of the way along the journey. The distribution of countries by score quartile has given in table No.2.
6. India has gained its position from 16th place in 2013 scoring 52/100 points to 5th place in 2014 scoring 61/100 points (increased by 9 points) and further rose to 4th place in 2015 with the score 71/100 (increased by 10 points). Hence, it may be concluded that India saw the biggest increase from 2013 to 2015, which largely

reflected a substantial drive to make banking more accessible to the entire population. This included the issuing of guidelines in July 2014 for creating specialized Payment Banks and Small Finance Banks. Further, the Government of India, in conjunction with the banking industry, launched a programme to provide a basic bank account for every household, which included access to financial education, credit and insurance. As a result, by January 2015, nearly 100 per cent of households had such a facility, although active use of the new accounts has been limited so far, with most accounts remaining dormant. Penetration of financial services in rural areas also remains low.

#### Part-II: Region-wise trend analysis of Average Financial Inclusion Index:

The objective of this analysis is to bring out the inter-regional variation in average financial inclusion index during the study period. 12 countries from the East and South Asian region, 5 countries from Eastern Europe and Central Asian region, 21 countries from Latin America and Caribbean region, 4 countries from Middle East and North African region, and 13 countries from Sub-Saharan African region have been chosen by EIU for their study. Table No.3 provides the data relating to the average financial inclusion score of different regions and the overall score of 55 microscope countries.

From the data provided in the above table, the following observations can be made:

1. The Latin America and Caribbean region has ranked first with the mean score of 47.50/100 points, followed by Sub-Saharan Africa region with mean score of 45.01/100 points, East and South Asian region with mean score of 43.74/100 points, Eastern Europe and Central Asia region with mean score of 41.84/100 points, and Middle East and North Africa region with mean score of 32.82/100 points.
2. The overall score of East and South Asia has moved up from 41.2/100 points in 2009 (less than the Average Global Findex 43.7/100 points) to 51.0/100 points in 2015 (greater than the Global Findex 48/100 points). It has the highest regional scores in the Deposit-Taking Activities (75/100 points), Credit-Reporting Systems (68/100 points), and Regulation of Electronic Payments (60/100 points). The relative weaknesses in this region are the Requirements for Non-Regulated Lenders (43/100 points), Regulation of Insurance for Low Income Population (44/100 points).
3. The overall score of Eastern Europe and Central Asia

has moved up from 41.2/100 points in 2009 (less than the Average Global Findex 43.7/100 points) to 46.2/100 points in 2015 (less than the Global Findex 48/100 points). There is low variation between countries in the region, with the best, Bosnia and Herzegovina, scoring 51/100 points, and the lowest finisher, Tajikistan, only a few points behind, with a score of 38/100 points. It has the highest regional score in the Regulation and Supervision of Credit Portfolios (77/100 points), Credit-Reporting Systems (77/100 points), and Regulation and Supervision of Deposit-Taking Activities (86/100 points). The region's relative weaknesses include Prudential Regulation (63/100 points), Regulation of Insurance for Low Income Populations (17/100 points) and Grievance Redress and Operation of Dispute-Resolution Mechanisms (32/100 points).

4. The Latin America and the Caribbean holds the lead position in the overall index, with East and South Asia just behind. Its overall score has increased from 46/100 points in 2009 to 51.5/100 points in 2015. Across the region, many countries are seeing notable advances in their overall financial inclusion strategies. It also dominates the top position in the standings, with five regional countries in the top ten, including first placed Peru, second placed Colombia, followed by Chile, Bolivia, and Mexico. But, the 21 countries of this region were spread throughout the index and also included the last placed Haiti and Venezuela. It has the highest regional score in the Prudential Regulation Indicator (73/100 points), Regulation and Supervision of Branches and Agents (75/100 points), Market Conduct Rules (57/100 points), and Grievance Redress and Operation of Dispute-Resolution Mechanisms (61/100 points).
5. The Middle East and North Africa was the lowest-ranked among all regions. The overall score of Middle East and North Africa has moved up from 33.9/100 points in 2009 (less than the Average Global Findex 43.7/100 points) to 36.3/100 points in 2015 (less than the Global Findex 48/100 points). The region has some isolated strengths in its formal regulation and treatment of institutions. The region has scored highest points for Regulation and Supervision of Deposit-Taking Activities (78/100 points), Requirements for Non-Regulated Lenders (75/100 points). The most worrying problems of this region are Regulatory and Supervisory Capacity (38/100 points), Market Conduct Rules (17/100 points), Grievance Redress and Operation of Dispute Resolution (17/100 points), and Regulation of Insurance for Low-Income Populations (8/100 points).
6. Sub-Saharan Africa's overall score has improved from

42.1/100 points in 2009 (less than the Average Global Findex 43.7/100 points) to 49.0/100 points in 2015 (greater than the Average Global Findex 48/100 points). Several countries from this region finish reasonably well – Kenya and Rwanda all score above 50, and Tanzania and Ghana break into the top 10. This region has the best regional scores on few indicators, viz., Regulation and Supervision of Branches and Agents (74/100 points), Prudential Regulation (67/100 points), Regulation and Supervision of Credit Portfolios (61/100 points), Regulation of Electronic Payments (60/100 points), Government Support for Financial Inclusion (53/100 points) and Regulatory and Supervisory Capacity for Financial Inclusion (53/100 points). The relative weaknesses in this region are the Regulation and Supervision of Deposit-Taking Activities (52/100 points), Credit Reporting Systems (49/100 points), Requirements for Non-Regulated Lenders (42/100 points), Regulation of Insurance for Low Income Population (38/100 points), Grievance Redress and Operation of Dispute-Resolution Mechanisms (37/100 points), and Market Conduct Rules (27/100 points).

In order to know whether there is any significant variation in overall financial inclusion scores across the regions over different years of the study period, ANOVA: Two-Factor without Replication has been performed. Refer Table 3.1

At 95% confidence level, the critical value of F for  $\nu_1=5$  and  $\nu_2=30$ ,  $F_{0.05}$  is 2.53 and for  $\nu_1=6$  and  $\nu_2=30$ ,  $F_{0.05}$  is 2.42. The calculated value of 'F' for rows is 63.17 and it is much greater than the critical value and falls in rejection region. Hence, the null hypothesis ( $H_{01}$ ) is rejected. The calculated value of F for columns is 11.80. This is greater than the critical value and falls in the rejection region. Hence, the null hypothesis ( $H_{02}$ ) is rejected. The results indicate that there is a significant variation between different regions with respect to their overall financial inclusion scores during different years of study period. The results also indicate there is a significant difference between different years with respect to the overall financial inclusion scores across the regions.

Part: III – Key Parameters of Financial Inclusion in India:

In spite of chaotic challenges, India has achieved a tremendous progress in financial inclusion during the past few years. The major players providing financial inclusion services in India have significantly enhanced the prospects for a better financial inclusion scenario in India. The RBI has taken several steps to further inclusion. As a result, the position of India regarding financial inclusion (among the 55 microscope countries) has improved from 16th rank in

2013 to 4th rank in 2015. The parameter-wise progress in financial inclusion achieved in India till 2015 is given in the following table No.4.

It may be noted from the above table that, the 6th parameter, viz., regulation of insurance for low-income populations has ranked first (R1) scoring 94/100 points (1st rank among microscope countries), followed by the 4th parameter, i.e., regulation and supervision of credit portfolios has got second rank (R2) scoring 89/100 points (6th rank among microscope countries). It may also be noted from the table that the 5th, 7th and 12th parameters, viz., regulation and supervision of deposit-taking activities (12th rank among microscope countries), regulation and supervision of branches and agents (18th rank among microscope countries), grievance redress and operation of dispute resolution mechanisms (6th rank among microscope countries) have got fourth rank (R4) scoring 83/100 points each respectively. It may further be noted from the table that the 11th parameter, viz., market conduct rules has got sixth rank (R6) scoring 81/100 points (7th rank among microscope countries), followed by the 9th and 10th parameters, viz., regulation of electronic payments (6th rank among microscope countries), credit reporting systems (15th rank among microscope countries) have got 7.5th rank (R7.5) scoring 75/100 points each respectively.

The other 1st and 8th parameters, viz., Government support for financial inclusion (12th rank among microscope countries) and requirements for non-regulated lenders (9th rank among microscope countries) have got 9.5th (R9.5) rank scoring 67/100 points each respectively. The 3rd and 2nd parameters, viz., Prudential Regulation (31st rank among microscope countries) and Regulatory and Supervisory capacity for financial inclusion (10th rank among microscope countries) have got 11th (R11) and 12th (R12) ranks scoring 63/100 and 58/100 points.

Trends in India's Overall Financial Inclusion Index Score:

Because of several efforts by the Government of India and RBI, India has achieved a big progress in financial inclusion. The data pertaining to India's overall financial inclusion index score over the study period, the East and South Asia regions score and the microscope 55 countries average global financial inclusion index score is provided in table No.5. It may be inferred from the data provided in the above table that India's overall financial inclusion index score has moved up from 62.1/100 points in 2009 (greater than the Average Global Findex 43.7/100 points) to 71.0/100 points in 2015 (greater than the Global Findex 48/100 points). A high correlation exists between 'India's

overall score' and 'East & South Asia region's score' at 0.789, which is insignificant at 95% confidence interval. Similarly, a high correlation also exists between 'India's overall score' and 'Average Global Financial Inclusion Index Score' at 0.887 which is significant at 99% confidence interval. In order to capture the trend more precisely, the India's overall score, East and South Asia regions score and Average Global Financial Inclusion Index score has been regressed on time. The results of regression analysis are as follows. Refer Table 4.1.

The data provided in the above table says that the East and South Asia region score has high correlation with time (0.805) followed by Average Global Financial Inclusion Index (0.709), but, India's overall score has very low positive correlation with time (0.308). The regression value (R2) of East and South Asia regions score is 0.648 showing 64.8 per cent of impact of independent factor (Time) on dependent factor, followed by the Average Global Financial Inclusion Index (0.709), India's overall score (0.095).

Current Scenario of Financial Inclusion in India:

The key players providing financial inclusion services in India are Commercial Banks, RRB's, NBFIs, MFIs, Cooperatives and Insurance Companies. According to the World Bank Global Findex Database 2014, 53% of adults in India had an account at a formal financial institution. In August 2014 the government launched a programme (PMJDY) to provide one basic banking account to each household, with access to financial education, credit, insurance and pension facilities. By January 2015, 125 million new accounts had been opened, taking the household coverage of bank accounts to 99.98%. However, most of these accounts remain dormant and penetration of financial services in rural areas is still shallow. Although micro-finance institutions (MFIs) served a significant 30.5 million clients by the end of March 2015, their product offerings remain limited. MFIs are not permitted to offer deposit accounts, so their contribution is mainly in terms of micro-credit and as micro-insurance facilitators for insurance companies. The progress of financial inclusion by banks including RRB's is provided in the following table No.6.

The data provided in the above table shows a number of improvements in financial inclusion in India the last five years. A few highlights about the financial inclusion in India are as follows:

1. In order to extend the banking network in unbanked areas, general permission has been granted by Reserve

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Bank of India (RBI) to domestic Scheduled Commercial Banks (other than Regional Rural Banks) to open branches/ mobile branches/ Administrative Offices/ CPCs (Service Branches). In this process the number of banking outlets opened in villages (branch mode) has increased from 33,378 in 2010 to 49,571 in 2015, registering a compound annual growth rate of 8.23 per cent.

2. The policy makers in India are grappling with ways to provide low - cost financial services to the financially excluded segments of society. One channel that has been widely tried and tested across countries with varying degrees of success is the business correspondent (BC) model. Regulators across countries have promoted the BC framework, keeping in view the twin considerations of striking a balance between promoting financial inclusion through profitable, low-cost delivery channels on the one hand and protecting consumers and the integrity of the financial system, on the other. The number of villages covered by business correspondents has increased from 34,174 in 2010 to 4,85,818 in 2015, registering a compound annual growth rate of 52.26 per cent. The urban locations covered by through Business Correspondents have increased from 447 in 2010 to 96,847 in 2015, registered a compound annual growth rate of 193.19 per cent.
3. The number of BSBDs through bank branches have increased from 60.19 million in 2010 to 210.30 million in 2015, registered a CAGR of 28.43 per cent. But the number of BSBDs through BCs have increased from 13.27 million in 2010 to 187.80 million in 2015, registered a CAGR of 69.89 per cent. The amount of deposits collected through branches has increased from Rs.44.33 billion in 2010 to Rs.365 billion in 2015, registering a CAGR of 52.45 per cent and the deposits mobilized through BCs have also increased from 10.69 billion in 2010 to 74.64 billion in 2015, registering a CAGR of 47.49 per cent. It may also be inferred that high correlation exists between the number of BSBDs through 'bank branches' and through 'BCs' at 0.982, which is significant at 95 per cent confidence interval indicating a healthy relation between them. Further, a high correlation also exists between the amount deposits mobilized through 'bank branches' and 'BCs' at 0.925, which is significant at 95 per cent confidence level.
4. Crop loans are generally disbursed by the banks through the mode of Kisan Credit Cards (KCC). The KCC scheme provides a short-term credit limit with simplified renewal every year up to the fifth year, after which a maximum permissible limit is arrived at. With a

view to percolate the concept of financial inclusion, the number of Kisan Credit Cards issued to the farmers has increased from 24.31 million in 2010 to 42.50 million in 2015, registering a CAGR of 11.82 per cent.

With a view to capture the trend more precisely, various developments towards financial inclusion in India have been regressed on time. The results of regression analysis are provided in the Diagram 1.

#### Challenges of Financial Inclusion in India:

1. The primary inclusion issue in India is an extremely large number of dormant bank accounts, opened as part of various government programmes. A very shallow penetration of insurance (3.4 per cent) and social security (8 per cent) is another major issue.
2. Although government has launched a number of schemes to provide pension and insurance services to the poor and those working in the unorganised sector, these efforts are only supply - driven and results will depend upon efforts to improve financial awareness among the poor.
3. Another major challenge is the high growth (more than 35 per cent p.a.) that MFIs are experiencing without any major improvement in the quality of their products and services. After the 2010, the micro finance crisis in united Andhra Pradesh has caused for over indebtedness and poor recovery from the beneficiaries.
4. Another key financial inclusion issue in India is consumer protection. Regulators are mainly concerned with MFI pricing transparency and dispute resolution. Over the past 2 years, the introduction of pricing caps has brought average MFI yields down from around 28 per cent to around 25 per cent.
5. In case of banks, the financial inclusion issues are: (a) some banks have no desire to achieve complete financial inclusion; (b) some banks have formal opinion that the complete financial inclusion is not possible; (c) some reluctant bankers assume that merely opening a bank account is the implementation of scheme of financial inclusion; (d) only in rare cases some of the banks make attempts to provide financial advice to the disadvantaged people; (e) the cost of serving the poor people can be significant in the short-run, thereby impacting profitability.
6. High information barriers and low awareness especially for women in rural areas is also challenging the growth of financial inclusion in India.
7. India has inadequate regulatory and supervisory capacity for the regulation and supervision of products

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and services related to financial inclusion. Moreover, the financial regulators are not politically independent. This tendency further weakens the financial inclusion system in India.

8. In India, lending becomes more politicalised, which adversely affects the asset quality of state-owned banks, posing a threat to the stability of financial inclusion.
9. Prudential regulations in India are not favourable and not allowing the new entrants and operation of institutions that offer savings and credit products. The legal framework in India is also not conducive in controlling NGOs, non-regulated cooperatives, retail lenders and other providers of credit.
10. Though India has a well documented strategy on financial inclusion, still lagging behind due to lack of formal commitment and action towards achieving financial inclusion. Further, the government of India is not successful in collecting customer-level data that help understanding of low-income populations' demand for financial services.

#### **IV. Conclusion**

1. Government should augment its efforts to enhance the usage of dormant bank accounts, (opened as part of various government programmes) by using them for direct benefit transfers such as social security and welfare payments from government.
2. The government of India should frequently collect the micro-level data that helps in understanding the public demand for financial services and should design the financial inclusion policies.
3. In the case of banks, the key issue is the focus on reporting the volume of accounts, rather than transactions. The volume of transactions, the real measure of inclusion, can be increased with the growing ease of access and incurring financial capability of clients through financial education programmes. Further, banks should allow their customers to provide feedback about their products and services.
4. The attitude of banking reflects a very narrow approach to tackle the problem of financial inclusion. Therefore, the bankers should change their mindset; view financial inclusions as a viable business proposition and adopt innovative methods and low cost dealing methods to reach out the people.
5. The RBI should take initiative to increase the number of banks branches in rural and backward areas and should frequently check whether the financial products are actually utilized by customers effectively, if not, should

analyse the reasons. Also should simplify the procedure of opening the bank account.

6. NGOs and NPOs should also be involved more to propagate the financial services to the remote and non-accessible areas. MFIs and NBFOS should also be given permission to do their financial services to the extent of permission given to them in rural areas.
7. Mobile communication providers (Telecom services) and banking sector should work together, develop and implement the simple and user friendly mobile banking applications at affordable or at free of cost.
8. The RBI should invite the venture capitalists and private equity financiers with liberal terms and conditions to take part in financial inclusion.
9. Financial inclusion, rather a short-term goal, should be a big initiative and will itself evolve as the time progress. The stakeholders, who are involved are government, regulators, public and private entities and the people of the country, have to work together to create better business models which will not only serves the need of the current economy but also should build foundation for future financial inclusion plans.
10. Lending should be independent from the involvement of politicians, which will not only enhances the asset quality of banking sector, but also, improves the stability of financial inclusion.
11. Finally, India needs better implementation of the existing financial inclusion policies, rather designing too many stringent policies.

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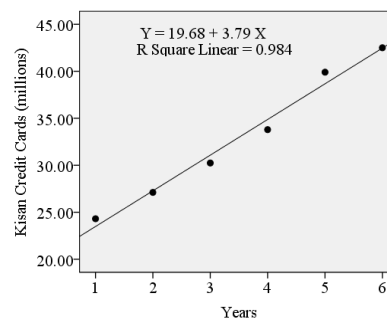
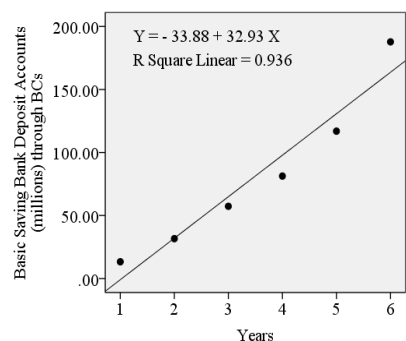
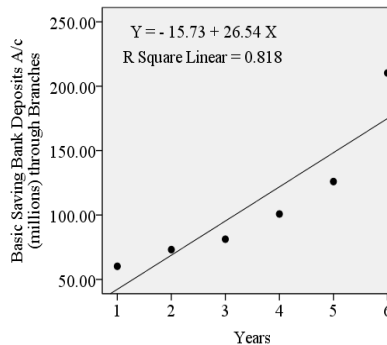
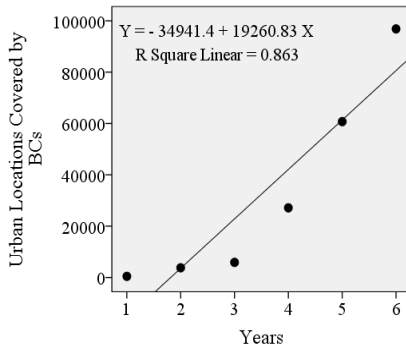
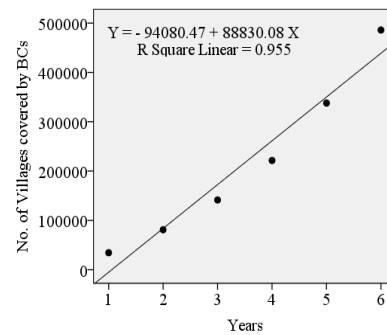
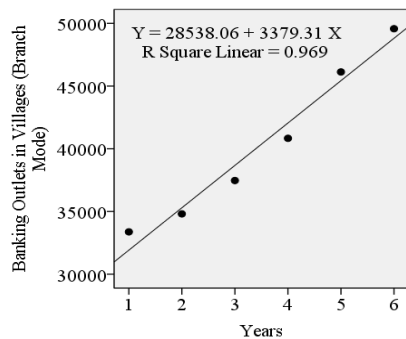
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**Table 1: Global Financial Inclusion Environment Scores and Ranking**

2015				2014				2013			
Rank		Score /100	Δ	Rank		Score /100	Δ	Rank		Score /100	Δ
	Average	48	+2		Average	46	+1.9		Average	44.1	n/a
1	Peru (↔)	90	+3	1	Peru (↔)	87	+4.5	1	Peru (↔)	82.5	+2.7
2	Colombia (↔)	86	+1	2	Colombia (▲5)	85	+26.5	2	Bolivia (↔)	69.8	-2.0
3	Philippines (↔)	81	+2	3	Philippines(▲1)	79	+11.1	3	Pakistan (↔)	69.7	+2.3
4	India (▲1)	71	+10	4	Chile (▲15)	66	+16.1	4	Philippines (↔)	67.9	+4.6
5	Pakistan (▲2)	64	+6	5	India (▲11)	61	+9.0	5	Kenya (↔)	61.1	-1.7
6	Chile (▼2)	62	-4	5	Mexico (▲13)	61	+9.9	6	Cambodia (▲2)	60.3	+4.6
6	Tanzania (▲3)	62	+6	7	Bolivia (▼5)	58	-11.8	7	Colombia (↔)	58.5	+2.5
8	Bolivia (▼1)	60	+2	7	Pakistan (▼4)	58	-11.7	8	El Salvador (▼2)	53.8	-2.5
8	Mexico (▼1)	60	-1	9	Cambodia (▼3)	56	-4.30	8	Uganda (▲2)	53.8	+2.2
10	Ghana (▲8)	58	+7	9	Tanzania (▲16)	56	+8.10	10	Dominican Republic (▲11)	53.6	+7.5
11	Indonesia (↔)	56	+1	11	Indonesia (▲17)	55	+8.5	11	Panama (▼2)	53.5	-0.1
11	Kenya (↔)	56	+1	11	Kenya (▼6)	55	-6.1	11	Paraguay (▲1)	53.5	+1.5
11	Uruguay (▲3)	56	+3	11	Rwanda (▲11)	55	+6.6	13	Ghana (▲2)	53.3	+2.3
14	Cambodia (▼5)	55	-1	14	Brazil (▲6)	53	+3.9	14	Nicaragua (▲14)	52.9	+9.0
14	Morocco (▲3)	55	+3	14	Paraguay (▼3)	53	-0.5	15	Azerbaijan (▲18)	52.4	+14.0
16	Rwanda (▼5)	54	-1	14	Uruguay (▲3)	53	+1.5	16	India (▲6)	52.0	+6.3
17	Brazil (▼3)	53	0	17	Morocco (▲18)	52	+13.7	17	Uruguay (▲8)	51.5	+7.3
17	Nicaragua (▲1)	53	+2	18	Ghana (▼5)	51	-2.3	18	Mexico (▼9)	51.1	-2.5
19	Paraguay (▼5)	52	-1	18	Nicaragua (▼4)	51	-1.9	19	Chile (▼6)	49.9	-1.9
20	Bosnia & (▲3) Herzegovina	51	+3	20	Nigeria (▲4)	50	+1.8	20	Brazil (▼4)	49.1	-1.9
20	Dominican Republic (▲3)	51	+3	20	Uganda (▼12)	50	-3.8	21	Mongolia (▲4)	48.9	+4.7
20	Ecuador (▲3)	51	+3	22	Armenia (▲4)	49	+1.6	22	Rwanda (▼5)	48.4	-0.2
23	Mozambique (▲8)	50	+6	23	Bosnia & (▲6) Herzegovina	48	+2.8	23	Ecuador (▼12)	48.3	-4.3
23	Turkey (▲5)	50	+4	23	Dominican Republic (▼13)	48	-5.6	24	Nigeria (▲5)	48.2	+4.8
23	Uganda (▼3)	50	0	23	Ecuador (↔)	48	-0.3	25	Tanzania (▼6)	47.9	+1.4
26	El Salvador (▼3)	49	+1	23	El Salvador (▼15)	48	-5.8	26	Armenia (▼8)	47.4	n/a
26	Thailand (▼3)	49	+1	23	Thailand (▲25)	48	+20.8	27	Honduras (▼7)	47.2	+0.9
28	Mongolia (▲1)	48	+3	28	Turkey (▲22)	46	+19.5	28	Indonesia (▼4)	46.5	+2.2
28	Nigeria (▼8)	48	-2	29	Bangladesh (▲12)	45	+12.2	29	Bosnia & Herzegovina (▼6)	45.2	-0.1
30	Kyrgyz Repub. (▲3)	47	+6	29	Mongolia (▼8)	45	-3.9	30	Mozambique (▼3)	44.0	n/a
31	Panama (↔)	46	+2	31	Mozambique (▼1)	44	0	31	Georgia (▲7)	43.4	+9.7
31	South Africa (n/a)	46	n/a	31	Panama (▼20)	44	+9.5	32	Costa Rica (↔)	42.1	+2.4
33	Jamaica (↔)	45	+2	33	Jamaica (▲9)	43	+11.2	33	Guatemala (▼2)	41.4	n/a
33	Russia (n/a)	45	n/a	33	Kyrgyz Repu. (▲5)	43	+7.9	34	China (▲2)	39.1	+4.7
35	Senegal (▼2)	44	+1	33	Senegal (▲6)	43	+8.6	35	Morocco (▲3)	38.3	+4.6
36	China (▲6)	42	+6	36	Guatemala (▼3)	39	-2.4	36	Tajikistan (▼2)	36.0	-0.3
36	Costa Rica (▲5)	42	+5	36	Vietnam (▲19)	39	+13.4	37	Madagascar (▼2)	35.9	n/a
36	Honduras (▲8)	42	+7	38	Azerbaijan (▼23)	38	-14.4	38	Kyrgyz Republic (▼8)	35.1	-7.0
36	Trinidad & Tobago (▲12)	42	+9	38	Georgia (▼7)	38	-5.4	39	Senegal (▼2)	34.4	+0.3
40	Argentina (▲2)	39	+3	38	Tajikistan (▼2)	38	+2.8	40	Lebanon (↔)	33.3	-0.2
40	Bangladesh (▼11)	39	-6	41	Costa Rica (▼9)	37	-5.1	41	Bangladesh (↔)	32.8	n/a
40	Guatemala (▼4)	39	0	42	Argentina (▲3)	36	+7.2	42	Jamaica (▲1)	31.8	+0.3
40	Nepal (▲7)	39	+5	42	China (▼8)	36	-3.1	43	Cameroon (▼1)	31.7	+0.1
44	Tajikistan (▼6)	38	0	44	Cameroon (▼1)	35	+3.3	44	Yemen (▲1)	31.0	+0.6
45	Cameroon (▼1)	35	0	44	Honduras (▼17)	35	-12.2	45	Argentina (▲2)	28.8	n/a
46	Vietnam (▼10)	34	-5	44	Sri Lanka (▲6)	35	+8.5	46	Dem. Rep. of Congo (▲2)	28.4	-0.1
47	Sri Lanka (▼3)	33	-2	47	Nepal (↔)	34	+5.7	47	Nepal (▼3)	28.3	-3.0
48	Ethiopia (n/a)	32	n/a	48	Trinidad & Tobago (▲2)	33	+6.5	48	Thailand (▲4)	27.2	+2.2
48	Jordan (n/a)	32	n/a	49	Venezuela (▲4)	28	+1.9	49	Egypt (▲1)	27.3	-0.1
50	Venezuela (▼1)	31	+3	50	Lebanon (▼10)	27	-6.3	50	Trinidad & Tobago (▲4)	26.5	+2.4
51	Egypt (▲2)	29	+8	51	Dem. Rep. of Congo (▼5)	25	-3.4	50	Sri Lanka (▲1)	26.5	-1.7
51	Lebanon (▼1)	29	+2	52	Madagascar (▼15)	23	-12.9	50	Turkey (▲1)	26.5	-0.1
53	Madagascar (▼1)	27	+4	53	Egypt (▼4)	21	-6.3	53	Venezuela (↔)	26.1	+0.9
54	Dem. Rep. of Congo (▼3)	26	+1	54	Yemen (▼10)	20	-11.0	54	Haiti (▼8)	25.8	-3.3
55	Haiti (↔)	24	+8	55	Haiti (▼1)	16	-9.8	55	Vietnam (↔)	25.6	+4.1

Normalised score 0-100, where 100=best; Score 76-100; Score 51-75; Score 26-50; Score 00-25; (↔) denotes no change in rank, ▲-Step up in Rank, ▼-Step down in Rank, Δ-Change in Score; Source: The Economist Intelligence Unit (EIU), Global Microscope, 2013, 2014, 2015.

**Table 2: Distribution of Countries by Score Quartile**

Score Quartile	No. of Countries		
	2015	2014	2013
00-25	1	5	2
26-50	32	31	35
51-75	19	16	17
76-100	3	3	1
<b>Total</b>	<b>55</b>	<b>55</b>	<b>55</b>

Source: The Economist Intelligence Unit (EIU), Global Microscope, 2013, 2014, 2015.

**Table 3: Region-wise Average Financial Inclusion Index Scores**

Name of the Region	2009	2010	2011	2012	2013	2014	2015	Mean Score
East and South Asia	41.2	42.3	37.8	41.2	43.7	49.0	51.0	43.74
Eastern Europe and Central Asia	41.2	42.7	40.5	38.5	40.8	43.0	46.2	41.84
Latin America and Caribbean	46.3	46.8	45.1	46.7	47.5	49.0	51.1	47.50
Middle East and North Africa	33.9	33.7	32.2	31.2	32.5	30.0	36.3	32.82
Sub-Saharan Africa	42.1	44.0	42.8	43.9	44.3	49.0	49.0	45.01
Average Global Fin. Incl. Index	43.7	43.9	41.5	42.7	44.1	46.0	48.0	44.27

Source: The Economist Intelligence Unit (EIU), Global Microscope, 2009-15.

**Table 3.1: ANOVA: Two Factor Without Replication**

Source of Variation	SS	Df	MS	F	P-value	F crit
Variation between Regions	909.76	5	181.95	63.17	5.13	2.53
Variance between Years	203.91	6	33.98	11.80	9.01	2.42
Error Variance	86.40	30	2.88			
Total Variance	1200.07	41				

**Table 4: Parameter-wise Financial Inclusion in India till 2015**

	Score/100		Rank/55	
	2015	Δ	2015	Δ
Microscope 2015 overall India's score	71	+10	4	+1
Government support for financial inclusion.	67 (R <sub>9,3</sub> )	0	12	0
Regulatory and Supervisory capacity for financial inclusion.	58 (R <sub>12</sub> )	+14	= 10	+15
Prudential Regulation.	63 (R <sub>11</sub> )	+30	= 31	+23
Regulation and supervision of credit portfolios.	89 (R <sub>1</sub> )	+11	= 6	+4
Regulation and supervision of deposit-taking activities.	83 (R <sub>4</sub> )	0	= 12	+9
Regulation of insurance for low-income populations.	94 (R <sub>1</sub> )	-6	1	0
Regulation and supervision of branches and agents.	83 (R <sub>4</sub> )	0	= 18	-7
Requirements for non-regulated lenders.	67 (R <sub>9,3</sub> )	0	= 9	-1
Regulation of electronic payments.	75 (R <sub>7,3</sub> )	+17	= 6	+7
Credit reporting systems.	75 (R <sub>7,3</sub> )	0	= 15	-1
Markets conduct rules.	81 (R <sub>6</sub> )	+6	= 7	+2
Grievance redress and operation of dispute resolution mechanisms.	83 (R <sub>4</sub> )	0	= 6	-1
Adjustment factor (stability and policies)	71	+24	= 13	+18

Source: The Economist Intelligence Unit (EIU), Global Microscope, 2015.

**Table 5: India's overall Score vis-à-vis East and South Asia Region's Score & Average Global Findex**

Name of the Region	2009	2010	2011	2012	2013	2014	2015	Mean Score
India's Overall Score	62.1	59.1	43.1	45.7	52.0	61.0	71.0	56.28
East and South Asia region Score	41.2	42.3	37.8	41.2	43.7	49.0	51.0	43.74
Average Global Fin. Incl. Index	43.7	43.9	41.5	42.7	44.1	46.0	48.0	44.27
Correlation Analysis:		East & South Asia Region Score			Average Global Financial Inclusion Index Score			
India's overall Score	Pearson Correlation	0.789*			0.887**			
	Sig.(2-tailed)	0.035			0.008			
	N	7			7			

\*. Correlation is significant at the 0.05 level (2-tailed), \*\*. Correlation is significant at the 0.01 level (2-tailed).

Source: The Economist Intelligence Unit (EIU), Global Microscope, 2009-15.

**Table 4.1: Results of regression analysis**

S.No.	Country/Region	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	S.E of Difference
1	India's Overall Score	0.308	0.095	-0.086	10.28
2	East and South Asia region Score	0.805	0.648	0.578	3.03
3	Average Global Fin. Incl. Index	0.709	0.503	0.404	1.65

Source: Calculated by using MS Excel

**Table 6: Financial Inclusion-Summary Progress of all Banks including RRBs**

Particulars (as on 31 <sup>st</sup> Mar)	2010	2011	2012	2013	2014	2015	CAGR (%)
Banking outlets in Villages:							
Branches	33,378	34,811	37,471	40,837	46,126	49,571	8.23
Villages covered by BCs	34,174	80,802	1,41,136	2,21,341	3,37,678	4,85,818	70.04
Other modes	142	595	3,146	6,276	N.A.	18,324	164.33
Total	67,674	1,16,208	1,81,753	2,68,454	3,83,804	5,53,713	52.26
Urban locations through BCs	447	3,771	5,891	27,143	60,730	96,847	193.19
Basic Saving Bank Deposits A/c – Branches							
No. in millions	60.19	73.13	81.20	100.80	126.00	210.30	28.43
Amount in billions	44.33	57.89	109.87	164.69	273.30	365.00	52.45
Basic Saving Bank Deposit A/c – BCs							
No. in millions	13.27	31.63	57.30	81.27	116.90	187.80	69.89
Amount in billions	10.69	18.23	10.54	18.22	39.00	74.60	47.49
OD facility availed in BSBDA's Account							
No. in millions	0.18	0.61	2.71	3.92	5.90	7.60	111.40
Amount in billions	0.10	0.26	1.08	1.55	16.00	19.99	188.51
KCCs (No. in millions)	24.31	27.11	30.24	33.79	39.90	42.50	11.82

Source: RBI Annual Reports (2010-15)

# EFFECTIVE DECISION MAKING THROUGH NYAYA-SUTRA INPUTS

Margie Parikh ★

*This theoretical paper presents guidelines for more effective group decisionmaking through more realistic perception as elaborated in the Nyaya Sutra-a classical system of thought from India. Adopting a descriptive approach, it illustrates the principles enshrined in Nyaya Sutras as applied to modern organizational situation. Traditionally, Nyaya literature has been studied by the scholars of Sanskrit language and Indian philosophy, but so far it has not been examined for its applicability in the field of management despite a number of relevant insights it holds for managers. The basic approach of Nyaya is to help remove the perceptual errors and dysfunctions of decision making process through structured dialogue in the group setting. This knowledge can be valuable for managers who are searching for an effective combination of western management models and the traditional Indian models as well as a greater focus on team-based management in their organizations. The paper ends by considering possible use of these insights into more fields of practice such as team building through further research.*

*Keywords: Decisionmaking, Uncertainty, Valid Perception, Indian thought on Decisionmaking, Nyaya Sutra*

Uncertainty implies ambiguity about the outcomes of various actions, when the situation is unpredictable (Brashers, 2001), and when information is incomplete or inconsistent. Managers need to reduce uncertainty (Greco and Roger, 2001; Sutton and Kahn, 1986) or manage it (Bradac, 2001), highlighting the importance of decisions. During transition, increasing uncertainty often increases psychological pressure (Marks, 2003; Weick and Quinn, 1999). Under this pressure, interpretation of what “it has in store for them” (Skordoulis 2007) is often characterized by individual differences in perception, and confusion over what should or should not be relevant (Chattopadhyay et al., 2001). Such decisionmaking may not always be rational, yet the managers are required to be effective an efficient both, through the choices and decisions they make in the face of uncertainty and realistic understanding of the situation.

## Nature and Aim

By nature, this is a review paper, which describes the facets of Nyaya framework as enunciated in source Sutras and it explanations. Having done that, this paper aims at applying the Nyaya framework of decisionmaking to a real, but disguised situation involving an employee seeking promotion and an effective way of determining whether he qualifies one.

## Review of Literature

This section summarises the literature in different streams of scholarly writing related to Nyaya Sutras and decisionmaking. An individual, group or organization –

entities at every level need to make decisions as part of their functioning. Resolution of Dilemma plays a central role in making decisions. Likewise, Dialogical method of decisionmaking is one of the methods used even today in order to eliminate or reduce uncertainty.

Decisionmaking is characterized by perceptions containing doubt, uncertainty, ambiguity and leading to dilemma. In case of tackling dilemmas, dialogical rather than traditional methods are recommended for decisionmaking as this enables individuals with conflicting views to reflect on those of others (Maclagan, 1998). The importance of dialogue has not changed through centuries in strategic decisionmaking processes and visioning processes (Kakabadse 2003). Creative employees even question their own ideas in order to avoid limiting the creative thinking process and their exposure to external sources (Andriopoulos, 2000).

Since current business and management world is widely accepted as the one in transition, it is of significant value to anyone affected by this transition to understand how deal with it better. The dialogical approach is elaborated with great detail in the classical literature of Nyaya in India. As the language of the original text was Sanskrit, and it was difficult to locate the material, the Nyaya literature – like many other works became less accessible than desired (Perrett, 2000).

As stated above, this paper aims at drawing insights from Nyaya literature from the perspective of a decision

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maker facing a dilemma and pressure to make effective choices, as the decision will directly affect whether his/her organization can negotiate effective change or not. As such, it differs in its approach from the leading Western thought as illustrated below (Table-1).

The cost of an invalid or ineffective decision is prohibitively high and often there are no second chances. Further, other stakeholders may have different perspectives on the issue. As Nyaya would put it, truth is complex in character and yields only to cooperation of many minds (SR P. 33).

Nyaya is described as a theory of logic and reasoning, the art and science of deep exploration based on systematic dialogue. The literal meaning of Nyaya is understood as “The science of right reasoning ... with the means of which the mind is led to conclusion ... (it is) the system which treats an argument more thoroughly than others.” (NS 43) The general Nyaya process of investigation involves phases of Doubt, ignorance or illusion; Systematic investigation based on dialogue, and conclusion or decision.

Socratic dialogue highlighted the importance of mutual, critical inquiry starting from “knowing when one does not know”. The key techniques centre around Refutation in order to investigate assumptions underlying judgments and actions, as well as making conscious the latent knowledge and assumptions that influence decisionmaking (Scordulis and Dawson 2007). Nyaya approach-representative of all Indian Logic-on the other hand, aimed at moving from doubt to certainty (JMpI) on the basis of valid criteria (Pramana) shaping the knowledge-event (Matilal, p.107, NS). According to Nyaya, invalid inference is psychologically impossible if and because we can refine reason and undoubted evidence (Hetu) from a fallacy (Hetvabhasa) (JM, p.353).

### I. The broad process and format of Nyaya

From doubt to decision in five steps:

The recommended final goal at the end of these five steps, is reaching valid conclusions - though the second possible goal is victory over the rival and gaining popularity. The inquiry for realistic knowledge can occur in solitude, dialogic set up or in an assembly (NS p.522).

Thus, the five steps are (Matilal, 75):

1. Statement of the position: Proposition (Pratijna)
2. Citing evidence: Reason (Hetu)
3. Invoking general principle with an example: Example (Drashtanta)
4. Submitting present case under general rule: Application

(Upanaya)

5. State the position as proven thereby: Conclusion (Nigamana):

What to ensure for making a valid conclusion:

### I. Creating the premises for decision using the Pramana

Nyaya considers direct experience, inference, analogy and authentic testimony as the accepted means of valid knowledge (Matilal p. 70), which we can roughly translate as criteria. The knowledge through Pramana is efficient, empirically useful, is not discrepant and is free from doubt (JM II p.628).

How does a decision maker know whether he/she has the valid Pramana? Nyaya provides three guidelines: (1) Unique properties (SR p. 47) representing the true nature of the issue or object (2) Invariable concomitance (Vyapti): verify that the object and its distinguishing property (ies) go together in all cases, across time and space (ES 419). This indicates generalisability of co-occurrence and ruling out the presence of one when the other is absent (3) Specific case analogous with the generality: Finally, the decision maker should verify that the chosen pramana adequately explains and suits the specific case. Nyaya suggests that the choice of those general elements with which the harmony of the specific is sought, is guided by the need for realistic knowledge that can be used.

### II. Recognizing dodging (Chala) and futile rejoinder(Jati) and avoiding it

Dodging is dysfunctional because the main point is missed while focusing too much on ambiguity (ES I p.183). The ambiguity is created when the first party makes a proposition in which there is a word that can be understood as a pun, by taking the specific key word to refer to the entire class and by taking a key word too literally. In all three cases, the primary intended meaning is not considered and the unintended meaning is caught for raising objection. The pun is easily recognizable, but the other two can unnecessarily drag the argument nowhere if not checked. Or, the first party also might be tempted to return the favour, degenerating effective inquiry.

A futile rejoinder (Jati) should also be detected and avoided because the objection is made only on the basis of similarity or dissimilarity of the example provided in support of the proposition, rather than providing own proposition. (ES I p.144), or inadequate reasoning set up in refutation of the reason given by the proponent (ES I p.145). A Jati misses the robustness of the criteria. There are 24 different Jatis, grouped below for ease of understanding, in the context of

the following example:

*“The Organization (O) is a globally known and successful organization that has entered a new area of business in recent past. The business in this new area was very competitive. Giant, globally respected competitors were already present whereas O was a late entrant whom no one noticed, and had relatively limited resources. The top management at O decided to differentiate the company through customer focus and satisfaction, and aggressive marketing, which could be measured by benchmarks of performance that included qualitative criteria of team playing and promoting the interest of the whole organization, rather than fulfilling targets of individual employees. These were considered critical for long term effectiveness, though not many people were very clear about their meaning. Five years down the line since the entry of O in to this new segment, there was high turnover in the position of Operational Head and the bottom-line did not look up very much with the market share languishing at 2%. The Vice President (V) brought one brilliant performer (P), known to V from past organization with almost implicit promise of promotion as an operational head in a year if P joined a level lower. P thought he did not have the bio-data that usually fit the bill, but he joined out of high regards he had for V. V himself was relatively new to the organization, was not very clear of the meaning of the qualitative criteria. As P started performing, he was not just hard working, but also outstandingly innovative and a brilliant marketer. Hence business increased, the market took notice of the organization O and the customers were pleased like never before. However, within the organization, the colleagues and subordinates complained of P’s poor team playing, poor cooperation and the erratic style of working, and his rough language. V called P and told him to ‘talk a bit more to that guy’ when they discussed P’s work. P did make modification in his style of working which was noted by several colleagues in their feedback on P’s performance, yet the change was no adequate to meet the benchmark. At the end of the year, the division had recorded spectacular growth in business, the market share had improved significantly, the customers were extremely pleased, but the colleagues and subordinates were disgruntled with P. If P is promoted, the subordinates may not like it. It may also be interpreted as the top management not being very serious about the criteria of team playing and working in the interests of the entire company, not racing towards one’s personal targets. If not promoted, P might leave and the performance of the division may nose-dive. Thus, in terms of Nyaya, the Vice President V, now faces a doubt over, “Is P a deserving candidate for promotion?”*

Textbox-1: Doubt and formulation of Decision issue in the context of an organization (identities protected) using Nyaya

In terms of Nyaya, V’s position can be formulated as:

1. P cannot be promoted (Position)
2. Because he did not perform to uphold all of the company values (Reason/evidence)
3. As per the 3600 Performance appraisal system, we must fulfil qualitative as well as quantitative criteria of performance (Accepted Principle / invoking generally acceptable principle)
4. What is there in the performance benchmarks, is not fulfilled by P’s performance feedback (Application of principle to the specific instance)
5. Therefore P cannot be promoted (Conclusion)

When P is called for the Performance Appraisal interview, he opposes the decision, giving rise to the situation of confrontation, joint inquiry and the validity of the decision as described by Nyaya. The valid decision depends on choosing the valid decision criteria (Pramana) with use of which the correct decision can be made.

A decision maker will need to recognise the following futile rejoinders to boss’s position that P should not be promoted:

- (1,2) If the proponent shows a similarity between an example and its property, the opponent also shows a similarity or dissimilarity (Table-2) in order to establish the contrary of the proposition (Sādharmyasama / Vaidharmyasama) (ES 148)
- (3,4) Imposing a property that does not exist, or Removing a property that exists in the example suggested by the proponent (Table-3) and thereby contradicting the decision or putting the proposition in doubt (Utkarshasama / Apakarshasama) (ES 153)
- (5,6) Highlighting that which is yet to be known (Table-4) and therefore uncertain to the example, or that which is known, and attaching it to the proposition (ES p.156-158) and thereby creating confusion (Varnyasama / Avarnyasama)
- (7) Quoting two opposite qualities of the same conclusion (Table-5) and thereby arguing that the reason or cause also is subject to contrast and therefore in doubt (Vikalpa).
- (8) Doubting which is object and which is criterion (Table-6) by arguing that if the object should follow criterion, then the criterion should also follow the object

(Sādhyasama)

(9, 10): Pointing that the cause and the effect unite or not unite (Table-7) – either way there is a problem. If they unite, there is nothing left to prove. If they do not, a relationship does not exist (Prāpti / Aprāpti).

(11) The opposition questions the validity of example (Table-8), questioning thereby the validity of the proposition (Prasangasam).

(12) Highlights a new criterion connecting the proposition and the example (Table-9). Then the opposition says that using this new criterion, opposite to proposition can be proven (Pratidrashtanta).

(13) The opponent argues that the proposition comes into existence from non-existence, so also its supporting ground (Table-10). Since the supporting ground also comes into existence when the proposition does, we cannot say that there is a valid causal relationship (Anuttattisama). (ES p.164).

(14) The opposition creates doubt regarding the real character of the proposition (Table-11) because its basis shares properties of conflicting nature (Samshayasama) (ES p.166).

(15) Vacillation: Opponent brings another analogy, another property or another proof (Table-13) that is equally strong (Prakaranasam).

(16) Doubt whether the reason given by the proponent is the valid cause (Table-13) of the object (Ahetusama).

(17) Opponent raises challenge to the proposition (Table-14) by asking if the proposed decision is valid, does it mean that everything else must have the property opposite to that of the proposition (Arthapatti).

(18) The opponent argues (Table-15) that if one property distinguishes two objects, then that property should distinguish all other objects (Avishesh).

(19) The opponent shows two different criteria (Table-16) leading to two opposite conclusions, creating doubt (Upapatti)

(20, 21): Opponent argues that the effect is independent of the cause (Table-17), or tries to show that it is not always seen that if there is not cause the effect is also not there (Upalabdhisam/Anupalabdhisam)

(22-23) Nityasam, Anityasam: Opponent generalizes the specific property existent or non-existent in the example (Table-18) beyond proportion to argue that if its presence or absence is valid in the broader context, it must be valid in the specific instance, too.

(24) The argument is based on opposite directionality

(Table-19) between the proposition and the example supporting it. This opposition is used to put decision in doubt.

What to Avoid

Check points or Nigraha-sthana

Check points are to be avoided to avoid defeat. There are twenty-two (22) such check points summarised below with some rearrangement:

1. Do not violate your own proposition (Table-20) by admitting the counter example as present in one's own example (Pratigyāhāni):
2. Do not shift your own proposition (Table-21): Note here that now the proposition has shifted from promoting P to a wrong move by the boss to have brought P to the organization. One proposition cannot prove another (Pratigyāntara).
3. Do not create contradiction between your proposition and the evidence or the proposition and any other components of your logic you site. Also, what is accepted as proposition should not later be turned into evidence. If the boss V said, "Look, as soon as I decided not to promote you, I realized that it is necessary for handling morale issues in our organization"; it would be a case of Pratigyāsanyāsa.
4. Do not renounce your proposition: During the heated argument between P and the boss V in our example, if P confronts him by saying, "You have pre-decided not to promote me and you are merely arguing with me now. What is the purpose?" To this if V asks, "Did I say that you should not be promoted?" This would be called Pratigyāntara.
5. Do not shift your evidence and reason (Hetu): When P confronts the validity of V's original evidence of non-fulfilment of qualitative criteria of performance, if V now shifts the stand and says, "Look, there is more to performance than just qualitative criteria. I have been given clear message from up there not to promote you." This will be called Hetvantara.
6. Do not put forward statements that are irrelevant to the proposition. For example, at some point, if the boss V asks P, "Okay, okay now – tell me how is your golf going." This sudden and irrelevant change would be called Arthāntara.
7. Do not use language inappropriately. Details on this section are removed because they are self explanatory and they do not offer anything new to those trained in effective communication.

8. When opposition points out a flaw in your statement, do not say that “The same flaw is present in your statement also” (Matānugyā)
  9. When there is a check point in the opponent’s argument, do not miss it (
  10. Do not point out a check point where none exists
  11. Do not miss remaining within accepted theory (Apasidhānta): In the example of the performer P, the boss has explained that the decision not to promote is due to non-fulfilment of qualitative criteria of performance. Now the boss cannot say that, “Forget about our benchmarks. The people at the top do not see you as ready for promotion now.”
  12. Steer clear of the fallacies of your reasoning (Hetvābhāsa) (ES I p. 271-276):
    - (a) Indeterminate: This fallacy leaves the reason inconclusive. Thus, the decision cannot be reduced to a clear choice or a definite conclusion. In the form of this fallacy, the proposition is present in one’s own example as well as a counter example. For example, “I should be promoted because my performance has been good”. Here “Good” can be both in terms of quality criteria, quantity criteria, or both. Stated this, it does not help a valid decision.
    - (b) Contrary: Do not contradict the accepted theory. For example, the boss cannot say that “I do personally believe that performance is all about numbers.”
    - (c) Neutralized reason: This is same as the Jati Prakaranasama, where both the example and the counter example, the analogy or the reason are equally powerful on both sides so as to create confusion and doubt. The key is in relying on that reason that leads to definitive interpretation of the issue and therefore a valid decision. But as an opponent one should refrain from adding to doubt.
    - (d) Do not give an Unrealistic reason: This is also a Jati called Sādhyasama where the validity of the reason itself is in doubt. For example, Proponent: “Shadow is a substance because it has movement.” Here, the ground that shadow has a movement is yet to be proved.
    - (e) Ill-timed: Do not make a proposition which is contradicted by a more authentic source of knowledge.
  - I. Prevent endless scepticism without taking a position (Vitandā)
- Vitandā is a controversial argument by nature (NS 522). The sceptic gives a total and simple rebuttal of the proponent’s

position, without articulating his own position. There is no counter-position that can be validly examined by the proponent. This argument can also include motiveless malignity on one hand or genuine scepticism and desire to suspend all judgment on the other. However, complete scepticism is denied by Nyaya as evident in this question, “Can there be anyone without a belief? Therefore can there be anyone without a position?” The Vitandā approach, in all chances only refrains from articulation of own stand, and keeps on denying or refuting the stand taken by the other party. Since this does not facilitate the process of collaborative enquiry and examination, impedes practical behaviour (JM p.369), Nyaya prescribes avoidance of Vitandā as contrary to Nyaya belief that nothing in itself is doubtful, everything is an object of valid knowledge. In our example, Vitandā stand by P would cause responses like,

V: “I conclude you should not be promoted.

P: “That is not a good thing to do”

V: “Well, I think so because your performance has not fulfilled qualitative criteria of performance.”

P: “Qualitative criteria are not the only thing that decides promotion.”

V: “Are you saying that I should focus only on quantitative criteria?”

P: “Now I have not said that, have I?”

## Conclusion

As illustrated above, the Nyaya framework is relevant even today, despite passage of centuries since it was first enunciated. However, in the first reading it seems difficult, complex and less accessible. This complexity can be averted by recognizing how to frame the decision issue, what arguments to expect from opposing side, and which errors can afflict the resolution of doubt. The list of possible errors and confusions is so comprehensive, that the preparation for decisionmaking can be made without actual presence of an opponent, and all the expected errors can be identified and thus eliminated.

### Future research

This paper is the product of an attempt to link the Nyaya literature to the challenges facing decision makers, especially the ones facing uncertainty, and dilemma, and the ones who are new to negotiation and decisionmaking. The major merits are the approach of Nyaya to the nature of knowledge, use of pramana and the tips that can help a

decision maker identify the dysfunctions of a dialogue that is supposed to lead towards valid knowledge. The detailed classification of dodging (Chala), Jati (quibble) and Check points (Nigrahastāna) are immensely valuable to the new decision makers and can provide a fresh perspective or handy tips for the experienced ones.

The example used for the purpose of illustrating various dysfunctions of dialogue, is based on a case study (Rob Parson at Morgan Stanly (A), 9-498-056, rev. 1998 Harvard Business School Publishing) that was discussed in MBA class on Organization Behaviour. It is suggested that Nyaya framework be tried in different decisionmaking situations involving dyads and teams at various levels in organizations in various context to further test its efficacy. Further work is also required in guiding managers in their search for appropriate pramana or their decision criteria.

Abbreviations:

SR: S. Radhakrishnan  
BKM: B K Matilal  
ES: Esther Solomon  
JM: J. Mohanty  
NS: Nagin Shah

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**Table 1: Dialogue and its logic: The Western and the Nyaya perspectives**

Point of difference	Western Perspective	Indian Perspective
Basic Position	(Descartesque) free will to withhold our consent from whatever is doubtful. (JM Vol. II)	Whatever exists can be realistically known through awareness and consciousness (BKM).
Perception	Universal doubt: Senses mislead (JM I P.365).	Perceptual illusions and fallacies can be removed for accurate perception. Illusions arise because of part-perception, attributing qualities that do not exist or perceiving one thing as another (SR II p.71). Fallacies arise due to invalid reason (CR p.108)
Format	‘Destruction test’: for positions and arguments. What remains is knowledge. (Matilal p. 69)	Investigation avoiding pitfalls and following guidelines, to reach certitude and conviction (Niscaya), using valid criteria (Pramana) (SR II p.122)
Process	Thought is abstracted from its psychological context as far as logic is concerned (JM I p 351)	Doubt is. Does not do away with psychology (JM I p. 351)
Sources of knowledge	Perception, reasoning, introspection, memory	Four Pramanas: Perception, Inference, Analogy, Verbal testimony from authentic sources (Matilal 22)
Meaning of the word Knowledge	Processing data into meaning (information), then using information to learn (Coming of Knowledge Based Business, Harvard Business Review, Sept – Oct. 1994, p.164.)	Illusions, error, doubt are part of unrefined Knowledge, having potential to be refined into valid knowledge if processed effectively (JM 352).
Type of relationships (ES 1978)	Causality or causal relationship to shorten inquiry.	(1) Causal (2) Conjoined or mutual exclusion (3) One variable inherent in another
<b>Issue</b>	<b>Similarities between the two perspectives</b>	
Approach	Contain systematic principles of reasoning, distinguished the true from the false, gave elaborate account of argumentation – by Gautama for Nyaya and Aristotle for the western Logic.	
Inference	Role in attribution and establishing correlation or causal relationship between variables	
Aim	Aim to obtain valid knowledge, in order to understand, solve problems	

**Table 2: Recognizing and avoiding Futile Rejoinders**

Opponent (P):	<ul style="list-style-type: none"> <li>Well, the performance is about the numbers ultimately, and I gave you excellent numbers.</li> <li>You forget that before me no one stayed in this position and no one else could take the division where I have. So, you should promote me.</li> </ul>
Why not valid	The Nyaya guideline is to look for sustainable and universal concomitance (Vyāpti) (ES 148). Here we find that for organizational excellence and long term organizational effectiveness, we cannot ignore the qualitative criteria. Once accepted by the organization as the benchmarks, these criteria also become internally, universally applicable to all evaluation of performance. Thus, the argument of ‘ultimately it is all about numbers’ is not valid. “Others did not stay’ is also not valid because the decision is about fulfilling criteria, not tenure.

**Table 3: Recognizing and avoiding manipulation the inherent characteristics of the situation**

Opponent (P):	<ul style="list-style-type: none"> <li>If the performance appraisal is the basis to decide my promotion, then you collect the performance data every quarter for feedback. You should consider promotion also every quarter.</li> <li>The performance appraisal shows that those who have met the qualitative criteria, have not done half as well as I have on quantitative criteria. So, your decision is doubtful.</li> </ul>
Why not valid	Nyaya calls this Jati Unrealistic reason, as mere imposing or removal of a property cannot give a valid grounding into sustainable criteria. Mere existence of a similar feature in example is not sufficient for valid doubt.

**Table 4: Recognizing and avoiding confusion**

Opponent (P):	<ul style="list-style-type: none"> <li>•You decide that I cannot be promoted, on the basis of our PA system. But the effectiveness of the PA system itself is doubtful. First we need to fix that.</li> <li>•You should decide against our PA system that fails to recognize outstanding performance.</li> </ul>
Why not valid	According to Nyaya, the opponent is confused about the nature of the proposition and the example. The nature of the example (PA system with its criteria) is essentially determined and certain, as it represents what is already decided and chosen. By putting that as an uncertainty, the opponent shows unawareness of either the means or the ends. In the second case, the proposition is essentially uncertain as it is a decision yet to be made. But making it certain (my non-promotability) to question the validity of example (changing our PA system) suffers from fallacy of unrealistic reason.

**Table 5: Recognizing and avoiding unnecessary contradiction**

Opponent (P):	The appraisal of my performance has pointed out non-fulfilment of quality criteria, but the same appraisal also acknowledges that our customers are more satisfied than ever. Thus, your decision not to promote me has not considered all aspects, so now revise it to promote me.
Why not valid	Opponent misses the point because if an object has some properties, there are bound to be some qualities common with some other objects, may be opposite in nature. The question is not of similarity or dissimilarities, but of distinguishing characteristics representing the real nature of the object.

**Table 6: Avoiding confusion between objective and criterion**

Opponent (P):	On so many occasions the performance is decided by the PA system. On this occasion, the PA system can also be decided to suit the unique case of mine.
Why not valid	The mistake here, as in case of five above (3-8) is to confuse the certain nature of the criteria of performance accepted as valid by the organization. If those are the accepted values, they have to guide the decision. So, we cannot put that as a proposition again. (ES 161)

**Table 7: Recognizing and avoiding confusion involving cause-and-effect relationship**

Opponent (P):	<ul style="list-style-type: none"> <li>•If you do not promote me; that means that non-fulfilment of quality criteria is inherent in cases of non-promotion. This means that your criterion is inherent in the objective you try to establish. How can you use one thing in order to prove the same thing?</li> <li>•If you do not agree with the preceding argument, then you do not agree that your criterion is not inherent in the objective that means that your criterion and the objective are unrelated. If they are unrelated, how can criterion help achieve the objective?</li> </ul>
Why not valid	Denial of the cause and effect relationship, and this Jati repudiates all kinds of reason (Hetu). Using this logic, no argument, including counter argument ("I should be promoted") itself can be established, as any effort to come to a conclusion will have to rely on reason and causality. Thus this Jati is a logical fallacy. (ES 161)

**Table 8: Ensuring validity of example**

Opponent (P):	What is the proof that the PA system we have adopted has valid criteria?
Why not valid	Opponent wants the proof of the proof also. This argument can lead to endless regress unless the opponent understands the reason, example and the principle supporting it. Nyaya equates this point with seeing the lamp: in a dark room, in order to see a lighted lamp, one does not need to light another lamp (ES 162).

**Table 9: Avoiding addition of new criteria**

Opponent (P):	Well, when you hired me, you almost implicitly offered me promotion after a year if I accepted your invitation and joined. So, now promote me.
Nyaya Interpretation	The counter-instance is given, but it is not supported by reason (Hetu).
Why not valid	Giving a counter instance does not render the original example a non-proof. Further, there is no Criterion (Pramana) extended for validity of this counter example (ES p.163).

**Table 10: Protecting the grounds of propositions**

Opponent (P):	You say I cannot be promoted due to non-fulfilment of qualitative criteria. But how about my performance before this juncture? If it was worth promotion then, why not now? If it was not worth promotion, why did you select me in the first place?
Why not valid	It is a logical fallacy. Success in past need not be an automatic proof of future success. The guide here is to identify the Pramana (here the company philosophy and general management principles) that guide the decision. We do not know the Pramana guiding previous promotions.

**Table 11: Protecting the realism of propositions**

Opponent (P):	Your decision not to promote me is doubtful. On one hand you say it is due to non-fulfilment of qualitative criteria. However, so many other organizations do their PA very satisfactorily without these criteria, too. If they have no problems, why do you restrict yourself by them?
Why not valid	There will be numerous properties of anything that exists, and so there cannot be an end to sharing some property with something else – even the opposite. The doubt is eliminated by apprehending the distinguishing characteristic of one of those – in this case, the link between the performance appraisal and those criteria that are backed by the policy, failing which, the entire exercise may lose credibility.

**Table 12: Recognizing and avoiding vascillation**

Opponent (P):	You brought me in because the company had entered the market with the giants already present. It was my creativity and hard work that got us the spectacular rise in the market share. That does deserve a promotion. If you do not reward creativity and drive, who will show it in their performance?
Why not valid	The vacillation is due to absence of the decisive knowledge about which of the two equally convincing arguments is valid. (P.169) This, in fact, is one of the most crucial opposition. The opponent's assumption is, 'promotion is the only reward'.

**Table 13: Protecting the validity of the cause**

Opponent (P):	What are the causes of promotability? (Fulfilment of quality and quantity criteria). When do they operate? If in the past, there was no promotion accompanying them. If they were not working, we cannot say that they cause promotion. Since there is no causal link between your decision and reason, your decision is doubtful.
Why not valid	This argument is about the doubtful nature of the reason itself. In the face of this argument, we should prove that a valid link does exist between the proposition and the reason.

**Table 14: Protecting the validity of proposition**

Opponent (P):	You say I should not be promoted. Are you then going to promote everybody else?
Why not valid	What the proponent's statement did not expressly state, is taken by implication to create a counter example in a blown-up form. If this can be done by the opponent, the proponent can also do the same: to again come to the original statement. (P. 171)

**Table 15: Clarity of properties of the onject**

Opponent (P):	If Qualitative criteria separate promotability and non-promotability, then everything should also be decided on this basis only. Why consider quantity criteria at all?
Why not valid	The point is about which property (out of quality and quantity criteria both, and only quantity criteria) can form sustainable link with the object – not merely distinguishing or non-distinguishing the objects.

**Table 16: Avoiding new addition of new criteria**

Opponent (P):	If you consider rapid growth, my performance is worthy of promotion. If you consider company philosophy, my performance does not qualify for promotion.
Why not valid	The existence of different grounds and perspectives is undeniable. If the opponent accepts the existence of both grounds, he admits the truth of the proposition. If he denies, then he has denied his own ground. The guide here again is checking the strength of the accepted Pramana, which supports the proponent and not the opponent.

**Table 17: Maintaining connection between cause and effect**

Opponent (P):	<ul style="list-style-type: none"> <li>• There would be many people willing to promote me independently of the quality criteria also, thus showing that your conclusion is not supported by a valid reason.</li> <li>• It is not always seen that if the quality criteria are not satisfied, the promotion is not given. So, why must we?</li> </ul>
Why not valid	The first argument is not valid on the ground that proposition can not be denied by counter-reason. In case of the second argument, if the other decision makers do not apprehend that they are non-apprehending the obstruction to effective decision, the obstruction does not cease to exist – in fact it proves the contrary. (P. 175, 177)

**Table 18: Not going beyond the scope of example**

Opponent (P):	<ul style="list-style-type: none"> <li>• On a broader perspective, I have been an outstanding performer, so sooner or later you have got to promote me. So why not now itself?</li> <li>• If I can't be promoted, no one else can be, because they all have some or the other commonality with my performance.</li> </ul>
Why not valid	In the first case, the generalization goes beyond proportion, leading to speculation, while it is appropriate to consider a specific situation. In the second case, others sharing a "non-fulfilment of quality criteria" or absence of something is not a distinct property and therefore not valid.

**Table 19: Maintaining the directionality**

Opponent (P):	My performance is the result of my efforts. It comes in to existence after effort. Non-satisfaction of quality criteria you mention, imply something that exists but ceased to exist in case of my performance. Thus you are using what ceased to exist, for explaining what comes into existence, but because of this contradiction, your decision becomes doubtful. Further, if the 'promotability' criteria existed, you never made them clearly manifest to me. So now how can you use them against me?
Why not valid	Opposite directionality of reason and proposition is a superficial contention. Mere non-manifestation is not a valid ground. Whatever exists, can be apprehended by effort and by inference.

**Table 20: Not violating own proposition**

Proponent (P)	"I cannot promote you because you did not fulfil the qualitative criteria of performance."
Opponent (O)	"You decided against my promotion on the basis of qualitative criteria, but you forget that before me there was a high turnover in this position that I hold now and no one else could take the division where I have. So, you should promote me."
Proponent (P)	"If you did what no one else could do, then let the performance criteria accommodate that."

**Table 21: Adhering to own proposition**

Proponent (P)	"I cannot promote you because you did not fulfil our qualitative criteria of performance."
Opponent (O)	"You decided against my promotion on the basis of qualitative criteria, but you forget that before me there was a high turnover in this position that I hold now and no one else could take the division where I have. So, you should promote me."
Proponent (P)	"It was probably not a good move on my part to bring you in this division because you are very different from the rest of the employees in our organization."