

# SEMCOM

## Management & Technology Review

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Research Ethics- A Quest

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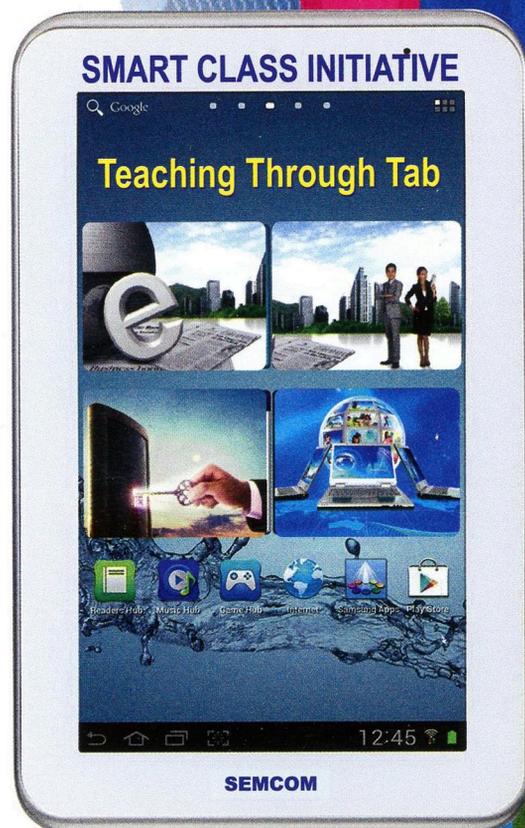
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## Editorial

Once again I am pleased to present before you the second issue of SEMCOM Management and Technology Review with a variety of research deliberations in the areas of finance, accounts, e-business, marketing, mobile technology, women empowerment, industrial and service sectors as well as education.

It is really a matter of great pleasure to see SMTR receiving research papers from such varied disciplines and with focused and in-depth research outcomes in these areas.

A study on analysis of financial parameters of apparel industry and leverages and profitability of engineering companies highlight what companies need to focus on to develop a system to cope with their problems. With an increase in the habit of online shopping the experience of digital native is worth studying. At the same time online companies need to study web mining model to boost their page ranking on search engine. Banks can also refer to a study on how mobile banking can be optimally used to have a competitive advantage.

Those who study Indian economy can go through the study on how dairy farming can improve rural livelihood and India's potential in poultry export. Available government aids for rural women entrepreneurs and what motivates managerial women are two studies focused on women empowerment. Rural development seems to be having a lot of research potential and hence one of the studies is on the effects of TV Ads on the buying behavior of rural and urban adolescents.

Challenges before power sector give idea on how the state governments can strategize the use and management of electricity, while a study on educational programmes by SEBI offers guidelines to investor education.

In quest of quality education, findings on two referred studies on quality teaching and innovative use of smartphones for teaching are eye openers for academic administrators. An environment concern raised through a study of carbon credits poses opportunities and challenges of small scale industries.

I am convinced that this issue would enable the readers to see and realize the scope for research in varied and multidisciplinary areas. I wish the readers fruitful and enjoyable reading experience.

Nikhil Zaveri  
Chief Editor

## **OUR DREAM :**

**To establish a unique  
identity in the emerging  
Global Village.**

## **OUR VISION :**

**To contribute to the societal enrichment  
through quality education,  
innovation and value augmentation.**

## **OUR MISSION :**

**To build up a competitive  
edge amongst the students by  
fostering a stimulating learning environment.**

### **Objectives / Goals**

- To focus on integral development of students.
- To offer courses and programs in tune with changing trends in the society as a whole.
- To update the curriculum as per the need of the business and industry.
- To create unique identity in the educational world at the national as well as international level.
- To institutionalize quality in imparting education.
- To incorporate innovations on a continuous basis in the entire process of education at institutional level.
- To create platform for the students for exhibiting their talent and for development of their potentials.
- To generate stimulating learning environment for students as well as teachers.
- To build cutting edge amongst the students to withstand and grow in the competitive environment at the global level.

# Financial Parameters Analysis: The Apparel Retail Industry

Nikhil Zaveri, Preethi Menon

## Abstract

The apparel and textile industry caters to one of the most basic requirements of people and holds importance; maintaining the prolonged growth for improved quality of life. The sector has a unique position as a self-reliant industry, from the production of raw materials to the delivery of end products, with considerable value-addition at every stage of processing. Over the years, the sector has proved to be a major contributor to the nations' economy. Its immense potential for generation of employment opportunities in the industrial, agricultural, organized and decentralized sectors & rural and urban areas is noteworthy. The retail industry has unique profitability function as compared to the rest of industries in India. Though many studies have been conducted in analyzing profitability of various industries including retail industry in India, the present study would help to understand financial variables pattern and structure of leading Apparel Retail industries in India. Therefore the present study is undertaken to give an insight into the performance of selected Apparel units from retail Industry. The study of profitability would be helpful to various stakeholders.

Hence the study aims at identifying and formulating the performance indicators in order to achieve true and fair evaluation of corporate

## Introduction

The word retail is derived from the French word "retailer" meaning to cut a piece of or break a bulk. It involves a firsthand transaction with the customer. It has the opportunity to deal with the purchaser directly.

Modern Retail has seen a significant growth to capture the huge potential of the USD 300 Billion market. Foreign apparel brands including luxury brands have set up shop in India through Franchisee/ Joint Venture route and have expanded rapidly over the years. As such, India provide a profitable market for them to grow their top line as well as bottom line.

The past decade has been optimistic for the Indian Retail Industry. On the demand front, customer spending has been increasing and brand consciousness is expanding. Consumers are looking for better shopping experience to harness different lifestyles. Market liberalization and mounting consumer population is sowing the seeds of a retail transformation bringing in Indian and multinational operators. The Indian consumer is in the king's chair as what in the more developed countries of the world have been for decades.

In India, after agriculture the retail is the second largest sector that provides enough employment to Indian workforce. Today, young India favor branded goods. With the spread of satellite televisions and visual media, urban lifestyle trends have spread in the rural areas also. According to AT Kearney's report the total organized retail which now constitutes a small four per cent of total retail sector is likely to grow at a much faster pace of 45-50 per cent per annum. One of the major reasons behind the explosion of retail is that it provides employment opportunities at large scale.

Growth in Indian retail has been propelled by the country's economic fundamentals over the past few years, including an increase in the proportion of upper income households, rising consumption /expenditure and greater use of credit cards. Consumers are showing keen interest in the organized retail, resulting in increased growth from US\$ 390 billion in 2011 to US\$ 670 billion by 2014.

## About The Present Study

The present study is undertaken to give an insight into the financial performance of selected Apparel units from the Industry. Since the Retail Apparel Industry is in the nascent stage, there is no proper framework to evaluate the financial performance of companies in the given industry environment.

performance in retail apparel for the garment sector and thereby evolve an appropriate framework for financial analysis.

In the present study financial statements of last 7 years (2003-2010) have been taken into consideration for analysis.

The study has attempted to take the integrated view of financial management finding the relationship between different financial variables by

formulating various hypotheses which have been statistically tested. With regard to Apparel Retail Industry, capital structure, working capital vis-a-vis Stock & Debtors, Inventory Turnover, Fixed assets turnover and credit period have been significant factors to drive profitability.

### Hypotheses

**Table 1**

**Ho: Debt equity ratio has no impact on Return on Capital employed and Interest Coverage ratio**

Ratio	t	Df	Sig(2 tailed_test)	Mean Difference	Std. Error Difference
Debt equity with Return on Capital employed	-6.281	10	.000	-11.06	1.76
Debt equity with Interest Coverage ratio	-3.205	10	.009	-5.24	1.63

**Table 2**

**Ho: Inventory turnover ratio has no impact on Return on Capital employed**

Ratio	t	Df	Sig(2 tailed_test)	Mean Difference	Std. Error Difference
Inventory Turnover ratio with Return on Capital Employed	-3.786	10	.004	-7.01	1.85

**Table 3**

**Ho: Stock to working capital ratio has no impact on net profit ratio and Return on Capital employed**

Ratio	t	Df	Sig(2 tailed_test)	Mean Difference	Std. Error Difference
Stock to working capital with Net profit ratio	11.94	10	.000	80.05	6.70
Stock to working capital with Return on Capital employed	10.454	10	.000	72.20	6.90

**Table 4**

**Ho: Debtors to working capital ratio has no impact on net profit ratio and Return on Capital employed**

Ratio	t	Df	Sig(2 tailed_test)	Mean Difference	Std. Error Difference
Debtors to working capital with Net profit ratio	1.527	10	.158	14.18	9.28
Debtors to working capital with Return on Capital employed	.674	10	.516	6.32	9.38

**Table 5**

**Ho: Fixed Assets Turnover ratio has no impact on Gross Profit Ratio**

Ratio	t	Df	Sig(2 tailed_test)	Mean Difference	Std. Error Difference
Fixed Assets turnover with Gross profit ratio	-7.059	10	.000	-25.46	3.60

**Table 6**

**Ho: Credit period has no impact on Debtors Turnover ratio**

Ratio	t	Df	Sig(2 tailed_test)	Mean Difference	Std. Error Difference
Credit period with Debtors Turnover	-.446	10	.665	-13.60	30.47

**Analytical View**

The table No1, the p-value (sig. (2-tailed)) for testing  $H_0$  is 0.000 which is less than 0.005, we reject the null hypothesis at 5% level of significance which indicates that Debt Equity structure has impact on Return on Capital Employed. Hence it is necessary to balance the Debt Equity so as to measure Return on Capital Employed.

The table No 1 as the p-value for testing  $H_0$  is 0.009 which is lesser than 0.01, we reject the null hypothesis at 1% level of significance which indicates that debt equity ratio has an impact on interest coverage ratio. This reveals that company has to consider these variables for smooth servicing of debts. It also indicates that higher Debt equity

ratio has to be accompanied by high Interest Coverage Ratio.

The table No 2 as the p-value (sig. (2-tailed)) for testing  $H_0$  is 0.004 which is less than 0.005, we reject the null hypothesis at 5% level of significance and it suggest that there is relationship between inventory turnover and Return on Capital employed. More the inventory turnover, higher is the Return on Capital Employed.

The table No 3as the p-value for testing  $H_0$  is 0.000 which is lesser than 0.005, we reject the null hypothesis at 5% level of significance and the result indicates that there is significant relationship between stock to working capital and net profit ratio. Since stock is a major part of working Capital ,it has greater impact on Net profit, thereby, it establishes its relationship with Return on Capital employed which is reflected below. Though

debtors also constitute part of working capital, but it has been found that it has no impact on Net profit and Return on Capital employed. Thus, stock is a focus area which needs to be properly managed.

The table No 3 as the p-value for testing  $H_0$  is 0.000 which is lesser than 0.005, we reject the null hypothesis at 5% level of significance and the result indicates that there is significant relationship between stock to working capital and return on capital employed

The table No 4 as the p-value for testing  $H_0$  is 0.158 which is greater than 0.005, we cannot reject the null hypothesis at 5% level of significance and the result indicates that there is no significant relationship between debtors to working capital and net profit..

The table No 4, the p-value for testing  $H_0$  is 0.156 which is greater than 0.005, we cannot reject the null hypothesis at 5% level of significance and the result indicates that there is no significant relationship between debtors to working capital and return on capital employed.

The table No 5 as the p-value for testing  $H_0$  is 0.000 which is lesser than 0.005, we reject the null hypothesis at 5% level of significance and the result indicates that there is significant relationship between fixed assets turnover and gross profit which indicates that with the effective utilization of fixed assets the company can raise gross profit level. This reflects that the efficient use of fixed assets would contribute to gross margins significantly; hence, in order to maximize gross margins, the monitoring system needs to be evolved for efficient use of fixed assets.

The table No 6 as the p-value for testing  $H_0$  is 0.665 which is greater than 0.005, we cannot reject the null hypothesis which suggest that there is no significant relationship between credit period and debtors turnover. Credit period is one tool by which you can increase sales. However realizing debtors over a period of time has no relationship with credit period offered. It does affect the sales but does not affect debtors turnover.

### Financial Management in Brief

In order to understand the financial intricacies six major players were studied over a period of seven years i.e from 2002 to 2009.

In view of the fact that the Apparel Retail Industry is operating at high Direct Costs, the financial management becomes very crucial as well as technical with a vigilant eye on the movement of funds. The data reveal that the cost structure is heavily concentrated at direct costs ranging from

70% to 80%. This reflects the inability of the Industry to gain economies of scales since the fixed costs (Indirect costs) hover around 20% to 30% of the total costs. Thus increase in volume is accompanied by the same percentage of increase in direct costs. Also the study reveals that Break Even point stands at 75% to 85% for the Industry. Thus the Industry has lesser margin of safety; and is earning profit under strenuous conditions. Since the study establishes the fact that Debt Equity has significant impact on Return on Capital Employed, and Interest coverage, the companies have to go for the efficient management of Debt and Equity incorporating the strides of booming market and bearish market. Also, the eye has to be kept on efficient interest coverage ratio. In most of the companies under the study, Interest coverage ratio is declining while Debt equity ratio is rising.

It is observed that Fixed Assets turnover has significant impact on Gross profit. Therefore, utilization of fixed assets calls for efficient management, which will contribute to increase in Gross margin. The companies under study are not doing well with regard to Fixed Assets Utilization. This is the area which can generate gross margins.

Inventory turnover and stock to working capital have been two important factors which have a bearing on Return on Capital employed. Thus, in order to maximize Return on Capital employed, these two factors need improvement with regard to inventory and stock. The companies are not doing well in terms of inventory turnover: however their stock to working capital is satisfactory.

Another significant observation is sales are increasing but net profit margin is decreasing due to fact that indirect costs are increasing and not under control for all majority of companies.

In conclusion, the companies need to focus on Debt- Equity Management, Interest coverage, Inventory turnover, stocks and Fixed Assets turnover because they have significant impact on ROCE. Thus, they need to develop a system and structure which monitor the financial environment of companies in an efficient manner.

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# Internet Consumption Practices of Young Digital Native as Online Shoppers

Raju M. Rathod, Bhautik A. Patel

## Abstract

The concept of the digital native has gained popularity in recent times. It is imperative to develop and promote a realistic understanding of young people and digital technology with a view to supporting information professionals in playing useful and meaningful roles in supporting current generations of young people. This research builds upon the discourse surrounding digital natives. A literature review into the digital native phenomena was undertaken and found that researchers are beginning to identify the digital native as not one cohesive group. Primary research by means of questionnaire survey of digital technologies used by youngsters was carried out. An attempt has been made to study the internet consumption practices of young digital native as online shoppers.

## Introduction

There are a number of labels to pronounce the young people currently studying at school, college and university. They include the digital natives, the net generation, the Google generation or the millennial. All of these terms are being used to highlight the significance and importance of new technologies within the lives of young people.

The past few decades have witnessed the rapid development of information and communication technology around the world, as well as continuing efforts to introduce technology into education system. Major aspect of modern life is touched by use information technologies. Politicians e-mail their constituents, offer video introductions to their campaigns on their websites, and provide volunteers with sophisticated digital tools to organize events on their own. Even religion is being transformed

If all the “digital natives” in the world combined to form their own country, it would be slightly larger than the US, according to a report from the International Telecommunications Union (ITU) and the Georgia Institute of Technology, which together constructed a model to estimate the number – and penetration – of digital natives around the world.

Out of the world’s population of 7 billion, an estimated 363 million count as digital natives, as per the report. That’s 5.2% of the world’s population – but that figure varies significantly by country.

The researchers find that the country with the highest proportion of digital natives in its population is Iceland, at 13.9%.

Next on the list is New Zealand (13.6%), followed by the Republic of Korea (13.5%) and Malaysia (13.4%), with Lithuania (13.2%) rounding out the top 5. Where’s the US? Up next, in the 6th spot, with 13.1% of its population counting as digital natives. Barbados (13.1%), Slovakia (12.7%), Latvia (12.3%) and Denmark (12.3%) round out the top 10. Also unsurprising: the countries with the largest populations tend to field the largest absolute volume of digital natives. China leads with 75.2 million digital natives, although it’s far down the list in terms of concentration at 89, with only 5.6% of its population deemed digital natives.

The US boasts 41.3 million digital natives (95.6% of its 15-24-year-old population are digital natives – more details on internet penetration in the US can be found here), while India sports 22.7 million (just 1.8% of its population), slightly ahead of Brazil (20.1 million; 10.1% of its population).

## Digital Natives from Marketing Perspective

A ‘digital native’ can be defined as an individual who has grown up immersed in digital technology and is technologically adept and interested.

The digital native is described in direct contrast to the 'digital immigrant', who having been exposed to digital technology later in life is fearful of it, mistrustful and lacks the skills to use technology adeptly. According to Prensky's vision, all young people who have grown up since the widespread advent of the personal computer can be considered digital natives, and, by elimination, all older people are digital immigrants. They were all born after 1980, when social digital technologies, such as Usenet and bulletin board systems, came online. They all have access to networked digital technologies. And they all have the skills to use those technologies. Major aspects of their lives—social interactions, friendships, civic activities—are mediated by digital technologies. And they've never known any other way of life.

Digital Natives are constantly connected. They have plenty of friends, in real space and in the virtual worlds—indeed, a growing collection of friends they keep a count of, often for the rest of the world to see, in their online social network sites. Even as they sleep, connections are made online, in the background; they wake up to find them each day. Sometimes, these connections are to people the Digital Native would never have had a chance to meet in the offline world. Through social network sites, Digital Natives connect with and share photos with friends all over the world.

The specific label of "digital native" derives from a series of articles written since 2001 by the US technologist Marc Prensky. He described the generation of young people born since 1980 as "digital natives" due to what he perceived as an innate confidence in using new technologies such as the internet, videogames, mobile telephony and "all the other toys and tools of the digital age". Rather than using digital technology merely as part of their everyday lives, Prensky argued that technology was essential to these young people's existence – depicting young people as now being constantly "surrounded" and "immersed" by these new technologies in ways that older generations were not. Recently, Prensky has argued that this permanent state of technological immersion and dependence is encapsulated in the lifestyles of upcoming generations of "i-kids", who remain "plugged into" portable, personalised devices such as mobile telephones, mp3 players and handheld games consoles.

Unlike individuals of previous generations who have had to adjust to a world dominated by digital technologies digital natives feel comfortable living their lives online and have readily incorporated new forms of communication, such as email and social networking, into their daily lives. While Palfrey and Gasser believe digital natives have the capacity to use digital technologies to bring about positive change, they remain cautious about the possibly negative outcomes that could develop if certain tendencies of this group, such as disregard for privacy, continue unabated. Palfrey is a professor of law and vice dean of Harvard Law School, and Gasser is an associate professor of law at the University of St. Gallen. Both have written about and extensively researched the relationship between the Internet and society.

Digital Natives don't just experience friendship differently from their parents; they also relate to information differently. Digital Natives are tremendously creative. It is impossible to say whether they are more or less creative than prior generations, but one thing is certain: They express themselves creatively in ways that are very different from the ways their parents did at their age.

Internet shopping represents a new industry and commerce with corresponding levels of praise and concern. It is both the "golden child" for innovative net users, and the "evil empire" for anxious brick-and-mortar retailers. Online purchasing is growing at a dramatic rate. There are increasing numbers of young digital native who spend more time on internet and they preferred to buy products online.

## Literature Review

Digital Natives will move markets and transform industries, education, and global politics. The changes they bring about as they move into the workforce could have an immensely positive effect on the world we live in. By and large, the digital revolution has already made this world a better place. And Digital Natives have every chance of propelling society further forward in myriad ways.

Barbara Combes worked on how young adults seek and interact with information and the online environment, is an important first step in developing strategies to prepare them for tertiary education, the workplace and a future that will be

characterised by an increasingly complex and constantly evolving information landscape.

The Net Generation theory contradicts traditional information theory which contends that information-seeking behaviour is a complex activity that is affected by cultural, educational and social contexts.

During the last eight years an increasing number of rigorous research studies have been conducted which largely refutes the idea of a tech-savvy generation of users (Banwell, & Gannon-Leary, 2000; Barr, et. al, 2006; Combes, 2006, 2007 & 2008; ETS, 2006; Fallows, 2005; Livingstone, et. al., 2005; Livingstone & Bober 2004; Nicholas et. al. 2008). While young people actively use technology and the Internet.

The academic literature for Internet shopping is building but has not reached mature development, and no one study has comprehensively studied attributes that satisfy or dissatisfy potential online shoppers, and the available literature provides little insight about differences between online shoppers and non-shoppers.

William R. Swinyard, and Scott M. Smith reported that shoppers and non-shoppers are involved in different online activities, and have different attitudes and opinions toward the Internet and online use. Each group is profiled and marketing implications are discussed in the context of USA.

So it is the biggest challenge for marketers to study this changing face of market. It is very essential to understand the profile of digital native who is emerging as big potential market. Still in India compared to other countries, there are less number of digital natives because of less penetration of internet and majority of people still live in rural areas where they cannot access internet but number of digital native will dramatically increase in India so it is right time to consciously study young digital native in India and their consumption practices and some of their psychographic profile.

### Research Methodology

The vast majority of the evidence cited in support of the concept of the digital native is based on data from the USA. One of the main purposes of studying the digital native is to change the educational system by redesigning educational

policy and practices in response to empirical evidence and other purpose is to study their changing life style for various reasons. This paper aims to add to this discussion by providing evidence on Indian young population access and use the Internet and other new technologies. Survey method has been used through structured questionnaire. The overarching premise of this study centres on the belief that a greater understanding of how young adults seek and interact with information and the online environment is an important first step in developing marketing strategies. Primary data have been collected from 160 young postgraduate and undergraduate students who are using internet.

Present study examines the lifestyle characteristics of online youngsters. This descriptive research provides a lifestyle perspective of who is using the Internet to shop, who does not shop, and why. It is hypothesized and shown that, compared with online non-shoppers, online shoppers are younger, wealthier, and have higher computer literacy, spend more time on their computer, spend more time on the Internet, and find online shopping to be easier and more entertaining. It is further reported that shoppers and non-shoppers are involved in different online activities, and have different attitudes and opinions toward the Internet and online use. Each group is profiled and marketing implications are discussed. The objectives of study are as follow.

1. To study the internet usage pattern among young digital natives
2. To assess the frequency of digital technology use among youngsters
3. To identify the product buying preference through online shipping among youngsters
4. To study the involvement of online shoppers and non-shoppers in different online activities'
5. To assess the life style related opinion and interest of online shoppers and non-shoppers

In India it is right time to study consumption practices and psychographic profile of young population who use digital internet based technology. The measures reported here include 14

Internet behaviors, 19 personal shopping lifestyle items, items dealing with computer and Internet use, —computer literacy developed by Swinyard and Smith (2003) and used by William R. Swinyard, and Scott M. Smith in their study. Analysis of Variance (ANOVA) has been used to check the following hypotheses. The main limitation of this study is limited scope of the study as it confined to Anand and Vallabh Vidyanagar only and it cover only young undergraduate and postgraduate students only. Large samples with more demographic groups would have been result into some different conclusions.

**H0 :** There is no significant difference among online shoppers and online non- shoppers in terms their life style related Activity, Opinion and Interest

**H1:** There is significant difference among online shoppers and online non- shoppers in terms their life style related Activity, Opinion and Interest

**H0 :** There is no significant difference between online shoppers and online non- shoppers regarding their internet usage pattern (different purpose of using internet)

**H1:** There is significant difference between online shoppers and online non- shoppers regarding their internet usage pattern (different purpose of using internet)

## Discussion of Findings and Marketing Implication

It has been found that out of total respondents 52.2 percent used to buy products online. Majority of youngsters buy Book, Mobile, footwear, apparel, data card, earphone, electronic item, pen drive, watch, anti virus online. The highest number of youngsters use internet through mobile phone and after that laptop is second largest devices used by youngsters to use internet. Still there are so many youngsters who also used desktop computer for internet. Thus marketers should give more weight-age to mobile phone for giving advertisements. There are considerable numbers of youngsters now preferred to buy so many products online, thus marketers should not ignore online mode of shopping. Even product such as books, computers, electronic products, apparel, computer & mobile accessories which have been traditionally sold through offline channel, now youngsters preferred

to buy through online channels. Hence marketers, who deal with such products, have to go for online presence.

In India, there are remarkable increase in numbers of digital natives but the more crucial question is actually what they do online, it has been found that the highest number of youngsters used internet for chat on-line, second reason is checking or sending email online, third most important purpose of using internet among youngsters is to find & view images. Considerable number of youngsters also preferred internet to visit hobby sites and search for or download software. There are very few youngsters who would like to use internet for learning oriented and business based activities. But more or less, there are youngsters who use internet for varieties of reasons, they have now started using internet through mobile phone for multi-purpose and they will change the rule of marketing. Marketers have to now think new ways to understand generation Y, because the way they think, buy and use the products and share their experience with others have drastically change.

Digital natives of the present time in India wish that they should treated well, they would like to look up to data, they considered shopping as fun, they are more aspiration so far as their future income, they believed that they are smart shoppers unlike generation x who do not like spent time for shopping who just get done shopping as fast as possible. They are more exposed to information through even traditional media like newspapers. Youngsters who are digital natives do not have enough time to spend for shopping. They do not want stores where products are cheapest but they want more stylish products and variety in products. They are more hopeful about their future with more incomes.

It has been found that Digital natives wish that

- they should be treated well,
- they would like to look up-to-date,
- they considered shopping as fun,
- they are more aspirational for their future income,
- they believed that they are smart shoppers

- Unlike generation x who do not like spent time for shopping who just get done shopping as fast as possible.

It has been found through Analysis of Various that life style related scale of Activity, Interest and Opinion; there is no statistical significant difference between shoppers and non shoppers at 0.05 level of significance.

It has been found that young digital natives who Check or send e-mail messages, Visit internet hobby sites, Read on- line news or magazines, Visit retail merchandise sites, Conduct business- related work, Find & view images, Chat on-line, are significantly doing more shopping online. While in case of youngsters who use internet for playing games, download software, Look for tickets or reservations, look for job opportunities, they do not shop more online. It indicates that young digital natives who spent their time on internet for some leisure activities or hobby activity, they do more shopping online compared to those who use internet for some meaningful learning or business oriented purposes. It gives very good insights to marketers regarding changing face of generation of new millennium. Marketers should carefully design their marketing strategies keeping mind this fact, that youngsters who spend more time on internet for fun and entertainment will be more potential customers.

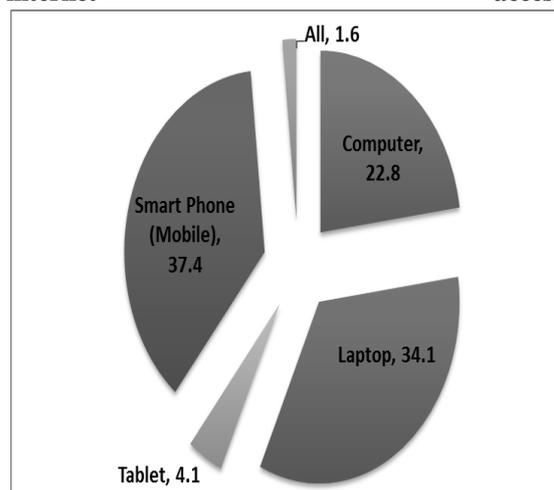
### Conclusion

Youngsters of 21<sup>st</sup> Centuries have been exposed to digital technology. Digital Natives don't just experience friendship differently from their parents; they also relate to information differently. As a consumer also Digital Natives are tremendously different than generation X. Young digital native spend more time on internet through their smart phones, tablet and laptop and that give boost to Internet shopping as a new industry. Digital native are more aspiration more hopeful about their future. They love shopping, it is fun for them unlike the old generation but they do not have leisure time for shopping. Digital natives who use internet for fun and entertainment are more inclined to online shopping. Marketers need to rethink the applications of marketing principles, study of consumer behavior and tools marketing communication when digital natives rule the market with new psychographic profile.

**Table-1: Electronic device used by Youngsters for internet access**

Electronic devices	Percent
Computer	22.8
Laptop	34.1
Tablet	4.1
Smart Phone (Mobile)	37.4
All	1.6
Total	100.0

**Fig. 1 Electronic device used by Youngsters for internet access**



**Table- 2: Product bought online**

Online shopping practice	Percent
Yes	52.8
No	47.2
Total	100.0

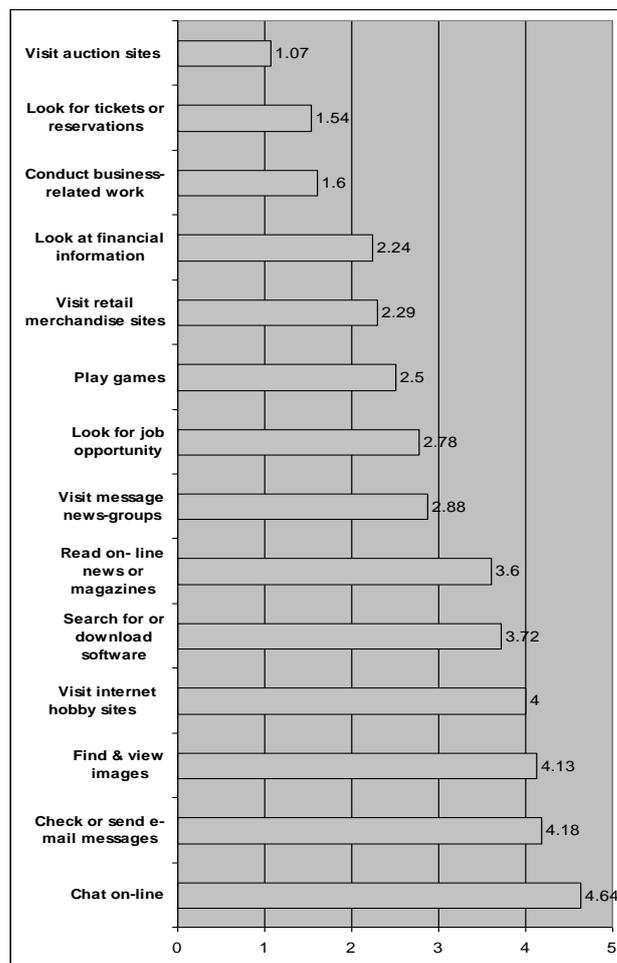
**Table -3 Internet usage Practice among Youngsters**

Internet usage Practice among Youngsters	Mean	Mean based Rank
Chat on-line	4.64	1
Check or send e-mail messages	4.18	2
Find & view images	4.13	3
Visit internet hobby sites	4.00	4
Search for or download software	3.72	5
Read on- line news or magazines	3.60	6
Visit message news-groups	2.88	7
Look for job opportunity	2.78	8
Play games	2.50	9
Visit retail merchandise sites	2.29	10
Look at financial information	2.24	11
Conduct business- related work	1.60	12
Look for tickets or reservations	1.54	13
Visit auction sites	1.07	14

**Table -4: Mean and Standard Deviation of Life Style of Youngsters**

Statements	Mean	Std. Deviation
It is important to me to be treated well	4.32	.631
I like the royal treatment in stores	3.33	.854
I have old-fashioned tastes and habits	2.41	.949
I like my clothes to look up to date	4.07	.759
I never have enough time to shop	2.83	1.022
I think I am a little bit wild	2.71	1.099

I think shopping is fun	3.46	1.133
I often buy things on impulse	3.30	1.130
I have lots of leisure time	2.66	1.115
I expect to have more money next year	3.98	1.048
I think I am a smart shopper	3.51	.881
I like to be aggressive	3.15	1.014
I feel I get a raw deal out of life	2.72	1.027
I think a woman's place is in the home	1.95	1.130
I prefer stores where prices are low	3.37	1.096
I never seem to have enough money	2.86	1.058
I regularly read the newspaper	3.69	1.087
I have more money now than last year	3.54	1.096
When shopping I just want to get done	3.40	1.084



**Table -5: Analysis of Variance (ANOVA) of Internet usage Practice – Shoppers and Non Shoppers**

Internet usage Practice among Youngsters	Shoppers		Non-Shoppers		F	P value
	Mean	Std. Deviation	Mean	Std. Deviation		
Check or send e-mail messages	4.74	1.55	3.55	1.91	14.393	0.000
Visit internet hobby sites	4.37	1.79	3.59	2.00	5.225	0.024
Play games	2.54	2.40	2.45	2.33	0.044	0.834
Read on- line news or magazines	4.02	2.13	3.14	2.01	5.471	0.021
Visit retail merchandise sites	2.98	1.78	1.52	1.65	22.215	0.000
Conduct business- related work	1.97	2.06	1.19	1.73	5.067	0.026
Look at financial information	2.43	2.01	2.02	1.86	1.382	0.242
Find & view images	4.40	1.71	3.83	1.97	2.965	0.088
Search for or download software	3.80	1.75	3.62	1.77	0.317	0.574
Chat on-line	4.82	1.80	4.45	2.23	1.016	0.316
Visit auction sites	1.20	1.70	0.93	1.48	0.860	0.356
Look for tickets or reservations	1.75	1.49	1.29	1.36	3.174	0.077
Visit message news-groups	3.09	2.14	2.64	2.41	1.222	0.271
Look for job opportunity	2.98	2.01	2.55	2.17	1.308	0.255

**Table -6: Analysis of Variance (ANOVA) Life Style of Shoppers and Non Shoppers**

Life Style Statements	Shoppers		Non-Shoppers		F	P value
	Mean	Std. Deviation	Mean	Std. Deviation		
It is important to me to be treated well	4.29	0.678	4.34	0.579	0.211	0.647
I like the royal treatment in stores	3.38	0.823	3.26	0.890	0.665	0.416
I have old-fashioned tastes and habits	2.46	1.062	2.36	0.810	0.335	0.564
I like my clothes to look up to date	4.03	0.829	4.12	0.677	0.428	0.514
I never have enough time to shop	2.69	0.983	2.98	1.051	2.506	0.116
I think I am a little bit wild	2.66	1.050	2.76	1.159	0.238	0.627
I think shopping is fun	3.37	1.054	3.57	1.216	0.952	0.331
I often buy things on impulse	3.25	1.132	3.36	1.135	0.321	0.572
I have lots of leisure time	2.60	1.072	2.72	1.167	0.378	0.540
I expect to have more money next year	3.92	1.150	4.05	0.926	0.460	0.499
I think I am a smart shopper	3.57	0.865	3.45	0.902	0.575	0.450
I like to be aggressive	3.14	0.982	3.16	1.056	0.008	0.928
I feel I get a raw deal out of life	2.71	1.042	2.74	1.018	0.033	0.857
I think a woman's place is in the home	1.94	1.130	1.97	1.139	0.017	0.895
I prefer stores where prices are low	3.35	1.096	3.38	1.105	0.016	0.898
I never seem to have enough money	2.80	1.078	2.93	1.041	0.468	0.495
I regularly read the newspaper	3.75	1.046	3.62	1.137	0.458	0.500
I have more money now than last year	3.57	1.075	3.50	1.128	0.121	0.728
When shopping I just want to get done	3.40	1.072	3.40	1.107	0.000	0.986

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# A web mining model centered on keywords for supplementing page ranking on search engines

Nehal Daulatjada, Nisha Macwan

## Abstract

We present a model for mining the user queries which are entered by the users in the form of keywords or phrases and usage of the search results and relating this information along with the PageRank algorithm to increase the quality of the search results produced by the search engines. The aim of this model is to discover, in a simple way, valuable information to improve the quality and thus the usability of your Search Engine, allowing the website to become more intuitive and adequate for the need of its users. This model presents a methodology of analysis of the keywords entered and the usage of the search results. This analysis provides useful information about links that interests user and the usage patterns associated with these links indicate whether or not the search results produced can satisfy the users' needs.

## Introduction

With the rapid growth in the web size, it has become difficult to search for the required information. This has created an increasing interest for improving and optimizing the search engines to fit better the needs of the users. It is more important than ever for a search engine to find the relevant data a visitor is looking for. Failing to meet these goals can result in the loss of many potential clients<sup>6</sup>.

Search engines are the software programs available for free use on Internet to aid user find web pages of interest to him. Most search engines allow people to submit their pages to add to the database of indexed pages. If a website is listed on popular search engines, the greater is the chance of being found by the user<sup>5</sup>.

Each search engines has its own rules for listing web sites, so if you don't play by the rules you will never get listed. Alternatively you will be ranked so low that you are invisible to your target audience<sup>1</sup>.

An important aspect while searching through search engine is keywords being keyed in to search page and getting relevant page listings called **Search Engine Results Page(s) ('SERPs')**.

The part of the page listing results from a search engine query which are displayed in a sequence according to relevance of match between the keyword / phrase typed into a search engine and a web page according to a ranking algorithm used by the search engine. The method for achieving placement in this part of the page is called search engine optimization (SEO)<sup>2</sup>.

This search engines use automated programs called "spiders" or "robots" to index web sites in to large indexed database (iDB) - effectively an Internet roadmap. Web spider or Web robot is a program or automated script which browses the World Wide Web in a methodical, automated manner and feed pages to search engines. It is called a spider because it *crawls* over the Web.

Another term for these programs is *WebCrawler*. Other less frequently used names for Web crawlers are ants, automatic indexers, bots, and worms<sup>3</sup>. Web crawlers are mainly used to create a copy of all the visited pages for later processing by a search engine that will index the downloaded pages to provide fast searches. A Web crawler is one type of software agent. In general, it starts with a list of URLs to visit, called the seeds.

As the crawler visits these URLs, it identifies all the hyperlinks in the page and adds them to the list of URLs to visit, called the crawl frontier. URLs from the frontier are recursively visited to construct the iDB<sup>4</sup>. When a search is required, the visitor keys-in the relevant phrase/keywords, a query is performed on the iDB, and the search results are produced depending on the Page Rank of each website.

Most of the keywords represent the actual information needs of the user. However, user queries and the usage of the search results produced by search engines have been analyzed with web mining mainly with the purpose of enhancing the search results and not with the intention of discovering new data. For this reason, in this paper, we present a novel model that mines information stored on keywords and search results usage which will be used to supplement the PageRank algorithm.

## Web Mining

Web mining is the use of *Data mining* techniques to automatically discover and extract information from web documents and services. Web mining can be used for finding relevant information, discovering knowledge, personalized web page synthesis and learning about individual users.

Web Mining techniques are categorized as follows<sup>7</sup>:

### 1. Web Content mining

It is discovery of useful information from the web content.

### 2. Web Structure mining

Web structure mining is concerned with discovering the model underlying the link structures of web. This model can be used to categorize web pages and is useful to generate information such as similarity and relationship between different web sites. It studies the structures of documents within the web itself. Some algorithms have been proposed to model web topology such as HITS, PageRank, CLEVER. These models are applied to calculate the quality rank or relevancy of each web page.

## PageRank®

A page can have a high rank if there are many pages that point to it, or if there are some pages that are pointing to it that themselves have a high page rank. PageRank handles both these cases by recursively propagating weights through the link structure of the web.

PageRank relies on the uniquely democratic nature of the web by using its vast link structure as an indicator of an individual page's value. For e.g. Google® interprets a link from page A to page B as a vote, by page A, for page B.

But, Google looks at more than the sheer volume of votes, or links a page receives; it also analyzes the page that casts the vote. Votes cast by pages that are themselves "important" weigh more heavily and help to make other pages "important."

As with any democratic system there are problems with the PageRank system. PageRank assumes each link is a valid vote for a web site. Some links are not really valid links at all. People use guest books to spam, and they are becoming less effective. A newer technique of PageRank spam is to leave a bogus comment in a blog with a highly optimized link. People have also begun to sell links with high Page Rank.

### 3. Web usage mining

It deals with studying the data generated by web surfer's sessions of behaviors. It mines the secondary data derived from the interactions of the users with the web. The secondary data includes data from web server access logs, proxy server logs, browser logs, user profiles, registration data, user sessions or transactions, cookies, user queries, bookmark data, mouse clicks and scrolls, etc.

There are 2 main approaches to web usage mining:

- General access pattern tracking  
This is to learn user navigation pattern (impersonalized). The general access pattern tracking analyze the web log to understand access pattern and trends.
- Customized usage tracking  
This is to learn a user profile or user modeling in adaptive interfaces (personalized). It analyzes individual trends. Its purpose is to customize websites to the users.

## Data Mining Technique Used

Clustering: It is the method of grouping data into different groups so that each group share similar trends and patterns. It constitutes a major class of data mining algorithms which attempts to partition the data space into set of regions or clusters. If measure of similarity is available then there are number of techniques for forming the clusters. The objectives of clustering are to uncover natural groupings, to initiate hypothesis about data, to find consistent and valid organization of data.

The main contributions of our model for improving a search engine usage are:

“To mine the keywords/phrases entered in the search engines, obtain a list of search results being viewed by the visitor, and improve the PageRank not just by looking at the in-bound and out-bound links but also on the usage patterns and thus identifying which results to get a higher rank and which results to be pushed down in the ranking.”

Our model has been theorized and has yet to be implemented on web search engines. It will prove efficient when used with medium search results generation.

## Related work

Web usage mining has generated a great amount of commercial interest. The analysis of Web server logs has proven to be valuable in discovering many issues, such as: if a document has never been visited it may have no reason to exist, or on the contrary, if a very popular document cannot be found from the top levels of a website.

There is an extensive list of previous work using Web mining for improving websites, most of which focuses on supporting adaptive websites and automatic personalization based on Web mining. Amongst other things, using analysis of frequent navigational patterns and association rules, based on the pages visited by the users, to find interesting rules and patterns in a website. Other research targets mainly modeling of user sessions, profiles and cluster analysis.

Most of the work has been directed to queries, incoming/outgoing links, link structures of web pages, link/keyword relevance and density of keywords, etc. Keywords and search results usage pattern can also be studied to improve the quality of search result. Valuable information for improving the Page Rank can be obtained from it. This is the starting point of our work.

## Model description

In this section we present the description of our model for mining search results usage, centered on keywords and PageRank. This model performs the mining task, using as input the keywords entered, the search results generated, the search results navigated, and the PageRank for each search result. The following concepts are important to define before presenting our model:

**Queries:** A query consists of a set of one or more keywords that are submitted to a search engine and represents an information need of the user generating that query.

**Information Scent (IS):** It indicates how well words, or a set of words, describe a certain concept in relation to other words with the same semantics.

**Groups:** A collection of those search results which has had similar selection approach for similar query.

For each query that is submitted to a search engine, SERPs are generated. This page has links to the documents that the search engine considers appropriate for the query depending on the rankings. By reviewing the brief abstract of each document displayed (which allows the user to decide roughly if a document is good match for his query) the user can choose to visit zero or more websites from the result pages.

Figure 1 shows the description of the model which gathers information about keywords, navigational patterns, and related researches to discover the keyword-result relevance.

## Usage model

By analyzing the usage behaviors of users on the SERPs, during a period of time, the model can classify the inputs to our model as keywords entered and the usage of which search results is performed by user. We define the outputs as:

**Keywords & Relation:** This is the information that the user will enter. Also the relation would be found between different combinations for the same information (IS) to generate a faster, efficient display.

**Keyword & Usage Data:** For a particular keyword typed in, the results would be displayed depending on the ranking from the indexed database. From these displayed results, which ones did the users click and which ones were not used, are combined separately to form clusters over a period of time and will be an ongoing process.

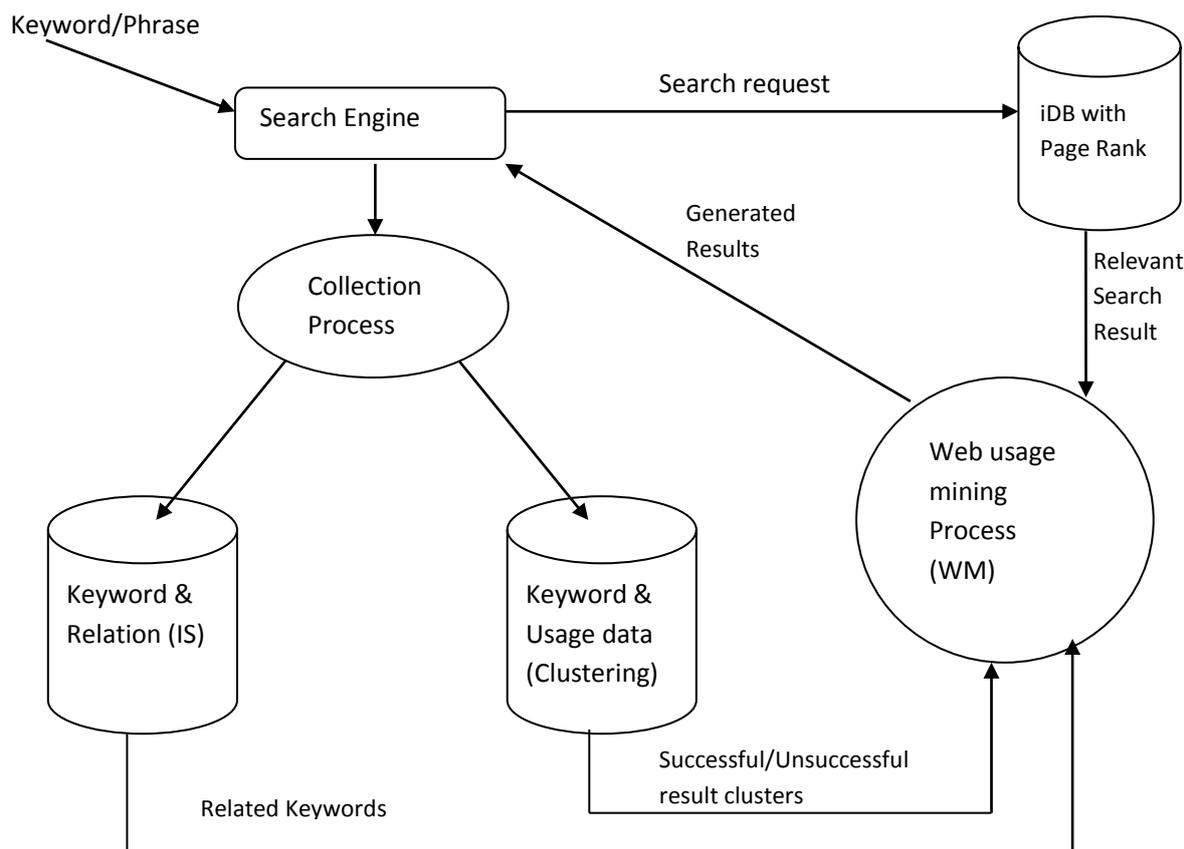


Figure 1

The important issue is to register how many times each of the keywords are used and which search results are used more often than the others. For identifying which results are visited, the click through has to be noted. To understand the working we present the following algorithm:

**Algorithm**

1. Initialize IS with prominent keywords from indexed databases.
2. If it is new keyword then Store a new keyword entered by the user and Perform step3.
3. Use iDB for search results and pass to Web mining
4. Locate for connection between current results from iDB and past usage of same results for similar keywords.
5. Consider PageRank and Relevancy Rank to display result. Relevancy Rank is computed as the number of times a link is used for similar keywords.

6. Catch the click through on SERP and the update clustering and connected components.
7. Repeat steps 2 through 6 for every keyword.

$$\text{Relevancy Rank} = (L_c * L_r * 100) / L_d$$

$L_c$  = Number of times link clicked

$L_r$  = Location Rank

$$= (\text{Page no. of location of link on SERP} * 100) / \text{Total number of pages in SERP}$$

$L_d$  = Number of times Link displayed

This will help reduce the ranking of a website depending on the number of times the particular site is visited through SERPs.

**Organic results classification**

We have different types of groupings of the results depending on the clicks on the displayed search results: Successful and Unsuccessful groups.

If a query submitted during a session had visited results in the same session then it forms a successful group. If a query submitted did not have visited results in the session that generated it, we will consider it as an unsuccessful group.

There are 2 main causes for this behavior:

1. The search engine displayed zero documents in the results page because there were no appropriate documents for the query.
2. The search engine displayed one or more results but none of them seemed appropriate from the users' view. This can happen when there is poor content or with keywords that have polysemic words.

Both the groups are important while mining to understand which keyword related displayed results are visited. It helps to analyze which links having higher display order and not yielding more clicks and thus can be pushed down to the next page(s). The links already visited are placed in successful group. The unsuccessful links placed in the unsuccessful groups may be classified in the subsequent usages of the related keyword under successful group. We can also use a simple thesaurus that relates main keywords with its synonyms. In fact with time, our model will help to build an ad-hoc thesaurus (IS).

### Supplementary task

Our web mining model also performs mining of frequent keyword pattern. All of the user queries are analyzed to discover frequent keyword sets. The discovered pattern contributes general information about the most frequent keyword sets in searching. The patterns are compared to the number of results in each case to indicate if they are answered by the search engine or not. If the most frequent patterns do not have answers then it is necessary to review the links in the iDB manually classifying to improve the contents of display.

### Conclusion and future work

In this paper we presented the first web mining model that is focused on usage classification. The aim is to find a better IS and relevancy in displaying search results by changing the ranking of the links dynamically by using the usage pattern of the used and unused links. It being a conceptual research oriented paper needs to be applied to find its usefulness to search engines. For future inclusions, pattern analysis of links may be considered which shows which links are viewed together to establish a sequence. Also, which probable keywords would be used next by the user can be used to suggest beforehand, thus maintaining a better result display in terms of timings and quality. The further work can be done on identifying the meaning of the query and defining its context to produce unambiguous search results. This may be obtained by mining the unsuccessful group and the IS and the usage sequence of keywords.

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# A study on improvement of rural livelihoods through dairy farming in Srikakulam district of Andhra Pradesh with reference to indebtedness problem

Suryanarayana S. Bure

## Abstract

This paper deals with the improvement of rural livelihoods through dairy farming in Srikakulam district of Andhra Pradesh with reference to indebtedness problem. Dairy sector plays a vital role in strengthening of rural economy. Andhra Pradesh is one of the leading states in milk production and milk products in the country. Due to the government pro-active policies towards dairy farming in the state made this sector crucial in improving of rural living conditions. Livestock sector has greater role in development by providing employment to 18 million people, more importantly 70 percent are women. Reportedly it is a major source of income to 27.6 million people. Among those 65 to 70 percent people are marginal and small farmers. India produced about 121.8 million tonnes Milk in 2010-11. Average milk yield in India, at 800 kg per dairy animal per year have been increasing steadily between 1996 and 2003 at an average annual rate of 3.8 percent and it is 4.66% in the period of 2009-10 to 2010-11. Andhra Pradesh accounts for 8.4 percent of the national dairy animal population and produces 8.82 percent of the country's milk in the year 2008-09.

## Introduction

The dairy industry involves processing raw milk into products such as consumer milk, butter, cheese, yogurt, condensed milk, dried milk (milk powder), and ice cream by using the milk processing such as chilling, pasteurization and homogenization. Typical by products include butter milk, and their derivatives. Livestock sector plays an important role in strengthening and sustaining the growth of developing economies. The basic features of developing countries like India is majority people are living in rural areas where they depend on agriculture. Livestock sector plays a significant role in enhancing the incomes of people and sustain the rural livelihoods in general and more in eco-fragile regions, such as drought, desert prone, hill areas and other undeveloped / backward districts. Although agriculture sector in India and especially in Andhra Pradesh noting lower growth rate in the past few decades, some of the drought effected dry land districts made rapid strides in reducing poverty through livestock sector development. Empirical data shows that the contribution of agriculture and allied sectors into GDP and GSDP has declined much in past few decades, but the contribution of livestock sector has increased from 5 percent to 6 percent in 1990's in India. Although the growth rate of agriculture in India is less than 4 percent since reforms period, Andhra Pradesh noted that more than 5 percent growth rate steadily during the same period through tremendous development of livestock sector, which contributed major share to the agriculture and helped to sustain the rural people livelihoods through enhancing the income levels.

## Importance of Dairy Industry

Dairy industry play a crucial role in strengthen the national economy and improving the socio-economic development of millions of rural livelihoods with its vast resources, such as more than 50% of world buffalos and 20 percent of its cattle of livestock in the country. By recognizing the importance of this vital sector in achieving rural development and its substantial contribution to agriculture economy, the central and state governments has been launched many programmes from time to time to develop the livestock sector since 70's. Many programmes and schemes have been launched especially in drought prone areas to cope with poverty and unemployment problems. With its effect the country's milk production has increased from about 21 million tons in 1969 to 92.5 million tons in 2004-05 and 121.28 million tonnes in 2010-11. (DAHD, GOI, 2011-12), similarly per capita availability of milk also increased from 112 grams in 1969 to 232 grams in 2004-05. It provides employment to 18 million people and more importantly 70 percent of them are women. It is the major source of income for an estimated 27.6 million people. Among those, 65 to 70 percent are belongs to small and marginal farmers and land less labour. It supports 10 million members / farmers through one lakh cooperative societies existing in the country.

Dry land agriculture in the country supporting 68 percent of total cultivated area but its contribution to food requirement of country is only 44 percent.

## Objectives

1. To study the role of dairy industry in sustaining rural lively hoods.
2. To study the problem of indebtedness among dairy farmers.
3. To suggest the measures to overcome the problems of dairy farming.

## Methodology

For this study the area has chosen by the researcher is one district namely Srikakulam, which is one of dry land areas in Andhra Pradesh and leading in milk production. From this district one Mandal namely Vangara selected, from this Mandal 3 villages are selected namely, Patuwardhnam, Bagemmapeta, Devakoda. The primary data collected from 100 sample households selected randomly from dairy farmers in 3 villages. The study covered variables like livestock holding, land holding, occupational status, expenditure and income, and level of indebtedness. Along with primary data, secondary data also collected from

the sources. official documents,. Primary data analyzed by using simple statistical tools such as average, frequency and percentages.

## Sources of Data

**Primary Data:** Field Study

**Secondary Data:** Records, Registers and Reports of Department of Animal Husbandry, Milk, Unions / Private Dairies and DRDA

## Dairy Development in Andhra Pradesh

Several factors contributed to the increased milk production in the country and state. The milk and milk products have cultural significance in the food items of the people. They have become an important source of protein in the diet. The changes in socio-economic and demographic factors from time to time, rising income levels, urbanization, changing food habits and tastes also reinforced growth in production and demand of dairy products. The state attained 2<sup>nd</sup> position in the milk production 95, 69,485 metric tonnes in the country after Uttar Pradesh. The present selected district is famous for the punganur breed of cattle.

	District	COW			BUFFALOES			Goat	Grand Total
		CB	ND	Total	GM	ND	Total		
1	SRIKAKULAM	115.766	64.068	179.834	55.364	49.802	105.166	0.02	285.021
2	VIZIANAGARAM	113.831	36.508	150.339	75.103	67.558	142.661	0.06	293.058
3	VISAKHAPATNAM	129.696	29.214	158.910	151.136	135.954	287.090	0.06	446.061
4	EAST GODAVARI	143.538	24.350	167.888	286.442	257.670	544.112	0.000	712.000
5	WEST GODAVARI	61.432	30.919	92.351	256.192	230.458	486.650	0.000	5579.001
6	KRISHNA	42.603	8.225	50.828	343.330	308.843	652.173	0.000	703.001
7	GUNTUR	51.536	41.165	92.701	374.456	336.843	711.299	0.000	804.000
8	PRAKASAM	64.188	25.761	89.949	346.957	312.104	659.061	0.000	749.010
9	SPS NELLORE	32.538	8.394	40.932	159.550	143.520	303.070	0.000	344.002
10	CHITTOOR	444.351	145.92	590.269	50.924	45.807	96.731	0.000	687.000
11	KADAPA	24.955	13.774	38.729	114.906	103.365	218.271	0.000	257.000
12	ANANTHAPUR	63.835	53.639	117.474	117.674	105.852	223.526	0.11	341.113
13	KURNOOL	27.764	57.860	85.624	186.558	167.819	354.377	0.000	440.001
14	MAHABUBNAGAR	21.289	51.358	72.647	140.219	126.134	266.353	0.09	339.088
15	RANGAREDDY	18.136	19.861	37.997	83.179	74.824	158.003	0.000	196.000
16	HYDERABAD	11.525	2.907	14.432	26.622	23.948	50.570	0.000	65.002
17	MEDAK	21.647	57.030	78.677	132.834	119.491	252.325	0.000	331.002
18	NIZAMABAD	26.095	23.855	49.950	75.309	67.744	143.053	0.000	193.003
19	ADILABAD	6.675	72.976	79.651	66.521	59.840	126.361	0.06	206.073
20	KARIMNAGAR	62.050	24.880	86.930	209.035	188.038	397.073	0.000	484.003
21	WARANGAL	21.039	32.442	53.481	109.247	98.274	207.521	0.000	261.002
22	KHAMMAM	51.070	47.170	98.240	151.489	136.274	287.763	0.04	386.044
23	NALGONDA	48.438	53.212	101.650	192.860	173.490	366.350	0.000	468.000
	TOTAL	1604	925.49	2529.48	3705.91	3333.652	7039.56	0.44	9569.485

**Table: 1 Estimated Milk Production During Year 2008-09 (in M.T.)**

**Source:** Integrated sample survey report 2008-09, AP

According to the 18<sup>th</sup> quinquennial livestock census 2003, the total population of cattle and buffalos in the state was 112.3 lakhs and 132.7 lakhs respectively. Milk production in the state in 1980-81 was 2.01 million tons and increased to 7.257 million tons in 2004-05 and 9.569 Million Tonnes in 2008-09. The district wise milk production data shows that Guntur is in top position with 804.00 MT., Srikakulam is in 17<sup>th</sup> position with 285.021 MT.

### Profile of the Study Area

The profile of the study consists 3 villages namely Patuwardhanam, Bagempeta and Devakoda from the Vangara Mandalam of Srikakulam District in Andhra Pradesh.

In the table-2 age-wise classification of household's reveals that the majority of households (30%) are belongs to the age group of 41-50. And

26% of households are belongs to age group between 31-40 years. Both of these two groups consist of more than 56% of households. Another important feature is 35 percent of households are belongs to small farmers, 28 percent are belongs are marginal farmers and 27 percent farmers are belongs to medium farmers. Most importantly majority of the farmers i.e. 63 percent are belongs to the small and marginal farmers. Medium farmers consist 27 percent only.

The table-3 shows that livestock holding pattern among household respondents in Srikakulam district. It reveals that yielding capacity of cows per day. Majority of the farmers in the study area are having Crossbred cows. The Crossbred cows' yield of milk per day is high compare with indigenous cows.

**Table: 2 Age-wise and Category wise Classification of the Sample Respondents**

District	Age	Marginal farmers	Small farmers	Medium farmer	Big Farmers	Agriculture labour	Total
Srikakulam	21-30	1	4	1	1	3	10
	31-40	9	9	7	0	1	26
	41-50	12	7	10	1	0	30
	51-60	4	9	4	1	0	18
	Above 61	2	6	5	2	1	16
Total		28	35	27	5	5	100

Source: Field Data

**Table: 3 Livestock Holding Pattern**

Particulars	Srikakulam no. of animals	Yield in lit/Animal/Day
Indigenous Cows	1 (3%)	3-4 (3%)
Crossbred Cows	1 (10%)	5-6 lit (57%)
	2 (39%)	7-8 lit (26%)
	3-5 (36%)	>10 lit (10%)
Buffalos Local	-	-
Graded Buffalos	2 (2%)	8 (2%)
Graded Buffalos -Female	2 (1%)	-
Sheep	<10 (4%)	-
	10-20 (2%)	
	>20 (0.7%)	
Goat	>10 (2%)	-
Poultry -	Backyard (2%)	-

Source: Field Data

### Problem of Indebtedness

Farmers are borrowing money year after year for their needs but they are not in a position to repay those loans due to failure of crops or getting less income than expected. This is the problem of indebtedness. Indebtedness is one of the basic harbinger of rural people, due to having deficit budget nature in rural areas, the people are highly depends on credit source. Despite the drastic

growth in the formal credit sector such as banking since its nationalization of 14 banks in 1969 and 6 banks in 1980, still majority of farmers are depending on informal credit sources such as traders, money lenders for their credit needs. The below table reveals that purpose of and sources of credit. Majority of the farmers are barrowing loans for crop purposes, only 6 farmers are barrowed money for purchasing of animals. In those 2 are barrowed from moneylenders.

**Table: 4 Purpose – Wise Sources of Credit**

District	Sources of Credit	Number of Farmers availed Credit Facilities						Total no. of Farmer availed Credit
		Co-Operative Banks	Commerci al Banks	RRB's	SHG's	Money Lender	Relativ es	
Srikakulam	Purpose of Credit							
	Crops	5	6	3		3	2	19
	For purchase of animals	-	1	1	2	2		6
	For household expenditure	-	1	-	-	2	-	3
	Working capital	5	1				-	6
Total		10	9	5	2	5	2	34

Source: Field Data

**Table: 5 Suggestions for Removal of Rural Indebtedness by Farmers in Study Districts**

Measures for Removal of Indebtedness	Percentage of Farmers Responded
No Response	15
Getting Good Crops and Good Prices	27
Seeking Government Support	22
Remunerative Price to Milk	16
Providing Irrigation Facilities	14
Providing livestock Animals with Subsidies or low Interest rate	10
Providing Better Marketing Facilities	6

Source: Field Data

**Table: 6 Average Annual income From Dairy Activities**

District	Category	Income from Dairy & Livestock	Income from Cultivation	Income from other Sources	Total
Srikakulam	Marginal farmers	22800 (57%)	10700 (28%)	5650 (15%)	39150
	Small farmers	20224 (53%)	16357 (40%)	3786 (7%)	40367
	Medium farmers	36758	42560	1354	80672
	Big farmers	18650 (20%)	67476 (75%)	3450 (5%)	89576
	Agri. labour	13660 (41%)	0	17850 (59%)	31510

Source: Field Data

### Suggestions for Removing of Indebtedness Problem

The researcher has collected opinions from the farmers to remove the problem of indebtedness. Majority of the farmers are expressed their opinion that they need good crops and good prices for their crop in order to come out from the indebtedness problem, while 22 percent are seeking support from government to face the problem of indebtedness. The basic reason behind this tendency of farmers is in recent periods both the central and state governments are announcing debt waiver scheme to help the farmers. 16 percent farmers expressed that need of remunerative price for milk to maintain balanced budget.

### Sources of Households Income

The below table no.6 shows that income levels of farmers from different sources. It reveals that marginal farmers are getting major share of income that is 57% from dairy & livestock sector, and small farmers are getting 53 percent of their annual income from the dairy & livestock sector. While

the big and medium farmers are getting major share of their annual income from crop production and income from dairy sector is in second position.

The reasons for selecting dairy farming expressed by the farmer's shows that 32 percent farmers are chosen this due to getting of income on regular basis. 18 percent farmers are stated that due to less investment and less risk in the dairy farming they choose it, and 12 percent expressed that guaranty market led them to choose this dairy farming. 11 percent revealed that comfortable and immediate returns pushed them to adopt this farming.

### Challenges Facing by Dairy Farmers

Some of the challenges facing by the dairy farmers are mentioned here as responded by the households, 18 percentage of farmers which is majority expressed that lack of irrigation and water facilities as basic challenge and 16 percent of farmers are stated that insufficient milk price, 16 percent says that disease and fertility problems. Only 4 percent uttered that lack of proper veterinary services as challenge.

**Table: 7 Reasons for Preferring Dairy Farming**

Particulars	% of Farmers Responded
Getting income on continuous base	32
Guaranty market for the milk product	12
Less investment and less risk than farming	18
Less work and profitable position	7
Along with crop production livestock is need	6
Milk need for domestic consumption	3
Comfortable and immediate returns	11
Preventing migration to urban areas	5

Source: Field Data

**Table: 8 Challenges Faced by Dairy Farmers**

Problem	Percentage of Farmers Responded
Manpower and Maintenance Problems	15
Lack of Irrigation Facilities	18
Insufficient Milk Price	16
Lack of Proper Veterinary Services	4
High cost of Feed and Fodder	5
Diseases and Fertility Problems	16
Less Knowledge on Dairying	8
Indebtedness Problem	16

Source: Field Data

## Findings

The major findings of the study are as given below.

1. Significant change in the income levels of the people has taken place with the help of livestock sector development even though agriculture shown lower growth.
2. The study revealed that the role of dairy sector in sustaining livelihoods of the people in rural areas especially small, marginal farmers and Land less labour.
3. Around 32% of the farmers stated that they are getting income from dairy activities on continue basis, which helps them to sustain livelihood with consisted income even though agriculture does not perform during the study period.
4. Some farmers preferred to dairy farming due to the less risky and less investment.
5. About 11 percent farmers felt that dairy farming provides comfortable and immediate returns. It has been observed that Dairy sector is an important source of income.
6. Major important problem stated by the 16 percent farmers is indebtedness which makes strong impact on their livelihood.
7. Another major problem stated by the farmers is lack of irrigation facilities.
8. Diseases and fertility problems are facing by around 16 percent farmers.

## Suggestions

The following suggestions are given based on the data analysis.

1. There should be need of formal credit provisions to cater the credit needs of dairy farmers, which can reduce the dependence of farmers on informal credit sources.
2. It is essential to medical facilities at village level for better and proper veterinary services.
3. Reasonable price for the milk should be provided.
4. Irrigation facilities should be extended to dry land areas where there is dairy farming well established.
5. Farmers needed more incentive schemes and programmes in dairy farming by stakeholders to enhance the income levels of the marginal and small farmers especially land less labour.

## Conclusions

Dairy farming arises as an alternative source of income to the people in rural areas, which help to prevent migration and face the problem of poverty. It is the major sector contributing as source of income next to agriculture in rural areas. The basic reason behind the recent well growth of agriculture in Andhra Pradesh is due to the higher growth rate in livestock sector. It contributes as major source of livelihood to the people in rural areas. Especially the miserable conditions in Indian agriculture led the rural people living conditions more worsen. Under these circumstances there is need of special provisions towards strengthen the dairy farming rural areas and especially in dry land areas in order improve the conditions of rural people. And also need of special credit provision towards dairy farming to remove the indebtedness problem.

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# An Analytical study of leverages and profitability of selected Engineering companies

Subhash Joshi

## Abstract

Profitability of a firm ensures its survival and growth. The companies manufacturing machinery and equipments employ huge capital investment. There are different types of engineering products. The units carry very heavy inventory. Production cycle is long and complicated. All such components involve the investment in such assets which commit fixed costs. This will reduce the amount of contribution and profit. Medium and small companies may not be employing substantial borrowed funds which will lead to favourable financial leverage. The composition of variable cost, fixed costs, borrowed capital and amount of sales have direct relation with leverages. This study covers analysis of financial leverage, operating leverage and their effect on the profitability of large, medium and small engineering companies.

It is a formal scientific process to analyze the results of various parameters of the economic and business activities of the firm. The comparison and analysis of logically related items in the financial statements clearly brings out the results of economic activity. The techniques of financial statement analysis have inherent strengths to assess and judge the strength or otherwise of the business. As such, a well thought out analysis has a power to predict business failure.

## Introduction

Profitability and productivity are the two important yardsticks that are applied to measure the health of an organization. Business is an important activity in any economy. The production and sale/exchange of goods and services constitute a major activity in all the economies. Such activities are carried out fruitfully in an organized manner by Companies.

Industry envisages the production of goods and services for sale or exchange at a reasonable profit. In modern times, the term industrialization has acquired a specific meaning. It refers to the widespread existence in a country of modern large scale factory industrial units producing vast quantities of goods of various types with the help of heavy and complex machinery and a large number of workers, and medium and small scale industries generally using machinery and electricity and employing a large number of people in such industries spread over wide regions in the country.

Sound financial management requires analysis of financial situations, making financial decisions, setting financial objectives, formulating financial plans to attain those objectives and providing effective systems of financial control to ensure plans progress towards the set objectives. Financial statement analysis helps the finance executive to carry out these activities in right perspective.

Appraisal implies considered judgment of the value or worth of economic activity undertaken by a firm. Basically, the net revenue generated and improvement in the financial strength are portrayed thro the yearend financial statements. By analyzing the amount and quality of profit and important items of asset/liability in the balance sheet, the analyst can get a clear idea about the progress, down trend, economic strength or weakness of the firm. Being the language of business, accounting data portrays clear picture of year end results of the business. Performance can be appraised by various methods. Appraisal of financial performance thro the technique of ratio analysis entails analyzing different components of financial statements to judge how well a business unit has done its job.

Financial management can be measured by data analysis and appraisal. Financial appraisal is an objective evaluation of the profitability and financial strength of a business unit. Financial statement analysis attempts to unveil the meaning and significance of the items composed in profit and loss account and the balance sheet so as to assist the management in the formation of sound operating financial policies.

In a different reference, if a train is moving at known rate of speed, it is reasonable to assume that it will continue to move at approximately the same rate unless some obstacle interrupts its progress abruptly or the motive power is increased or decreased. Similarly, it is reasonable to assume that unless some drastic change takes place in a business, it will continue to move in the same general direction as indicated by its comparative trends.

Appraisal is the useful measure of past performance. The source data, that is Management Information System (MIS), is meant (1) to ensure adequate profitability, (2) to have an early warning of something going wrong, (3) to have basis for allocation of resources, and (4) to evaluate managers. In industries, the performance is taking place physically, which is capable of measurement in terms of statistics only. This statistics is portrayed thro accounting data. This data has no direct message. Therefore, it is to be analyzed for correct comprehension. This exercise is financial statement analysis. A logical and scientific technique of analysis and performance appraisal is ratio analysis. A ratio is simply one number expressed in terms of another. It is found by dividing one number, the base, into another. The percentage is one kind of ratio in which the base is taken as equaling 100 and the quotient is expressed as per hundred of the base. <sup>(6)</sup>

The Capital structure can also be analysed to review the profitability and return to the investors. The popular tool is leverage analysis. Financial leverage is the ability of fixed financial charges to magnify the effect of changes in EBIT on the earnings per share. Operating leverage is the magnification of the effect of changes in sales on EBIT as a result of the presence of fixed costs. The combined effect of financial leverage and operating can also be analysed which will focus on the effect of changes in sales on EPS, i.e. the amount return which the owners get. Leverage analysis is an important analysis, since it focuses on the ultimate aspect of profitability with reference to sales value and cost. It also analyses the level of return to the owners.

### Capital Structure of Engineering companies

Engineering firms invest huge funds for long term purpose. This is on account of the nature of their infrastructure. Therefore, they have big amount of capital and they have to depend on long term debt also. The companies, who have good profitability, may be using lesser debt. However, they employ big amount of long term funds.

	Company	Capital (Rs. Lacs)	Debt (Rs. Lacs)	Total (Rs. Lacs)
1	ABB	4288	000	4288
2	Alfa laval	1815	000	1816
3	Bosch Rexroth	530	795	1325
4	Batliboi	1434	1362	2796
5	Blue Star	1799	810	2609
6	Crompton Greaves	12830	125	12955
7	Cimmco Ltd.	2015	11646	13661
8	Cummins India	3960	39	3999
9	Elecon Engg.	1857	2711	4568
10	Elgi Equipments	1585	000	1585
11	Escorts	10231	2046	12277
12	Greaves Cotton	4884	50	4934
13	Hindustan Dorr Oliver	1440	878	2318
14	Hercules Hoists	160	5	165
15	Igersoll Rand	3157	000	3157
16	Ion Exchange	1343	577	1920
17	International Combustion	239	26	265
18	Josts Engineering	76	1	77
19	Kabra Extrusion	1595	127	1722
20	Larsen & Toubro	12177	43	12220
21	Laxmi Machine Works	1127	000	1127
22	Siemens	6806	000	6806
23	Sundaram Fasteners	2101	2668	4769
24	Triveni Engg.	2579	2266	4845
25	Thermax	2383	46	2429
26	T R F	1100	1243	2343
27	Vulcan Engg.	950	133	1083
28	Windsor Machines	521	000	521

## Research objectives

Financial leverage is talking about the return what the equity shareholders are getting. Operating leverage is talking about the magnification of profitability of a manufacturing unit on account of existence of fixed costs. With reference to this, the research objectives are :

- (1) To study the financial leverage, operating leverage and combined leverage of selected companies for the period 2001 to 2011.
- (2) To study the effect of differences in financial leverage, operating leverage and combined leverage on the overall profitability of the firm.
- (3) To study the relationship of operating leverage with net profit.
- (4) To study the relationship of combined leverage with earning per share (EPS).
- (5) To study the effect on profitability of differences in financial leverage, operating leverage and combined leverage with reference to size (sales turnover) of the firms.

## Research Methodology

Basically, financial leverage and operating leverage of various engineering companies of India are analysed. The analysis is covering the period from 2001 to 2011. The data is collected from Capitaline Plus.

- (1) Using the year end published data of 28 well known Engineering companies, financial leverage, operating leverage and combined leverage are calculated.
- (2) If the leverages are calculated on blanket, there may be misleading outcome of the analysis on account of the size (sales turnover) of the companies. Therefore, the companies are classified in three groups (on the basis of Sales): Large, medium and small.
- (3) The leverages are calculated as per ratio analysis.

- (4) Group wise regression analysis is done to find out the relationship of the dependent variable and independent variable for financial leverage, operating leverage and combined leverage.

## Financial Leverage, Operating leverage and Combined leverage

The assets required to do business which are owned by the company can be financed by owners money or the outside creditors. The owner claims increase when the firm raises funds by issuing ordinary shares or by retaining the earnings, the creditor claims increase by borrowing. The various means of financing represent the financial structure of an enterprise. Short term borrowings are excluded from the list of methods of financing the firms capital expenditure, and therefore, the long term claims are said to form the capital structure of the enterprise. The term capital structure is used to represent the proportionate relationship between debt and equity. The financing or capital structure decision is a significant managerial decision.

The management of a company should seek answers to the following questions while making the financing decision :

- 1) How should the investment project be financed?
- 2) Does the way in which the investment projects are financed matter?
- 3) How does financing affect the shareholders' risk, return and value?
- 4) Does there exist an optimum financing mix in terms of the maximum value to the firm's shareholders?
- 5) Can the optimum financing mix be determined in practice for a company?
- 6) What factors in practice should a company consider in designing its financing policy?

As stated earlier, a company can finance its investments by equity and/or debt. The return on these funds (dividend/interest) is not similar. On debt, the rate of interest is fixed. Equity shareholders get dividend which depends on the amount of profit and the decision of the Board. It

can range from zero to hundred. The use of the fixed charges sources of funds (debt and preference shares) along with the owners' equity in the capital structure is described as financial leverage. Operating leverage is magnification of the effect of changes in sales level on earnings before interest and tax as a result of the presence of fixed costs. Operating leverage results from the existence of fixed operating expenses in the firm's income stream. The operating costs of a firm fall into three categories : (a) fixed costs which may be defined as those which do not vary with sales volume, they are a function of time and are typically contractual, they must be paid regardless of the amount of revenues available, (b) variable costs which vary directly with the sales volume, and (c) semi variable or semi fixed costs are those which are partly fixed and partly variable. They are fixed over a certain range of sales volume and increase to higher levels for higher sales volumes. Since the last category of costs can be broken down into

fixed and variable components, the costs of a firm, in operational terms, can be divided into (a) fixed and (b) variable. The operating leverage may be defined as the firm's ability to use fixed operating costs to magnify the effects of changes in sales on its earnings before interest and tax. <sup>(8)</sup>

The operating leverage has its effects on operating risk and is measured by percentage change in EBIT due to percentage change in sales. The financial leverage has its effects on financial risk and is measured by the percentage change in EPS due to percentage in EBIT. Since both these leverages are closely connected with ascertaining the ability to cover fixed charges (fixed operating cost in case of operating leverage and fixed financial costs in case of financial leverage), if they are combined, the result is total leverage and the risk associated with combined leverage is known as total risk. The degree of combined leverage measures the percentage change in EPS due to percentage change in sales.

### Brief Profile of Engineering companies

	Name of Company	Products manufactured	Sales (2010-11) (Rs. Lacs)	Profit before tax (2010-11) (Rs. Lacs)	Net worth (2010-11) (Rs. lacs)
1	ABB Ltd.	Electrical machinery	737027	26774	253452
2	Alfa Laval	Process equipments	115417	19041	48966
3	Bosch Rexroth	Machinery & tools	61129	(25)	14385
4	Batliboi	Machinery	12436	542	4765
5	Blue Star	Air conditioners and other machinery	285690	22694	57350
6	Crompton Greaves	Motors, fans, machinery	601433	92681	228981
7	Cimmco	Process equipments	11526	367	3224
8	Cummins India	Compressors	394545	80237	180627
9	Elecon Engg	Materials handling equipments, Gears	120246	12069	39460
10	Elgi Equipments	Air compressors	77368	12341	32599
11	Escorts	Tractors, cranes	321015	10062	174387
12	Greaves Cotton	Machinery	125047	18362	52189
13	Hindustan Dorr Oliver	Process equipments	94446	7792	25246
14	Hercules Hoists	Hoists	11859	4379	11347
15	Ingersoll Rand	Construction machinery	46445	10084	89124
16	Ion Exchange	Water treatment plants	57069	1940	14724
17	International Combustion	Machinery	10556	1479	7363
18	Josts Engg.	Fabrication	8034	703	1166
19	Kabra Extrusion	Plastic machinery	21937	3518	10677
20	Larsen & Toubro	Heavy machinery	4384166	590147	2182413
21	Laxmi Machine Works	Textile machinery	177331	23914	82696
22	Siemens	Electrical machinery	1194190	127495	381504
23	Sundaram Fasteners	Fasteners	180840	14424	55495
24	Triveni Engineering	Sugar plant machinery	170709	817	101575
25	Thermax	Boilers, machinery	474057	57297	129234
26	TRF	Materials handling equipments	72106	141	16805
27	Vulcan Engineering	Machinery	2119	000	1278
28	Windsor Machines	Plastic machinery	25057	12235	282

## Data Analysis

### Sales & Financial leverage

**Model Summary(b)**

Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Large	1	.994(a)	.988	.986	9823.252
Medium	1	.646(a)	.418	.335	3302.473
Small	1	.551(a)	.304	.226	3232.321

**ANOVA(b)**

Group	Model		Sum of Squares	df	Mean Square	F	Sig.
Large	1	Regression	47946530124.987	1	47946530124.987	496.874	.000(a)
		Residual	578977718.513	6	96496286.419		
		Total	48525507843.500	7			
Medium	1	Regression	54762878.713	1	54762878.713	5.021	.060(a)
		Residual	76344293.287	7	10906327.612		
		Total	131107172.000	8			
Small	1	Regression	41010855.563	1	41010855.563	3.925	.079(a)
		Residual	94031088.437	9	10447898.715		
		Total	135041944.000	10			

**Coefficients(a)**

Group	Model		Unstandardized Coefficients		Standardized Coefficients	t		Sig.
			B	Std. Error	Beta	B	Std. Error	
Large	1	(Constant)	-4727.737	4555.592		-1.038		.339
		Sales	.125	.006	.994	22.291		.000
Medium	1	(Constant)	2623.343	2923.015		.897		.399
		Sales	.075	.034	.646	2.241		.060
Small	1	(Constant)	769.065	1440.242		.534		.606
		Sales	.142	.072	.551	1.981		.079

**Sales and operating leverage**

**Model Summary(b)**

Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Large	1	.994(a)	.988	.987	13374.395
Medium	1	.807(a)	.652	.602	3503.509
Small	1	.965(a)	.931	.923	631.460

**ANOVA(b)**

Group	Model		Sum of Squares	df	Mean Square	F	Sig.
Large	1	Regression	92218918178.553	1	92218918178.553	515.551	.000(a)
		Residual	1073246662.322	6	178874443.720		
		Total	93292164840.875	7			
Medium	1	Regression	160677825.082	1	160677825.082	13.090	.009(a)
		Residual	85922032.918	7	12274576.131		
		Total	246599858.000	8			
Small	1	Regression	48204999.775	1	48204999.775	120.893	.000(a)
		Residual	3588679.861	9	398742.207		
		Total	51793679.636	10			

**Coefficients(a)**

Group	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta	B	Std. Error
Large	1	(Constant)	-2883.053	6202.456		-.465	.658
		Sales	.174	.008	.994	22.706	.000
Medium	1	(Constant)	5085.642	3100.952		1.640	.145
		Sales	.129	.036	.807	3.618	.009
Small	1	(Constant)	488.052	281.363		1.735	.117
		Sales	.154	.014	.965	10.995	.000

Sales and combined leverage

Model Summary(b)

Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Large	1	.996(a)	.992	.991	9000.803
Medium	1	.741(a)	.550	.485	3936.519
Small	1	.364(a)	.133	.036	4530.076

ANOVA(b)

Group	Model		Sum of Squares	df	Mean Square	F	Sig.
Large	1	Regression	60579543675.196	1	60579543675.196	747.762	.000(a)
		Residual	486086698.804	6	81014449.801		
		Total	61065630374.000	7			
Medium	1	Regression	132383859.535	1	132383859.535	8.543	.022(a)
		Residual	108473297.354	7	15496185.336		
		Total	240857156.889	8			
Small	1	Regression	28234801.022	1	28234801.022	1.376	.271(a)
		Residual	184694325.705	9	20521591.745		
		Total	212929126.727	10			

Coefficients(a)

Group	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta	B	Std. Error
Large	1	(Constant)	-6621.785	4174.176		-1.586	.164
		Sales	.141	.005	.996	27.345	.000
Medium	1	(Constant)	241.898	3484.209		.069	.947
		Sales	.117	.040	.741	2.923	.022
Small	1	(Constant)	1951.221	2018.490		.967	.359
		Sales	.118	.100	.364	1.173	.271

## General findings

- (1) ABB, Atlas Copco, Alfa Laval, Blue Star, Elgi Equipments, Ingersol Rand and Thermax are having less interest burden on account of which their financial leverage is favourable throughout the period of study and their overall profitability is high.
- (2) Crompton Greaves, Elecon, Escorts and Triveni Engineering have weak financial leverage on account of which their profitability is also adversely affected.
- (3) Atlas Copco, Alfa Laval, Ingersol Rand, Laxmi Machines and Siemens comparatively carry less fixed costs on account of which their operating leverage is favourable and have better profitability.
- (4) Bosch Rexroth, Crompton Greaves, International Combustion and Windsor Machinery have unfavourable operating leverage and hence lesser profitability.
- (5) Atlas Copco, Alfa Laval, Ingersol Rand, Siemens, Sundaram Fastners and Thermax have favourable combined leverage and hence overall higher Earning Per Share (EPS).
- (6) Batliboi, Vulcan Engineering and Triveni Engineering have unfavourable combined leverage and hence overall lesser profitability.
- (7) Atlas Copco, Alfa Laval, Cummins India, Elgi Equipments, Hercules Hoists, Ingersol Rand, Larsen & Toubro, Siemens and Thermax have very high net profit ratio on account of lesser fixed costs and favourable combined leverage.
- (8) Atlas Copco, Alfa Laval, Larsen & Toubro, Laxmi Machines and Siemens have reasonably high EPS throughout the period of study on account of favourable combined leverage.
- (9) Batliboi, Vulcan Engineering and Windsor Machines have very weak operating leverage and combined leverage. On account of that, these companies do not

have reasonable profitability and incur losses.

- (10) Batliboi, TRF and Windsor Machines have very low EPS on account of weak financial leverage and operating leverage as well.

## Major Findings

- (1) The regression analysis reveals that in case of small companies, the sales has no direct effect on EBIT (earnings before interest and tax) on account of comparatively more burden of fixed costs and interest as well as lesser margin to cover the fixed costs.
- (2) Sales directly affect the net profit in case of large companies only on account of economies of scale. However, the amount of sales has no substantial effect (does not influence the net profit) on profit in case of medium and small companies on account of lower level revenue and weak operating leverage.
- (3) The sales value has direct effect on operating leverage and hence contribution in case of all sizes of the companies.
- (4) The findings as above reveals that the principle of economies of scale is working in practice in the case of large and medium companies covered in study.
- (5) The study reveals that as a matter of strategic management action, increasing the sales (higher volume at lesser margin) will magnify the profitability of the firm.
- (6) The study reveals that by controlling the fixed costs and managing the operating leverage favourably, long term profitability can be maintained.

## Conclusion

Financial leverage measures the amount of profit available which decides the earning on equity capital. Operating leverage deals with the overall profitability of the firm. Combined leverage measures the EPS of the firm. The study has brought out some additional findings about

profitability of the firm on account of leverages and level of activity of engineering companies.

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## Author's Profile

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## Annexure

### Annexure: A

#### Financial Leverage

	Year/ Company	2001- 02	2002- 03	2003- 04	2004- 05	2005- 06	2006- 07	2007- 08	2008- 09	2009- 10	2010- 11
1	Asea Brown Boveri(ABB)	1.04	1.03	1.03	1.04	1.02	1.03	1.06	1.08	1.35	1.18
2	Atlas Copco	1.00	1.00	1.06	1.06	1.03	1.06	1.12	1.12	1.02	1.03
3	Alfa Laval	1.02	1.02	1.02	1.03	1.02	1.04	1.05	1.01	1.03	1.02
4	Bosch Rexroth	1.38	1.11	1.06	1.08	1.11	1.11	1.20	1.26	1.38	1.00
5	Batliboi	1.00	4.11	1.83	1.17	1.12	1.07	1.22	1.00	1.00	2.10
6	Blue Star	1.20	1.06	1.04	1.06	1.08	1.10	1.03	1.07	1.03	1.11
7	Crompton Greaves	2.44	2.78	1.44	1.20	1.15	1.10	1.06	1.05	1.02	1.02
8	Cimmco	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00
9	Cummins	1.00	1.00	1.02	1.01	1.00	1.00	1.00	1.00	1.01	1.03
10	Elecon	1.00	6.32	5.26	1.71	1.44	1.29	1.35	1.65	1.64	1.46
11	Elgi Equipments	1.14	1.10	1.03	1.03	1.04	1.04	1.03	1.02	1.01	1.02
12	Escorts	5.20	6.98	1.00	6.39	3.78	1.00	3.65	1.66	1.27	1.71
13	Greaves Cotton	1.00	3.50	1.99	1.13	1.07	1.13	1.17	1.27	1.07	1.04
14	Hind. Dorr Oliver	1.65	1.51	1.23	2.22	1.32	1.10	1.16	1.22	1.22	1.28
15	Hercules Hoists	1.43	1.10	1.05	1.02	1.08	1.04	1.04	1.03	1.03	1.05
16	Ingersol Rand	1.03	1.04	1.01	1.02	1.03	1.01	1.00	1.00	1.03	1.01
17	Int. Combustin	3.40	2.51	2.09	1.38	1.08	1.02	1.02	1.04	1.02	1.04
18	Josts Engg.	1.00	2.33	1.00	1.27	1.07	1.15	1.03	1.02	1.03	1.10
19	Kabra Extrusion	1.04	1.03	1.01	1.02	1.04	1.05	1.07	1.07	1.05	1.03
20	Larsen & Toubro	2.00	1.51	1.16	1.09	1.13	1.07	1.05	1.10	1.11	1.13
21	Laxmi Machines	1.72	1.33	1.18	1.63	1.02	1.01	1.02	1.03	1.00	1.00
22	Siemens	1.03	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.02	1.04
23	Sundaram Fasteners	1.37	1.11	0.94	1.06	1.30	1.24	1.15	5.59	1.16	1.22
24	Triveni Engg.	2.72	5.85	2.24	1.26	1.15	2.00	1.82	1.48	1.72	3.75
25	Thermax	1.16	1.96	1.02	1.03	1.02	1.02	1.01	1.02	1.03	1.02
26	TRF	1.16	1.00	1.51	1.72	1.46	1.12	1.07	1.12	0.88	2.95
27	Vulcan Engg.	1.00	1.06	1.00	1.00	1.00	1.04	1.00	1.00	1.50	1.00
28	Windsor Machinery	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.64	1.03

**Annexure: B**

**Operating Leverage**

	Year/ Company	2001- 02	2002- 03	2003- 04	2004- 05	2005- 06	2006- 07	2007- 08	2008- 09	2009- 10	2010- 11
1	Asea Brown Boveri	1.58	1.48	1.61	1.61	1.43	1.53	1.52	2.07	4.28	3.36
2	Atlas Copco	1.21	1.55	1.90	1.87	1.37	1.46	1.62	2.02	1.63	1.58
3	Alfa Laval	1.19	1.16	1.11	1.33	1.26	1.13	1.26	1.38	1.29	1.31
4	Bosch Rexroth	2.20	1.36	4.71	1.29	1.40	1.23	1.55	1.69	1.46	4.06
5	Batliboi	1.00	1.67	3.26	1.89	1.47	1.36	1.62	3.82	5.52	1.50
6	Blue Star	1.95	1.76	1.92	1.83	1.82	1.89	1.23	1.54	1.40	1.28
7	Crompton Greaves	3.28	2.00	2.06	2.74	2.21	1.76	1.67	1.81	1.47	1.50
8	Cimmco	1.00	2.52	4.58	1.00	3.58	1.00	1.00	0.07	0.40	2.83
9	Cummins	1.02	1.21	0.85	1.12	1.17	1.12	1.15	1.14	1.18	1.12
10	Elecon	3.18	3.35	3.36	2.42	1.80	1.94	1.53	1.56	1.72	1.60
11	Elgi Equipments	2.26	2.42	1.93	2.00	2.25	2.03	2.88	1.87	1.87	1.61
12	Escorts	1.24	0.19	1.00	0.32	1.43	3.37	2.05	1.83	1.63	2.27
13	Greaves Cotton	1.00	2.37	1.35	1.23	1.19	1.41	1.39	1.58	1.35	1.29
14	Hind Dorr Oliver	1.95	1.62	0.78	1.38	2.65	1.13	1.08	1.26	1.21	1.16
15	Hercules Hoists	2.45	1.47	1.28	1.21	1.25	1.06	1.10	1.09	1.01	1.04
16	Ingersol Rand	1.36	1.31	1.43	0.42	1.23	1.16	0.22	0.57	0.98	0.74
17	Int. Combustion	2.36	2.51	3.67	2.74	4.81	2.45	2.03	1.19	1.69	1.74
18	Josts Engg.	1.00	1.00	1.00	2.50	2.35	3.15	3.75	2.14	2.65	2.21
19	Kabra Extrusion	1.77	1.32	1.73	1.75	1.68	1.89	1.39	1.70	1.39	1.30
20	Larsen & Toubro	2.26	2.48	1.50	1.24	1.41	1.33	13.33	1.18	0.98	1.17
21	Laxmi Machines	1.77	1.88	1.87	1.57	1.41	1.17	1.16	1.11	1.00	1.02
22	Siemens	1.27	0.93	1.08	1.05	1.23	0.98	0.94	0.58	0.81	1.24
23	Sundaram Fastners	1.56	1.43	1.61	1.45	1.53	1.63	1.66	1.58	1.68	1.41
24	Triveni Engg.	0.47	3.85	1.00	1.63	0.26	0.99	0.75	1.78	0.25	1.30
25	Thermax	2.51	1.52	1.54	1.79	1.63	1.10	1.32	1.23	1.67	1.16
26	TRF	1.14	1.60	3.46	1.93	2.05	1.74	1.22	1.51	1.68	3.39
27	Vulcan Engg.	1.00	0.03	1.00	1.00	2.50	0.48	1.00	1.25	8.33	1.00
28	Windsor Machinery	1.00	0.92	1.06	0.80	1.16	1.08	2.33	2.23	1.47	0.46

**Annexure: C**

**Combined Leverage**

	Year/ Company	2001- 02	2002- 03	2003- 04	2004- 05	2005- 06	2006- 07	2007- 08	2008- 09	2009- 10	2010- 11
1	Asea Browb Boveri	1.65	1.52	1.65	1.67	1.45	1.58	1.61	2.25	3.48	3.95
2	Atlas Copco	1.21	1.55	2.00	1.98	1.41	1.56	1.82	2.27	1.61	1.59
3	Alfs Laval	1.21	1.18	1.13	1.35	1.28	1.14	1.29	1.40	1.32	1.33
4	Bosch Rexroth	3.14	1.50	1.37	1.36	1.55	1.36	1.86	2.12	2.03	000
5	Batliboi	000	6.89	5.96	2.21	1.74	1.45	2.00	000	000	3.40
6	Blue Star	2.37	1.87	1.93	1.96	1.97	2.09	1.27	1.65	1.44	1.42
7	Crompton Greaves	5.85	5.70	2.98	3.31	1.61	1.97	1.80	1.92	1.52	1.54
8	Cimmco	000	000	000	000	000	000	000	000	0.01	5.66
9	Cummins	1.03	1.24	0.87	1.12	1.18	1.12	1.15	1.16	1.19	1.12
10	Elecon	000	3.23	2.67	2.61	2.51	2.06	2.56	2.84	3.35	4.13
11	Elgi Equip.	2.55	2.61	1.98	2.07	2.18	2.09	1.83	1.88	1.54	1.59
12	Escorts	2.40	1.36	000	2.02	2.52	000	7.50	3.05	2.09	3.81
13	Greaves Cotton	000	4.63	2.59	1.39	1.28	1.60	1.53	2.03	1.45	1.25
14	Hind Dorr Oliver	3.23	2.44	0.97	3.41	1.49	1.21	1.24	1.52	0.83	1.60
15	Hercules Hoists	3.50	1.62	1.29	1.24	1.35	1.11	1.14	1.05	1.03	1.06
16	Ingersoll Rand	1.41	1.36	1.45	0.42	1.26	1.17	0.22	0.57	1.01	0.75
17	Inter. Combustion	5.00	6.31	7.59	3.78	2.31	1.62	1.33	1.78	1.71	1.82
18	Josts Engg.	000	000	000	3.16	2.53	4.49	3.68	2.14	2.72	2.27
19	Kabra Extrusion	1.84	1.36	1.76	1.81	1.75	1.97	1.49	1.78	1.46	1.33
20	Larsen & Toubro	4.53	3.73	1.74	1.36	1.58	2.06	2.24	1.31	1.08	1.32
21	Laxmi Machines	3.02	2.37	2.00	1.71	1.43	1.17	1.14	1.12	0.99	1.00
22	Siemens	1.32	0.93	1.07	1.04	1.20	0.96	0.95	0.84	0.79	1.21
23	Sundaram Fastners	2.08	1.58	1.48	1.53	1.97	2.01	1.88	8.72	2.00	1.69
24	Triveni Engg.	1.25	3.20	000	2.06	0.30	1.97	1.11	2.60	0.43	2.27
25	Thermax	2.86	1.55	1.57	1.85	1.67	1.09	1.34	1.23	1.74	1.18
26	T R F	1.27	000	5.29	3.33	3.02	1.96	1.31	1.67	1.99	4.97
27	Vulcan Engg.	000	2.02	000	000	000	0.51	000	000	3.50	000
28	Windsor Machinery	000	000	000	000	000	000	000	000	2.41	0.46

# Liberation of Managerial Women: An Empirical Study

Shweta Audichya

## Abstract

Women entrepreneurship in India is a visionary goal, the time of which has come. India is collectively moving from a narrowly defined objective of increasing the number of women in entrepreneurship to a broader and long term vision for setting the tone and strong vision and sustained agenda for bringing more entrepreneurs into top positions and lateral segments of Indian business.

The findings of the study reveal that Indian woman entrepreneurs are self-motivated and have various traits and qualities which make them competent for their profession.

With job opportunities drying up both for men and women, the latter find it easier to go for business due to flexibility of handling work both at home and outside. The new industrial policy of the Govt. of India has laid special emphasis on the need for conducting special entrepreneurial training programmes for women to enable them to start their own ventures. Financial institutions and banks have also set up special cell to assist women entrepreneurs. The entry of women into the world

## Introduction

Entrepreneurship is the lifeblood of any economy. It is a continuous process and it is growing from centuries to centuries. Entrepreneurship is now recognized both in the developed and in developing societies as an essential resource in the development process. The entrepreneurship has acquired special significance in the context of economic growth in a rapidly changing socio-economic and socio-culture climate, particularly in women. The entrepreneurship is a purposeful activity indulged in initiating and maintaining economic activities for the production and distribution of wealth. It has been recognized as an essential ingredient of economic development and an integral part of socio-economic transformation.

Women are emerging as a good potential source of entrepreneurship. Women entrepreneurship has cut across the barriers of education and affluence. Manufacture and marketing of women centered products are not the only areas of women enterprise, but the Indian women today is fast moving and functioning within every conceivable area of women enterprise competing with their male counterpart. Engineering spare parts, electronic items, computers, software, readymade garments etc. now are all areas of women enterprise.

Indian women entrepreneurs are touching new heights of success but still the growth rate of women entrepreneurship is slow. Entrepreneurship happens to be one of the best ways towards self-sufficiency and poverty alleviation for women in a country where employment is not guaranteed. Indian women entrepreneurs may be classified into three groups:-

- (i) The first group consists of women with adequate education and professional qualifications and are heading large industrial units.
- (ii) The second group of entrepreneur consists of middle class women with education but lack skill and training and are engaged in handicrafts and cottage industries.
- (iii) The third group of entrepreneurs are illiterates, financially weak and are engaged in family business.

of business and entrepreneurship is an auspicious sign, which should be encouraged.

Keeping the objective of liberation of Indian women entrepreneurs in mind, this research was planned to find out the motives responsible, problems and hurdles faced by them.

## Research methodology

Selection and adoption of appropriate scientific methodological approach is the most important element of conducting a research investigation. It adds to the precision, reliability and validity of the research findings. The study was carried out on 120 women entrepreneurs of India. The sample was chosen by Purposive Random Sampling. A well-constructed questionnaire was constructed and administered on the sample to elicit their response. The questionnaire contained both open ended as well as close-ended questions. The questionnaire was designed in such a manner so as to elicit maximum information from the respondents. The questions were simple, clear, undisguised, well organized and to the point. Pre-testing of the questionnaire was done and some questions were reframed after it.

Structured Questionnaire Tool was divided in following sections:-

### Section A

This section contained general information like name, age, marital status, qualification, profession, experience, achievement etc.

### Section B

This section contained both open-ended as well as close-ended questions on motivational factors, problems and hurdles faced by women entrepreneurs etc.

The data collected was statistically analyzed using various tools. Data analysis was done in order to search out meaningfully the trend and establish relationships that exist among various data groups. The primary data collected through survey method with the help of the questionnaire has been analyzed by using MS Excel and SPSS (Statistical Package for Social Sciences) 18.0 version. Various tools and techniques were used to analyze the data gathered.

## Results and conclusion

Women entrepreneurship is full of potentialities, realms and aspirations and hence there lies a lot of scope for women entrepreneurship in India. For a clear understanding of emancipation of Indian women entrepreneurs, it was found necessary to

understand the factors, which motivated them for entrepreneurship, their traits, skills and qualities, problems and prospects faced in this arena. For it, a questionnaire was designed for women entrepreneurs. The results of the study will prove beneficial for integrating and involving them in the mainstream of development. The results are presented as under:

What motivates women to aspire for career like entrepreneurship is an interesting thing to explore and analyze. If the women entrepreneur feels motivated, her behavior will bring about the desired action. **Table 1** shows the source that motivated women entrepreneurs to take up professional challenges.

Analysis of the table indicates that majority (61.7%) of the respondents were self-motivated. Motivation is an important factor for taking up any career option and today's women seek independence, autonomy, higher income and opportunities. Hence, inner instinct plays a very important role. Parents motivated forty-five percent respondents to take up their respective profession and thirty-five percent respondents were motivated by their spouse. Indian women give more emphasis to family ties and relationships. Married women have to make a perfect balance between career and home. The interest of the family members is a determinant factor in the realization of women folk career aspirations. Few women leaders were motivated by their children (7.5%), friends and relatives (5.8%), role model (10.0%) and mentor (4.2%).

**Table 1**

Sr. No	Motivational factors	Frequency	Percentage
1.	Self	74	61.7
2.	Parents	54	45
3.	Spouse	43	35.8
4.	Children	9	7.5
5.	Friends and relatives	7	5.8
6.	Role model	12	10.0
*Figures are not mutually exclusive			

According to Sunita Chugh and Punam Sahgal, women and men have different motivations for working. Women at workplace would like to do 'different' and 'satisfying' jobs, not necessarily jobs, which give them more 'power'. The need to strive and reach the top, respect, prestige and power may be more important for men than for women.

sdfs

Another objective was about the common problems faced by Indian women entrepreneurs. The respondents were asked to tick the most appropriate degree on a five-point scale. Factor analysis was performed to reduce and classify the problems into factors.

**Table 2: Problems faced by Indian women entrepreneurs**

S.No.	Qualities	Strongly agree	Agree	Neutral	Dis-agree	Strongly disagree
<b>A. Family problems</b>						
1.	Lack of motivation and support from spouse	24.2%	69.1%	6.7%	–	–
2.	Lack of encouragement by other family members	23.3%	66.7%	7.5%	2.5%	–
3.	Less acceptability by friends, relatives, neighbors and community	14.2%	43.3%	20.0%	20.8%	1.7%
4.	Child rearing responsibilities	44.2%	48.3%	4.2%	3.3%	–
5.	Busy with other priorities of life	18.3%	66.7%	7.5%	5.0%	2.5%
<b>B. Organizational Problems</b>						
1.	Gender discrimination	25.8%	44.2%	17.5%	12.5%	–
2.	Lack of support by colleagues	10.8%	53.3%	25.0%	10.9%	–
3.	No recognition of one's worth	15.0%	46.7%	26.7%	8.3%	3.3%
4.	Organizational politics	20.8%	53.3%	19.2%	6.7%	–
5.	Poor working environment	10.0%	44.2%	25.0%	20.8%	–
<b>C. Self problems</b>						
1.	Inadequate or limited resources	13.3%	43.3%	20.8%	15.8%	6.8%
2.	Lack of opportunities and poor time management	25.0%	54.2%	15.8%	5.0%	–
3.	Health issues	20.0%	54.2%	17.5%	8.3%	–
4.	Restriction of working hours	18.3%	65.0%	6.7%	6.7%	3.3%
5.	Limitation to move out	23.4%	58.3%	10.8%	7.5%	–
<b>D. Common problems</b>						
1.	Coping with male ego and male stereotypes	35.0%	52.5%	7.5%	5.0%	–

S.No.	Qualities	Strongly agree	Agree	Neutral	Dis-agree	Strongly disagree
2.	Cultural taboos	25.8%	51.7%	16.7%	3.3%	2.5%
3.	Social restrictions	23.4%	58.3%	10.8%	4.2%	3.3%
4.	Harassment/Teasing by males	21.7%	49.2%	19.2%	3.3%	6.6%
5.	Physical strain	24.2%	32.5%	28.3%	12.5%	2.5%

Analysis of the above table reveals that Indian women entrepreneurs are confronted with specific problems viz. family problems, organizational problems, self-problems and common problems. Majority of the respondents agree that lack of motivation and support from spouse, lack of encouragement by other family members, child rearing responsibilities and busy with other priorities of life are the common family problems faced by women entrepreneurs.

Lack of support by colleagues and organizational politics were reported as major organizational problems by 53.3 percent respondents.

Forty-four percent women entrepreneurs agreed that gender discrimination and poor working

environment are also important organizational problems.

Restriction of working hours, limitation to move out, health issues and lack of opportunities and poor time management were reported as major self-problems by majority of the respondents. However, a small percent of respondents were neutral or disagreed regarding self-problems.

Fifty percent of the respondents agreed that Indian women entrepreneurs face common problems like coping with male ego and male stereotypes, cultural taboos, social restrictions and harassment and teasing by males.

Mean and standard deviation of scores were calculated from the data collected to mark down the intensity of the problem separately in **Table 3**.

**Table 3: Descriptive statistics of the intensity of the problems**

Code	Problems	Score	Mean	Standard Deviation
1.	Lack of motivation and support from spouse	496	4.13	0.634
2.	Lack of encouragement by other family members	489	4.08	0.688
3.	Less acceptability by friends, relatives, neighbors and community	417	3.48	1.029
4.	Child rearing responsibilities	520	4.33	0.714
5.	Busy with other priorities of life	472	3.93	0.827
6.	Gender discrimination	457	3.81	0.990
7.	Lack of support by colleagues	436	3.63	0.840
8.	No recognition of one's worth	434	3.62	0.954

Code	Problems	Score	Mean	Standard Deviation
9.	Organizational politics	466	3.88	0.812
10.	Poor working environment	409	3.41	0.957
11.	Inadequate or limited resources	423	3.53	0.943
12.	Lack of opportunities and poor time management	476	3.97	0.829
13.	Health issues	462	3.85	0.857
14.	Restriction of working hours	476	3.97	0.721
15.	Limitation to move out	477	3.97	0.804
16.	Coping with male ego and male stereotypes	501	4.18	0.774
17.	Cultural taboos	474	3.95	0.887
18.	Social restrictions	473	3.94	0.901
19.	Harassment/Teasing by males	461	3.84	0.889
20.	Physical strain	436	3.63	1.061

**KMO and Bartlett's Test of Sphericity**

The value of KMO statistic (0.723) is acceptable (> 0.5). So, this led the confidence regarding the appropriateness of factor analysis for the data.

The approximate Chi-square statistic is 696.688 with 190 degrees of freedom is significantly (P < 0.05) because of having the significant value less than 0.05. Therefore, KMO and Bartlett's test showed that factor analysis is appropriate or in other words data is fit for factor analysis (Table 5).

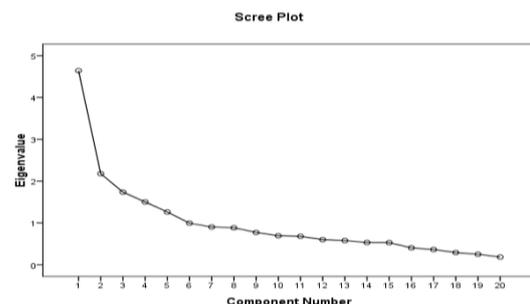
**Table 4: KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.723
Bartlett's test of sphericity	Approx. Chi-square	696.688
	df	190
	Sig.	.000

**Factor Extraction Using Principal Component Analysis**

The next in the process was to decide about number of factors to be derived. Often, among the many variables that researcher analyze, a few variables are more related to each other than they are to others. Factor analysis allow the researcher to look at these groups of variables that tend to relate to each other and estimate what underlying reason might cause these variables to be highly correlated with each other.

The scree plot for the analysis shows that 5 factors have Eigen value greater than 1, hence this is suggested to derive five factors for the problem in hand (Fig. 1).



SPSS 18.0 was used to classify 20 problems/variables into smaller number of factors. Factor analysis was used to determine whether there were any common construct that represents respondents concerns. The problems were analysed using Varimax Algorithm of Orthogonal Rotation –

the most commonly used method. Evaluation of resulting constructs and naming of factors is largely subjective. Hence, to identify the key problems that women leaders face and so as to group them into specific factors, factor analysis was done by using Principal Component Analysis.

**Table 5: Total variance explained**

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1.	4.640	23.202	23.202	4.640	23.202	23.202	3.034	15.170	15.170
2.	2.178	10.891	34.093	2.178	10.891	34.093	2.717	13.587	28.757
3.	1.738	8.690	42.783	1.738	8.690	42.783	2.053	10.263	39.020
4.	1.503	7.513	50.296	1.503	7.513	50.296	1.920	9.601	48.621
5.	1.263	6.315	56.611	1.263	6.315	56.611	1.598	7.989	56.611
6.	.996	4.978	61.589						
7.	.904	4.518	66.106						
8.	.885	4.426	70.532						
9.	.774	3.869	74.401						
10.	.695	3.473	77.874						
11.	.680	3.401	81.276						
12.	.602	3.010	84.285						
13.	.579	2.897	87.182						
14.	.534	2.668	89.850						
15.	.529	2.647	92.496						
16.	.406	2.031	94.527						
17.	.365	1.825	96.352						
18.	.293	1.464	97.815						
19.	.252	1.258	99.074						
20.	.185	.926	100.000						

According to Kaiser's Criteria by retaining only the problems with Eigen values greater than one, the inference can be drawn that 23.202% of variance is explained by Factor 1; 10.891% of variance is explained by Factor 2; 8.690% of variance is

explained by Factor 3; 7.513% of variance is explained by Factor 4; 6.315% of variance is explained by Factor 5 and together, all the five factors contributed to 56.611% of total explained variance.

**Table 6: Component Matrix**

	Component / Factor				
	1	2	3	4	5
1.		0.715			
2.		0.634			
3.	0.643				
4.			0.517		
5.	0.784				
6.	0.622				
7.	0.529				
8.					
9.				0.704	
10.				0.598	
11.			0.586		
12.					
13.					0.558
14.	0.564				
15.					
16.					
17.	0.668				
18.					
19.	0.527				
20.					

Extraction Method: Principal Component Analysis

a. 5 components extracted

Under Varimax rotation, 5 out of 20 problems have factor loading  $> 0.5$  in case of factor 1. This reveals that 25% of the problems clubbed into one factor. On the basis of Varimax rotation with Kaiser Normalization, 5 factors have emerged out.

**Table 7: Rotated Component Matrix**

	Component / Factor				
	1	2	3	4	5
1.		0.811			
2.		0.832			
3.		0.571			
4.				0.517	
5.	0.601				
6.			0.540		
7.	0.528				
8.					0.744
9.					0.696
10.			0.699		
11.					
12.				0.728	
13.				0.755	
14.					
15.			0.700		
16.	0.553				
17.	0.761				
18.	0.657				
19.	0.805				
20.				0.509	

Extraction Method: Principal Component Analysis

Rotation Method: Varimax With Kaiser Normalization

a. Rotation converged in 6 iterations

Each factor is constituted of all those variables that have factor loading  $> 0.5$ . Therefore, the five factors were identified (Table 8).

**Table 8: Grouping of key variables based on Factor Loadings**

Problems	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Harassment/teasing by males	0.805				
Cultural Taboos	0.761				
Social restrictions	0.657				
Busy with other priorities of life	0.601				
Coping with male ego & male stereotypes	0.553				
Lack of encouragement by other family members		0.832			
Lack of motivation & support from spouse		0.811			
Less acceptability by friends, relatives, neighbours and community		0.571			
Lack of support by colleagues		0.528			
Limitation to move out			0.700		
Poor working environment			0.699		
Gender discrimination			0.540		
Health issues				0.755	
Lack of opportunities and poor time management				0.728	
Child rearing responsibilities				0.517	
Physical strain				0.509	
No recognition of one's worth					0.744
Organizational politics					0.696

**Factor 1: Psycho emotional dynamics**

Harassment/teasing by males, cultural taboos, social restrictions, busy with other priorities of life and coping with male ego and male stereotypes constitute psycho emotional dynamics.

**Factor 2: Family dynamics**

Family problems play a major role in women leadership. Lack of encouragement by other family members, lack of motivation and support from

spouse, less acceptability by friends, relatives, neighbours and community and lack of support by colleagues constitute family dynamics.

**Factor 3: Socio cultural dynamics**

Limitations to move out, poor working environment and gender discrimination constitute socio-cultural dynamics.

**Factor 4: Environmental dynamics**

Health issues, lack of opportunities and poor time management, child rearing responsibilities and physical strain constitute environmental dynamics.

**Factor 5: Power dynamics**

No recognition of one's worth and organizational politics constitute power dynamics.

**CONCLUSION**

Indian women entrepreneurs are self-motivated and have various traits and qualities, which make them competent for their profession. They face certain problems but still they are stepping out and carving their own niche. Women entrepreneurs are considered as agents of change in the socio-economic development of a country. And entry of women into the world of business and entrepreneurship should be encouraged.

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# Export Potential of Indian Poultry Egg Industry

Waheeda Sheikh

## Abstract

Expanding global market and increasing competitiveness of Indian poultry egg industry has raised this sector from backyard sector to poultry industry since last 4 decades. Poultry farming with low cost of production, low investment and high employment potential has been generating additional incomes. Present study analyses the growth in production and export of poultry eggs from India using compound annual growth rate, and percentage analysis. The study also analyses the growth in production of eggs and of export of fresh and processed eggs from India using CAGR and Coefficient of Variation and compares it with that of world export. For the purpose time series data from 1994 to 2012, collected from the Trade Year Book published by Food and Agricultural Organization, and electronic data bank UNCOMTRADE and Government of India related to world import and Indian export of eggs.

## Introduction

Indian Poultry Industry is 5,000 years old, since last 4 decades it began to witness remarkable growth from backyard to poultry industry. There are more than 800 hatcheries operating in India, providing employment to India's 75% of egg produce is consumed by the 25% population living in urban and semi-urban areas. Presently about 800 hatcheries are operating in the country producing broiler eggs. Egg processing industry in India was born the year 1996 with establishment of first processing plant at Hyderabad. Thereafter five more egg processing plants have come up. The total investment in these projects is to the tune of approximately Rs. 150 crores with a capacity of producing more than 15000 tonnes of egg powder annually. The organized sector of poultry industry is providing 70 per cent of the output and unorganized sector 30 per cent. Low cost of egg production, high productivity, rise in egg consumption in the North India due to growing per capita income of a young, increasing urban population and emerging export markets are certain key growth drivers of egg production in India. The sector has great employment potential. According to the Indian Council of Agricultural Research (ICAR) Vision 2025, an increase in per capita availability of one egg will generate 50,000 more jobs. Domestic product in of eggs is increasing at a compound annual rate of 8 per cent whereas world demand is rising at the rate of 60 per cent per annum. The production cost of eggs in India is lowest in the world. The cost for producing one egg amounts to INR 1.11 (US\$ 0.20). Demand for the output of poultry industry especially fresh and processed eggs not only has huge potential in domestic market but also in the international market. Favorable domestic environment, low investment and pro trade policies are encouraging indicators contributing towards growth of production and export of fresh and processed eggs.

## Literature review and objectives of the study

Farhad et al 2012 use the comparative advantages indices like: revealed comparative advantage (RCA), revealed symmetric comparative advantage (RSCA) and (revealed competitive advantage (RC) for Iran and world main producers over the period 1990-2005.

Kehar Singh et al (2003) study the prospects of agricultural exports of India using composite index approach. Using time series data of export value and export quantum from 1980 to 2001 obtained from FAO website studies 46 agricultural commodities of which hen eggs is one reveals the commodity has positive prospects.

The study suggests that there is a need to formulate long term policies for reaping the benefits of liberalisation and globalisation. The reviewed literature either reveals that studies Farhad et al 2012, Kehar Singh et al (2003) uses revealed symmetric comparative advantage (RSCA) and revealed competitive advantage.

Indian studies Kehar Singh et al (2003), Prakash et al (1995) are examining the comparative advantage of poultry as one of many products and not fresh and processed eggs. In light of reviewed literature present study focuses on following objectives -

- 1) To study the growth trends in production of eggs and their export,
- 2) To explore the important markets and competitors in these markets

### Scope of the study

Present study is based on secondary data related to export of fresh and processed eggs from India during 2005 to 2012 and export of processed and fresh eggs from India from the year 1994 to 2012.

### Database and methodology

The study is based on the time series data from 1994 to 2012 of value of export (US \$) as per 2 digit Harmonized System (HS) classification related to Indian export of eggs. The time series data was collected from electronic data base of Ministry of Commerce, Government of India, and Commodity Trade Statistics (COMTRADE) of United Nations, Food and Agricultural Organization's TRADESTAT, APEDA and Foreign Trade and Balance of payment published by Centre for Monitoring Indian Economy.

### Results and discussion

Productions of eggs include fresh poultry eggs and processed products such as egg liquid and egg dried which is also known as egg powder. Production of eggs in India has increased from 13.29000 metric tonnes in 1994 to 3490000 metric tonnes in 2012. The annual production grew at a compound rate of 5.2. Export on the other hand has not shown similar trend. The growth of production and export can be seen in figure 1. Table 1 shows export as the percent of total domestic production from 2005 to 2012. From 3.4 percent in 2005 the share declined to 1.1 per cent in 2009. The reason for the fall is wide spread disease and following ban by a large number of Asian and European nations. Composition of Egg export shown in the figure 2 reveals that Indian egg export is mainly eggs in shell. The share of processed products i.e., egg liquid and egg dried is gradually increasing during the study period.

Top ten importer of Indian egg as given in Table 2 from 2008 to 2012 are fluctuating. It is clearly visible that large number of Asian countries are placed as the top ten importers of eggs from India. Further analysis of product wise destination reveals that Oman, UAE, Afghanistan, Bangladesh, Saudi Arabia, Sri Lanka, Thailand and Yemen major buyer of eggs in shell. Angola, Austria, Bahrain, Belgium, Comoros, Germany, Indonesia, Japan, Liberia, Netherlands, Philippines, Poland, Saudi Arabia, Singapore, Thailand, UAE and Vietnam are the destinations for egg Liquid. Whereas, Austria, Belgium, Bulgaria, Denmark, Germany, Indonesia, Japan, Netherlands and Poland Egg Dried. Comparative growth of value of the export egg from Indian and world egg export reveals that the compound annual growth for India is three times higher than that world and coefficient of variation is 66.6 per cent for India as against 52.9 per cent for the world. This shows higher fluctuations for Indian egg industry as compared to world production. Results relating to the growth in figure 4, shows that year over year growth are positive for a large number of years. Out of 19 observations only seven are years have negative growth. These three years are 1994 to 95, 1997 to 2000, 2006 to 2007 and 2008 to 2010. Out of these years the export was hard hit for two consecutive years i.e., 2008 to 2010 due to spread of avian influenza and the ban by the importing nations.

### Future scope of the study

The study reveals that Indian export of eggs is losing competitiveness in the world market due to commodity composition effect and market distribution effect. The study can be taken up further to explore the reasons contributing towards the existence of these factors.

### Conclusion

Egg export of India has been experiencing growth. However the pressure of domestic demand has affected the exportable surplus of this industry. Despite lower cost of production the industry is demonstrating the growth in export. Asia is the largest market for the Indian poultry eggs. Indian egg industry is able to benefit from the growing world demand. A focused policy and concentrated investment across the value chain can bring a great economic change in the lives of farming community in India by generating additional

income and help in reduction of poverty in the country.

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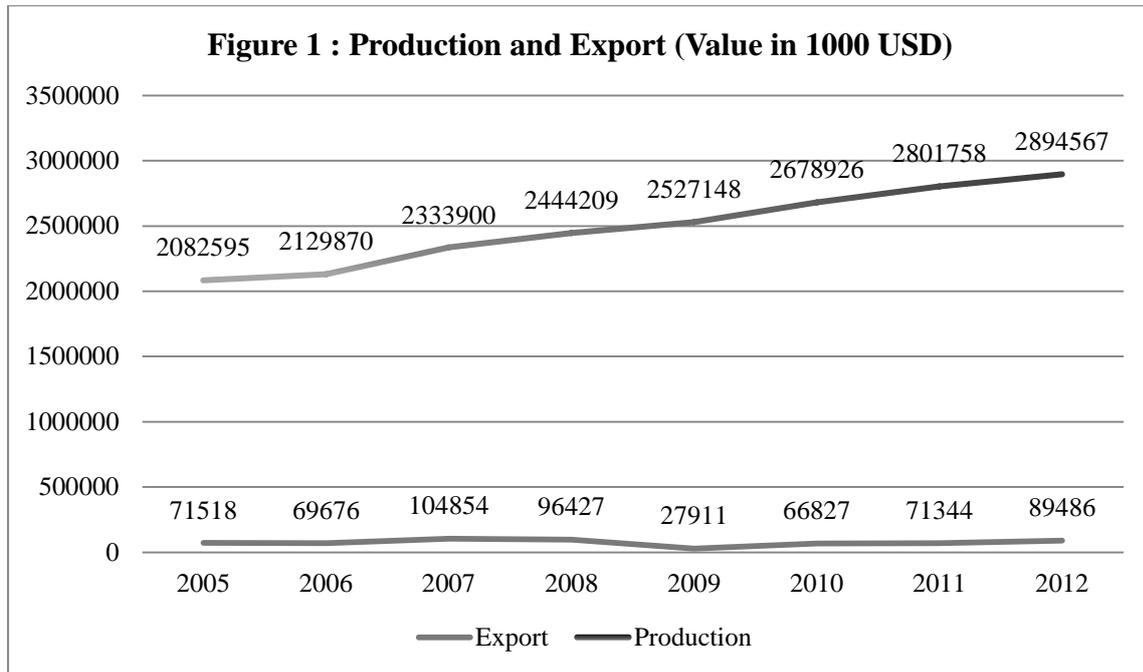
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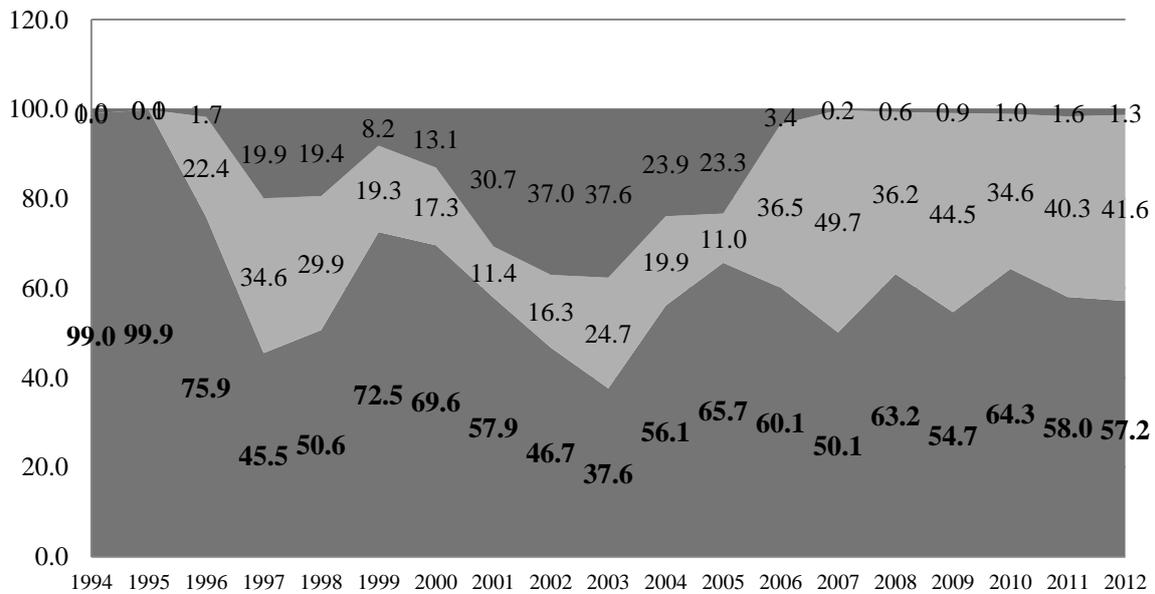
Annexure 1



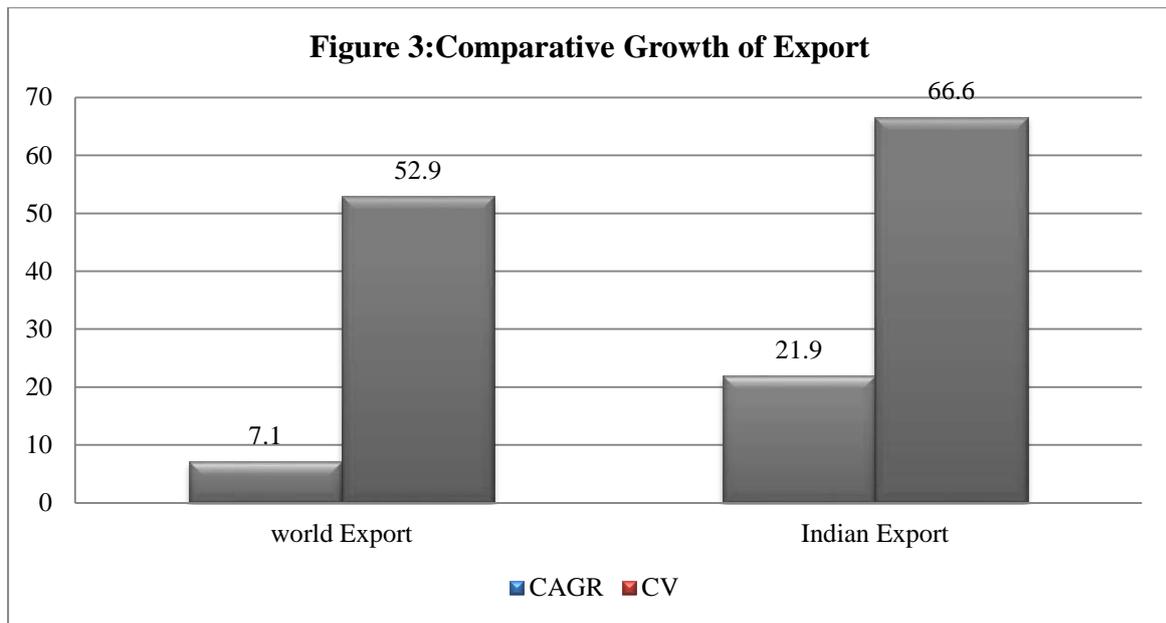
Source: Authors Calculations

**Figure 2: Composition of India's Egg Export**

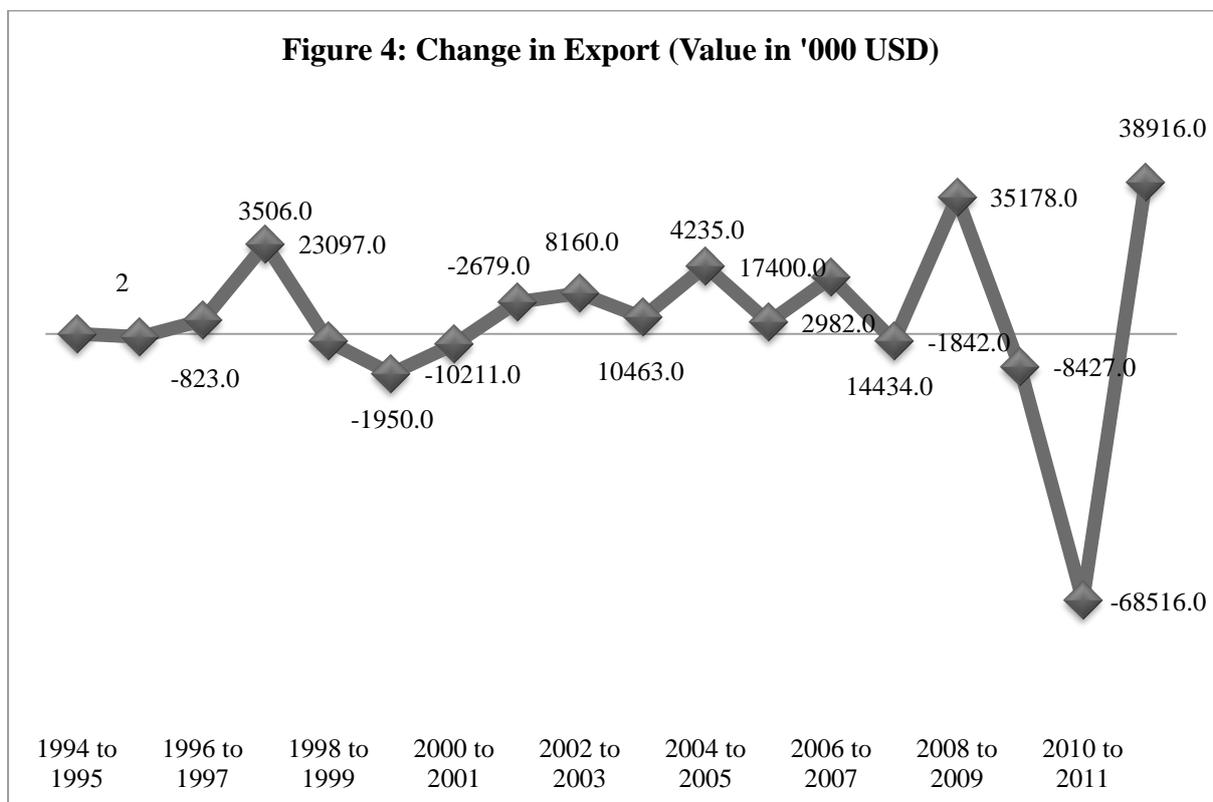
■ Eggs in shell ■ Eggs dried ■ Eggs liquid



Source: Authors Calculations



Source: Authors Calculations



Source: Authors Calculations

Table1: Export as percentage of Total Domestic Production

Year	2005	2006	2007	2008	2009	2010	2011	2012
Export	3.4	3.3	4.5	3.9	1.1	2.5	2.5	3.1

Source: Authors calculation

Table 2: Top Importing Country wise Market Position

Sr No	2008	2009	2010	2011	2012
	country	country	country	country	country
1	Afghanistan	Germany	Oman	Oman	Afghanistan
2	Germany	Indonesia	Angola	Germany	Oman
3	Denmark	Denmark	Pakistan	Pakistan	Netherlands
4	Angola	Japan	Afghanistan	Indonesia	Indonesia
5	Saudi Arabia	Netherlands	Germany	Maldives	Saudi Arabia
6	Indonesia	Viet Nam	Indonesia	Angola	Denmark
7	Japan	Saudi Arabia	Denmark	Japan	<b>Maldives</b>
8	Liberia	Angola	Netherlands	Iran	Japan
9	Pakistan	UAE	<b>Maldives</b>	Afghanistan	Liberia
10	<b>Maldives</b>	<b>Maldives</b>	Saudi Arabia	Denmark	Angola

Source: Author's Calculation

## Challenges before Power / Electricity Sector in Maharashtra

S. S. Shejal

### Abstract

Electricity and power generation play a vital role in economic development. Electricity is an important input for industry and agriculture, and is of particular importance to a developing rural sector which needs more power for its agricultural operations, for its small scale and agro-based industries. All sectors of the economy need electricity for their common needs of water supply, transport, communication and domestic lighting. Given the large scale dependence on lift irrigation for food production, food processing and preservation industries. The increase in the power intensive industries such as aluminum, fertilizer, petrochemicals etc. and the increasing dependence on electric traction for transport, there is hardly any community or sector which is not affected by a power shortage today. The future development of the country therefore, will depend upon the growth of power generation capacity.

### Introduction

Electricity is one of the basic inputs in the process of economic development. All sectors of the economy need electricity for their common needs. In Maharashtra, electricity is supplied by a number of agencies. Within the city of Mumbai BEST distributes electricity. In the rest of state generation and distribution of electricity is the exclusive responsibility of the MSEB. The state also receives electricity from the Central Government Power Projects as its share through the transmission network of Power Grid Corporation India.

Maharashtra has been able to achieve a leading position in the country in terms of economic development as manifested by development in agriculture, industry, trade and commerce largely due to good electricity availability. Availability of reliable power would therefore be a major factor for the future development and growth of Maharashtra and it is very critical to know the status of this sector, Problems and issues it faces and the policy options available to ensure that this critical sector continues to act as a catalyst for development rather than as a hindrance.

### Objectives of the Study

1. To study the present demand and supply situation of Electricity in Maharashtra.
2. To analyze the sector wise consumption of electricity in Maharashtra.
3. Examines the challenges before the Electricity / Power Sector in Maharashtra.

### Research Methodology

The present study based on secondary data collected from the various publications like, Economic Survey of Maharashtra, World Energy Outlook, Various Research Paper and Articles.

### Analysis and discussion

#### The installed capacity of Electricity in Maharashtra

The installed capacity of Electricity in Maharashtra in increased by 8% during 2011-12. The growth of electricity infrastructure in the Maharashtra is very impressive. The total installed capacity as on 2012 in the Maharashtra comprises of public sector and Ratnagiri Gas Power Project Ltd., 9.3%. The

source wise installed capacity is shown in table no.1.

Table no. 1. shows there was 59.52 percent increase in total installed capacity of electricity in Maharashtra during 2001-02 to 2011-12. There was highest increase in Natural Gas i.e. 50.54 percent during the same period. Increase in Hydro and Thermal was 6.68 percent and 28.37 percent respectively during 2000-01 to 2011-12.

**Table No. 1 Installed Capacity (MW)**

Source	2001-02	2012-12	% Change
Thermal	8075	10366	28.37
Renewable Energy	-	4198	-
Hydro	2874	3066	6.68
Natural Gas	1820	2740	50.54
<b>Total</b>	<b>12769</b>	<b>20370</b>	<b>59.32</b>

Source : Economic Survey of Maharashtra 2012-13

**Electricity Generated in Maharashtra**

Total Electricity generated in the state was 89465 million units during 2011-12. During 2011-12 the state was received 36755 million units electricity from the central sector. The source wise electricity generated in the state is given table no. 2.

**Table No.2 Electricity Generated (MW)**

Source	2001-02	2011-12	% Change 2011-12 Over 2000-01
Thermal	49377	59482	20.46
Renewable Energy	-	5925	-
Hydro	4889	6851	147.13
Natural Gas	6943	17207	-
<b>Total</b>	<b>61209</b>	<b>89465</b>	<b>46.16</b>

Source : Economic Survey of Maharashtra 2012-13

Table no.2. Shows that 46.16 percent increase in total electricity generated in Maharashtra during 2001-01 to 2011-12. There was highest increase in natural gas i.e. 147.83 percent during the same period.

**Consumption of Electricity in Maharashtra**

Aggregate consumption of electricity in the Maharashtra state during 2011-12 was 96644 million units. The industrial sector was the largest consumer of electricity (37.8 percent ) followed by agriculture sector (22.5 percent) and domestic (21.8 percent) . These three sector together accounted for 82 percent of total electricity consumption. Consumption of Electricity in the state is shown in table no. 3.

**Table No. 3 Consumption of Electricity**

Source	2000-01	2011-12	% Change 2011-12 Over 2000-01
Industrial	18363	36486	98.69
Domestic	11172	21041	88.33
Agriculture	9940	21693	118.23
Commercial	4105	11768	186.67
Railways	1581	2229	40.98
Public Water Works	1199	2193	82.90
Public Lighting	551	1077	95.46
Miscellaneous	378	157	-58.46
<b>Total</b>	<b>47289</b>	<b>96644</b>	<b>104.36</b>

Source : Economic Survey of Maharashtra 2012-13

Table no.3 shows there was 104.36 percent increase in total consumption of electricity in Maharashtra during 2000-01 to 2011-12. There was highest increase in consumption of electricity in commercial sectors i.e. 186.67 from 2000-01 to 2011-12. 118.23 percent increase in the consumption of electricity in agriculture sector during 2000-01 to 2011-12. 98.69 percent increase the consumption of electricity for the industrial sector and 88.33 percent increase the consumption for domestic purpose during the same period. The consumption of electricity for public water works and public lighting increase 82.90 percent and 95.46 percent respectively during 2001-01 to 2011-12. There was 58.46 percent decrease of electricity for miscellanies. In brief there was increase the consumption of electricity in Maharashtra.

**Demand and Supply of Electricity in Maharashtra**

The capacity addition by various sources, improvement in the network infrastructure, reduction of transmission and distribution losses and energy conservation measures have improved supply position. During 2011-12 the averages peak demand of electricity was 14043 mw with load shedding of 1202 MW. The supply and shortfall of electricity at average peak demand is shown in table no.4.

**Table No.4 Supply and Shortfall of Electricity at Average Peak Demand (MW)**

Year	Average Peak Demand	Supply	Shortfall
2001-02	10119	9103	1016
2002-03	11425	9004	2421

2003-04	11357	9315	2042
2004-05	12749	9704	3045
2005-06	11404	9212	3192
2006-07	12797	9638	3159
2007-08	13137	10130	3007
2008-09	12507	10203	2304
2009-10	12624	10921	1703
2010-11	13157	11917	1240
2011-12	14043	12841	1202

Source : Economic Survey of Maharashtra 2011-12 and 2012-13

Above table shows, that there was increase in demand and supply of electricity in the state. But increase in demand was more than supply. The demand was decreased from 13137 MW to 12507 MW from 2006-07 to 2007-08. The supply of electricity increased during 2001-02 to 2004-05 and in 2005-06 the supply was decreased. There was increase in supply of electricity from 9638 MW to 12841 MW during 2006-07 to 2011-12 and shortfall also decrease from 3159 MW to 1202 MW during the same period.

### Challenges before Electricity / Power Sector in Maharashtra

**1. Load Shedding** Load shedding is main challenge in the state. Maharashtra has been facing load shedding due to the gap between demand and supply since the past few years. This situation has been worsening in recent periods. Increase in load shedding or decrease in supply of electricity because of the following factors.

- i. Inability to achieve maximum efficiency.
- ii. Inability to shift load from peaking time to the off peak time.
- iii. A good hydro mix is essential for meeting the peak demand which comes twice during the course of 24 hours.
- iv. Existing power stations are old. Some power stations have already crossed 20 years of life.
- v. Poor quality of coal.

### 2. Poor Financial and Commercial Performance

State electricity board face problems of poor financial and commercial performance which has crippled their capacity to pay finance future programmes inability their full dues to the central power utilities which has adversely affected the latter's future investment plans, managerial inefficiencies and heavy transmission and distribution losses. The heavy transmission and distribution losses of state electricity board are caused by a variety of problems including energy sold at low voltage, sparsely distributed loads over large rural areas, inadequate investment in distribution system and improper billing.

### 3. Poor Recovery

Cost recovery in distribution of electricity in Maharashtra is very poor. State Govt. of Maharashtra providing electricity at very low rates to the agricultural sector, with the result that the burden of subsidy is very high. It may be noted in passing that cross subsidization adversely affects the competitiveness of the business sector. While electricity is supplied at very low rates to the agricultural sector and below cost to the household sector, industrial sector is charged tariffs that are MWch above the cost of supply and about ten times greater than agricultural tariffs. As a result of cross subsidization, the price of electricity is lowest. So this is one of the important challenge before power sector in Maharashtra.

### 4. Political Interference

Electricity sector has occupied a very important place in the political agenda in India. Giving electricity to vote banks at concessional rates has been a major platform for fighting elections of most political parties. This has resulted in political interference of this sector. Political consideration rather than economic analysis and requirement have been the basis of important policy decisions. These have resulted in inefficiencies at different levels of varying magnitude with the ultimate consequence of the Board becoming. Financially extremely weak and almost bankrupt. Maharashtra Electricity Board has also been affected to a great extent by these afflictions.

### 5. Monopoly of MSEB

MSEB by its legal character is a state owned monopoly. It is a huge, growing monopoly and has a very large strength of manpower. All competitions have been kept out effectively by the provisions of the Electricity Supply Act 1948. Anyone want to set up a generating station including a captive power station has to

obtain 'No Objection' from the Electricity Board Obviously. Such NOCs are given only as a matter of exception. This situation is effectively keeping out competition which is an essential for efficient functioning.

#### 6. Supply of Electricity Without Metered

Supplies of electricity were on the basis of meters and the customers were required to be billed on the basis on consumption reflected in the meters. However, because of certain problems about reading of consumer billing and maintenance of meters etc. Maharashtra switched over to supply of electricity without metered, first to the agriculture sector on the basis of high power and latter on to the power loom sector as well. To these categories the bill is a fixed amount based on the High Power of the installed motor and is irrespective of the quantum of electricity consumed. Obviously this led to excess consumption, waste and lack of accountability of the distribution machinery, not to speak of the consequent loss of revenue.

#### 7. Inordinate delay in installing

There has been an inordinate delay in installing and commissioning of projects. The causes of those these delays are preconstruction holdups (i.e. land acquisition and interstate water disputes) poor project management, late delivery of structural street cement and power equipment, labour disputes, funding constraints and technological change as reflected in the progression of unit sizes of thermal plants.

### Steps taken by Government of Maharashtra in Solving the Problem

- 1. Wind Power** During 2011-12, twenty wind monitoring stations have been installed and five stations are expected to be installed during 2012-13. Wind resources assessment study at 133 locations was in progress upto December, 2012.
- 2. Solar Steam Generation** Solar steam cooking system (Shirdi Saibaba Sanstha) Solar Air conditioning system (Chhatrapatil Shivaji Maharaj, Hospital, Kalwa, Thane) and private projects at Mahindra Vehicles Manufacturing Ltd., Chakan, Bhilwadi, Sangli & Baramati are some of the initiatives taken in the State.
- 3. Solar City Programme** Six cities in the State have been approved under this scheme, of which three (Nagpur, Kalyan-Dombivali & Thane) have submitted their master plan through the grants received. Nagpur is being

developed Model Solar City under this programme.

- 4. Biogas based distributed / grid power generation programme** Forty Nine projects with capacity of 649.5 KW are commissioned so far in the State. In addition, Pune Municipal Corporation has commissioned decentralized bio machination-cum-power generation plants for processing and disposal of segregated organic Municipal solid waste.
- 5. Geo-thermal Energy** MEDA has entered into preliminary agreement with Ms. Thermax Ltd. for commissioning Geo-Thermal Energy Generation Project based on the new technology and Ms. Thermax has started the survey work.
- 6. Wave Energy** Wave energy is the mechanical energy of wind stored in the sea water. A study along the coast of the State has shown some potential site possessing as average annual wave energy potential of five to eight KW/m and monsoon potential of 15 to 20 KW/m. The total wave energy potential along 720 km costlbe of State is approximately 500 MW. MEDA has invited "Expression of Interest" from interested project developers for taking over & commissioning the wave energy project at Budhal, Taluka guhagar Dist. Ratbagiri.
- 7. Jawaharlal Nehru National Solar Mission (JNNSM)** Under this mission, seven grid solar PV power projects of 16 MW capacity are set up in the State upto December, 2012.

### Conclusion

Maharashtra state has face the problem of electricity due to Government least interest in development of this sector. In recent years increase in demand for electricity but there is no increase in supply of electricity at that proportion. There is increase in consumption of electricity in the state but there is no new electricity project has been established. The industrial sector is the largest consumer of electricity followed by agriculture sector in the state. Load Shedding is main challenge before the Maharashtra State Electricity Board. The performance of Financial and Commercial and cost recovery in distribution is very poor. The political interference increase in the electricity sector in Maharashtra and this is dangerous for this sector. In recent times the state government has taken various steps solving the problems of electricity sector. This sector in the state is now at cross roads and is waiting eagerly for a bold new initiative to overcome the crises that

is looming ahead. It is hoped that the pressure of public opinion will embolden the policy makers to take such initiatives in the future.

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## Author's Profile

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# A Study of the government aid and initiatives for the entrepreneurial and employment opportunities for women in Borsad Taluka

Joe Marry George

## Abstract

Any strategy aimed at economic development will be lop-sided without involving women who constitute half of the world populations. Evidence has clearly established that entrepreneurial spirit is not a male privilege. Women entrepreneurship has gained momentum in the last three decades with the increase in the number of women enterprises and their substantive contribution to economic growth. My study focuses on the initiatives taken by the government for the entrepreneurial and employment opportunities for women of Taluka Panchayat, Borsad Taluka, of Anand District, Gujarat. My study and analysis finds the satisfaction level of the women towards the services and initiatives adopted for the entrepreneurial and employment opportunities by the government and Taluka Panchayat. The satisfaction of women can be identified in terms of different attributes. The data collected from 100 women of Borsad Taluka indicates their satisfaction towards the initiatives taken by the government for women entrepreneurship and employment opportunities. The factor analysis defines the satisfaction of women about the supports. The study also finds the awareness of women about the existence of different grants and groups for the development of women entrepreneurship and employment opportunities. The study also reveals about the Taluka Panchayat schemes and facilities provided for the development of women entrepreneurship and employment opportunities and also the curiosity of the people to avail such help from Taluka Panchayat.

## Introduction

Contribution of women in the economy is very important for the growth of socio-economic environment of the country. Without a meaningful and active participation of women, half of the total population, in regular economic activities, a dynamic and sustainable economy is impossible. In view of the need to bring the rural womenfolk in the development stream of the country, both the Government, the NGOs and other related agencies have provided ample opportunities to promote entrepreneurial skill among women. Income-generating activities, credit facilities, skill training, market opportunities have all combined to pave the way for the emergence of entrepreneurial development among women in rural areas. Borsad Taluka Panchayat has undertaken different schemes with an emphasis on the initiatives to increase women's participation in business. It appears that women have crossed their old bondages; and opened up a new dimension in the business area through their participation in different socio-economic activities in Borsad Taluka.

## Literature review

A study on support services available for women entrepreneurship development and growth in Bangladesh by Mohammed Abu Jahed, Ummee Kulsum & Sharmin Akther suggests that there are still many areas where women of Bangladesh are not given the required support and facilities and many of the women are not aware about the facilities provided by the government.

Gurendra Nath Bhardwaj, Swati Parashar, Dr. Babita Pandey & Puspamita Sahu in their studies on Women Entrepreneurship in India: Opportunities and Challenges proves that women had started taking up their own business and are doing better in their areas.

Dr.S.Tarakeswara Rao , Prof.G.Tulasi Rao and Mr.M.P.Suri Ganesh reveal that training and awareness regarding different agencies have proved beneficial for women entrepreneurs in building confidence.

## Facilities adopted for the development of women entrepreneurship opportunities at Borsad Taluka

Borsad taluka has adopted different schemes and provides various grants for the growth and development of women entrepreneurship and employment.

1. In the year 2007-08 it was renamed as Mission Mangalam from "Sakhi Sahay Mandal"

2. Industrial Training Institute (ITI) Vadodara works as Kaushaly Varthan Kendra. It arranges different training programmes for the women taking up entrepreneurship activities.
3. Bank of Baroda Rural Development and Self Employment Training Institute known as RSATI provides training as per the requirement or demand of the groups and also avails financial assistance at subsidized interest rate.
4. Bank of Baroda Swarujgar Vikas Sanstha (BSVS) provides grants in the form of loan and also trains the women for different entrepreneurial activities and also avails financial assistance at subsidized interest rate.
5. State Government's Manav Kalyan Yogna
6. State Government's Manav Garima
7. State Government's Horticulture and Agriculture Schemes (includes kit, seeds, manure, etc)
8. District Industry Centre provides industrial training

The following groups have got themselves registered with the taluka panchayat office, Borsad to avail themselves with financial help and trainings.

1. Sri Krishna Swasahay Group (Cottage Industry)
2. Om Sai Swasahay Jute (Nursery Govt Grants)
3. Jai Ambe Swasahay Juth (Nursery)
4. Gayatri Ma Swasah (Nursery)
5. Jai Rama Pir (Pashupalak)
6. Jai Mahakali (Cottage)
7. Jai Ambe (Cottage)
8. Jagruti Swasahay (Pandit Dindaya Grahak Bhanddar)
9. Jai Vahanvati Ma (Women group)
10. Jai Ma Vaishno Devi (Chhota Hathi-women group)
11. Computer Training (free of charge)
12. Workshop (at taluka level)

13. Training(SHG's)
14. Krushi Mahotsav
15. Individual Helps are provided by District Industrial Centre. It provides with loans and kits of self employment

In Borsad taluka there are 1700 such groups, supported by Mission Mangalam Programmes.

They frequently arranges different workshops and training in which the TDO- The Taluka Development Officer or the bank employee remains present to motivate and guide them.

### The criteria for registration

When eleven members get together they form as a group and get registered, out of which one or two members should have the primary education or should know to put their signature and should have enough knowledge to manage the finance.

All the member of the group should be below poverty line (BPL) falling within 0-16 score of BPL.

### Objectives

1. To study the initiatives taken by the government for the entrepreneurship and employment opportunities of women.
2. To know the awareness among women about the existence of entrepreneurship and employment opportunities initiated by the government.
3. To study the satisfaction level of women availing the supports from the government.

### Hypothesis

The women of Borsad Taluka are not aware about the initiatives taken by the government for the entrepreneurship and employment opportunities at the Taluka level.

### Research Methodology

**Research Design:** This is exploratory in nature since it gives insights about the awareness and satisfaction of the initiatives taken by the government for the entrepreneurship and employment opportunities for women.

**Sampling Design: Convenient Sampling**

**Sample Size:** The sample consists of 100 respondents, and all the respondents are females.

**Sample Area:** Borsad Taluka, Anand District, Gujarat

**Method of Data Collection:** The data is collected from primary source using a five point likert scale questionnaire. Secondary data is also collected. Secondary sources includes books, magazine and research articles on women entrepreneurship. The documents preserved by government agencies have widely been consulted.

**Research Design Tools:** Percentile method is used.

### Analysis and Interpretations of Primary Data

From the data analysis it is known that 40% of the respondents are of the age bracket 30 to 40, 35%

are of 40 to 50, 5% are of above 50, 5% are of 15 to 20 and 15% are of 20 to 30.

10% of the respondents are having 2 to 3 members in their family, 70% of the respondents are having 3 to 4 members in their family and 20% of them are having more than 4 members.

40% of the respondents said that 2 to 3 members are earning and 30% of the respondents said 3 to 4 members are earning and 30% of respondents said 4 to 5 members are earning.

85% of the respondents said 1 to 2 members of the family are having their own business and 15% of the respondents said 2 to 3 members of the family are having their own business.

### Analysis and Interpretations Using Percentile Method

Sr. No.	Variables	Strongly Disagree in %	Disagree in %	Neutral in %	Agree in %	Strongly Agree in %
1.	Women can run a business effectively	-	-	-	-	100
2.	Women should start up their own business	-	-	-	20	80
3.	Own business	-	-	-	-	100
4.	Businesses you are engaged into					
	Pashupalan	-	-	-	-	20
	Nursery	-	-	-	-	7
	Knitting	-	-	-	-	10
	Preparing Papad	-	-	-	-	10
	Preparing Pickles	-	-	-	-	2
	Making Agarbatti	-	-	-	-	5
	Canteen Services	-	-	-	-	9
	Tea Stall	-	-	-	-	3
	Grossary Shop	-	-	-	-	5
	Granary Shop	-	-	-	-	10
	Cosmetic Shop	-	-	-	-	1
	Beauty Parlour	-	-	-	-	1
	Garment Shop	-	-	-	-	2

	Aurvedic Medicines	-	-	-	-	2
	Stationary Shop	-	-	-	-	5
	Potter (other clay items)	-	-	-	-	4
	Rickshaw Ownership	-	-	-	-	4
5.	Aware about the various supporting facilities for the women entrepreneurship growth and development	-	-	-	-	100
6.	Taluka Panchayat support you through the following schemes/facilities					
	Information for women entrepreneurship opportunities	-	-	-	-	100
	Idea generation and screening	-	3	15	12	70
	Guidance	-	-	-	20	80
	Financial support	-	-	-	-	100
	Technical support	-	-	-	-	100
	Training & workshop	-	-	-	-	100
	Computer Training	-	-	-	-	100
7.	Aware about the following schemes of the Taluka Panchayat					
	Mission Mangalam	-	-	-	-	100
	Industrial Training Institute (ITI) Vadodara ( Kaushaly Varthan Kendra)	-	-	-	-	100
	Bank of Baroda Rural Development and Self Employment Training Institute	-	-	-	-	100
	Bank of Baroda Swarujgar Vikas Sanstha (BSVS)	-	-	-	-	100
	State Government's Manav Kalyan Yagna	-	-	-	-	100
	State Government's Manav Garima	-	-	-	-	100
	State Government's Horticulture and Agriculture Schemes (includes kit, seeds, manure, etc)	-	-	-	-	100
	District Industry Centre provides industrial training	-	-	-	-	100
8.	Do you avail the above schemes of the Taluka Panchayat	-	-	-	20	80
9.	satisfied with the services and facilities provided by the Taluka Panchayat	-	-	-	10	90
10	The growth and development of women entrepreneurs contribute for the development of the country	-	-	-	60	40

### Primary Data

Borsad had a population of 96,998. Males constitute 52% & females 48%, which is almost half of the population. Borsad has an average literacy rate of 68%, higher than the national average of 59.5%; with male literacy of 75% and female literacy of 60%.

### Findings and Suggestions

20% of the respondents only agree that they should take up their own business whereas, 80% strongly agree that they should take up their own business. So further steps taken to create awareness about the importance of women entrepreneurship and the facilities available for the same.

It is observed that only 20% of the respondents are having the business of cattle rearing and the remaining 80% of the respondents are scattered at a very less % into different categories of the business. The Panchayat should encourage more women to take the different businesses.

In order to give 100% satisfaction to the women in idea generation & screening, the Panchayat should increase their training and workshops and use effective tools of communication as 3% of the respondents disagree with the satisfaction in the above criteria and 15% are having neutral opinion on the same.

In order to increase the satisfaction in guidance from agrees (20%) to strongly agree (80%) the need based training & workshop can be arranged.

### **Conclusion**

Self-employment is emerging to be a very important source of livelihood for women in Asia and South East Asia. This is due to paucity of employment opportunities. There is an additional factor that many types of paid employment are felt to be more suitable to males than females.

Indian women are in no way inferior to men in all walks of life and they can be as good entrepreneurs as men in the country. Therefore, it is essential to exploit the potentials of Indian women. Women's participation in trade, industry and commerce, requiring entrepreneurship, is still poor mainly because of the problems associated with their gender roles. Therefore, promotion of entrepreneurship and economic empowerment of women poses a challenge to the government, funding agencies and non-government organisations. It is important for these people to

focus on the limitations faced by the women and to plan supporting systems to enhance the women entrepreneurship in India.

The null hypothesis is rejected and therefore, alternative hypothesis is accepted.

### **Limitations of the Study**

The sample size is 100 only which is small and that might affect the overall reliability.

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# A Study of Mobile Banking for Competitive Advantage in Service Sector: Bankers' Perspective

**Kamini Shah**

## Abstract

**Mobile banking** can be considered as a latest addition into the umbrella of various financial products. It facilitates customers to bank at any time and at anyplace. It is necessary to understand the factors that lead to use of mobile banking is really an important issue of research. The purpose of this research is to examine a banks' perspective on the Mobile banking. A survey of the selected banks in Anand and Vallabh Vidyanagar was conducted to know the bankers' perspective on this new banking product. The findings of the study reveal that banks have accepted it as an integral part of modern banking. The banks can design their marketing strategies of Mobile banking by addressing various concerns of security, costs etc. for more acceptance of this innovative banking product. It may become a differentiating service for banks' profitability.

Thus, Mobile banking is the usage of mobile phone as a platform for banking transactions. The high penetration of mobile phones in India is the biggest driver for mobile banking in India. The Reserve Bank of India has recently issued the revised guidelines for mobile banking operations in India. Almost all banks in India have already launched their mobile banking operations in India. A plethora of mobile banking services are offered by them.

## Introduction

Ever thought of paying the taxi fare using your mobile phone? Or Dining at your favorite restaurant and paying for the sumptuous meal by tapping a few buttons on your mobile? What if you can instantly transfer urgently-needed money to your relative in a far-flung village from a local store where cell phones are recharged?

M-banking is cheaper than ATM banking, and more likely to happen than Net banking. A bank source reports these costs per transaction: Rs. 150 at a branch, Rs. 30 at an ATM, Rs. 15 with phone banking, and Rs. 10 for Internet and m-banking. Mobile banking based transaction costs about 2% of the branch banking cost, 10% of the ATM based transaction cost and 50% of the internet banking cost.

Today, there are 936 million mobile phone users versus less than fifty percent bank account holders in comparison to mobile phone users, a great opportunity for tapping financial inclusion.

India, the second-largest wireless market in the world, next to China, where 36% of people have mobile phones, according to Celent. The Boston-based financial-research and -consulting firm also reports that 84% of Indian households were unbanked in 2005 and that mobile banking in India has grown 94% since 2002. That adds up to projection of India's mobile banking active user base reaching 25 million by 2012.

## Conceptual Framework of Mobile Banking

Mobile banking is defined as:

"Mobile Banking refers to provision and availment of banking- and financial services with the help of mobile telecommunication devices. The scope of offered services may include facilities to conduct bank and stock market transactions, to administer accounts and to access customized information."

The various modes available to Indian users for mobile banking are:

- **SMS:** SMS is the simplest form of mobile banking. It is largely used for information-based services. SMS has the maximum reach amongst consumers since all the mobile phones support SMS. But, the biggest challenge in SMS based mobile banking is that, it is the least secure form of mobile banking.

- **Interactive Voice Response:** IVR allows a caller to select options from a voice menu and interact with the phone system. The IVR system would then take the necessary instructions from the consumer by recording the tones of the number selections that the consumer enters on the key pad, or through spoken commands, and creates an instruction that is given to the service provider/bank. The security in IVR systems is relatively high than SMS.
- **Wireless Internet Protocol:** WAP is the usage of Internet on mobile for mobile banking applications. It is similar to Internet banking. The consumer's handset needs to be WAP enabled. WAP banking is open to similar threats as Internet banking.

The simplest way to classify these services depending on the *originator of a service* session is the 'Push/Pull' nature. Second way to categorize the mobile banking services, by the *nature of the service*, gives us two kind of services – Transaction Based and Enquiry Based.

#### Advantages of Mobile Banking

Growth in the Mobile Banking market is driven by convenience of banking operations at the click of their mobile, greater reach to consumers, integration of other m-commerce services with mobile banking.

- There is a huge **mobile subscriber base** across India of approximately 936 Million.
- **Utility:** Users are familiar with a cell phone and will probably adapt quickly to mobile banking applications. There are so many people in India using a mobile and not the Internet
- **Rural Reach:** It must also be noted that the Central Government has been contemplating non-bank account based

Mobile banking for rural penetration for India's unbanked citizens. Coming to last mile connectivity which is more difficult in rural areas, the Mobile channel may offer better reach.

- **Bringing costs down for other channels:** If one can access bank services on the mobile banking application, he or she would not call the Call Center or log on to Internet Banking.
- **Business Channel:** This is a completely untapped business channel for banks.

#### Challenges of Mobile Banking

- **Focus:** Insufficient attention is being given by a bank's business and IT on the potential of this channel.
- **GPRS:** GPRS is a very effective channel for mobile banking. But the growth is restricted by limited usage of GPRS in the Indian Market. The consumers are not very well versed with data transmission channels.
- **Targeting the right customer for the right product:** Should the bank target their own customers or should it target other banks' customers. This needs extensive customer profiling of back end bank applications for targeted campaigns.
- **Lack of mass adoption:** There are large as well as niche product companies in this space offering Mobile Banking Applications. However, the apps can be completely developed and tested only under mass usage conditions and over time.

	Push Based	Pull Based
Transaction Based		* Fund Transfer * Bill Payment * Other financial services like share trading.
Enquiry Based	* Credit/Debit Alerts. * Minimum Balance Alerts * Bill Payment Alerts	* Account Balance Enquiry * Account Statement Enquiry. * Cheque Status Enquiry. * Cheque Book Requests. * Recent Transaction History.

Table - 1

- **Lack of support for all handsets:** There are many handset models across mobile manufacturers and also Mobile Operating System variants.
- **Regulatory restrictions on limits on transactions:** A robust regulatory framework for mobile banking is imperative.
- **Security Risks:** The consumers are not confident about the security aspect of mobile banking. Trojans and viruses are evolving rapidly here. Two Factor or Multi Factor authentications is a must for transaction banking.

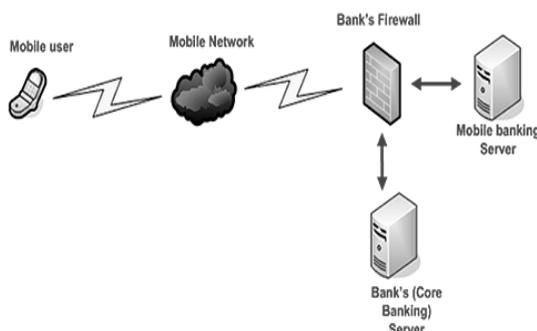
Key challenges in Mobile banking have an impact not only on the adoption of mobile banking but also the design of mobile banking applications. With the RBI regulations in the closet, mobile banking has a bright future in India.



Source: Mobile banking: A technology gradually permeating into the system Shelley Singh, ET Bureau Dec 11, 2012, 06.30AM IST

### Mobile Banking Architecture

The mobile banking services can be provided to customers directly by the bank or through a 3rd party vendor; and explanations for both follows:

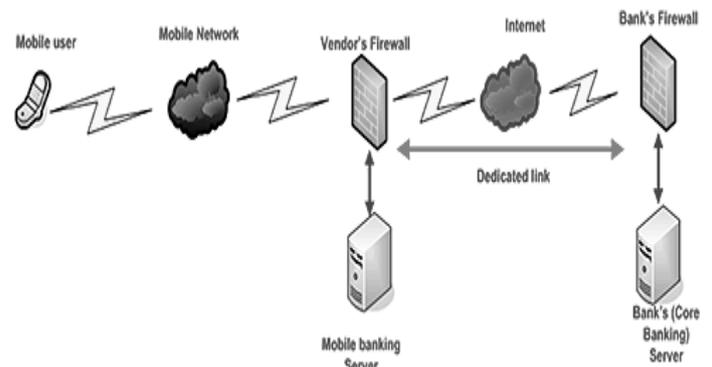


(Figure 1) Architecture 1

### When the bank provides the service directly to the customer

The setup will have a web server, application server and the database at the bank's premises. The application will ensure what services are to be provided to the customer. Based on the banking services provided to the customer, the security of the infrastructure has to be built in. The database can be the same as the Core banking database, having another table for mobile banking users.

The customer uses his/her mobile phones to transact through the mobile network. The Mobile banking server in turn talks to the Core banking systems of the bank for user authentication, processing transactions, authorization, etc.



(Figure 2) Architecture 2

### When banks outsource this facility to 3rd party vendors

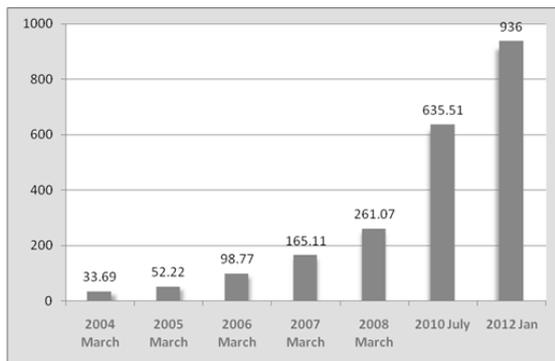
This is the more popular architecture as Banks can quickly roll out their mobile banking solutions by connecting to a 3rd party. This is also the architecture with more security issues as interconnection with a 3rd party is involved. In this architecture, the mobile banking servers are located at the 3rd party vendor's data centre. These servers will talk to the Core Banking servers of the bank through a secured channel (dedicated or shared link) for authentication, authorization and transaction processing.

### Mobile Banking in India

India is marching towards m-commerce - a world where you can make all payments by keying in instructions on your mobile phone. In India, however, there is a limitation on the availability of functions that can be deployed by banking customers. Most m-banking transactions today are 'information-based' -- customers engage in m-

banking services like balance enquiry, last three transactions, "alerts" for strange activities in bank accounts etc.

India is going mobile. The mobile user base – already 936 million- is a huge base of potential m-banking customers. Though very few of them are m-banking today. Most don't know about it or don't know how easy it is and of course the perceived issue of security and confidentiality. According to studies by some global firms, one of the most used services for mobile commerce would be mobile banking – with services like transfers, balance and trading bringing in the revenues for mobile bankers.

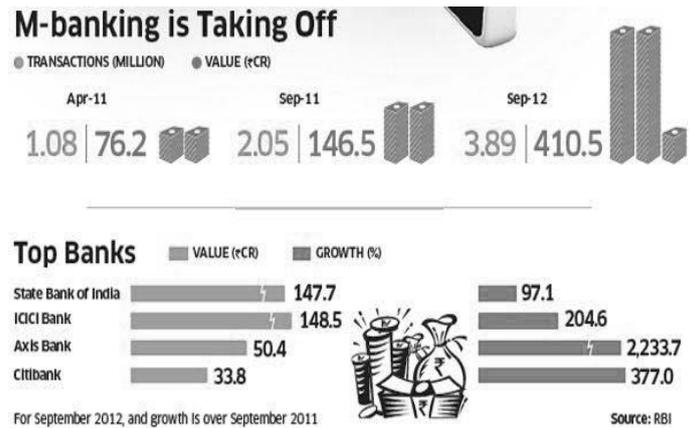


As on October 2012, nearly 1.72 crore customers are utilizing the Mobile Banking Services among the 42 banks which provide the facility, Finance Minister P Chidambaram said in a written reply to the Lok Sabha.

Mobile-banking Customer-base of Banks:

HDFC Bank	88.88 lakh
SBI	50.92 lakh
Corporation Bank	6.75 lakh
ICICI Bank	5.49 lakh
Axis Bank	3.51 lakh
Bank of Baroda	3.17 lakh
Central Bank of India	300
Jammu & Kashmir Bank	130

Use of mobile banking services among this huge base of subscribers is, however, very low. Even amongst the existing bank customers less than one percent of them are covered under the mobile banking services. Notwithstanding the existing low base of customers, the growth in mobile banking transactions has shown increasing trend. For example, in the month of June 2012, 3.43 million transactions amounting to Rs.3067.10 million were processed as compared to 1.41 million transactions amounting to Rs. 984.66 million processed in June 2011 - an increase of about 143 percent in volume and approximately 211 percent in value terms. It



Source: Mobile banking: A technology gradually permeating into the system Shelley Singh, ET Bureau Dec 11, 2012, 06.30AM IST

is, however, evident that the potential of mobile banking technology is yet to be fully exploited.

Of its total customer base of 200 million, State Bank of India (SBI), the country's largest bank, has 5.2 million registered users for its m-banking services. "Two lakh new users are registering every month," says Thandapani G, deputy general manager, SBI. The bank's account holders do 90,000 transactions per day on mobile phones and did m-transfers of Rs 180 crore in November.

According to NPCI (National Payments Corporation of India) data, the total number of mobile banking transactions has increased to 86,884 amounting to Rs 33.79 crore in November 2012 from 15,759 transactions amounting to Rs 5.30 crore in December 2011. "Overall, the banking industry averages about 3 lakh transactions per day through mobile banking," Lalit Sinha, General Manager (Alternate Channels and New Initiative Department), Union Bank of India. A. P. Hota, Managing Director and CEO, NPCI had recently said, "By 2020, about 22-24 per cent of the transactions will be under the mobile payments system."

According to Reserve bank of India (RBI) data, a total of 3.7 crore mobile transactions took place between February and November 2012, jumping around 1.7 times in volumes over this 10-month period. These transactions saw nearly a three-fold increase in value over the same period. Thus, Increasing smartphone adoption and initiatives such as media promotions and customer education programmes for mobile banking have led to this uptrend. For customers, mobile banking is convenient while banks benefit through a low-cost channel.

## Mobile banking v/s Online Banking

The internet banking revolution has not been very successful in developing countries as users do not have pervasive access to internet enabled computers. Mobiles solve this problem and go beyond to enable a true "Anytime Anywhere Banking" experience. This means that a customer can pay his bills during his commute to work, transfer funds between accounts as he is waiting for a movie to start or check on his bank balances when he is having lunch. Mobile banking in India today is in its infancy. While one almost always carries a mobile phone, one does not carry one's PC or laptop. If you look at the overall context the number of cell phone users is four and a half times the total number of bank accounts in this country. So mobile banking is being looked at as an option for providing transfers across the length and breadth.

### Literature Review (Foreign/Indian)

The need for mobile banking has been given considerable attention by many researchers. Karjaluoto, Koivumaki, and Salo, 2002; Mattila, 2003; Suoranta and Mattila, 2004; Laforet and Li, 2005; Riivari, 2005 etc has given significant importance to this topic. The topic of mobile banking has become important for academics, practitioners, and students.

**Bruno-Britz Maria**, discusses the trend of mobile banking across the banking industry in the U.S. It states that the pace of mobile banking announcements has steadily increased as bank after bank jumps on the trend. It is inferred that even some smaller banks are getting into mobile banking, recognizing that the technology can be a great differentiator.

**Will Cellphones Be The Next 'Media War' For Banks?** article focuses on a survey for mobile-banking specialist Meridea conducted by Forrester Custom Research in Great Britain in October 2005. According to the survey, one in four wireless users would consider switching banks if they were offered free mobile banking services. Heavy wireless users -- those who spend more than \$40 per month on mobile calls -- were three times more interested in mobile banking.

**Mobile Banking: It's Coming, But It's Not Here Yet.** This article in ABA Bank Marketing reports on the results of an online survey entitled "Mobile Banking: The Consumer Viewpoint," conducted by Synergistics Research Corp. The survey showed that users of mobile banking view fills service as a

secondary or emergency banking method. More than one-quarter of the cell phone users say this is their primary method of performing banking transactions, while more than one-third say it is a secondary method.

### India dials M for money as mobile use takes off.

The article focuses on a few registered user base of mobile banking in India as of 2009, based on a report by the firm Celent. It mentions some obstacles to opportunities to adopt mobile banking in the country, including the lack of infrastructure. Certain standards to make transactions secure were set by the Reserve Bank of India (RBI) in an effort to encourage mobile banking. According to the projection of the firm, the penetration of mobile banking active user base is anticipated to increase from 0.2% to 2% by 2012.

### Mobile-banking predicted to reach 53 million users by 2013.

The article reports that the research firm TowerGroup Inc. has predicted increase of mobile-banking use to 53 million in 2013 as compared to 10 million in 2009. Such expansion represents a compound annual growth rate of 51.8%, according to TowerGroup.

### Some small businesses willing to pay for mobile banking

The article cites a survey which reveals that small businesses are willing to pay for online and mobile banking services if they increase convenience or save time. It found that 27% of respondents would be willing to pay for mobile-banking services, and 35% for remote-deposit services.

### Mobile-banking use becoming more mainstream

The article cites a report which shows that mobile banking is moving into mainstream use and is changing the way consumers manage their finances in the U.S. It found that nearly half of mobile-phone owners have accessed to mobile banking, and expects that 45% of mobile-phone users will use mobile-banking services by 2014. It also forecasts that 99 million U.S. adults will conduct mobile-banking transactions at least once annually by 2014, with 52% of mobile-phone users relying on smartphones.

### Mobile-banking use expected to increase

The article reports on the increased mobile banking use in the U.S. This condition is attributed to the growing popularity of smartphones, combined with the increased use of SMS text messages. It is expected that the number of cellular-service subscribers will increase to 322 million by 2013.

**Demand for mobile-banking tools growing rapidly:** Consumers are ready for mobile banking,

and they are getting impatient if their banks do not offer it, according to CardLine sister publication American Banker. "Adoption and usage are growing faster than anybody had anticipated," says Robert B. Hedges Jr., the managing partner of Boston-based consulting firm Mercatus LLC, which on Thursday released a report commissioned by Visa Inc. The survey findings suggest that nearly one-third of consumers either are using mobile financial services, or they are considering doing so in the next year. 59% of respondents expressed interest in using their handsets to make purchases at the point of sale just as they would use a debit or credit card. Those consumers also said they are interested in using their handsets to make price comparisons at stores (64%), to access credit card information (61%), and organize and track their reward accounts (59%).

**Mobile Banking : The Next Big Thing** Mobile banking have the potential to extend financial services to a vast section of people who have never had access to formal financial services and the potential to change the way in which we deliver financial services to all. The mobile phones penetration is a major opportunity for growth in banking, provided this can be done at a relatively low-cost.

**Adoption of Mobile Banking Services in India** Mobile banking, a new challenge, emerged when banking institutions began to consolidate their e-commerce activities. The recent advances in telecommunication have enabled the introduction of mobile banking services, which can be seen as an innovation in the financial services industry. This paper evaluates the applicability of Rogers' (1995) innovation attributes constructs in analyzing the adoption of mobile banking. The data was collected in India during January-August, 2005, and includes 222 survey responses. The article articulates the stimulating and inhibiting attributes in the adoption of mobile banking services and outlines some managerial implications.

#### **Reserve Bank of India (RBI) Guidelines for Mobile Banking:**

There is a phenomenal rise in the number of mobile phone users in India. The growth in the mobile phone usage has coincided with the growth of the banking and financial sector. The Indian banking sector has recognized the potential of the mobile phones as a medium to offer various banking products and services. Nevertheless, m-banking is at the nascent stage in India. As of now, only few banks are offering services through mobile phones to their customers.

Recognizing the growing usage of mobile phones and its utility as a channel, the RBI has issued draft-operating guidelines for initiating m-banking in October, 2008 and revised guidelines on December 24, 2009, May 4, 2011 and December 22, 2011 respectively. As per the latest revision in the guideline,

- Transaction cap limits for funds transfer and for purchase of goods & services of Rs. 50,000 per customer per day removed. Banks may place their own limits based on their risk perception with the approval of their Board.
- Ceiling on cash-outs to the recipients through ATMs or BCs raised to Rs 10,000 per transaction subject to the existing cap of Rs.25,000 per month.
- Transaction up to Rs. 5,000 can be facilitated without end to end encryption of messages.

### **Research Methodology & Scope of the Project**

#### **Research Problem**

In this Internet age, when the customer is having access to a variety of products and services it is becoming very difficult for banks to survive, unless banks are making a real effort to provide a high level of quality services. Due to industry consolidation, virtual delivery channels and the ability to move money around at the click of a mouse (now even mobile) are making it easier for customers to pack their bags and say bye to the bank. In this difficult situation Mobile banking is an opportunity that banks can avail to rise above the competitors.

Based upon this discussion the problem area has been formed as follows:

*How can mobile banking help banks to achieve their goals to attract and retain customers and developing long term customer relationship for competitive advantage?*

#### **Research Objectives**

The objectives of the study are,

1. To know the status of mobile banking as on date from a bankers' perspective.
2. To understand concerns for slow adoption of mobile banking services.

- To study the change in the pattern of customers' interactions with banks due to emergence of mobile banking.

### Scope of the study

An attempt has been made in this research to review available literature on Mobile banking and have carried out an empirical study. In order to address the research problem and fulfill the research objectives various sources of information on mobile banking have been used as follows:

[a] **Secondary Data:** have been collected using various books, articles and information from magazines and visit to relevant websites.

[b] **Primary Data:** The primary data has been collected through a survey conducted to examine the utility of mobile banking from the perspective of banks in Anand and Vallabh Vidyanagar.

The questions for the primary survey have been adapted from the past survey of Rajnish Tiwari and Stephan Buse, The Mobile Commerce Prospects: A Strategic Analysis of Opportunities in the Banking Sector. This survey was conducted in Germany. The researcher felt it is an important research issue to understand bankers' perspective on it for competitive advantage in the banking industry.

### Sample Selection

Data is collected using a purposive convenience sample of banks in Anand and Vallabh Vidyanagar, Gujarat using structured questionnaire supported by personal interview.

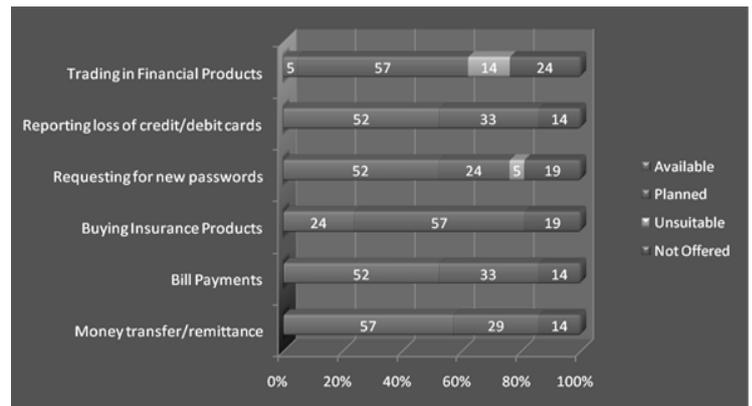
The number of bank respondents are 21. Thus, the sample size of banks is limited to 21 in Anand and Vallabh Vidyanagar as listed below so as to ascertain the M-Banking scenario in banks.

ICICI Bank	Bank of Baroda
IDBI Bank	Indian Overseas Bank
Kotak Mahindra Bank	Indian Bank
AXIS Bank	UCO Bank
HDFC Bank	Bank of Maharashtra
Oriental Bank of Commerce	United Bank of India
Corporation Bank	Laxmi Vilas Bank
State Bank of India	Punjab National Bank
Union Bank of India	Federal Bank
Bank of India	Syndicate Bank
Canara Bank	

## Data Analysis & Findings

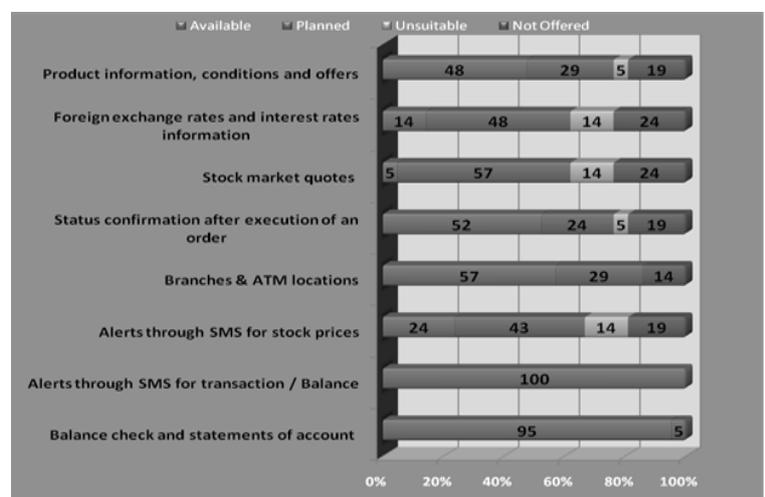
The data were processed using the Microsoft Windows Excel and a mix of appropriate analytical tools and techniques including statistical tables, simple frequency tables, percentages etc to analyze the data and arrive at meaningful interpretation. The main findings of survey results are as follows

### 1) Mobile Accounting



Mobile banking includes a wide range of services. the fund transfer service has been offered by maximum i.e. 57% (12) of the banks followed by service related to bill payments, request for new password and reporting loss of credit/debit cards offered by 52% (11) of the banks. This shows some remarkable movement in the transaction based services in the landscape of mobile banking. One noteworthy point here is 12 banks are planning to offer within six months purchase of insurance products and trading in financial instruments even though mobile brokerage is treated with certain reservations at present by many banks.

### 2) Mobile Financial Information



Mobile banking financial information seems to be a favorite application of Indian banks with many services either already offered or planned to be offered within one year. The above figure 5 indicates that Alerts' through SMS for transaction or balance is a very popular service followed by balance enquiries. All i.e. 100% of the banks are offering SMS alert facilities while 95% (20) banks are offering balance enquiries services. 57% of the banks (12) are also planning to offer stock market enquiries and reports.

**3) Medium of Mobile Banking**

In order to test the preferences of banks regarding mediums of m-banking, survey participants were asked about mediums that they employed. The table 2 below indicates that the most favoured medium by banks is messaging based applications. As m-banking is in its infancy and it is offered free of cost by most of the banks, the SMS based services are very popular in India.

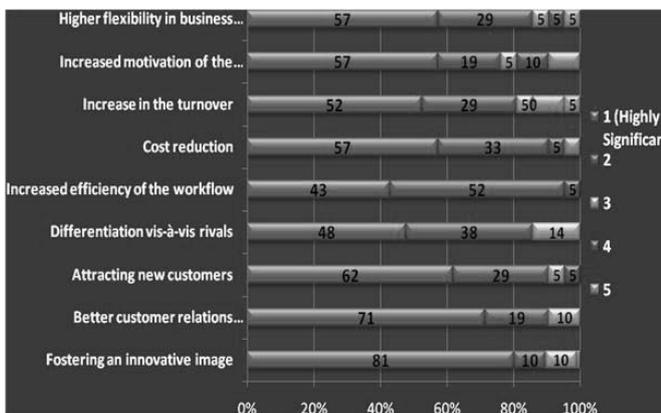
Messaging-based applications (eg. Via SMS)	76
Browser-based applications (direct access to internet via mobile phone or PDA)	29
Client-based applications (special software installed on the mobile device)	14

# As there are multiple responses the total per cent may exceed 100%. (Values are in %)

(Table 2)

**4) Objectives for offering Mobile Banking**

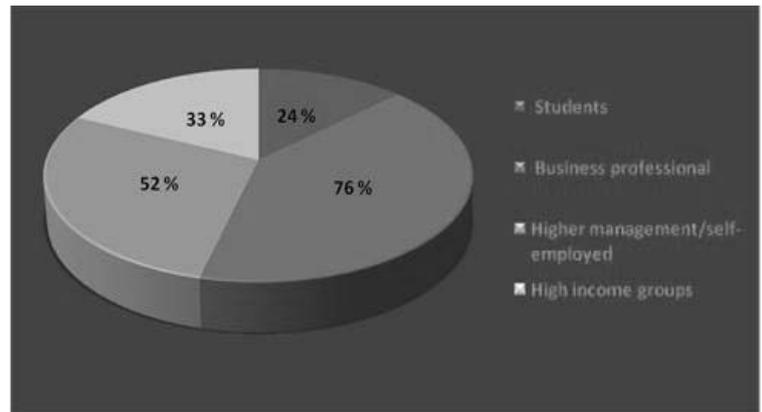
Banks offering mobile financial services were asked about the objectives that they might have been pursuing in offering mobile banking to their customers. The participating banks were asked to rate nine possible objectives on a scale of 1 (Very high significance) to 5 (without any significance).



The above figure indicates that 81% (17) banks are motivated to make such offers for fostering an innovative image while 71% of the banks believe it helps in better CRM. Banks are also convinced that it helps them in attracting new customers. 12 banks are of opinion that it also helps in cost reduction, increased motivation of the workforce and increasing flexibility in business processes.

**5) Target Customer Groups**

Banks were asked to mention the customers they are targeting for their mobile banking. As we can observe in the figure 7 given below, most banks (76%) believed that business professionals followed by people at the top management (52%) are the prime customers who use such facilities which may be due to their more exposure to such things. Some branch managers also mentioned that people having frequent travelling jobs, techno savvy, active stock market traders etc. are also considered potential users of m-banking.



**6) Dominance of Information Services**

Many banks in India are offering mobile services without actively promoting it and secondly the dominance of information services prevails over services related to accounting and brokerage.

Low costs of information services (compared to transaction services)	29
Security-related concerns in mobile transaction services	71
Greater customer demand for mobile information services	29

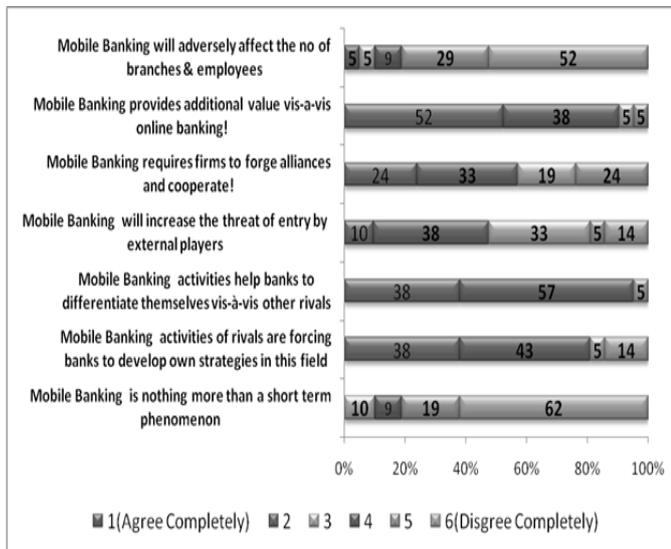
Table 3

An increasing number of banks are now offering Mobile Banking. But banks often restrict their M-banking offers to certain services of informational nature. Majority of the surveyed banks (Table 3), 71% are of the opinion that security concerns due

to unripe technologies in mobile transaction services, banks did not want to take such decisions in a hurry. 6 (29%) banks have emphasized on low cost of information services as they are offering it free of cost to create awareness and increase its acceptance among the customers.

### 7) Implications of Mobile Banking (Bankers' Perspective)

The banks were requested to give their opinion regarding implications of mobile banking in order to assess its future prospects. They were required to evaluate on a scale of 1 (I agree completely) to 6 (I disagree completely).



The above figure clearly depicts that more than 80% (if we combine disagree and completely disagree) surveyed banks do not consider it a short term phenomenon. 81% (if we combine agree and completely agree) of the banks believe that m-banking activities of rivals are forcing banks to develop their own strategies and 95% agree that it helps in differentiating themselves vis-à-vis rivals. 90% banks agree that mobile banking provides additional value vis-à-vis online banking. The noteworthy point here is more than 80% surveyed banks rejected the hypothesis that the m-banking will adversely affect the number of branches and employees. Thus, this ratings itself indicates that banks have accepted it as an integral part of modern banking. The only question for them is now offering wide variety of m-banking services and heavily advertising its importance.

### Limitations of Research

Before making any concluding comments, it is important to acknowledge and point out some limitations of the survey conducted.

1. The survey was limited to banks in Anand and Vallabh Vidyanagar only. The mobile banking practices of banks in Anand and Vallabh Vidyanagar are not likely to be representative of all banks throughout the country.
2. The responses to questionnaire by the bank branch managers may be their personal views and hence do not always reflect the mobile banking practices used throughout the country.
3. The survey questionnaires used in this study were essentially limited in scope. Though the survey technique is not without flaws, it has been generally accepted as a reasonable proxy given the time and personal constraints in banking industry.

With these limitations in mind, several observations can be drawn from the survey.

### Observations

The results of an empirical study do indicate that all banks in India are aware of the need for a well formulated strategy for the marketing of Mobile Banking. It is proposed to review the important findings of this study and venture to outline some suggestions and recommendations for the benefit of banks.

1. All banks under study are core banking solutions enabled banks.
2. Banks have started offering Mobile Banking services to its customers.
3. Customer education and heavy marketing campaign is very much required on the part of banks to convert this unique bank product into profits.

### Scope for Further Research study:

Due to the limited scope of the present study, a large number of research issues are not attempted but are felt during the course of the study. Some of them are as follows.

1. The research can be carried out to cover banks of the whole country as well as customers from different sections of the society throughout the country, so as to understand the scenario of mobile banking accurately.
2. Mobile Banking practices of foreign banks in India can be compared with Indian banks to have a clear picture of mobile banking.

3. The cost benefit analysis can be carried out to quantify the profitability in implementing Mobile Banking.
4. Mobile banking as a tool of financial inclusion is an interesting issue of research.

### Usefulness of the Present study

As mobile banking is still in its infancy in India, the present research findings are expected to be useful to;

1. The banks in designing their mobile banking marketing strategies.
2. This study will also be useful for doctoral research in this area.

### Conclusion

Mobile banking in India is in a budding stage, with the high penetration of mobile phones acting as a growth driver. The increasing adoption of mobile web-enabled devices such as smartphones across the world has created a "fertile environment" in which mobile banking can grow. TowerGroup also says the proliferation of mobile devices and smart phones indicate a growing mentality among consumers of being "networked," something that is changing people's daily lives, including finance. The use of mobile technologies is a win-win proposition for both the banks and the bank's customers. The mobile phone is obviously a communication tool but it has enormous potential to aid other value added services especially financial services. In India, mobile banking is largely driven by SMS and other nascent data services. In Japan and Korea, mobile banking has taken the bank into the mobile phone. Consumers can use their phone like a bank account and transfer electronic cash out of their mobile to pay for transactions at subways, convenience stores and movie tickets. The ultimate aim is to replace the wallet with the mobile phone. India has a long way to reach that level of mobile banking; however it is an easier path to tread now as the security standards and the transaction protocols have been developed and tested.

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## Does investor education programmes of security and exchange board of India (Sebi) have impact on investors? A study of selected investors

Rakeshkumar B Modasiya, Mehul J Mistry

### Abstract

This paper attempts to find out the effectiveness of investor education programmes conducted by resource person of SEBI for investment planning for young investors. For this purpose, just after the workshop the responses of college students were taken through questionnaire. Responses of 466 respondents were taken as sample using simple random sampling technique. One questionnaire was distributed at each bench required to be filled by any of the students sitting on that bench during the workshop. These responses were taken from 25 workshops conducted by Resource Person of SEBI. The data were analysed using SPSS 17.00 evaluation version. Level of significance was kept as usual i.e. 5%. The study is based on the knowledge and perception of college students. The questionnaire is being filled in Anand and Other than Anand like Bhavnagar, Vadodara, and Ahmedabad area only. This study is totally based on primary data. The study carried on with the help of Paired Sample test and Pearson Chi Square Test which provides the clear cut idea about the impact of SEBI's workshop Programme, awareness about financial planning of young investors and also effectiveness of SEBI's workshop conducted by resource person of SEBI.

### Introduction

It is SEBI's belief that educating and empowering investors can proactively achieve its prime mandate of investor protection. Besides, investor education, financial education is also considered important for promoting financial inclusion particularly in developing countries and is also firmly endorsed and emphasized by the Standing Committee of Parliament on Finance recently. Towards this SEBI has launched its financial education programme, in the western region covering the following topics:

- Introduction to Savings and Investments.
- Basics of Budgeting, Inflation effects on Investments, Risk and Return, Power of Compounding and Time Value of Money.
- Choosing the Right Investment Options.
- Asset Allocation Strategy and various products available.
- Investor Protection and Grievances Redressal Mechanism.

These programmes will be conducted by SEBI Certified Financial Education Trainers, who have undergone intensive training at National Institute for Securities Market (NISM, established by SEBI). The contact details of trainers are place below. This programme can be conducted for any Institution / NGO /group, at a mutually convenient date and time. The programme shall be interactive in nature with duration of around 2-3 hours. All cost in respect of study material for the participants and the trainer shall be borne by SEBI. The institution / NGO / Group are only required to provide the venue and a minimum of 50 participants. Whenever needed SEBI shall also depute one of its officials to attend the programme to make it more effective and useful for the participants.

The aforesaid topics are structured according to the target group namely,

Investment Planning for Retirement

Investment Planning for Executives

Investment Planning for Home Makers

Financial Planning for Young Investors

Financial Education for Middle Income Group

Financial Education for School Children, and  
Financial Literacy for Self Help Groups.

### Objectives of study

The objectives of study are as under:

1. The main purpose of this study is impact of SEBI's workshop in terms of saving and investment habits of young investors.
2. To check the level of awareness about financial planning of young investors.
3. To study the effectiveness of the SEBI's Workshops conducted by Resource Persons of SEBI.

### Research methodology

This research work is Analytical in nature. The study has been carried out on the basis of primary data only. The study is based on primary data collected through questionnaire. For this purpose,

just after the workshop the responses of college students were taken through questionnaire. Responses of 466 respondents were taken as sample using simple random sampling technique. One questionnaire was distributed at each bench required to be filled by any of the students sitting on that bench during the workshop. These responses were taken from 25 workshops conducted by Resource Person of SEBI. The data were analysed using SPSS 17.00 evaluation version. Level of significance was kept as usual i.e. 5%. The study is based on the knowledge and perception of college students. The questionnaire is being filled in Anand and Other than Anand like Bhavnagar, Vadodara, and Ahmedabad area only.

### Hypothesis testing

$H_0$  = There is no significant difference in the behavior of pre and post workshop of financial Planning for young investors.

$H_1$  = There is significant difference in the behavior of pre and post workshop of financial Planning for young investors.

Variable	Category	Frequency	Valid Percent
City	Anand	209	44.8 %
	Other than Anand	257	55.2 %
Gender	Male	263	56.4 %
	Female	203	43.6 %
Age	Less than 20	71	15.4 %
	20 to 23	365	79.0 %
	24 & above	26	5.6 %
Education of Father	Up to SSC	98	21.0 %
	Up to HSC	92	19.7 %
	Up to Graduate	151	32.4 %
	Up to Post Graduate	74	15.9 %
	Professional	12	2.6 %

### Profile of the respondents

## Impact of workshop on different aspects

Table no. 1 overall measurement of satisfaction level of workshop programme

Statement	Not at all agree	Dis Agree	Neutral	Agree	Fully Agree
I am satisfied with this workshop	1.80%	17.10%	5.50%	28.60%	47.00%
I got very important lessons of investment.	0.90%	12.80%	7.70%	37.20%	41.40%
I am able to learn financial planning at length	1.40%	12.60%	12.10%	39.50%	34.50%
I am sure this workshop will bring financial discipline in my life	1.10%	13.50%	8.70%	36.30%	40.40%
I have clear my doubts about saving& investment	1.30%	13.90%	14.10%	36.00%	34.70%
Now I think I am comfortable in my own financial planning.	2.5%	13.50%	15.30%	37.50%	31.20%
I am able to prepare my household budget	3.10%	14.50%	15.40%	39.40%	27.50%
I am sure I will not lose my money through ponzy scheme.	3.60%	9.20%	8.80%	25.60%	52.80%
People should attend this kind of workshop	0.90%	11.10%	2.90%	22.90%	62.20%

Above table indicates perception of respondents about satisfaction level of workshop programme we can see that The study found that majority 75.60% of respondents believe positively answer about satisfaction of workshop programmes. The study reveals that almost 78.60% of respondents agreeing that and only 0.90% of respondents are strongly disagreeing that workshop programmes help to respondents in investment education. This shows that positive view of respondents about it. The study shows that 74.00% of respondents think positively that workshop programmes helps in financial planning at length in present and future stages. The study depict that 76.70% of respondents giving their view positively about workshop programmes will bring financial discipline in own life. i.e. SEBI arranging workshop programme will bring financial discipline in own life of respondents. The study indicates that almost 70.70% of respondents agreeing however, 15.20% of respondents are not agreeing about workshop a programme that helps in clear doubts about savings and investments. The more positive perception of respondent's shows, workshop programmes helps properly to respondents for clear doubts about savings and investments. The study found that almost 68.70%

of respondents think positively that workshop programmes helps in comfortable level of own financial planning of respondents. i.e. workshop programmes helps in choosing right financial planning of respondents' money. The study found that 66.90% of respondents are agreeing that workshop programmes helps in preparing household budget. The higher positive perception shows that positive effects of workshop programmes in preparing household budget. The study reveals that almost 78.40% of respondents think positively that workshop programmes helps to clear concept of Ponzy Scheme. So huge percentage of respondents are sure not lose money through Ponzy scheme after attending workshop. The study found that majority 83.10% are agreeing about people should attend this kind of workshop programmes. So we find that majority respondents are fully satisfied with workshop programmes. The study found that approximately 75.00% of respondents think positively about workshop programmes i.e. overall performance of workshop programme is effective and successful way for improving saving and investment education for young investors.

### Formulation of hypothesis

$H_0$ = There is no significant difference in the behavior of pre and post workshop of financial planning for young investors.

$H_1$ = There is significant difference in the behavior of pre and post workshop of financial planning for young investors.

### Hypothesis testing

To test the pre and post change in the behavior of the respondents, we have applied paired t test.

Pair Samples Test						
Statements	Paired Differences			Paired Differences		Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	
Aware about financial planning before workshop And Aware about financial planning after workshop	.60969	.53349	.02695	.55672	.66267	.000
Aware about power of compounding before workshop And Aware about power of compounding after workshop	.68325	.51404	.02630	.63153	.73496	.000
Aware about time value of money before workshop And Aware about time value of money after workshop	.27320	.47425	.02408	.22586	.32053	.000
Know The Rule of 72 before workshop And Know The Rule of 72 after workshop	.79849	.43193	.02168	.75587	.84111	.000
Aware about saving and investment related products before workshop And Aware about saving and investment related products after workshop	.45316	.55619	.02799	.39815	.50818	.000
Aware about protection related products before workshop And Aware about protection related products after workshop	.64975	.52825	.02661	.59743	.70207	.000
Aware about borrowing related products before workshop And Aware about borrowing related products after workshop	.66240	.51500	.02604	.61120	.71361	.000
Know what is debentures before workshop And Know what is debentures after workshop	.14213	.44562	.02245	.09799	.18627	.000
Know what is mutual fund before workshop And Know what is mutual fund after workshop	.23724	.48226	.02436	.18936	.28513	.000
Know what is equity share before workshop And Know what is equity share after workshop	.17403	.42494	.02166	.13144	.21661	.000
Aware about depository system before workshop And Aware about depository system after workshop	.56489	.53116	.02679	.51221	.61756	.000
Aware about ponzy scheme before workshop And Aware about ponzy scheme after workshop	.74378	.46474	.02318	.69821	.78935	.000
Aware about Nominee and his right before workshop And Aware about Nominee and his right after workshop	.57289	.52544	.02657	.52065	.62513	.000
Know about risk and return relation before workshop And Know about risk and return relation after workshop	.42929	.53491	.02688	.37645	.48214	.000
Aware about inflation effects on your investment before workshop And Aware about inflation effects on your investment after workshop	.47917	.53551	.02733	.42544	.53290	.000

Inference: As p value of all the statements is 0.00. As p value is less than 0.05, therefore we reject the null hypothesis and accept the alternative hypothesis. I.e. there is significant difference in the

awareness of respondents in the pre and post workshop. It suggests that there is a great impact of workshop on the awareness of the respondents.

**Table No.1: P-Value of Pearson Chi-Square Test**

Statements Variable	Saving Habits	Invest. Habits	Financial Planning	Not Involving in Ponzy Scheme	Risk Taking Behavior	Preparing Budget
Gender	0.188 (Accept)	0.624 (Accept)	0.337 (Accept)	0.181 (Accept)	0.200 (Accept)	0.570 (Accept)
City	0.686 (Accept)	0.173 (Accept)	0.916 (Accept)	0.265 (Accept)	0.669 (Accept)	0.824 (Accept)
Age	0.173 (Accept)	0.049 (Reject)	0.011 (Reject)	0.450 (Accept)	0.644 (Accept)	0.234 (Accept)
Education of father	0.026 (Reject)	0.342 (Accept)	0.180 (Accept)	0.249 (Accept)	0.344 (Accept)	0.149 (Accept)

Inference: For acceptance/rejection of Hypothesis, if p value of Pearson chi-square test is less than 0.05, we reject the null hypothesis but if the value is more than 0.05; we accept the null hypothesis and reject the alternative hypothesis. We can see from the Table No. 8 the null hypothesis for age in case of investment habits and financial planning rejected means Investment habits and Financial Planning does not differ significantly as per age factor. Similar way saving habits as per education of father does not differ significantly. Rest of the hypothesis accepted means there is significant difference in the various impact on the future behavior of respondents as per gender, city, age and education of father.

**Findings and suggestions**

The study found that majority 75.60% of respondents believe positively answer about satisfaction of workshop programmes. The study reveals that almost 78.60% of respondents agreeing that and only 0.90% of respondents are strongly disagreeing that workshop programmes help to respondents in investment education. This shows that positive view of respondents about it. The study shows that 74.00% of respondents think positively that workshop programmes helps in financial planning at length in present and future stages.

The study depict that 76.70% of respondents giving their view positively about workshop programmes will bring financial discipline in own life. i.e. SEBI arranging workshop programme will bring financial discipline in own life of respondents. The study indicates that almost 70.70% of respondents agreeing however, 15.20% of respondents are not agreeing about workshop programmes that helps in clear doubts about savings and investments. The more positive perception of respondent’s shows,

workshop programmes helps properly to respondents for clear doubts about savings and investments. The study found that almost 68.70% of respondents think positively that workshop programmes helps in comfortable level of own financial planning of respondents. i.e. workshop programmes helps in choosing right financial planning of respondents’ money. The study found that 66.90% of respondents are agreeing that workshop programmes helps in preparing household budget. The higher positive perception shows that positive effects of workshop programmes in preparing household budget. The study reveals that almost 78.40% of respondents think positively that workshop programmes helps to clear concept of Ponzy Scheme. So huge percentage of respondents are sure not lose money through Ponzy scheme after attending workshop. The study found that majority 83.10% are agreeing about people should attend this kind of workshop programmes. So we find that majority respondents are fully satisfied with workshop programmes. The study found that approximately 75.00% of respondents think positively about workshop programmes i.e. overall performance of workshop programmes is effective and successful way for improving saving and investment education for young investors.

**Findings regarding impact of workshop programmes on different aspects**

The study found that only 67.33% of male and 63.00% female respondents agreed that they can make financial planning systematically by attending workshop. Majority of male (i.e.96.48%) and female (i.e. 98.48%) respondents said that they will save regularly in future. Almost (i.e. 86.72%) of male and (i.e. 88.27) female respondents said that they will investment

regularly in future. Only 72.44% of male and 66.84% female respondents agreed that they can take risk in equity related products by attending workshop. Huge amount 98.03% of male and 99.49% female respondents agreed that they will not involving in any Ponzy Scheme in future by attending workshop. Almost 93.73% of male and 94.97% of female respondents fully agreed that they can prepare budget about any financial matter by attending workshop. Huge amount 97.10% respondents of Anand and 97.63% respondents of other than Anand fully agreed and said that they will save regularly in future. Almost 85.00% respondents of Anand and 89.29% respondents of other than Anand fully agreed and said that they will investment regularly in future. Only 71.06% respondents of Anand and 69.20% respondents of other than Anand agreed that they can take risk in equity related products by attending workshop. Majority 97.99% respondents of Anand and 98.00% respondents of other than Anand said that they will not involving any Ponzy Scheme in future by attending workshop. Almost 94.00% respondents of Anand and 94.49% respondents of other than Anand fully agreed that they can prepare budget about any financial matter by attending workshop. Huge amount 95.02% respondents of Anand and 95.24% respondents of other than Anand fully agreed and that they can make financial planning systematically by attending workshop. Majority 100% respondents as per Post Graduation of their father fully agreed and 93.81%, 98.85%, 98.65% and 90.91% respondents agreed as per SSC, HSC, Graduation and Professional education of their father respectively. They said that they will save regularly in future. Huge amount 94.52% and 90.91 respondents as per Post Graduation and Professional education of their father agreed and almost 85.57%, 85.06% and 89.06% respondents agreed as per SSC, HSC and Graduation education of their father respectively. They said that they will investment regularly in future. Only 65.26%, 76.74%, 72.60%, 64.79%, and 63.64% respondents agreed as per SSC, HSC, Graduate, Post Graduate and Professional education of their father respectively. They said that they can take risk in equity related products by attending workshop. Huge amount 97.94%, 98.85%, 99.32%, 98.61%, and 90.91% respondents agreed as per SSC, HSC, Graduate, Post Graduate and Professional education of their father respectively. They said that they will not involving ponzy Scheme in future by attending workshop. Majority 100% respondents as per Professional education of their father fully agreed and 90.72%, 93.10%, 95.95% and 98.61% respondents agreed as per SSC, HSC, Graduation and Post-Graduation education of their father respectively. They said that they can prepare budget of any financial matter in future. Majority 91.75%, 97.70%, 95.24%,

98.23% and 90.91% respondents agreed as per SSC, HSC, Graduation, Post-Graduation and Professional education of their father respectively. They said that they can make financial plan systematically in future by attending workshop. Full Amount (i.e.100%) of respondents agreed who stand in 24 year and above age of respondents. And 97.76% and 94.20% respondents agreed who stand between 20 to 23 years and below the age of 20 years respectively. They said that they will save regularly in future. Almost 89.01%, 87.50% respondents agreed who stand between 20 to 23 years age and 24 and above age respectively but only 78.26% respondents agreed who stand below the age of 20 years that they will investment regularly in future. Only 65.22%, 70.86% and 70.93% respondents agreed who stand below the age of 20 years and between 20 to 23 years age and 24 years and above age respectively that they can take risk in equity related products in future. Full Amount (i.e.100%) of respondents agreed who stand in 24 year & above age and below the age of 20 years of respondents respectively and 98.31% respondents agreed who stand between 20 to 23 years age respectively. They said that they will not involving in Ponzy Scheme in future. Almost 89.86%, 94.94% and 96.00% of respondents agreed stand in below age of 20 years, between 20 to 23 years and 24 years and above age respectively that they can prepare budget for any financial matter in life in future. Almost 88.41%, 96.64% and 91.67% of respondents agreed stand in below age of 20 years, between 20 to 23 years and 24 years and above age respectively that they can make financial planning systematically by attending workshop.

### Suggestions

Workshop does not cover financial planning methods in detail therefore only 65.00% of respondents can prepare their plan individually. Hence, the workshop needs to cover financial planning in detail. Workshop does not cover to change in risk taking behaviour of respondents therefore only 70.00% of respondents will take risk in equity related products individually. Hence, workshop needs to cover the points which is motivates participants to invest in equity related products. Workshop does not change in saving and investment habits of respondents who come for low education family in against to respondents who come for well-educated family. Hence, the workshop needs to weightage on important of saving in life for future especially for lower level income group. Workshop does not cover to change in risk taking behaviour of respondents therefore only 68.67% of respondents will take risk in equity related products as per educations of their father. Hence, workshop needs to cover change in risk taking behaviour by using of various examples and

methods of finance in equity related products in detail.

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# A Study on Effect of TV Ads on Buying Behaviour of Rural and Urban Adolescents in Anand District

Ankur Amin, Rina Dave, Nimesh Raval

## Abstract

Advertising is playing important role in our day to life. It has become a popular tool of communication. The choice of advertising medium depends on nature of product, nature of customer, type of competition, etc. Rural consumers are fundamentally different from their urban counterparts socially, psychologically, physiologically and literally, the buying behaviour of rural consumers has become a hot-topic for discussion because rural India, in recent days, is enthusiastically consuming everything from shampoo to motor cycles. In this paper an attempt is made to find effectiveness of advertising on Adolescents of rural and urban market. The study suggests that rural Adolescents like television advertising more than their urban counterparts. TV advertising has enhanced their involvement in product selection and purchase, they prefer to buy TV advertised products and it is helpful in buying the new products, getting the best product and also supports collective decision making. The urban teenagers also want TV advertised products even though they do not require them.

## Introduction

Advertising or advertising in business is a form of marketing communication used to encourage, persuade, or manipulate an audience (viewers, readers or listeners; sometimes a specific group) to take or continue to take some action. Most commonly, the desired result is to drive consumer behavior with respect to a commercial offering, although political and ideological advertising is also common. This type of work belongs to a category called affective labor. Advertisements are meant to convey the marketer's message to the prospective customers (Datta 2008). It is tool of mass communication. The choice of media is dependent upon the nature of the message and the intended target audience (Etzel et al 2008). If advertisement of any concerned product, service and/or idea is done properly at a right place, through proper media, and within a specific time constraint, can attract new-customers. This helps to capture the market and increase sales of an advertiser. Advertising sparks an interest in masses about advertised products and/or services of its advertiser.

This interest creates demand in the market. The growing demand soon results in higher sales. Eventually, the advertiser fulfills his main goal of investing in an advertisement. Just imagine television or a newspaper or a radio channel without an advertisement! No, no one can any day imagine this. Advertising plays a very important role in customers' life. Customers are the people who buy the product only after they are made aware of the products available in the market. If the product is not advertised, no customer will come to know what products are available and will not buy the product even if the product was for their benefit. One more thing is that advertising helps people find the best products for themselves, their kids, and their family. When they come to know about the range of products, they are able to compare the products and buy so that they get what they desire after spending their valuable money. Thus, advertising is important for the customers.

The colour TV penetration is found to be a key driver of demand for TV advertising as colour improved the quality of the picture and hence the effectiveness of advertising (Raven et al 2004). Besides the purchasing behaviour, the television advertising also influences the social behaviour (Kotwal et al 2008). The Indian economy is the third largest in Asia.

It is expected to grow at 7 per cent. The decrease in import tariffs has allowed large inflow of products from the other nations. India is a developing country and majority of the people are living in rural areas (Census, 2001).

Rural consumers are fundamentally different from their urban counterparts socially, psychologically, physiologically and literally (Selvaraj, 2007).

The total size of rural market is 123000 crore, which includes 65,000 crore FMCG and 5,000 crore durables, 45,000 crore agri inputs and 8,000 crore two and four wheeler's market. The size of rural market is bigger than the urban for both FMCG and durables as it accounts 53 and 59 percent of the market share respectively (Kashyap & Raut, 2008). Hence, the buying behaviour of rural consumers has become a hot-topic for discussion because rural India, in recent days, is enthusiastically consuming everything from shampoo to motor cycles (Nagaraja, 2004).

## **Literature Review**

Indian advertising is a billion dollar industry today, and at a growth rate of 40-50% per annum, one of the fastest growing industries in the country (Unnikrishnan and Bajpai 1996).

The National Readership Survey IV and V estimated that 77% of urban population and 30% of rural population has access to TV sets. The rural viewership is expected to go up to 45-48% by 2020. As the number of TV sets increases, the appetite for entertainment of Indian viewers has increased dramatically but there is 'fragmentation' of viewership due to availability of variety of channel/programme options. These programmes reach to nearly 90% population of which 500 million Indians (nearly fifty percent of population) watch television regularly as per Statistics of Doordarshan and other researchers (Saxena 2005).

The television medium is the most attractive and important place to advertise. Most of the young people remain glued to the television and enjoy what they see. As a wide range of products and services are consumed or used by children, many companies tend to target them (Chandhok 2005).

Advertisers target teenagers because of their high disposable income, their influence on parental purchases, their early establishment of loyalty to certain brands, and a conventional wisdom that they buy products on impulse (Fox 1996; Mc Neal 1999).

A teenager possessing greater financial resources would have more money to spend on discretionary items for her/himself and may also exert greater influence on family purchases (Beatty and Talpade 1994).

The girl teenagers are more attracted toward TV advertisements featuring celebrities, children or jingles (Dubey and Patel 2004). While purchasing cosmetics, toiletries, stationary, gifts and cards, the

girls give importance to informational input by the TV advertisements into their decision to buy. It was also found that girls had positive attitude towards TV commercials (Kotwal et al 2008).

It has been documented that TV watching may also contribute to some harmful effects like obesity by increasing sedentary behaviour, increasing snacking while watching television, and exposing children to advertisements for unhealthy food and beverages. In addition to harmful effects on individuals, some advertising may negatively impact society as a whole (Massey 2006).

## **Research Methodology**

The present study is focused on the school/college going adolescents of both urban and rural areas to find out the impact of television advertising on them as they make purchase for themselves and also influence the family purchase decisions. For this purpose, a comprehensive questionnaire was constructed covering 12 statements related to the impact of TV advertising. Besides general information about the respondents, different issues related to the effect of TV advertisements were addressed. Out of these only one issue related to consumer behaviour was considered. The responses on the statements were obtained on a 5-point scale (from point 5 for strongly agreeing with the statement to point 1 for strongly disagreeing). The interview schedule was used for the purpose of data collection.

## **Objectives of the study**

1. To study the impact of TV advertising on the buying behaviour of rural and urban Adolescents.
2. To establish whether the residential background of consumers has a varying decisions due to the influence of TV advertisements.
3. To study the gender groups of consumers has varying decisions due to the influence of TV advertisements.

## **Hypothesis**

This research is conducted with a view to study the impact of TV advertising on the buying behaviour of rural and urban adolescents in India. To achieve the above objective, the following hypotheses were framed:

1. There is no significant difference in the opinion of rural and urban adolescents' as far as the

influence of TV advertising on their buying behaviour is concerned.

2. There is no significant difference in the perception of male and female adolescents regarding the influence of TV advertising on their buying behaviour.

3. There is no interaction between residential background and gender of the adolescents to affect their buying behaviour with respect to TV advertising.

A total of 100 questionnaires were circulated among the respondents. We considered 69 for final analysis. Out of which 44 male and 25 were female respondents. There were 33 respondents from rural and 36 urban respondents. We have collected samples on a convenience basis. The data was analysed by applying counts, percentages, means and ANOVA.

## Findings and Results

The results are based on primary data collected from 69 respondents of the rural and urban residential backgrounds. The means, grand means and analysis of variance (ANOVA) were used for bringing out the results. Table 1 describes the Demographic characteristics of the sample, Table 2 depicts the means and the grand means indicating the direction and extent of the difference between means and Table 3 explains the results of ANOVA indicating the significant differences between the means.

It can be observed from table 3 that rural and urban adolescents do not have significant variations ( $P=0.384$ ) on the parameter that they like TV advertisement. However, Male and female adolescents do have variations. Mean scores (Table 2) of urban ( $x=4.58$ ) and rural ( $x=4.09$ ) respondents also support this variation.

As far as influence of advertising on purchase is concerned, the rural and urban respondents' views do not vary significantly ( $P=0.530$ ). Though mean scores suggest that both the group have positive inclination regarding this parameter, yet the urban respondents ( $x=4.13$ ) are more influenced by the advertisements than their rural ( $x=3.95$ ) counterparts. However, male and female adolescents do not have different opinions on this aspect.

Urban adolescents ( $x=3.73$ ) feel strongly towards the opinion that TV ad exposure has enhanced their involvement in purchase decision making as

compared to their rural ( $x=3.66$ ) friends. The p-value ( $P=0.329$ ) suggests that the level of agreement is not significantly different on this issue. Male and female adolescents do not have different opinions on this aspect.

In general adolescents ( $x=3.90$ ) irrespective of their gender and residential background perceive that exposure to TV advertisements have made their products' purchase easier. However, rural ( $x=4.02$ ) respondents have higher degree of acceptance on this parameter than that of their respective counterparts i.e. urban ( $x=3.78$ ).

TV ad induces both the rural adolescents ( $x=3.36$ ) and urbanites ( $x=3.32$ ) equally for experimentation in their purchase. P-values do not depict the significant variations between the adolescents of different residential background ( $P=0.163$ ) and gender groups ( $P=0.854$ ). TV ads influence on buying new products is more on Females ( $x=3.50$ ) than the males ( $x=3.18$ ).

On the whole, it can be inferred that TV ad exposure enhances the involvement of adolescents while making purchase decisions (statement 4) and consequently this has resulted into their engagement into buying the products advertised on TV. This scenario is more visible in case of urban and female respondents than rural and male adolescents. The significance of variations and extent may be seen through table 2 and 3.

Adolescents of rural and urban areas do not have different degree of agreement ( $P=0.329$ ) when it comes to influence of TV advertisements on the demand of the products as rural respondents are more inclined towards this aspect. Also, male and female adolescents do not provide any kind of divergent views on this variable.

The residential background effect ( $P=0.000$ ) highlights that rural and urban adolescents do have varying opinions regarding the parameter that how do they feel when they see the advertisement of a product which they have already been using. In such a situation ruralites ( $x=3.68$ ) and male ( $x=4.00$ ) feel happier than their urban ( $x=3.45$ ) and female ( $x=3.14$ ) friends.

On the whole, the teenager's view that the TV advertisements provide help them to select the best alternate. But this scenario is more vibrant in case of rural respondents ( $x=3.27$ ) as compared to urban adolescents ( $x=2.84$ ). However, gender groups ( $P=0.084$ ) differ significantly in their views on this parameter as male respondents ( $x=3.11$ ) have stronger opinion than their female ( $x=3.00$ ) counterparts.

Urban Adolescents ( $x=3.30$ ) believe more that TV ads induce them to buy the products only for enjoyment than rural counterparts ( $x=3.14$ ). Also, the urban male teens ( $x=3.45$ ) like to buy the products for enjoyment, without its requirement. The other groups male ( $x=3.34$ ) have more influence of TV ads than female adolescents ( $x=3.09$ ). All these groups are not having varying views which is not statistically significant ( $P=0.384$ ).

Rural adolescents ( $x=3.18$ ) view that collective decision making in product purchase has enhanced due to TV ad exposure whereas urbanites ( $x=2.66$ ) have opposite opinion. P-Value ( $P=0.088$ ) also reflects the significant contradiction between the gender groups.

There is no significant variation found in the residential background and gender groups on the issue that the products are as good as expected from TV ads. Rural male adolescents ( $x=2.77$ ) firmly disagree on this parameter whereas urban female teens ( $x=3.00$ ) feel that products meet their expectations raised after viewing their TV ads.

## **Market Implications**

Rural India with 700 million people offers a huge opportunity. This provides a potentially huge untapped market. Today, rural consumers are less passive than they were in the past and are more like their urban counterparts with the increasing awareness and education. So, the marketers and advertisers will perceive opportunities to target rural consumers with their urban counterparts. The attitudes of rural and urban adolescents differ in some respects. The attitudes of male and female adolescents is not much different, though female adolescents have more positive overall perception about TV advertising; male consumers perceive the institution of TV advertising more meaningful as compared to females.

Therefore, advertisers and advertising agencies should develop advertisements which are informative, entertaining and honest, presenting the true picture of the product advertised. At the same time, they should endeavor to boost the image of the institution of TV advertising; so that the predisposition of the consumers towards TV advertising in general becomes more positive. In future, the prospects of advertising will depend upon how quickly and effectively they incorporate these dimensions and how accurately they understand the perceptions of adolescents of different gender groups and residential background i.e. urban and rural.

## **Conclusion**

The study suggests that rural adolescents feel TV ads make the purchase of the products easier, demand for products purchase influenced by TV ads and like the advertisements of the products they are already using than urban adolescents. It is helpful in buying the new products, getting the best product and also supports collective decision making. The urban adolescents like TV advertisements. TV advertising has enhanced their involvement in product selection and purchase, they prefer to buy TV advertised products. The urban adolescents also want advertised products seen though they do not require them. They believe that products are as good as expected from TV advertisements. Though there is significant difference in the perception of both rural and urban adolescents that it is helpful in buying best products and supports collective decision making. The study suggests that rural female adolescents like television advertising more than their male counterparts. Female adolescents' buying behaviour is more influenced by television advertisements than their male counterparts.

## **Future Research Directions**

This research is particularly focused on TV advertising effect on buying behaviour of adolescents related to different residential backgrounds and gender groups. Further research is needed by inclusion of all popular mass-media and coverage of all major dimensions of buying behaviour. This study is conducted in Anand District. More comprehensive studies should be conducted at state, national or international levels by increasing the sample size.

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**Annexure 1**

**Table 1: Characteristics of the sample**

Demographic Variables	Categories	Residential Background		Total
		Rural	Urban	
Gender	Male	22 (50)	22 (50)	44 (63.77)
	Female	11 (44)	14 (56)	25 (36.23)
Age (Years)	13—15	0	0	0
	15—17	1 (33.33)	2 (66.67)	3 (4.34)
	17—19	32 (48.49)	34 (51.51)	66 (95.66)
Education (standard)	7—9	1 (50)	1 (50)	2 (2.89)
	10—11	0	6 (100)	6 (8.70)
	12& above	32 (52.46)	29 (47.54)	61 (88.41)
Annual Household Income (Rs.)	<1,00,000	3 (42.86)	4 (57.14)	7 (10.14)
	1,00,000—3,00,000	8 (47.06)	9 (52.94)	17 (24.64)
	>3,00,000	22 (48.89)	23 (51.11)	45 (65.22)
<b>Total</b>		33 (47.83)	36 (52.17)	69 (100)

Figures in parentheses show row-wise percentages

**Table 2: Summary of mean and grand mean scores**

Sr. No.	Variables	Residential Background	Means		Grand Mean
			Male	Female	
1	I like TV advertisements.	Rural	4.05	4.14	4.09
		Urban	4.45	4.71	4.58
		GM	4.25	4.43	4.34
2	I feel that our purchase is mostly influenced by TV advertisements.	Rural	4.05	3.86	3.95
		Urban	3.91	4.36	4.13
		GM	4.14	4.30	4.22
3	I feel that exposure to TV ads has enhanced my involvement in purchasing.	Rural	3.73	3.59	3.66
		Urban	3.45	4.00	3.73
		GM	4.00	4.17	4.09
4	I feel TV ads make the purchase of the products easier.	Rural	4.14	3.91	4.02
		Urban	3.64	3.93	3.78
		GM	3.89	3.92	3.90
5	I buy the new products I watch on TV ads.	Rural	3.36	3.36	3.36
		Urban	3.00	3.64	3.32
		GM	3.18	3.50	3.34
6	I engage in the process of buying TV advertised products.	Rural	3.36	3.36	3.36
		Urban	3.27	3.64	3.46
		GM	3.32	3.50	3.41
7	I feel my demand for products purchase is influenced by TV ads.	Rural	3.36	3.32	3.34
		Urban	3.55	3.07	3.31
		GM	3.45	3.19	3.32
8	I feel good when I watch the ads of the products I am already using.	Rural	4.09	3.27	3.68
		Urban	3.91	3.00	3.45
		GM	4.00	3.14	3.57
9	TV ads help me to find the best products.	Rural	3.41	3.14	3.27
		Urban	2.82	2.86	2.84
		GM	3.11	3.00	3.06
10	TV ads induce me to buy the products for enjoyment even though I do not require them.	Rural	3.23	3.05	3.14
		Urban	3.45	3.14	3.30
		GM	3.34	3.09	3.22
11	Due to TV ad exposure, my family members collectively decide products to be purchased.	Rural	3.23	3.14	3.18
		Urban	2.45	2.86	2.66
		GM	2.84	3.00	2.92
12	Products are as good as expected from TV ads.	Rural	2.77	3.18	2.98
		Urban	2.82	3.00	2.91
		GM	2.80	3.09	2.94

**Table 3: Summary of Two-Way Analysis of Variance**

Sr. No.	Statements	Residential Background effect, F-Value	Gender Effect, F-Value	Interaction effect, F-value
1	I like TV advertisements.	0.767 (0.384)	6.079 (0.016)	0.178 (0.675)
2	I feel that our purchase is mostly influenced by TV advertisements.	0.398 (0.530)	0.717 (0.400)	2.23 (0.140)
3	I feel that exposure to TV ads has enhanced my involvement in purchasing.	0.967 (0.329)	0.107 (0.744)	2.687 (0.106)
4	I feel TV ads make the purchase of the products easier.	0.23 (0.881)	1.238 (0.270)	1.447 (0.233)
5	I buy the new products I watch on TV ads.	1.987 (0.163)	0.34 (0.854)	1.787 (0.163)
6	I engage in the process of buying TV advertised products.	0.411 (0.524)	0.196 (0.745)	0.411 (0.524)
7	I feel my demand for products purchase is influenced by TV ads.	0.968 (0.329)	0.15 (0.902)	0.659 (0.420)
8	I feel good when I watch the ads of the products I am already using.	14.98 (0.000)	1.038 (0.312)	0.042 (0.839)
9	TV ads help me to find the best products.	0.222 (0.639)	3.072 (0.084)	0.394 (0.532)
10	TV ads induce me to buy the products for enjoyment even though I do not require them.	0.769 (0.384)	0.333 (0.566)	0.053 (0.818)
11	Due to TV ad exposure, my family members collectively decide products to be purchased.	0.263 (0.610)	2.993 (0.088)	0.659 (0.420)
12	Products are as good as expected from TV ads.	1.083 (0.302)	0.058 (0.811)	0.160 (0.690)

Figures in the parentheses show level of significance (*P-value*).

# A Study on Carbon Credits: Opportunities and Challenges for Small Scale Industry

Hiral Patel, Yogesh Patel

## Abstract

Global warming is an imminent catastrophe with irreversible consequences. The Kyoto Protocol was adopted in Kyoto, Japan on 11th December 1997 and entered into force on 16<sup>th</sup> February 2005. 180 countries have ratified the treaty to date. It aims to reduce the green house gas emissions by 5.2% against the 1990 levels over the five year period 2008-2012. Developed countries are categorized under Annex 1 countries and are legally bound by the protocol while the developing nations, categorised as Non Annex 1 countries, which ratify the protocol are not legally bound by it.

The small-scale units are suffering from deficiencies like technological obsolescence, lower levels of productivity, non-availability of information, poor management practices and non-availability of credits for modernization. They are generally less efficient in process and utility energy use compared to larger enterprises, as well as to enterprises of equivalent capacity in other countries. Environmental management in these enterprises is also poor. The poor energy and environmental performance is directly related to the lack of technical capacity in these enterprises to identify access, adapt and adopt better technologies and operating practices.

## Introduction

Clean Development Mechanism (CDM) is an outcome of Kyoto Protocol, which came into force from February 16, 2005. The protocol deals mainly in reduction of the following Green House Gases:

1. CO<sub>2</sub> - Carbon dioxide
2. CH<sub>4</sub> - Methane
3. N<sub>2</sub>O -Nitrous Oxide
4. PFCs - Per Fluoro Carbons
5. HFCs - Hydro Fluoro Carbons
6. SF<sub>6</sub> - Sulphur Hexafluoride

The protocol devised three innovative mechanisms viz. Joint Implementation (JI), International Emission Trading (IET) and the Clean Development Mechanism (CDM). The first two mechanisms viz., JI & IET are more relevant to the developed countries whereas CDM is related to developing countries like India.

## Purpose

CDM is a mechanism established under article 12 of Kyoto Protocol as project based emission reduction activity in developing countries. CDM is designed to meet two main objectives:

1. To assist developed country parties in achieving compliance as part of their quantified emission limitation and reduction commitment under article 3.
2. To assist the developing country parties in achieving sustainable development thereby contributing to the ultimate objective of the convention.

A corporation that has excessive Carbon credits tends to gain monetarily by huge leaps and bounds simply by selling them to less environmental friendly companies that need them. The price of 1 Metric Tonne GHG Emissions (equivalent to trading 1 Carbon credit) has varied between 25\$ - 30\$ in the past 1 month.

Given the economic benefits of Carbon Trading developing nations like India tend to gain immensely from it. With its juvenile fledgling industries India is in a position to develop and implement new eco-friendly technologies that are highly energy efficient according to

standard international norms simply by mass employing the enormous youth labour workforce at its disposal. By doing so we all stand to gain by selling our credits to old foreign industries that importunately need them to make both sides of the Carbon Trade. *“Small scale Indian industries tend to be the biggest beneficiaries of this system as they have the luxury of using the cheapest and most energy efficient means i.e. raw labour.”*

Using manual labour tremendously reduces the output of pollutant gases besides helping reduce unemployment. Driven by the glittering monetary incentives of Carbon Trading several young entrepreneurs are coming forward to setup small scale industries that produce good quality products at minimum emission levels. Use of the best hybrid technologies that use the optimum balance of man and machine, these people have really managed to make their space a truly green one to work at. Now called Green Business Owners, ones that indulge in producing any good or providing any service that helps preserve the environment in any way possible.

**Importance of Study**

India, being a developing country is exempted from the requirement of adherence to the protocol. However, it can sell Carbon Credits to the developed countries. India CDM projects have covered more than 30 different industrial sectors. Power generation from renewable energy like Hydro power and wind power had the early entrant advantage. Of late, CDM in Industrial processes and biomass application have dominated project developments in the country.

The SME sector in India has huge potential to tap carbon credit. Generation of carbon credits is a by-product of implementation of CDM. Even without generation of carbon credit, SMEs stand to gain from implementation of CDM as it would considerably reduce their costs towards consumption of fuels by energy efficiency. Some of

the sectors where SME’s could benefit by applying CDM are:

- i. Hand tools
- ii. Textiles
- iii. Foundry & forging
- iv. Steel Re-rolling
- v. Brick Manufacturing
- vi. Lime Industry
- vii. Ceramics
- viii. Paper & pulp Industry
- ix. Casting & forging
- x. Engineering

The predominant objective for adopting CDM is to bring in reduction in consumption of Hydrocarbon fuels which leads to generation of GHGs. This reduction can be achieved by way of:

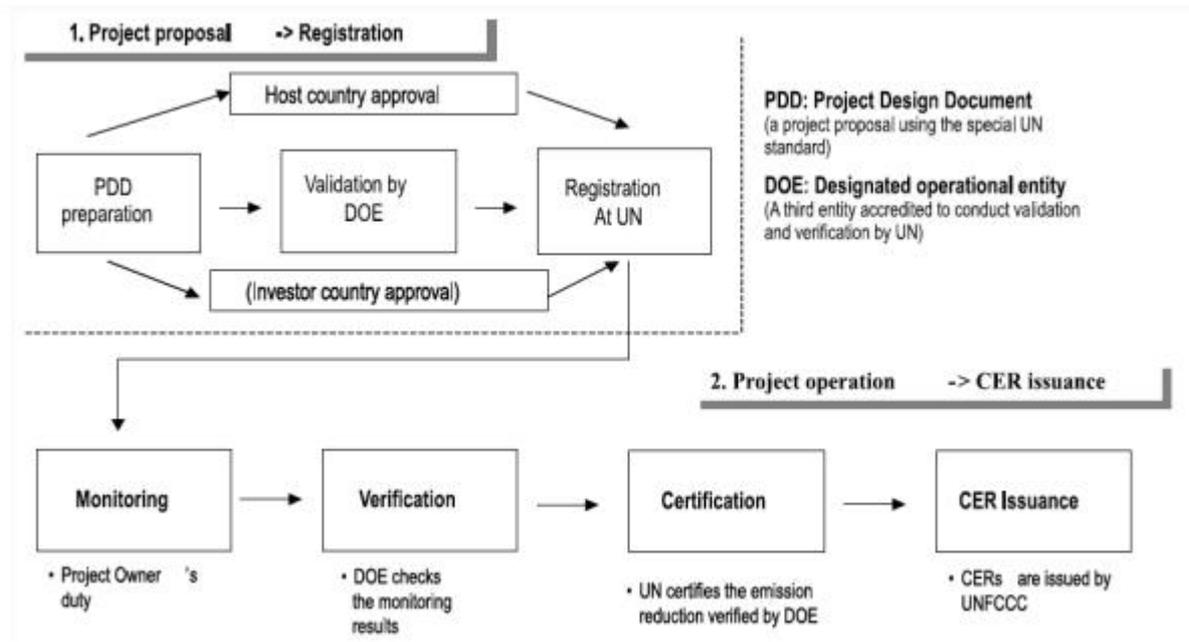
- Energy efficiency in domestic/industrial utility
- Energy efficiency in heat use/transportation
- Installing efficient steam system
- Reducing steam leakages
- Fuel switch from fossil fuels to renewable energy sources like biomass, solar or windmill.

**Methodology**

Global warming is caused due to the emission of greenhouse gases (GHGs) which get trapped in the atmosphere. Table 1 shows the global warming (GW) potential of gases

$$\text{CERs awarded} = \text{Tons of GHG reduced} \times \text{GW potential of the gas (metric tons of C)}$$

Greenhouse Gases (GHG)	Global Warming Potential(GWP)	Common Emission Source
Carbon Dioxide	1	Combustion of Fossil fuels
Methane	21	Animal, Agriculture & Municipal waste, Rice Cultivation
Nitrous Oxide	310	Combustion Processes, Chemical industry
HFCs	140-11700	Refrigerants
PFCs	6500-9200	Semiconductor Industry
SF6	23900	Electrical Insulation



## PROCESS OF EARNING CARBON CREDIT

### Review of Literature

NR Sethuraman talked about carbon credits marketing India and role of solution provider. Developed countries have to spend nearly \$300 - \$500 for every ton reduction in CO<sub>2</sub> against \$10-\$25 by developing countries. India's GHG emission is below the target and so, it is entitled to sell surplus credits to developed countries. India is considered to claim about 31% of the total world carbon trade, which can give \$25 billion by 2020. This is what making carbon trading a hot trade in India.

Anindita Bhattacharyya Sarkar & T.R.Manoharn(2009), in their research work gave an estimation of carbon in harvested wooden handicraft products.

The average consumption of wood (any broad leaf species) per SME unit in Saharanpur in a week has been estimated as 10,000kg approximately. These SME units may be a cluster or much small single room unites or a single big factors with its own production centre. The carbon content was calculated. Total value of CO<sub>2</sub> emission for both registered and other was \$0.24+\$5.34 million.

Many small and medium companies do not have adequate knowledge of how to register projects to

be eligible for carbon emissions certificates and where to sell them. That is where brokers step in, they help clients in completing formalities, but help themselves more by buying a third or even more of the credits generated at a predetermined rate.

India has 474 projects registered with the United Nations, second only to china's 680. However in terms of CERs, India share is just 11.63 percent while china is 58.75 percent. The Indian government has approved more than 1455 CD projects which can potentially make Rs28000 to Rs.30000 crore in export earnings.

According to article which is published by Nick Anstee (2009) India is very well placed to be at the forefront of this drive to harness private sector expertise and build the world's post-carbon economy. It has great potential for technological developments which will enable the citizens to leap frog the wasteful development model of the west. There are a wide range of choices for the future and these choices could bring huge opportunities for businesses.

A report on Climate Change: Is India prepared?(KPMG Report) says that "Indian companies will have an opportunity to leverage climate change as a competitive advantage (rather than a threat)by planning their approach, measuring

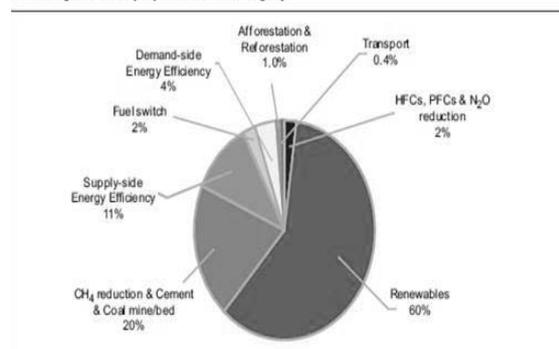
their impact, adapting their model to a low carbon business and reporting on performance accurately. India, along with China, has been subjected to increasing international pressure to undertake binding emission targets to limit its aggregate level of emissions. Whilst the government of India has chosen an approach based on common but differentiated responsibility, the mounting international call for demonstrable action from India is significant. (Climate change business leader survey, 2010)

Last year India and China were the largest sellers and Europe was the largest buyer with the International carbon trading crossing \$120 billion. India has generated some 30 million carbon credits the 2nd highest in the world, and has roughly another 140 million to push into the world market. Waste disposal units, plantation companies, chemical plants and municipal corporations can sell the carbon credits and make money.

A Research says that it is expected that in the near future India may make upto \$5-10 billion just from generating 573 million carbon credits. Though we are potentially the largest market for carbon credits on the MCX, we still need to implement proper policies to allow trading of certified emission reductions (CERs), carbon credit. To increase the market for carbon trading Forward Contracts (Regulation) Amendment Bill has been introduced in the Parliament. This amendment would also help the traders and farmers to utilize NCDEX as a platform for trading of carbon credits.

Thus we see that Carbon Trading is definitely the “Greenest” pastures (pun intended) for business trading for the small and large scale private and governmental sectors in India with opportunities for everyone.

Percentage of CDM projects in each category



## Research methodology

The present study was undertaken with the specific objective of studying the level of awareness and opportunities and challenges faced by small scale industry in regards to carbon credits or carbon trading in India i.e Indian Small scale industry in Gujarat with specific location of Vadodara. A sample of 25 Industries was selected for this purpose on the basis of convenience sampling. The empirical study was preceded by literature survey of carbon credits related issues and their awareness in journals, newspapers and internet. Following a literature survey a study was undertaken using a non-structured questionnaire by telephonic interview method based upon industry.

## Scope of the Research Study

This research study has interviewed 15 respondents from small scale industry in and nearby Baroda where in they are into manufacturing Textile, engineering and ceramics. The research undertaken is in order to find out level of awareness about 1. climate change 2. Awareness about carbon credits 3. Their role in reducing pollution 4. Applying for carbon credits 5. Method used for reducing pollution 6. Problems they face for carbon credits.

## Objectives of Study

- I. To study the level of awareness about changes in climate and in pretext to it India commitment to reduce the changes in climate by reducing carbon emissions.
- II. To study the small scale industry as a major player in reducing carbon emissions, methods used by small scale industry.
- III. To acquire the opportunities SSI have to earn carbon credits from Indian government and how many SSI is using this concept.
- IV. To find out challenges of SSI to implement new technologies or apply for Carbon credits

## Limitation of this Study

This study has time limitation as one of the most important constraint due to which the study has

confined itself to only 15 respondents from one of the city of Gujarat. The respondents may be biased while answering the questions telephonically. All the key variables & Parameters are not considered in this study. Also the secondary resource for data collection includes only online electronic journals/databases on the management subjects, which are subscribed by the internet and newspaper.

Small Scale companies looking to voluntarily regulate their carbon emissions can purchase credits to offset their carbon emissions. But because industrial activities are so different, one from the other, it is impossible to arrive at any single solution—or even any single set of solutions—to the variety of pollution challenges that they present.

### Research Plan

#### Collection of Primary & Secondary Data

A major portion of secondary data is collected from articles and research paper that have been published in various sources like magazines, reputed research journals. The necessary primary data were collected from randomly selected SSI in GIDC area of Makarpura, Waghodia & Halol who are currently developing their industry.

#### Research Approach

For the purpose of research survey was undertaken.

#### Research Instrument

We have used non structured non-disguised questionnaire supported with convenience sampling. Where in some questions are open ended & close ended questions, selecting the most important question and a five-point Likert scale, ranging from 1 representing “Not Important” to 5 representing “Most Important”, with the items capturing perceived risk being reverse-scored. Convenience sampling through telephonic interview & Mail conversation.

### Sampling plan

#### Sample Unit

The respondents selected in the research study were randomly selected Small Scale units from different

areas based on convenience the data is collected through telephonic interview & through mail conversation.

#### Sample Size

Fifteen interviews were conducted telephonically where open ended questions and closed ended questions were asked to get better idea about what that organisation is doing in order to reduce carbon emissions.

#### Sampling Procedure

To obtain representative sample of production manager or owner, convenience sampling has been done in the three areas of Baroda.

### Interpretation & analysis

Name of the organisation with size of unit was taken the details is as follows

Location of SSU: (Makarpura / Waghodia / Halol)

Employee Strength: 35

Products manufactured are: Business or Consumer

Pollution majorly done is in which form (Air Pollution/ Water Pollution/Soil Pollution).

Considering this factors respondents were asked whether they are aware about the climate change and India responses towards climate change with awareness about Carbon Credits.

#### Response for Industries responsible for the current climatic changes due to Pollution

Response	Yes	No
Frequency	9	1
Percentage (%)	90%	10%

Seeing the results we found that majority of SSU agreed that it the industries which is playing a major role in polluting environment and through sources of news channel and newspaper they are a quite aware of climatic changes.

#### Awareness about Clean Development Mechanism or Carbon Credit for SSU

Response	Yes	No
Frequency	8	2
Percentage (%)	80%	20%

When they were questioned about the concept of Clean Development Mechanism majority were aware of concept but they lack much of the knowledge for the same as they didn't show much interest in earning Carbon credit due to its long process and less ratio of it being successful. They agreed that they would like to reduce pollution but were not much keen for carbon credit.

**Majority in which SSU is producing Pollution (Textile)**

KEY VARIABLES	Frequency	Percentage (%)
Air Pollution	0	0%
Water Pollution	4	80%
Soil/ Land Pollution	1	20%

When asked to the production managers as to in what forms they have created major pollution it was found that textile being into clothing and colour had more of water pollution.

**Majority in which SSU is producing Pollution (Engineering)**

KEY VARIABLES	Frequency	Percentage (%)
Air Pollution	4	80%
Water Pollution	1	20%
Soil/ Land Pollution	1	20%

When asked to the managers as to in what forms they have created major pollution it was found that Engineering had been into two types of pollution i.e more of Air & water pollution.

**Majority in which SSU is producing Pollution (Ceramics)**

KEY VARIABLES	Frequency	Percentage (%)
Air Pollution	5	50%
Water Pollution	4	40%
Soil/ Land Pollution	1	10%

When asked to the production in charge about pollution particles they agreed they had 2 types and 1 was common that was air pollution and water which was second major particle of pollution.

**Awareness about their role in earning carbon credit**

KEY VARIABLES	Frequency	Percentage (%)
Textile	4	80%
Engineering	5	100%
Ceramics	5	100%

When the respondents were enquired about their importance in industry and their earning through carbon credit majority of them were about the same and had shown an interest but not to full extent.

**Their participation in working positive towards earning Carbon Credit**

KEY VARIABLES	Frequency	Percentage (%)
Textile	4	80%
Engineering	5	100%
Ceramics	2	40%

When asked to them about their interest in earning carbon credit engineering industry had a very good response for the same. While textile they were less inclined due to size of organisation. While that of ceramics very few were inclined towards earning carbon credit.

**Reason for non participation into Carbon Credit Programmes where India has given a commitment to reduce carbon emissions especially from Small Scale Units**

Parameters	Frequency	Percentage (%)
Do not have complete details about Carbon Credit Programme	4	25%
Their Organisation Size is far small to off- set carbon	5	30%
Lack of trained professional	5	30%
Less initiatives by Government towards SSU	0	0%
Cost involved in registering for Carbon credit	3	15%

When asked about the reason for their non-participation or initiative towards earning carbon credit all 15 had different reason for non participation as all companies had different production method or process or size the responses but all had varied reasons where textile industry were not much aware of details as to how to apply for carbon credit and some had very small amount of carbon to offset. Some of them agreed that they do feel the cost involved in it was very high and

**Findings of study**

they do lack professionals in this area for applying for carbon credit.

**Problems involved in applying for carbon credit**

1. For different industries different problems were found where 3 companies had various points which were common: Lack of trained professionals to work on carbon credit, cost involved in applying for carbon credit and willingness of trained professionals joining small organisation.
2. For more of ceramic industry majority have a common process of manufacturing and their responses were they can reduce carbon if the machinery is changed and a large cost is involved thus it will be difficult for them to do, also cluster manufacturing is not possible in area of Baroda and skilled labourers needs to be trained for same where turnover ratio is very high.
3. For engineering industry they have started for applying for carbon credit but the time span for the application is such a big process and for this industry it is difficult for them as feasibility of their success ratio is very small.

**Methods recently adopted to reduce pollution (15 respondents)**

Parameters	Frequency	Percentage
Energy Efficiency	10	67%
Reduction in usage of Lubricating oil	1	6%
Reusing Waste water	8	53%
Usage of municipal waste	9	60%
Changing process	1	6%
Cluster manufacturing	7	57%
Supply chain management	9	60%

**An analysis was done for Small Scale Units in pretext to target industries for research in Baroda**

Strengths	Weakness
<ol style="list-style-type: none"> <li>1. Rich tradition of excellence in art &amp; Craft</li> <li>2. Development of supply chain with skill specialization.</li> <li>3. Component level manufacturing, providing it the efficiency and skill requirement.</li> <li>4. High Employment Potential</li> <li>5. Highly export driven for foreign exchange accrual.</li> </ol>	<ol style="list-style-type: none"> <li>1. Unorganized marketing and inadequate market information</li> <li>2. Inadequate support mechanism for product development.</li> <li>3. Power interruptions and inadequate infrastructure facilities.</li> <li>4. No legal mechanism for procurement.</li> <li>5. Lack of mechanism for dispersal of innovative technology for enhancement in production and finishing.</li> <li>6. Lack of investment for fulfilling of international standard.</li> </ol>

**On the basis of the questions asked and responses received the findings are as follows**

Opportunities	Threats
<ol style="list-style-type: none"> <li>1. Trained skilled manpower base</li> <li>2. Existing international collaborations</li> <li>3. Traditional knowledge base</li> <li>4. Growing demand in export market quality products</li> <li>5. Growing environmental concern</li> <li>6. Growing sophistication and buying power of Indian consumers.</li> </ol>	<ol style="list-style-type: none"> <li>1. Competitors gaining market share on strength of volume price</li> <li>2. Competitors edging out Indian exporters on strength of quality.</li> <li>3. Growing environmental concerns in the country affecting supply of raw material.</li> <li>4. Lack of co-ordination between institutions affecting production and exports.</li> <li>5. Increased competition among indigenous suppliers leading to price wars, high transport cost.</li> <li>6. Excessive reliance on state incentives and prospects.</li> </ol>

**Summarizing the analysis for challenges faced by small scale units are**

- Obsolete Technology
- High Cost of Technology
- Negative local impacts & local input neglected
- Additionality of funds and avoidance of GHG Emissions
- Infrastructure for project formulation, evaluation and monitoring
- Government Acceptance
- Sharing carbon credits
- Macroeconomic impacts
- Guarantee of performance

**Findings**

Government is taking initiatives towards small scale industries by providing a large amount of subsidy to reduce pollution and utilize energy efficient machinery.

1. Small scale industries have an opportunity to save energy by utilizing techniques provided by government and earn carbon credit with collaborating in other SSU.
2. Challenges are cost of carbon credit is 10 -15 lacs and that is cost which all SSU cannot afford.
3. Very few experts are available to verify the project which is again into cost involvement and it is time consuming.

## Conclusion

Government still needs more space to improve the skilled people for CDM projects. There is a vast gap found in terms of knowledge by SSU for carbon credit where government should play a role with involvement of particular industry.

Right information with the concept behind should be made understand to the SSU.

SSU should adopt technologies with green initiative saving carbon with 1 time investment for long term benefits. Also it should bring in energy saving technology to market green products which is booming in international market.

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# Achieving excellence in business education through quality teaching

Rupal Chavda, Shruti Shah

## Abstract

The challenges of quality in business education mainly be achieved with the help of various dimensions such as providing adequate facilities and infrastructure, making available adequate teachers of requisite quality, effectiveness of teaching-learning processes, attainment levels of students, etc. the present paper studies the quality of business education imparted by M.J. College of Commerce, Bhavnagar on the basis of a sample survey.

## Introduction

Business education needs to be made value based, rather than money based. India is facing a crisis of quality business education. As compared to international standards, the Indian institutions (with a few exceptions) are far behind. There is a need to fill this gap. In India, revamping the moral and intellectual strength of teaching community is a programme not to be delayed further for the bright future of our student community. As very soon students may dictate what to learn, how, when, and from whom to learn. It is a welcome trend if it helps in the making of 'good and honorable' citizens.

The impact of globalization on the corporate sector in particular has suddenly created a demand for human resource trained in the field of business education with innovative ideas, new approaches in business and behavioral sciences as well as professional skills. In order to fill the vacuum in this regard a new and futuristic orientation requires to be given to the discipline of business education.

It would be worthwhile to mention that the conventional business education has become irrelevant in the new era of globalization and liberalization. Keeping in mind the significance of modern business education, the Indian government has liberalized the business education market since 1990s, resulting in an unprecedented growth in the number of technical and management institutions mostly through private investment. Moreover, it is important to properly assess the quality of business education imparted to the students in various institutions for proper decision-making regarding selection and recruitment by potential employers.

## Research objectives

To know the quality of business education of students at M.J. college of commerce.

To study various methods for achieving excellence in business education

## Review of literature

**Mahajan and Shah (2000)** concluded that over the last more than a decade or so, global competition and proliferation of business educational institutions across the world possess stiff challenges to the business schools in India to

quality products that could cater to the needs of corporate world and withstand upon the expectation of different stakeholders of business education.

**Khairoowala et. al. (2002)** felt it imperative on the part of business educationists to clear to the need of the market by imparting business education in a realistic manner with a practical touch through better linkage between Universities and Industries. They also stated that the required existence of commerce education in the next millennium will depend upon the changes that are made today, taking a broader view of near future.

**Gupta et. al (2003)** observed that the Indian business schools have sought to replicate the US-based organizational, pedagogical, curricula, industry-interface, and academic research models, but are struggling to introduce several adaptations because of the differences in the work culture system. Therefore, it would be fruitful to investigate the challenges for enhancing the quality of business education in India.

**Ahmad (2004)** emphasized for bringing about changes in the system and the teaching process. In addition to imparting academic knowledge, the student community must be prepared to meet the challenge confronted in real life and equipped to solve the problems confronting

the business world from day to day. This would call for the restructuring of commerce syllabi at regular intervals. He also felt that in the age of specialization commerce education should not continue as a sort of general education making students jacks of all trades and master of none.

### Research design

Descriptive

### Research instruments

The study is made by questionnaires.

### Sampling plan

The sampling plan consists of three basic elements. They are mentioned as follows

#### Sampling Unit

The sampling unit for the study is M.J.College of Commerce, Bhavnagar City.

### Sampling size

The sampling size for the research is 200 students of Commerce and Management of M.J.College of commerce, Bhavnagar city.

### Sampling Method

For this study, 200 students were selected as sample from Simple Random sampling method.

### SOURCES OF DATA COLLECTION

#### Primary Data

The primary data is been collected with the help of structured questionnaire. The questionnaire contains 17 questions related to the topic.

#### Secondary Data

The secondary data used in the research was collected from varied sources and complied as per the requirement of the study. Other Secondary data are obtained from various publications, Journals, Magazines and previous Studies.

**Table:1 Respondents' Awareness about General Aspects**

Sr.No.	Parameters	Very Good	Good	Satisfactory	Unsatisfactory
1	Knowledge about the course content	8.57	27.14	54.90	9.39
2	Extend of coverage of course	5.73	34.12	54.39	5.76
3	Applicability of the knowledge in practical life	4.79	22.83	41.47	30.91
4	Gaining knowledge and skills	12.95	35.27	40.02	11.76
5	Availability and clarity of the content in reading materials	3.82	36.12	51.16	8.9
6	Availability of reference material	17.82	27.04	32.86	22.28
7	Extend to effort required by students	10.19	31.22	43.91	14.68
8	Overall rating		36.84	63.16	

In the above noted table respondents' opinion was sought on general aspects of the courses. The majority of the respondents have expressed their

satisfaction over the various parameters. Some respondents feel it good while others very good. At the same time some respondents have expressed their feeling of dissatisfaction also. The

overall rating of the plan shows that 63.16% of the total respondents find it satisfactory while 36.84%

of the total respondents feel it good as a whole.

Sr.No.	Parameters	Very Good	Good	Satisfactory	Unsatisfactory
1	Subject knowledge of the teacher	12.53	32.67	46.81	7.99
2	Communicative skills	15.26	22.45	53.03	9.26
3	Involvement of teacher with the students	-	30.05	41.07	28.88
4	Provides extra knowledge of the subject	1.16	21.13	46.52	31.19
5	Matching the subject with the practical knowledge	-	20.05	51.46	28.49
6	Motivational discussion about career planning	4.81	22.06	39.52	34.41
7	Providing practical knowledge through assignment, case study, seminars, group discussion, etc.	10.01	13.56	46.81	29.62
8	Providing Feedback	-	28.03	46.75	25.22
9	Overall rating	-	27.18	62.02	10.80

Respondents' Feedback on Teachers reveals that 46.81% of them are satisfied with subject knowledge of their teacher, 32.67% feel it (good), 12.53% (very good) and 7.99% of the total respondents are not satisfied with the Knowledge of their teachers. Another aspect was the Communicativeskills, 53.03% of the total respondents are satisfied with the communicative skills of the teachers, 22.45% feel it good, and 15.26% find it very good while 9.26% feel it unsatisfactory. 41.07 students are satisfied with the involvement of the teacher with the student while 28.88 are not satisfied. 46.52% feels that the extra knowledge provided by the teacher is sufficient while 31.19% demands more extra knowledge. Majority of the respondents are satisfied with the practical knowledge involved in the subject. Another aspect was motivational discussion about career planning 4.81% feel it very good, 22.06% feel it good, and 39.52% are satisfied while 34.41% are not satisfied. The next question was about the practical knowledge with the help of assignment, case study, seminars, group discussion, etc. 46.81 are satisfied, 10.01% feel it very good, 13.56% feel it good and 29.62% are not satisfied at all. 46.75% of the respondents are satisfied with the feedback provided by their teachers and 25.22 are not satisfied by it. Overall rating of the students shows that 62.02% are satisfied and 10.80% dissatisfied with their teachers.

## Conclusions

Over the past years change is taking place in the educational scenario. The learners are demanding their needs like the customers. They want quality teachers and practical knowledge. Coming to the achieving excellence in business education: it can be achieved by the two components namely good infrastructure and qualified & dedicated teachers. The educational institutes which as both the components can survive in longer run. Therefore the recruitment of the staff members should be done on the basis of their academic achievement and practical knowledge. Practical knowledge should be given more emphasis than the academic degree of the teachers. The institutions survive if the students are satisfied therefore the timely feedback of the students should be taken and if some change is to be made should be done.

The specialization of the teacher is also needed to achieve excellence in teaching in business education therefore the teacher should be allowed to specialize in the subject of their choice and the subject must be allotted accordingly.

Finally the researchers conclude that the business education should be on practical bases which can only be provided by the dedicated teachers, good infrastructure facilities, timely feedback and providing extra facilities required by the students.

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# A study on the use of smartphones as an innovative educational tool

Swaty R Parab, Rajesh H Parab

## Abstract

Nowadays nearly every student as well as teacher not only has a cell phone but a more advanced technology, i.e. a smartphone. In addition to standard cell phone features of calling and texting, smartphones make it easy to browse the web, play games, check the news, study for a test, and much more all thanks to different applications that can be installed on the phone. Smartphone is a small personal computer which is loaded with apps. There are many educational apps available on smartphones. A user can now take notes and transfer them to a laptop or share them online with a study group. A learner has instant access to numerous websites for questions needing answered. For video assignments, students can record their films using a smartphone and send them to a computer for editing. There are really a lot of ways to learn using a smartphone. Thus, the present study tries to evaluate the effectiveness of using smartphones as an educational tool.

## Introduction

Basically, a smartphone is a gadget that allows people to make phone calls as well as use other features (which used to be found only on personal digital assistants or personal computers) that are not common on a conventional phone. There were only cell phones and personal digital assistants (PDAs) before smartphones. Cell phones were for calls and text messages; PDAs were used as organizers. The latter could keep contact information could create to-do lists. They could also sync with a computer. As technology progressed, PDAs acquired the ability to connect wirelessly and to send and receive e-mail. As time passed, PDAs gained cell phone features while cell phones became more like PDAs to the point of almost turning into small computers; the beginning of smartphones.

A smartphone is smart because it has an operating system which manages the gadget's hardware and software. Another characteristic of a smartphone is the presence of at least one home screen. Most smartphones nowadays have more than one home screen. Speaking of apps, they are also one of the reasons why a smartphone is smart. Apps are mini software programs that can perform various functions. They have internet connectivity, a large internal memory space or a card slot for micro SD card. All in all, a smartphone is like a very small personal computer. Loaded with useful apps, it's a powerful, pricey package.

Nowadays more and more people are going for smartphones. Then how can smartphones be used for learning. There is a concept of m-learning or mobile learning. M-learning is a new tool in the pedagogy to support students and teachers. It is accomplished with the use of small, portable computing devices which may include smartphones, personal digital assistants and similar handheld devices. A user can now take notes and transfer them to a laptop or share them online with a study group. Teachers can create presentations or flashcards. A learner has instant access to numerous websites for questions needing answered. For video assignments, students can record their films using a smartphone and send them to a computer for editing. There are really a lot of ways to learn using a smartphone.

## Review of literature

According to Chris Madden(2010), author of "The use of smartphones among students in their education /social life: How smartphones are changing the way students are learning", smartphones offer students with a new way of learning referred to as mobile learning. A study was undertaken to find out how students are using their smartphones socially and for their education.

The thesis also looked at the potentials of mobile learning and the question of whether smartphones are replacing laptops. The result showed that 68% of my respondents were addicted to using their smartphone and that many students were then beginning to replace laptops with their smartphones for many functions.

Josh Higgins, mentions in his article titled "More schools use cellphones as learning tools" in USA

TODAY EDT August 7, 2013, that Although schools have traditionally banned or limited cell phones in the classroom, 73% of Advanced Placement and National Writing Project teachers said their students use phones in the classroom or to complete assignments, according to a Pew Research Center study.

A survey conducted by Pearson showed high levels of personal tablet, smartphone use in elementary, middle and high schools. It concluded that One-third of elementary, middle and high school students said that they have used a tablet for school work this academic year (34 percent have used a full-size tablet and 32 percent have used a small tablet), and 44 percent said they have used a smartphone for school work. Among students who use a tablet for school work, more than half (52 percent) use a device that they own personally, rather than borrow from the school.

An article titled “Smartphones a mixed blessing during study time” by Lauren Williams their smartphones as a study tool even though the internet and activities like texting were cited as the biggest distractions to hitting the books. Of the 500 students who responded to the “Impact of Technology on College Student Study Habits” survey, 36 percent said they used smartphones at least some of the time for studying. The study also reported on other benefits of tools available on smartphones: 67 percent of students said using digital tools, such as adaptive learning programs, saved them up to five or more study hours a week while getting the same amount of work accomplished.

**Objectives of the study and methodology**

With the price of smartphones falling and their quality or capabilities increasing, the consumption of smartphones is on the rise. Smartphones have become a pocket computer and a must have necessity for many people. Increasing number of students are becoming the proud owners of smartphones. The present study tries to explore the use of smartphones for the purpose of education. This study tries to evaluate the pros and cons of the use of smartphones for education and thereby their effectiveness as an educational tool.

The convenience sampling technique was used for the study. It is based on primary data collected from 150 undergraduate students from varied streams through a questionnaire.

The data was analyzed with the help of Excel and percentage method.

**Limitations of the study**

1. This study may not be an exhaustive one owing to some limitations which are beyond the researcher’s control.
2. The major limitations of time constraint and resources constraint are always present.

**Analysis and discussion**

The use of smartphones has increased and so also the various features and apps available on them. The present study has tried to evaluate the use of smartphones by undergraduate students for the purpose of education. The evaluation has been done on the basis of various parameters which are discussed below.

Looking to the gender distribution it is observed that mobile phone users are almost equally divided.

**Table No.1: Parent’s annual income**

Income slabs	No. of respondents
Less than or equal to 1,00,000	50
1,00,001 to 3,00,000	59
3,00,001 to 5,00,000	25
5,00,001 to 7,00,000	6
7,00,001 and above	10

The above table shows that from among 150 respondents, 59 students’ parent’s annual income falls in the range of Rs.1,00,001 to Rs.3,00,000, followed by 50 of their parent’s annual income is in the range of less than Rs.1,00,000. Only 6 respondents’ parent’s income is in between Rs.5,00,001 to Rs.7,00,000.

**Table No.2: Percentage owning mobile phones**

Own a phone	98%
No phone	2%

The study showed that 98% of the respondents do own a mobile phone whereas there were 2% who do not own a phone.

**Table No.3: Type of mobile phone**

Type	Percentage
Basic phone	21
Smartphone	77
No phone	2

It was found that out of the total respondents, majority of 77% owned a smartphone, 21% had a basic mobile phone whereas 2% don't own a phone at all.

**Table No.4: Monthly expenditure on the phone**

Monthly expenditure	No. of respondents
No expenditure	3
≤ 500	112
501 to 1000	26
1001 to 1500	8
1501 to 2000	1

The above table shows that majority of the respondents, i.e. 112 spent less than Rs.500 on mobile phones, whereas 26 of them spent between Rs.501 to Rs.1000. It was found that 3 students don't spend on mobiles as they don't have one.

**Table No.5: Usefulness of smartphones for education**

Useful for education	Percentage
Yes	95
No	5

The study found that 95% of the respondents agreed that they believe smartphones are useful for education purpose.

**Table No.6: Types of educational applications used on smartphones**

Uses	No. of respondents
Dictionary	100
Calculator	98
E-book	60
Google	30
News	24
Competitive exam preparation	14
Formulae	14
Stop watch	32

It was seen that the commonly used app is dictionary, followed by calculator. 60 respondents do use smartphones for referring e-books, 32 of them use it for stop watch. It was also found that students use smartphones to search many a things instantly through google. They access the news and also take online mock tests for competitive exams.

**Table No. 7: Convenience of smartphones over conventional methods**

Convenience	Percentage
Yes	81
No	19

When asked about the convenience of learning through smartphones over the conventional methods, 81% agreed to it, whereas 19% disagreed.

**Table No.8: Frequency of Use**

Frequency	Percentage
once a week	11
twice a week	7
thrice a week	9
daily	71
never	3

The study showed that majority of the respondents, i.e. 71% used their smartphones daily for educational purpose whereas 3% never used it for educational purpose. It can be interpreted here that as per the above data 2% don't own a mobile phone so they do not use whereas only 1% don't use it for educational purpose.

**Table No.9: Advantages of use of smartphones for education**

Advantages	Percentage
Anywhere anytime learning	65
Quick solutions	63
Sharing of information	52
Social learning	67
Portability	47

It was found that almost similar percentage of students agreed that smartphones are beneficial for educational purpose as it makes social learning possible, learning is possible anywhere and anytime as well as they get quick solutions for their problems.

**Table No.10: Disadvantages of using smartphones**

Disadvantages	Percentage
Costly	62
Network problem	37
Size of the device	41
Battery life	33
Technology changes	37
Distractions	35
Health hazards	20

The study showed that majority of the respondents, i.e. 62% believed that smartphones are costly, 41%

believed that the size of the devices is not comfortable. Almost an equal percentage believed that there are network problems, technological changes and there are distractions while using smartphones. Due to technological changes there is a need to upgrade the device. While using smartphones for educational purpose they may get distracted by the social apps, or by games etc. It is unfortunate to know that only 20% of the respondents realized the health hazards of using smartphones.

### Future scope of study

An indepth study of the use of smartphones for educational purposes can be undertaken. The analysis can be more extensive using the statistical tools. This study is undertaken from students' learning point of view. A similar study can be conducted to evaluate the use of smartphones by teachers as an educational tool.

### Conclusion

It can be concluded that smartphone is becoming popular as an innovative educational tool. The study has showed its wide acceptability. But the major drawback that is observed is the cost. The sample under study reveals that majority of the population is in the lower income group and accordingly the monthly expenditure on mobiles is also below Rs.500. Smartphones are a great supportive educational tool but right now they are only for the privileged few who can afford.

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# Research Ethics- A Quest

Chandan Medatwal

## Abstract

‘Ethical application produces a good researcher. Not only the directions found good but also it best fitted for the further researches. ‘Practicing’ and ‘sharing’ research in principled way, justifies.’ This paper seeks to bestow ethical tactics under research. Ethical ways, moral conduct are few verbs which dealt to be occurred in the field of surveying. The objective behind learning research ethics is to know whether ‘the research is really researched’. Every research exemplifies results with the survey, experiments, contribution, whistle blowing etc. Then analysis of the verbatim material provides a rich context for interpretation. The ‘Exactness comes through the governed work which further contributes in interesting and pioneering research. This exactness could be possessed if all the factors, variables are studied properly. The statistical application then is more viable on the collected data through the sample. In this paper, I discussed the need of ethical practices in research, its significance, governance, applications in fine research, principle and parameters under various areas of research. Also the sources of ethical research, role of researcher, process of research ethics, misconduct and values attached to the researcher are highlighted. It is concluded that the ethical following in research process gives advantage to all four populace - The researcher himself, the researched, the society and the agency.

## Introduction

The term ethics derives from the Greek word ethos which means character. A sound character concocts a researcher with universally acceptable values. Correspondingly, research is the process of searching new facts, investigating old facts, efforts of acquiring new knowledge and bringing solutions through investigations.

To know research ethics, teaching is required. Nevertheless, a course in research ethics cannot and should not have as its central focus the question, “Why should I be moral?” As envisioned by the Dartmouth team, there must be a course that teaches the tools for making ethical decisions relative to matters of research. It will be designed for those scientists who are already committed to being ethical researchers. Such ways provide coming researchers to answers the question, “How can I make moral decisions?” (Stern and Elliott, 1997). The ethical standards of any society, largely depends upon the National ethos and the social and spiritual values. Not only in our part but also these similar questions be prompted when reading accounts of other people’s research. In my opinion, ‘research practice’ and ‘research sharing’ plays vital role in maintain research ethics.

On May 16, 1997, President Clinton apologized to the survivors and families of hundreds of men used in a research project to study the progression of untreated syphilis. These men were mainly sharecroppers from Macon County, Alabama (the area surrounding Tuskegee). They were poor, African American, and had few resources available to them. In 1932, when they were offered free medical care by physicians and researchers involved with the United States Public Health Service, they believed they had found treatment for what they had been told was "bad blood." Instead, they were enrolled in an observational research study, without their knowledge or consent. According to President Clinton, "The legacy of the study at Tuskegee has reached far and deep, in ways that hurt our progress and divides our nation. We need to do more to ensure that medical research practices are sound and ethical, and that researchers work more closely with communities."

Angelica Orb et.al, in their paper ‘ethics in qualitative research’ (2000), examined the common ethical concerns that qualitative health researchers confront and have highlighted the ethical principles that can guide research and researchers. Based on the study, qualitative researchers should report the incidents and ethical issues encountered in their studies to ensure discussion, analysis, and prevention of future mistakes.

## Evolution of Research Ethics

There is the great relevance of ancient scriptures in terms of ethics in research area. It has a great importance which effect from the ancient time as it reveals facts for us for going further. Today’s world is more complex and understanding its complexity in any field of study is a challenge for us.

The ethos is often based upon the civilization history, religious & spiritual beliefs and the doctrine enshrined in the ancient scriptures. I must say in one word- 'Satyamev jayte' which means - Truth alone triumph. Based on evidences from Ramacharitmanas, Mahabharata, Vedas and scriptures, those have rich treasure of guiding principles on several ethical & doctrinal aspects, it is true to say that the person follow ethical code of conduct, honest, convey respect and follow all the ethical parameters, wins.

During the World War II, the need of research ethics arise in scientific researches on Jews and other racial and ethnic minority groups in Nazi concentration camps. In 1949, of the Nuremberg Code, a code of ethics, this starts off with the stipulation that all research participation must be voluntary. It was said to be totally unethical when-Prisoners of war were forced to drink sea water in order to find out how long a man might survive without fresh water. Other codes of ethics soon followed, including the Declaration of Helsinki (1964). This code was specifically developed "in part as an alternative to the Nuremberg Code, which dealt exclusively with nontherapeutic [research promising no direct benefit to the subject] research" (Alvino, 2003, p. 896). This code protects research subjects in both therapeutic and nontherapeutic contexts. The Declaration of Helsinki notes several central procedures that should be applied in biomedical research. The Council for International Organization of Medical Sciences (CIOMS) was also created for those researching in developing nations (Beyer & Kass, 2002).

For most of the history of research ethics people participating in trials were referred to as 'research subjects' and now in vogue as 'trial participants'. Research ethics is basically about means of ensuring that vulnerable people are protected from exploitation and other forms of harm (U. Schüklenk).

### **Governance of Research Ethics**

Under Scientific area, governing the treatment of research, partly in response to such medical abuses as the Tuskegee experiment and others (Beecher, 1966; Jones, 1981), which ultimately led to the passage by Congress in 1974 of the National Research Act. This act set up an Office for the Protection of Research Risks (OPRR) and was housed in the National Institutes of Health (NIH). The act called for the establishment of a "Commission on Protection of Human Subjects of Biomedical and Behavioral Research" (Alvino, 2003, p. 897). These ethical principles were released by the Commission in 1978 in a report

known as the "Belmont Report," which was later revised to incorporate additional protections for young children who participate in the research process.

The American Psychological Association's (APA) Ethical Principles of Psychologists and Code of Conduct (hereinafter referred to as the Ethics Code) consists of an Introduction (discusses the intent, organization, procedural considerations and scope of application of the Ethics Code), a Preamble and five General Principles are aspirational goals to guide psychologists toward the highest ideals of psychology, and specific Ethical Standards (set forth enforceable rules for conduct as psychologists). The American Sociological Association's (ASA's) Code of Ethics sets forth the principles and ethical standards that underlie sociologists' professional responsibilities and conduct. The Ethical Standards are not exhaustive. Any conduct that is not specifically addressed by this Code of Ethics is not necessarily ethical or unethical.

There are various agencies, universities and associations those adopted specific codes, rules, and policies relating to research ethics. The National Science Foundation (NSF), the Food and Drug Administration (FDA), the Environmental Protection Agency (EPA), and the US Department of Agriculture (USDA) have ethics rules for funded researchers. Other influential research ethics policies include the Uniform Requirements for Manuscripts Submitted to Biomedical Journals (International Committee of Medical Journal Editors), the Chemist's Code of Conduct (American Chemical Society), Code of Ethics (American Society for Clinical Laboratory Science), Statements on Ethics and Professional Responsibility (American Anthropological Association), Statement on Professional Ethics (American Association of University Professors), the Nuremberg Code and the Declaration of Helsinki (World Medical Association).

In India, Indian Institute of Science Bangalore, lights upon Ethical Issues in Conducting Research Work and introduced Guidelines for Preparing Report/Thesis in 2009. In Canada, there are many different types of research ethic boards that approve applications for research projects. The most common document that Canadian Universities follow is the Tri-Council Policy Statement. The Tri-Council is the top three government grant agencies in Canada. If one was to do research in Canada and apply for funds, their project would have to be approved by the Tri-Council.

### Significance of Research and Ethics

There is ample number of reasons which generates need to follow moral values in research.

1. Research involves human being, if not then affect lives.
2. It is the requirement particularly in some disciplines and failure to do so may result in losses.
3. As a sign of respect for other researchers and those who will use the research.
4. Ridding off from the misrepresentation of data, convenience and observations help in receiving facts and leads to exactness.

Applying ethical applications, for example- while designing a questionnaire, the greater the number of scale categories, the finer the discrimination among stimulus objects is possible. A larger category under scale consideration is suggested for ethical research survey. Also, questionnaire pretesting remains good in this regard. As a general rule, a questionnaire should not be used in the field study without extensive pretesting with the same population which is to be targeted.

### Parameters/ Principles for ethical Research

Research ethics is a global issue. According to ESRC (Economic and Social Research Council), There are six key principles of ethical research that the ESRC expects to be addressed, whenever applicable:

1. Research should be designed, reviewed and undertaken to ensure integrity and quality.
2. Research staff and subjects must be informed fully about the purpose, methods and intended possible uses of the research, what their participation in the research entails and what risks, if any, are involved.
3. The confidentiality of information supplied by research subjects and the anonymity of respondents must be respected.
4. Research participants must participate in a voluntary way, free from any coercion
5. Harm to research participants must be avoided.
6. The independence of research must be clear, and any conflicts of interest or partiality must be explicit.

To implement these principles: The responsibility for conduct of the research in line with relevant principles rests with the principal investigator. The responsibility for ensuring that research is subject to appropriate ethical review, approval and monitoring lies with the institution seeking or holding an award with the ESRC and which employs the researchers performing it, or some of the researchers when it is acting as the co-coordinator for collaborative research involving more than one organisation. Institutions should have clear, transparent, appropriate and effective procedures in place for ethical approval whenever it is necessary. Where the breach occurs in ESRC funded research will be treated as a serious matter and hence the institution, researchers and principal investigator will be called to account by the ESRC and sanctions may apply depending on the severity of the breach.

Guidelines for Ethical Research in Australian Indigenous Studies by Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) 2011, possess 14 principles of Ethical research-

#### A. Rights, respect and recognition

1. Recognition of the diversity and uniqueness of peoples, as well as of individuals, is essential
2. The rights of Indigenous peoples to self-determination must be recognized
3. The rights of Indigenous peoples to their intangible heritage must be recognized
4. Rights in the traditional knowledge and traditional cultural expressions of Indigenous peoples must be respected, protected and maintained
5. Indigenous knowledge, practices and innovations must be respected, protected and maintained.

#### B. Negotiation, consultation, agreement and mutual understanding

6. Consultation, negotiation and free, prior and informed consent are the foundations for research with or about Indigenous peoples
7. Responsibility for consultation and negotiation is ongoing.

8. Consultation and negotiation should achieve mutual understanding about the proposed research.
  9. Negotiation should result in a formal agreement for the conduct of a research project.
- C. Participation, collaboration and partnership
10. Indigenous people have the right to full participation appropriate to their skills and experiences in research projects and processes.
- D. Benefits, outcomes and giving back
11. Indigenous people involved in research, or who may be affected by research, should benefit from, and not be disadvantaged by, the research project.
  12. Research outcomes should include specific results that respond to the needs and interests of Indigenous people.
- E. Managing research: use, storage and access
13. Plans should be agreed for managing use of, and access to, research results.
- F. Reporting and compliance

Research projects should include appropriate mechanisms and procedures for reporting on ethical aspects of the research and complying with these guidelines.

From British Educational Research Association (BERA), commonly recognised ethical principles under educational research include:

1. Minimising Harm
2. Respecting Autonomy
3. Protecting Privacy
4. Offering Reciprocity
5. Treating People Equitably

These five principles we outlined do not usually relate just to our dealings with one person at a time or even one homogeneous group of people at a time. This is true, not only in relation to a researcher's interactions with various categories and groups of people in the field, but also includes

others too: fellow members of a research team, colleagues and managers in the institution or organisation where the researcher works, funding bodies of various kinds, gatekeepers, and various further kinds of 'stakeholder'. These multiple relations may generate ethical dilemmas. Though, it is worth raising the question of whether a researcher has ethical responsibilities as regards his or her own moral character, emotional security, personal safety, etc. These relate, of course, not just to researchers as individuals but also to the various other roles which they play (including as kin, friends, etc) outside of research.

### Role of a Researcher

Ethics requires researcher to be knowledgeable about what is being done, to use reasoning when making decisions, to be both intellectual and truthful in approach and reporting and to consider the consequences. Researchers are human just like everyone else. Accordingly, we all bring our own likes, dislikes, emotions, values, and motivations to our research projects. It is unrealistic to expect that you will always like those you research, or that you will always naturally feel 100% engaged. This being said, bear in mind that it is you, the researcher, who has initiated this process and involved others. One thing should keep in mind that to follow ethical obligations on our part. Research informants participating in individual or group interviews as well as ethnographic fieldwork are often required to sign an informed consent form which outlines the nature of the project. Informants are typically assured anonymity and will be referred to using pseudonyms. There is however growing recognition that these formal measures are insufficient and do not necessarily warrant a research project 'ethical'. Research with people should therefore not be based solely on dominant and de-contextualised understandings of ethics, but should be negotiated reflexively and through dialogue with participants as a way to bridge global and local understandings of research ethics (Skovdal and Abebe, 2012). Researchers' role is intertwined with the other roles. Ethics becomes even more difficult to manage. In this way, personal ethics becomes more important.

Researcher role and ethics consider some important factors which somehow bound him to follow or not follow ethical parameters:

1. Time factor- sometimes the time leap raise a challenge to be ethical or not to accomplish targets or to achieve dignity along with the findings of research
2. Funding- funding found to be a biggest factor which moreover move a researcher from ethically achieving the target.

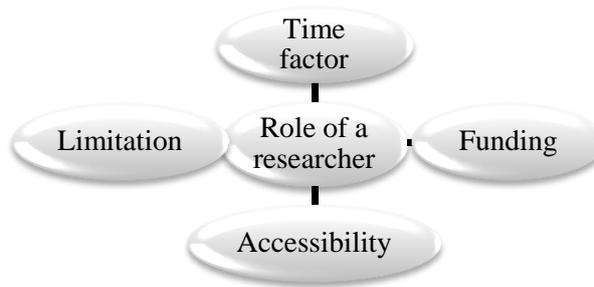


Figure 1- Role of researcher and ethics

3. Accessibility- when there is no or small access to Individuals (of the study area), resources, and the proper channel, the researcher meet with false or inappropriate ways to approach it. Sometimes this factor more responsible for the vague or artificial findings.
4. Limitation- The privacy is another ethical consideration. Also the researcher is bound with the target of research.

These four are to be important factor which leads to think a researcher on ethical or unethical aspects.

**Source of ethics to the researcher**

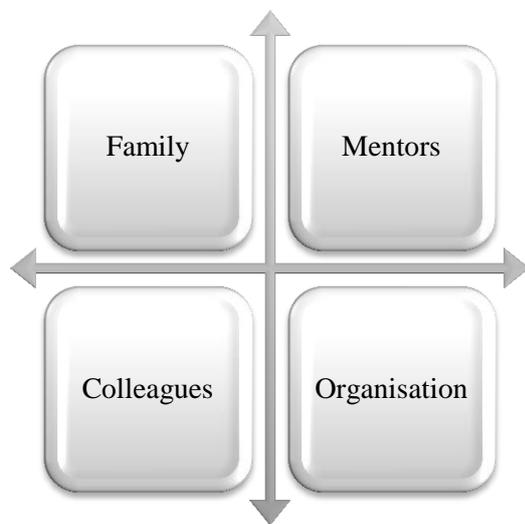


Figure 2- Sources of ethics to the researcher

1. Family- of course plays an important role for the researcher from where the researcher is prepared himself first. The personality of a researcher with critical determinants surely affects him in upholding ethical standards.
2. Mentors- mentor plays an important role. He/ she is a guide, who give directions to the researcher as he previously met the objects and has experience to analyse what

is right and what is wrong. He is a counsellor who gives psychotherapy for being ethical. There is duty or say ethical responsibility to both the researcher as well as the guide who is, by some means linked to the research.

3. Colleagues- fellow, friends, the network connection and any kind of association which an individual build, helps him to discern pathways of right and wrong. More the diverse connections are, more the acquaintance created.
4. Organization- the institute with which the researcher attached contain norms and regulation which is to be applied while doing research. Courses, Discussions, seminars and other faculties also influence the researchers.

**Ethics in Research Process**

The reality is there can be ethical concern at every step of the research process (Bickman & Rog, 2009). To engage with the ethical dimension of research requires asking you several important questions:

- What moral principles guide your research?
- How do ethical issues enter into your selection of a research problem?
- How do ethical issues affect how you conduct your research—the design of your study, your sampling procedure, etc.?
- What responsibility do you have toward your research subjects? For example, do you have their informed consent to participate in your project?
- What ethical issues/dilemmas might come into play in deciding?
- What research findings you publish? Will your research directly benefit those who participated in the study?

The entire process of research needs ethical consideration from the initial conception of problem to the interpretation and publishing of the research findings.

**Analysing ‘Ethical’ from ‘Unethical’**

Modern times started with scientific discoveries. With the advent of science and technology, faith lost its dominance over human life and reason won the battle. As part of this process', Adam Smith

glorified self-interest, Darwin the fight for survival, Bentham the philosophy of hedonism or pleasure and pain, and Freud, the primacy of the will to pleasure. These inspired Nietzsche to write the most famous sentence of the 19<sup>th</sup> century: "God is dead." This led Dostoevski to write in his novel Karamazov Brothers, "If God is dead, and then everything is permitted." Modern life is generally understood to be engineered by Pavlovian motivation. All action is based on stimulus from the environment and the human response to it. What is the point of ethical or unethical in it? There is of course a point shows ethical conduct as the world following such concepts as to create their base. It is not denied from the saying that famous researches and associated psychologists, theorists or the person was ethical only. Or it is not always said to be correct, that the researcher from the same period, who is not so famous was unethical with the work he did. There is the debate on the topics like that. Even there is the scope to go for researches on such points. Ethical rules cannot possibly apply to all events that can happen in a given project. Rubin and Rubin (1995) note that ethical guidelines do not begin to cover all of the ethical dilemmas you may face in the practice of social research. Sometimes, a biggest challenge arises in front of researcher while conducting survey collecting data or studying in conceptual or empirical ways. It will be going genuine when they keep it with sense that nothing will go wrong after the research come with conclusions.

Fabrication (is making up data or results and recording or reporting them.), Falsification (is manipulating research materials, equipment, or processes, or changing or omitting data or results), or Plagiarism (is the appropriation of another person's ideas, processes, results, or words without giving appropriate credit) (FFP) in proposing, performing, or reviewing research, or in reporting research results are examples of research misconduct.

### Research under various areas

The scientific research enterprise is built on a foundation of trust. But this trust will endure only if the scientific community devotes itself to exemplifying and transmitting the values associated with ethical scientific conduct (National Academy of sciences 2009).

Sociologists need to be aware of having the responsibility to secure the actual permission and interests of all those involved in the study. They should maintain moral responsibility, proper conduct with information, protect rights of people, and maintain overall decorum in terms of privacy and sensitivity. Criminal justice and criminological research almost always involves dealings with

humans and human behavior. It is prudent to be aware with the ethical problems related to social research.

### Values to be attached to the research

Research is surrounded by various variables. From the available literature and studies on 'ethics' and 'research', it could be generalized that there are certain variables those definitely affect the research work-

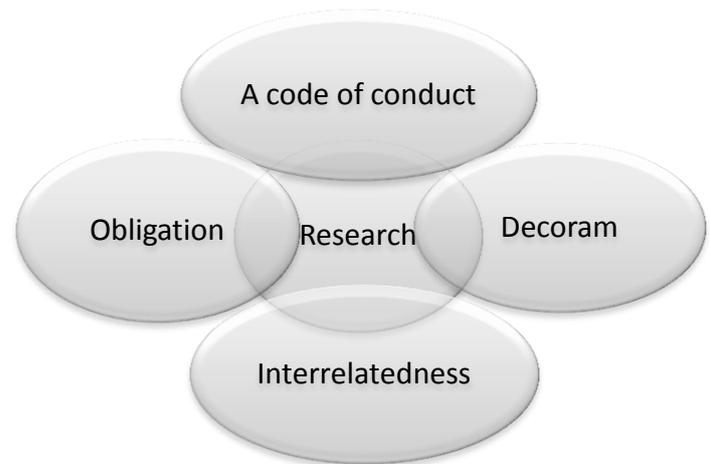


Figure 3- Values of a researcher

1. Interrelatedness between the researcher's attributes (competence, personality, style of work) and the subject must meet the common pane.
2. A code of conduct which applies honesty, integrity, transparency, legality and non discrimination with the subjects.
3. Obligation which researchers need to adhere to themselves, maintaining trust which the society/ individual expect, carefulness, respect for intellectual property etc. must be kept.
4. Decorum- From the very start of the research objectives, the practice till sharing research (research publication).

### Conclusion and suggestions

Maintaining ethical standards, every research exemplifies results with the survey, experiments, contribution, whistle blowing etc. Research ethics is not over once completed from researchers part. It carries further to maintain ethical obligations from the part of reviewers, observers and authorities under research evaluation. Harm minimization

must be involved during research under scientific researches. It is clear from the study that ethical following in research process gives advantage to all four populace- The researcher himself, the researched, the society and the agency (which control the overall objective). In the grounds of time bound, and low access to resources, creates difficulty in analyzing facts. Moreover long period of study comparatively assign more reliable facts rather than the shorter span studies.

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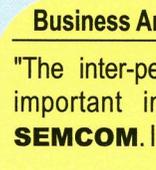
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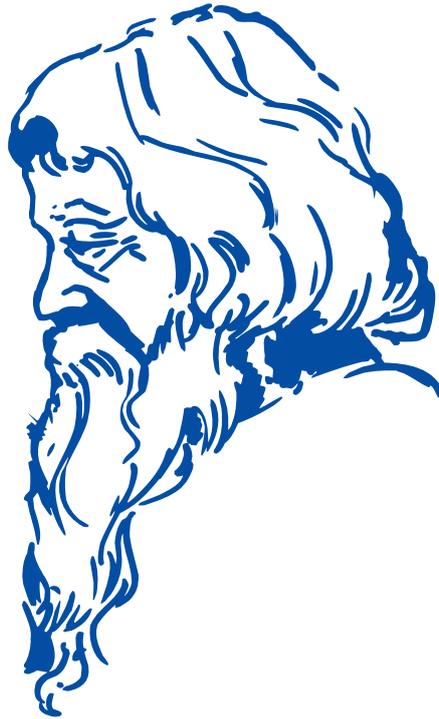
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Where tireless striving stretches its  
arms towards perfection;  
Where the clear stream of reason  
has not lost its way into the dreary  
desert sand of dead habit;  
Where the minds is led forward by  
thee into ever-widening thought and  
action.....  
Into that heaven of freedom, my  
Father, let my country awake.

Rabindranath Tagore

