Sankalpa means Decision,
Determination that a true manager or leader must make every day...

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SANKALPA

Since 2011 July-December 2017 ✳ ISSN No. 2231-1904 Volume 7 : Issue 2

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# SANKALPA

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## Journal of Management & Research

**SANKALPA : Journal of Management & Research**

aims at bringing out the intricacies of Management perspectives, concepts, and applications. The focus is on Indian Management and its interplay with Global Management knowledge, best-practices and research.

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## About Shree Mahavira Jaina Vidyalaya (SMJV)

**Shree Mahavira Jaina Vidyalaya (SMJV),** a seed grounded over 101 years ago by Visionary and Revolutionary **Pa. Pu. Acharya Vijay Vallabhsurishwarji Maharaj Saheb,** is today transformed into a 'home away from home' to over 1500 aspiring students through its network of over 8 boys hostel and 4 girls hostels presently. It is serving Jain Shahsan to its best by protecting root values of Jainism and extending religious education alongwith formal education. More than 20000 alumni of SMJV spread across the globe are working as successful businessmen or professional and enjoying good social status. The entire society respectfully praises the finest contribution of SMJV in the field of education assistance.

## SMJVs KANYA CHHATRALAYA, Vadodara

Vadodara, which has been designated as the education and cultural hub of Gujarat, has thousands of male and female students studying in number of educational institutes in and around Vadodara. Presently, there is an acute need of a cultural, safe and good living arrangement, particularly for female students. Keeping this requirement in view, SMJV has built a beautiful **Jain Girl's Hostel (Kanya Chhatralaya)** in Vadodara, inaugurating on 29th July 2017. An ultramodern campus at a very convenient location in the heart of the city of Vadodara, the Chhatralaya is equipped with Computer Room, Library, Gymnasium, Wi-fi and other 3-star facilities, and has the capacity to accommodate about 108 girl students. A heartfelt gratitude to the donars who have been faithfully donating large amounts and have been repeatedly contributing to the different initiatives of SMJV whole-heartedly from time to time.

## Academic Trip to ACBSP Annual Conference, Marriot, Anaheim (Los Angeles), USA - 2017

Dr. Rajesh Khajuria, Dr. Christopher Speicher, Dean and Dr. Art Comstock, Executive Director, Marywood University, USA.

Padma Vibhushan Shri Dr. Veerendra Heggade (right), Chairman, SDM Charitable Trust and Dr. N. Parasuraman, Director, with Diana Hallerud, Asst. Director, Accreditation, ACBSP and Dr. Rajesh Khajuria, ACBSP Mentor, receiving the ACBSP Accreditation Award.

ACBSP Region 10 (South Asia) Members Meeting; Dr. Rajesh Khajuria was elected as Chair.

Mrs. Dale King, Chair, SPPC Committee releasing 2nd edition of Transnational Journal of Business.

Dr. Rajesh Khajuria and Prof. Laxmi Shivaraman (Centre) from Kansas and a Dean from USA.

Dr. Rajesh Khajuria giving presentation on 'Preparing Students for Career Success'.

## FROM THE DESK OF RESEARCH CENTRE-CKSVIM

Journey From January 2011 To July 2017

With the objective to create and preserve the awareness among the Teaching Community about the 'Role of Research' in the process of knowledge acquisition, processing, and storage of existing knowledge on one hand and on the other, in the process of generation and dissemination of newer knowledge driven by the acquisition of existing knowledge, the Ph. D. Research Centre has completed a journey of over six and half years since its inauguration on February, 2011 by Dr. Akshai Aggarwal, Hon. Vice Chancellor of Gujarat Technological University.

The Bi-annual journal, 'SANKALPA'- The Journal of Management and Research, is presenting its 14th regular Issue (Volume 7-Issue2) in the month of July 2017, since its inception in January, 2011.

It contains Research Articles written by faculty members of Management and other allied disciplines from all over the country and abroad. It serves as one of the important vehicle to disseminate the newer knowledge generated by the researchers through various kind of researches undertaken by them.

I am glad that the Journal, which is a peer blind reviewed journal, has provided opportunity to hundreds of Teacher-Researchers to get their original research papers published. Besides, it also provides opportunity of publishing Business Cases from faculty members to help in the teaching of Management students through cases.

**The Centre has, so far, provided facility of pursuing Ph. D. Research to more than 20 Researchers (precisely, 23 scholars have enrolled as of July 2017, of whom 19 are academicians, 3 are from industry and 1 from government Sector) of whom 8 scholars have completed their Phd (Management) and received the PhD notification. My heartiest congratulations to them for their endeavour!**

I wish that the researchers, in their research endeavour, focus in the emerging areas like; Criteria for vendor selection, Corporate governance/corporate responsibility, ethics and accountability, Knowledge Management, Management of technology and innovation, Resource management and sustainable development, Health policy and management, Climate, energy and economic growth to support the overall development of our country.

**July 2017**

**Dr. Satendra Kumar**
Professor and Head
Ph.D.Research Centre

## From the Heart of Editor-in-Chief…

` Dear Readers,

It gives me immense pleasure to announce that our journal **'SANKALPA'-Journal of Management & Research (ISSN 2231:1904)** is selected in the **'Approved List of Journals' by UGC, India.** It has now recognition nationally as well as globally, being Indexed in **ProQuest (USA) since January 2016.** Congratulations to the entire team of 'SANKALPA' and all the well-wishers for the same!

It's my privilege to share that I was invited third time as a Speaker by the **Accreditation Council for Business Schools and Programs (ACBSP), USA** in its Annual Conference on the theme: **"Preparing Students for Career Success"** during **24th – 27th June 2017 at Anaheim, California, USA.** The conference was a huge success and attended by about **800 Professors, Dean, Presidents / Chancellors from 30 countries** (Please see the detailed Report in Page II in the present issue of the journal).

The present Issue (Volume 7, Issue 2) of 'SANKALPA' unfolds some enriching papers from India and abroad in the areas of IT, Finance, Marketing, General Management and Economics. The paper titled 'Hi-tech professionals' Intention to quit' by *Živa Veingerl Čič, Prof. Dr. Samo Bobek & Simona Šarotar Žižek, University of Marribor, Slovenia*, is a must read. Among the other papers, an article which I found to be quite interesting was 'A Study of Effect and Impact of Macroeconomics Variables of India on Sectorial Indices of NSE and Indian Volatility Index (VIX) by Dr. Ranjan Jaykant Sabhaya. I congratulate all the authors whose papers have been selected after a thorough peer-blind review process, with a rejection ratio of 40% in the present Issue of the journal.

Future plans includes proposing to conduct the **ACBSP South Asian Regional Conference** to be organized in **India** during **November 7-8, 2017** (tentative date) for the benefit of Indian Management Colleges / B-Schools as well as the **Higher Education Regional Conference (HEF, Mumbai)** in November 2017, with the theme of the **ACBSP Annual Conference 2018** to be held in June 8-11 in Kansas City, MO. ***Indian, Asian and Global B-Schools' Deans/Professors are welcome to participate!***

***Happy Reading!***

**Prof. Dr. Rajesh Khajuria,**
**Director, CKSVIM**
**Chair, South Asia Council, Region 10, ACBSP, USA**
**Dean and Chairman, Global MBA Program, GTU**
**Visit: www.cksvim.edu.in / www.gtu.ac.in / www.acbsp.org**

श्रद्धावाँल्लभते ज्ञानं तत्परः संयतेन्द्रियः ।
ज्ञानं लब्ध्वा परां शान्तिमचिरेणाधिगच्छति।।

"One who has faith and who with controlled senses is devoted to attaining this wisdom is successful in his/her endeavour. With wisdom and knowledge, he/she quickly attains the supreme peace."
- Bhagvad Gita



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## APPEAL TO THE AUTHORS AND CONTRIBUTORS

The present issue (Volume 7, Issue 2) is the July-Dec 2017 Issue, which contains research papers / articles in various areas of Management and Research. The bi-annual Journal 'SANKALPA' portrays our strong conviction to disseminate the thinking of academicians and practitioners in the field of Business Management discipline, which they communicate through their 'Reporting' in the form of research papers, articles, study reports, case studies, original conceptualizations with logical vigor and vision.

The members of the Editorial Board appeal to all the academicians and practitioners to communicate their 'Reporting' to the Editor-in-Chief for publication in our subsequent issues, through the e-mail ID : **publications@cksvim.edu.in**

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## ACBSP Annual Conference, Marriot, Anaheim (Los Angeles), USA

**Dr. Rajesh Khajuria, Director, CKSV Institute of Management,** was invited third time as a Speaker by the **Accreditation Council for Business Schools and Programs (ACBSP), USA** in its Annual Conference on the theme: **"Preparing Students for Career Success"** during 24th – 27th June 2017 at Anaheim, California, USA.

The conference was attended by about **800 Professors, Dean, Presidents / Chancellors from 30 countries.**

**Dr. Khajuria** gave Presentation on **"Preparing Students for Career Success".** He also participated in **Poster Competition on "Branding ACBSP"** and **CKSVIM** poster was displayed and appreciated by all present.

**Dr. Khajuria** also attended various Committees and Annual Meeting at **ACBSP Conference, Anaheim and ensured that <u>CKSVIM accreditation</u> is to be reaffirmed for next two years. ACBSP, the largest Global Accreditation Council for Business Schools in the world, its Accreditation signifies that CKSVIM-MBA is credited with Global Quality Standards, and our students are recognised in *<u>60 countries world-wide</u>* where about *<u>1,300 ACBSP member-B.Schools</u>* are located.**

**Dr. Khajuria is the first Global Gujarati,** elected to the prestigious position as **CHAIR – Accreditation Council for Business Schools and Programs (ACBSP), USA, for Region 10 (South Asia's 17 countries from India to Singapore) for the year 2017-2018 on 25th June 2017.**

**Dr. Khajuria** acted as an **ACBSP Mentor** to **SDM Institute of Management (SDMIMD), Mysore (Mysuru),** a top ranking Business School in South India, which received the Accreditation Award in just two years at the ACBSP Annual Conference at Anaheim. **Padma Vibhushan Shri Dr. Veerendra Heggade, Chairman, Shri Dharmasthala Manjunatheshwara (SDM) Charitable Trust, and Dr. N. Parasuraman, Director of the institute proudly received the Award.**

He has been a **Member of ACBSP's Scholar-Practitioner Publisher Committee (SPPC)** since **2014, which has started publishing 'The Transnational Journal of Business' (TJB),** a premium research publication from June 2016.

**Dr. Khajuria** serves as a member on **ACBSP's Risk Assessment and Management Committee** (4 Years, 2015-2018), and also on **Business & Industry Relations Committee** (4 Years, 2014-2017).

**ACBSP has recently appointed Dr Khajuria** as a **Mentor to the JUBAIL UNIVERSITY COLLEGE, Saudi Arabia,** for facilitating its Global Accreditation process.

For the benefit of Indian Management Colleges / B-Schools, **ACBSP South Asian Regional Conference is proposed to be organised in India during November 7-8, 2017** (tentative date).

***Indian, Asian and Global B-Schools' Deans/Professors are welcome to participate!***

***Please write to:*** rajesh.khajuria@cksvim.edu.in / dr.khajuria@gmail.com for participating / sponsoring the ACBSP Conference.

# Hi-tech professionals' Intention to quit

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**Abstract**

Purpose – Information Technology (IT) is currently one of the most rewarding industries in the world. Due to the globalization and the boom in technology the organizations are operating in an unpredictable business environment where the IT workforce is more mobile, witnessing "war for talent" in the market place. Therefore, the retention of key IT employees is becoming one of the strategic HR goals. If the organization doesn't recognize the signs of unsatisfied employees and provide them a reason to stay, they will leave the company. This paper seeks to identify the relationship between factors of employees' intention to quit in HI tech industry in four countries (Austria, Germany, Slovenia and Spain).

**Methodology/approach** - The exploratory study is based on a four-country online survey, of 1207 employees who fulfilled the two criteria; the first criterion was having a job at least 10 working hours per week, and the second criterion having colleagues at work. Among the respondents 294 were from Austria, 283 from Germany, 369 from Slovenia and 261 from Spain.

**Findings** - The statistical results of the study revealed that there are no statistically significant differences regarding employees' intention to quit of those employed in IT and other activities.

**Originality/value** – This is the first study to analyze intention to quit in four countries perspective.

Key words: Intention to quit, HI tech professionals, Austria, Germany, Slovenia, Spain

## Introduction

We are witnessing the "war for talent" and therefore, retention of key employees becoming one of the strategic Human Resources (HR) goals. This is especially important for the Information Technology (IT), currently one of the most rewarding industries in the world where the workforce is more mobile.

The IT industry is a rapidly growing industry and the employee skills of hi-tech professionals are specific. If companies want to remain competitive in this area, they need to invest in their employees. This does not mean only to focus on getting experts from the IT fields, but it is necessary to provide activities which are focused on maintaining the hi-tech professionals. Key and prospective employees from the IT industry, where demand exceeded the number of employment candidates, need reasons to stay with their current company and rather than to look for another job opportunity. This in other words means that the company must recognize the potential of these employees and develop them, and at the same time, enable the individuals to realize their ambitions. If the company does not practice this, the key hi-tech employees will seek new job opportunities elsewhere. Therefore, it is the intention of this paper to give suggestions for employers to reduce the hi-tech professionals' intention to quit. We observed the intention to quit in four countries (Austria, Germany, Slovenia and Spain). In doing so, we focused on the characteristics and specificities of hi-tech professionals in four countries included in the study.

## Conceptual background

The competition for the technically skilled individuals that are necessary to fill the knowledge-based jobs increased the importance of their recruitment due to sustained economic growth (Collins and Stevens, 2002). Moreover, census data indicate that demographic trends such as a smaller supply of younger workers and retirements among baby boomers will make it difficult to fill openings for the next decade, particularly those requiring technical and engineering skills (Dohm, 2000).

Managers will be in the future challenged by an increasingly mobile and transient workforce.

Labor market of hi-tech professionals is quite specific. Employers should be aware that, according to survey of "moje.delo" job search portal, less than half (48%) of respondents have obtained their last job without the active search (Zaletel, 2005). Employers contacted them either directly or the company was recommended an acquaintance. Companies therefore need to be aware that HR management must carry out specific activities in order to maintain talented IT employees. The labor market is also interesting, because 37% of IT experts have 'non-technical' education. The above mentioned study found that companies are not excessively strict in the selection conditions for IT staff (e.g. education), until they believe that potential new employees can master the necessary technical knowledge. As a result, competition among organizations to obtain the highest-quality IT professionals will become even fiercer and relevant. Hi-tech professionals are workers with specific characteristics and should therefore be treated with special attention, both in attracting them to the company, as well as in terms of their motivation for work and cooperation.

These professionals are aware of their deficiency, so the companies are bargaining with them for wages and other benefits for their long-term stay; consequently, these employees often set their bar high. If the bargaining with them is unsuccessful this can result in less loyalty to the company and in higher turnover, especially if a competitive company is offering them better pay or better working conditions. There are some peculiarities of hi-tech professionals, such as difficulties in tolerating authority, and consequently it is difficult to communicate with them. Due to the large demand for highly skilled hi-tech professionals and efforts required to keep those in the company, the costs of finding, hiring and training these employees can deeply impact business' bottom line.

According to Dice's analysis of the latest turnover data from the U.S. Bureau of Labor Statistics, voluntary quits in Professional and Business services continue to trend upwards (2016). Total quits in the category in the first three quarters of 2015 averaged 508,200, the highest since 2002 and a nine percent increase compared to the same period in 2014 (Dice, 2016).Higher turnover means business and hi-tech professionals may have the leverage to leave their current jobs for a better position or higher pay and are more open to looking for a new job.Understanding the priorities of hi-tech professionals, whether that can be greater work/life balance, flexible working options, or computer incentives will not only allow you to retain talent, but it will lead to a more engaged, productive, and ultimately profitable technology team.

### Research Methodology

Researcher developed the following research question: "Are there differences in intention to quit, regarding industry in four countries, Germany/Austria, Slovenia and Spain"?

### Hypothesis

H1: Differences in intention to quit regarding industry in four countries, Germany/Austria, Slovenia and Spain are statistically significant.

### Objectives of the study

- To identify the main factors of IT professionals' Intention to quit.
- To identify profile of IT professionals.
- To identify the organizational tools to win war for IT professionals' talent.

### Intention to quit

Purani and Sahadev (2007) define intention to quit as an employee's plan to quit the current job and as attempt to find another job in the near future. It can be seen as a worker's intention to quit the present organization (Cho et al., 2009), or as an "individual's own estimated probability (subjective) that s/he is permanently leaving the organization at some point in the near future (Vandenberg and Nelson 1999); it can be seen as the strength of an individual's view that s/he does not want to stay with his/her current employer (Boshoff et al., 2002). The employee's 'intention to quit' is an immediate predictor on his/her actual behavior (Sommer and Haug 2010). Although one's intention to quit the company will not necessarily lead to actual leaving, but it will affect organizational performance because it contributes to work inefficiencies, disengagement and absenteeism (Kivimaki et al., 2007).

In the IT sector the issues of intention to quit are no recent features; they showed up since early 2000s and the number of employees leaving their current companies did not decrease, although the salaries and benefits associated with IT career continued to increase (Rouse, 2001).A meta-analysis (Rouse et al. 2007) identified that the job satisfaction, job performance, role conflict, pay, promotion and perceived job characteristics are the important factors for IT professionals' intentions to quit.

IT workers are a unique class of workers and have been viewed as such since the 1970s (Armstrong et al., 2007). Nearly every organization needs IT workers (Ranii, 2012) and the skills clusters of hi-tech professionals enable opportunities for their frequent job changes (Gabe and Abel, 2011). Developing new skills adds to the strategic value of IT workers, earning them higher salaries and making them less susceptible to the effects of economic recession (Janz and Nichols, 2010; Morrissey, 2011). But the organization can influence the intention and decision to quit or to stay with three main factors:

A liberated and empowered culture;

Equity and enablement for high performance; and

An effective and interactive communication channel (Gaylard et al., 2005).

Nevertheless, we can add other factors with which the organizations can influence their IT worker's leave-or-stay decision. These factors include: (1) job satisfaction, (2) financial reward, (3) employability and personal growth, (4) the job itself, (5) relationship with the boss, and the (5) organizational culture and environment (ibid). On the other hand, Armstrong et al. (2007) stated that other factors can influence the decision to leave, such as: barriers to promotion, turnover, managing family, work stress, work schedule flexibility, and job qualities.

**Theoretical Models: Intention to Quit**

In present paper, the author focus on three models of the 'intention to quit' that describe the complex nature of it and are the foundation to develop a theoretical model of the intention to quit. These models are:

(1) Oehley's talent management model (Oehley, 2007);

(2) Dhladhla's model of the influence of leader behavior, psychological empowerment, job satisfaction and organizational commitment on turnover intention (Dhladhla's, 2011), and

(3) Berry's model of employee engagement, compensation fairness, job satisfaction and turnover intent (Berry, 2010).

**Oehley's talent management model**

The focus of this model is the development and evaluation of a partial talent management competency. The key objectives of this model were to identify talent management competencies required by line managers for successful implementation of an organization's talent management strategy. A further objective was to determine how line managers' talent management competencies affect subordinates' intention to remain with the organization. Organizational job satisfaction has a significant effect on intention to quit (Oehley, 2007). Therefore, this model is an important part of the talent management competencies, because it includes attracting, developing and retaining talented employees, which is an essential responsibility of a leader.

**Dhladhla's model of the influence of leader behavior, psychological empowerment, job satisfaction and organizational commitment on turnover intention**

This model determines the causal linkages between leaders' behavior, psychological empowerment, job satisfaction and organizational commitment and their influence on turnover intention (Dhladhla, 2011). Dhladhla advised that the study had the potential for expansion through the inclusion of further variables that are likely to influence turnover intention among employees (ibid.).

**Berry's model of employee engagement, compensation fairness, job satisfaction and turnover intent**

Berry's model assessed the effects of age and the mediating effects of job satisfaction on the relations between employee engagement, compensation fairness, and the outcome variable turnover intent. Both employee engagement and compensation fairness are inversely related to turnover intent, and the job satisfaction did not mediate the relationship between employee engagement and intention to quit or between compensation fairness and intention to quit (Berry 2010).

All illustrated models focus on various variables, with the common purpose to better understand the relationship between the independent variables and the investigated dependent variable, intention to quit.

**Qualitative research**

**Sample and procedure**

Austrian and Slovene workers were invited to participate in an online study. Data was collected within the culture4leadership project funded by the Styria Province within the "grenz-frei" (= 'no border') framework. The invitation to the online study was sent in cooperation with a well-known German market research company. Participants who did not fulfill the requirements of (I) having a job with at least 10 working hours per week and (II) having colleagues at work, were excluded at the beginning of the study.

All-in-all, 2407 persons were invited to participate in the online-study. 1207 persons fulfilled the criteria (having a job with at least 10 working hours per week and having colleagues at work) and filled in the questionnaire. 294 participants came from Austria, 261 were from Spain, 369 worked in Slovenia and 283 came from Germany. The online-study started on the 9th of July and was finished on the 19th of July 2013.

**Table 1: Respondents regarding country**

| Country | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Austria | 258 | 24,5 | 24,5 | 24,5 |
| Spain | 247 | 23.4 | 23,4 | 47.9 |
| Slovenia | 292 | 27,7 | 27,7 | 75,5 |
| Germany | 258 | 24,5 | 24,5 | 100,0 |
| Total | 1055 | 100.0 | 100.0 | |

The largest proportion of respondents, almost 28 percent were from Slovenia, followed by 24.5 percent of Austria and Germany respondents and 23.4 were respondents from Spain. Among all surveyed more than 54 percent were female respondents and slightly less than 46 percent were male respondents. Most of the respondents (57.8%) were between 31 and 50 years of age. University Degree belongs to47.8 percent of all respondents, followed by apprenticeship (26.6%).

**Results**

Researchers used quantitative methods (descriptive statistics) to research employees' intention to quit in four countries. Results of descriptive statistics are presented in Table 2.

**Table 2: Descriptive statistics of items in construct 'intention to quit' regarding industry**

| | | | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean |
|---|---|---|---|---|---|---|---|
| | | | | | | Lower Bound | Upper Bound |
| All in all, satisfaction with my work… | public sector | 100 | 2,51 | 1,087 | 0.109 | 2,29 | 2,73 |
| | industry | 115 | 2.39 | 0,915 | 0.085 | 2,22 | 2,56 |
| | health care sector | 65 | 2.32 | 1,002 | 0.124 | 2,07 | 2,57 |
| | commerce/trades | 68 | 2.57 | 1,055 | 0.128 | 2,32 | 2,83 |
| | education | 72 | 2.19 | 0,762 | 0.090 | 2,02 | 2,37 |
| | gastronomy & tourism | 30 | 2,43 | 1,135 | 0.207 | 2,01 | 2,86 |
| | credit & insurance | 39 | 2.23 | 0,872 | 0.140 | 1,95 | 2,51 |
| | craftsmanship and building/construction | 36 | 2.44 | 1,054 | 0.176 | 2,09 | 2,80 |
| | IT | 89 | 2.62 | 1,017 | 0.108 | 2,40 | 2,83 |
| | other services | 67 | 2.54 | 1,064 | 0.130 | 2,28 | 2,80 |
| | logistics / transport | 40 | 2.45 | 1,061 | 0.168 | 2,11 | 2,79 |
| | other | 185 | 2.45 | 1,068 | 0.078 | 2,29 | 2,60 |
| | 999* | 38 | 2.68 | 0,962 | 0.156 | 2,37 | 3,00 |
| | Total | 944 | 2.45 | 1,012 | 0.033 | 2,39 | 2,52 |
| I thought of changing to a different department within my company. | public sector | 100 | 2.75 | 1,077 | 0.108 | 2,54 | 2,96 |
| | industry | 115 | 2.78 | 1,016 | 0,095 | 2,60 | 2,97 |
| | health care sector | 65 | 2.98 | 1,139 | 0,141 | 2,70 | 3,27 |
| | commerce/trades | 68 | 2,81 | 1,026 | 0.124 | 2,56 | 3,06 |
| | education | 72 | 3.06 | 1,033 | 0.122 | 2,81 | 3,30 |
| | gastronomy & tourism | 30 | 3.10 | 1,155 | 0,211 | 2,67 | 3,53 |
| | credit & insurance | 39 | 2.85 | 0,988 | 0.158 | 2,53 | 3,17 |
| | craftsmanship & building/construction | 36 | 3.33 | 0,828 | 0.138 | 3,05 | 3.61 |
| | IT | 89 | 2.89 | 0,959 | 0.102 | 2,69 | 3,09 |
| | other services | 67 | 3,01 | 1,007 | 0.123 | 2,77 | 3,26 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | logistics / transport | 40 | 2.90 | 0,928 | 0.147 | 2,60 | 3,20 |
| | other | 185 | 3.03 | 1,040 | 0.076 | 2,88 | 3,18 |
| | 999* | 38 | 2.45 | 1,058 | 0.172 | 2,10 | 2,80 |
| | Total | 944 | 2.92 | 1,035 | 0.034 | 2,85 | 2,98 |
| The thought of looking for a new job already entered my mind. | public sector | 100 | 2.54 | 1,114 | 0,111 | 2,32 | 2,76 |
| | industry | 115 | 2.63 | 1,055 | 0,098 | 2,43 | 2,82 |
| | health care sector | 65 | 2.57 | 1,145 | 0,142 | 2,29 | 2,85 |
| | commerce/trades | 68 | 2.56 | 1,238 | 0.150 | 2,26 | 2,86 |
| | education | 72 | 2.67 | 1,113 | 0,131 | 2,41 | 2,93 |
| | gastronomy & tourism | 30 | 2.23 | 1,135 | 0.207 | 1,81 | 2,66 |
| | credit &insurance | 39 | 2.82 | 1,189 | 0.190 | 2,44 | 3,21 |
| | craftsmanship & building/construction | 36 | 2.75 | 1,228 | 0.205 | 2,33 | 3,17 |
| | IT | 89 | 2.56 | 1,087 | 0.115 | 2,33 | 2,79 |
| | other services | 67 | 2.30 | 1,142 | 0.139 | 2,02 | 2,58 |
| | logistics / transport | 40 | 2.65 | 1,145 | 0,181 | 2,28 | 3,02 |
| | other | 185 | 2.63 | 1,169 | 0.086 | 2,46 | 2,80 |
| | 999 | 38 | 2.34 | 0,994 | 0,161 | 2,02 | 2,67 |
| | Total | 944 | 2.57 | 1,134 | 0.037 | 2,50 | 2,64 |
| I would prefer working in a different business. | public sector | 100 | 2.67 | 1,120 | 0.112 | 2,45 | 2,89 |
| | industry | 115 | 2.97 | 1,072 | 0.100 | 2,78 | 3.17 |
| | health care sector | 65 | 3.18 | 0,967 | 0.120 | 2,95 | 3,42 |
| | commerce/trades | 68 | 2.74 | 1,115 | 0.135 | 2,47 | 3,01 |
| | education | 72 | 3.07 | 0,969 | 0.114 | 2,84 | 3,30 |
| | gastronomy & tourism | 30 | 2.47 | 1,224 | 0.224 | 2,01 | 2,92 |
| | credit and insurance | 39 | 3.15 | 0,988 | 0.158 | 2,83 | 3,47 |
| | craftsmanship and building/construction | 36 | 3.14 | 1,046 | 0.174 | 2,78 | 3,49 |
| | IT | 89 | 3.03 | 0,947 | 0.100 | 2,83 | 3,23 |
| | other services | 67 | 2.66 | 1,109 | 0.135 | 2,39 | 2,93 |
| | logistics / transport | 40 | 2.83 | 1,083 | 0,171 | 2,48 | 3,17 |
| | other | 185 | 2.79 | 1,084 | 0.080 | 2,64 | 2,95 |
| | 999* | 38 | 2.50 | 0,923 | 0.150 | 2,20 | 2,80 |
| | Total | 944 | 2.87 | 1,068 | 0.035 | 2,80 | 2,93 |
| I've already been looking for a new job. | public sector | 100 | 2.90 | 1,142 | 0.114 | 2,67 | 3,13 |
| | industry | 115 | 3.00 | 1,060 | 0.099 | 2,80 | 3,20 |
| | health care sector | 65 | 2.80 | 1,214 | 0,151 | 2,50 | 3,10 |
| | commerce / trades | 68 | 2.84 | 1,288 | 0.156 | 2,53 | 3,15 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | education | 72 | 3.07 | 1,105 | 0.130 | 2,81 | 3,33 |
| | gastronomy & tourism | 30 | 2.77 | 1,194 | 0.218 | 2,32 | 3,21 |
| | credit & insurance | 39 | 3.13 | 1,151 | 0.184 | 2,76 | 3,50 |
| | craftsmanship & building /construction | 36 | 2.86 | 1,222 | 0.204 | 2,45 | 3,27 |
| | IT | 89 | 3.09 | 1,104 | 0.117 | 2,86 | 3,32 |
| | other services | 67 | 2.72 | 1,204 | 0.147 | 2,42 | 3,01 |
| | logistics / transport | 40 | 3.15 | 1,051 | 0.166 | 2,81 | 3,49 |
| | other | 185 | 2,91 | 1,167 | 0.086 | 2,74 | 3,08 |
| | 999* | 38 | 2.63 | 0,998 | 0.162 | 2,30 | 2,96 |
| | Total | 944 | 2.92 | 1,148 | 0.037 | 2,85 | 3,00 |
| I would like to change my job within the next half year. | public sector | 100 | 3.04 | 1,044 | 0.104 | 2,83 | 3,25 |
| | industry | 115 | 3.16 | 0,961 | 0.090 | 2,98 | 3,33 |
| | health care sector | 65 | 3.00 | 1,132 | 0.140 | 2,72 | 3,28 |
| | commerce / trades | 68 | 2.87 | 1,183 | 0.143 | 2,58 | 3,15 |
| | education | 72 | 3.22 | 0,938 | 0,111 | 3,00 | 3,44 |
| | gastronomy & tourism | 30 | 2.80 | 1,095 | 0.200 | 2,39 | 3,21 |
| | credit and insurance | 39 | 3.23 | 1,012 | 0.162 | 2,90 | 3,56 |
| | craftsmanship & building /construction | 36 | 3.06 | 1,218 | 0.203 | 2,64 | 3,47 |
| | IT | 89 | 3.13 | 1,025 | 0.109 | 2,92 | 3,35 |
| | other services | 67 | 2.73 | 1,123 | 0.137 | 2,46 | 3,01 |
| | logistics / transport | 40 | 3.00 | 1,086 | 0.172 | 2,65 | 3,35 |
| | other | 185 | 2.97 | 1,151 | 0.085 | 2,80 | 3,13 |
| | 999* | 38 | 2.58 | 1,004 | 0.163 | 2,25 | 2,91 |
| | Total | 944 | 3,01 | 1,082 | 0.035 | 2,94 | 3,08 |
| I am afraid to lose my current job. | public sector | 100 | 2.97 | 1,000 | 0.100 | 2,77 | 3,17 |
| | industry | 115 | 3.00 | 1,009 | 0.094 | 2,81 | 3,19 |
| | health care sector | 65 | 3.14 | ,882 | 0.109 | 2,92 | 3,36 |
| | commerce / trades | 68 | 2.66 | 1,060 | 0.128 | 2,41 | 2,92 |
| | education | 72 | 2.97 | 1,021 | 0.120 | 2,73 | 3,21 |
| | gastronomy & tourism | 30 | 3.30 | ,837 | 0.153 | 2,99 | 3,61 |
| | credit and insurance | 39 | 2.87 | 1,080 | 0.173 | 2,52 | 3,22 |
| | craftsmanship & building / construction | 36 | 2.86 | 1,046 | 0.174 | 2,51 | 3,22 |
| | IT | 89 | 2.83 | 1,014 | 0.107 | 2,62 | 3,05 |
| | other services | 67 | 2.84 | 1,067 | 0.130 | 2,58 | 3,10 |
| | logistics / transport | 40 | 2.85 | 1,189 | 0.188 | 2,47 | 3,23 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | other | 185 | 2.75 | 1,065 | 0.078 | 2,60 | 2,91 |
| | 999* | 38 | 2.53 | 1,006 | 0.163 | 2,20 | 2,86 |
| | Total | 944 | 2.88 | 1,034 | 0.034 | 2,81 | 2,94 |
| In the last year, only a few people were dismissed in my company. | public sector | 100 | 2.06 | 1,127 | 0.113 | 1,84 | 2,28 |
| | industry | 115 | 1.85 | 1,053 | 0.098 | 1,66 | 2,05 |
| | health care sector | 65 | 1.83 | 1,069 | 0.133 | 1,57 | 2,10 |
| | commerce / trades | 68 | 2.18 | 1,145 | 0.139 | 1,90 | 2,45 |
| | education | 72 | 1.96 | 1,013 | 0.119 | 1,72 | 2,20 |
| | gastronomy and tourism | 30 | 1.87 | 1,008 | 0.184 | 1,49 | 2,24 |
| | credit and insurance | 39 | 1.92 | 1,010 | 0.162 | 1,60 | 2,25 |
| | craftsmanship & building / construction | 36 | 2.42 | 1,204 | 0,201 | 2,01 | 2,82 |
| | IT | 89 | 2.19 | 1,117 | 0.118 | 1,96 | 2,43 |
| | other services | 67 | 2.06 | 1,013 | 0.124 | 1,81 | 2,31 |
| | logistics / transport | 40 | 2.23 | 1,097 | 0.174 | 1,87 | 2,58 |
| | other | 185 | 2.12 | 1,131 | 0.083 | 1,95 | 2,28 |
| | 999* | 38 | 1.97 | 0,944 | 0.153 | 1,66 | 2,28 |
| | Total | 944 | 2.05 | 1,089 | 0.035 | 1,98 | 2,12 |

*missing variable

Table 2 indicates that the statement "All in all satisfaction with my work" ... has the highest average value of 2.51, while the assertion "I would prefer working in a different business" achieves the highest average value of the credit and insurance. In the sector craftsmanship and building / construction, the highest average value has three arguments:

(1) "In the last year, only a few people were dismissed and my company"

(2) "I thought of changing to a passing department within my company" and

(3) "I fear losing my current job."

Health sector reached the highest average value in the argument, "The thought of looking for a new job already entered my mind".

If we look at the average value of individual items per industries, we see that IT achieves above-average value for all items of the 'construct intention to quit'.

Due to research differences in intention to quit per industries, it is important to perform ANOVA. Results of this test are presented in Table 3.

**Table 3: Results of a one-way analysis of variance (ANOVA).**

**ANOVA**

| | | The sum of the squares | df | Average squares | F | p |
|---|---|---|---|---|---|---|
| All in all satisfaction with my work... | Between Groups | 14,532 | 12 | 1,211 | 1,185 | 0,289 |
| | Within Groups | 951,226 | 931 | 1,022 | | |
| | Total | 965,758 | 943 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| I thought of changing to a different department within my company. | Between Groups | 26.130 | 12 | 2,178 | 2,062 | 0,017 |
| | Within Groups | 983.090 | 931 | 1,056 | | |
| | Total | 1009.220 | 943 | | | |
| The thought of looking for a new job already entered my mind. | Between Groups | 15.919 | 12 | 1,327 | 1,032 | 0,417 |
| | Within Groups | 1197.183 | 931 | 1,286 | | |
| | Total | 1213.102 | 943 | | | |
| I would prefer working in a different business. | Between Groups | 38.156 | 12 | 3,180 | 2,855 | 0,001 |
| | Within Groups | 1037.027 | 931 | 1,114 | | |
| | Total | 1075.182 | 943 | | | |
| I´ve already been looking for a new job. | Between Groups | 16.904 | 12 | 1,409 | 1,069 | 0,383 |
| | Within Groups | 1226.756 | 931 | 1,318 | | |
| | Total | 1243.660 | 943 | | | |
| I would like to change my job within the next half a year. | Between Groups | 24.459 | 12 | 2,038 | 1,758 | 0,051 |
| | Within Groups | 1079.503 | 931 | 1,160 | | |
| | Total | 1103.962 | 943 | | | |
| I fear losing my current job. | Between Groups | 24,151 | 12 | 2,013 | 1,905 | 0,030 |
| | Within Groups | 983,595 | 931 | 1,056 | | |
| | Total | 1007,746 | 943 | | | |
| In the last year, only a few people were dismissed in my company. | Between Groups | 19.903 | 12 | 1,659 | 1,407 | 0,157 |
| | Within Groups | 1097,855 | 931 | 1,179 | | |
| | Total | 1117,758 | 943 | | | |

From the Table 3, we can do the calculation of statistical significance of p. The statements exceeding 0.05 are:

- All in all satisfaction with my work ...
- The thought of looking for a new job already entered my mind.
- I've already been looking for a new job.
- In the last year, only a few people were dismissed in my company.

By the statement where the calculated statistical significance is $p < 0.05$, we can know about statistically significant differences with consideration to sector:

- I thought of changing to a different department within my company.
- I would prefer working in a different business.
- I fear losing my current job.

For the statement 'I would like to change my job within the next half year p is $p < 0.051$.

Since researcher were interested in which groups, data varied significantly, they performed an additional so-called post hoc analysis, which was based on the Tukey HSD method. These tests showed that there are no statistically significant differences in terms of activity in any of the statements in the table that follows.

**Table 4: Results of Tukey HSD method for 'I thought of changing to a different department within my company'**

| Industrial sector categorized | | N | Subset for alpha = 0.05 | |
|---|---|---|---|---|
| | | | 1 | 2 |
| Tukey HSDa,b | 999* | 38 | 2,45 | |
| | public sector | 100 | 2,75 | 2,75 |
| | industry | 115 | 2,78 | 2,78 |
| | commerce/trades | 68 | 2,81 | 2,81 |
| | credit and insurance | 39 | 2,85 | 2,85 |
| | IT | 89 | 2,89 | 2,89 |
| | logistics / transport | 40 | 2,90 | 2,90 |
| | health care sector | 65 | 2,98 | 2,98 |
| | other services | 67 | 3,01 | 3,01 |
| | other | 185 | 3,03 | 3,03 |
| | education | 72 | 3,06 | 3,06 |
| | gastronomy & tourism | 30 | | 3,10 |
| | craftsmanship & building /construction | 36 | | 3,33 |
| | Sig. | | 0,088 | 0,124 |

*missing variable

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 55,960.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

**Table 5: Results of Tukey HSD method for item'I would prefer working in a different business'**

| Industrial sector categorized | | N | Subset for alpha = 0.05 | | |
|---|---|---|---|---|---|
| | | | 1 | 2 | 3 |
| Tukey HSDa,b | gastronomy & tourism | 30 | 2,47 | | |
| | 999* | 38 | 2,50 | 2,50 | |
| | other services | 67 | 2,66 | 2,66 | 2.66 |
| | public sector | 100 | 2,67 | 2,67 | 2.67 |
| | commerce / trades | 68 | 2,74 | 2,74 | 2.74 |
| | other | 185 | 2,79 | 2,79 | 2.79 |
| | logistics / transport | 40 | 2,83 | 2,83 | 2.83 |
| | industry | 115 | 2,97 | 2,97 | 2.97 |
| | IT | 89 | 3,03 | 3,03 | 3.03 |
| | education | 72 | 3,07 | 3,07 | 3.07 |
| | craftsmanship & building /construction | 36 | | 3,14 | 3.14 |
| | credit &insurance | 39 | | 3,15 | 3,15 |
| | health care sector | 65 | | | 3.18 |
| | Sig. | | 0,118 | 0,057 | 0,284 |

*missing variable

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 55,960.

b. The group sizes are unequal. The harmonic mean of the group sizes is used.

Type I error levels are not guaranteed.

**Table 6: Results of Tukey HSD method for 'I fear losing my current job'**

| Industrial sector categorized | | N | Subset for alpha = 0.05 | |
|---|---|---|---|---|
| | | | 1 | 2 |
| Tukey HSDa,b | 999* | 38 | 2,53 | |
| | commerce / trades | 68 | 2,66 | 2,66 |
| | other | 185 | 2,75 | 2,75 |
| | IT | 89 | 2,83 | 2,83 |
| | other services | 67 | 2,84 | 2,84 |
| | logistics / transport | 40 | 2,85 | 2,85 |
| | craftsmanship & building /construction | 36 | 2,86 | 2,86 |
| | credit & insurance | 39 | 2,87 | 2,87 |
| | public sector | 100 | 2,97 | 2,97 |
| | education | 72 | 2,97 | 2,97 |
| | industry | 115 | 3,00 | 3,00 |
| | health care sector | 65 | 3,14 | 3,14 |
| | gastronomy & tourism | 30 | | 3,30 |
| | Sig. | | 0,083 | 0,056 |

*missing variable

Means for groups in homogeneous subsets are displayed.a. Uses Harmonic Mean Sample Size = 55,960.b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

**Findings and conclusion**

Findings of this research indicated that hi-tech professionals' intention to quit their current organization in four researched countries is not showing statistically significant differences per sectors in which employees work. Intention to quit is present also in IT (all items have high average value).

Although there were no statistical differences between four countries in hi-tech professionals' intention to quit, we can suggest some recommendations to reduce the hi-tech employees' intention to quit their current organizations. Recommendations include coordinated activities of management and HR department required for attracting and retaining employees. If hi-tech professionals are not given opportunities to realize their potential and ambitions, they will find work elsewhere because they are the personnel demand for which still exceeds supply, despite the general economic crisis. Therefore, firms should act in two directions: to carry out HR activities to increase employees' satisfaction and commitment to remain in the company; on the other hand, they need managers with the appropriate transformational leadership competencies to further affect the well-being and satisfaction of these employees. It is important that the management identify the job satisfaction factors of the employees and take necessary actions to reduce the dissatisfaction of the employees. Profound identification of job satisfaction factors is very important since these factors may affect each employee in different ways. Some factors can even be resolved without any cost.

Identification of key talents in organization can also help to promote competitive advantage and therefore should organizations choose employees with personality characteristics such as the ability to endure high pressure, be creative, provide new constructive ideas and know-how, and actively overcome external obstructions (Brissett & Nowick, 1976).

**Scope for Further research**

This study can be used as a starting point for deeper research of hi-tech professionals and improved human resources tools to retain these employees and succeed in wars for talents. There are many other perspectives that can be an interesting basis to look deeper into and to research further. This study only emphasized potential determinants that may influence employees to leave a job without reference to their position. It could be interesting to study the difference between managerial or non-managerial intent to leave or those who work part-time or full time only. It could also be of interest to look at roles of companies in retaining their employees and what is the connection between the job satisfaction and intention to quit. Some further research can examine different views of an intention to quit a job from the managerial and non-managerial perspectives.

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# Impact of NPA on Profitability And Earnings: A Study on Some Select Private Commercial Banks In India

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**Abstract**

Non-Performing Asset (NPA) is one of the important phenomena that have to be properly followed by the banks to maintain the growth of the banking activity. Gross non-performing assets of the state owned banks had surged to Rs.6,14,872 crores in December,2016. Non-performing assets of the state owned banks have really become cause of concern for the economy. The aim of the study is to test whether there is any difference in the non- performing assets, profitability and earnings of the select private commercial banks and correlate between the non performing assets and profitability of the select banks. Ten private sector banks in India have been selected as the sample for the study. ANOVA test, Karl Pearson's simple correlation and multiple correlation and regression analysis have been used for analyzing the data. As conclusion, it can be said that there is no difference between the NNPA, RONW and EPS of the select private commercial banks in India. But the net profit ratios of the different private commercial banks in India are different. There is significant multiple correlation and multiple regression between net non-performing assets, net profit, return on net worth and earnings per share of Federal Bank.

**Keywords :** Correlation, earnings per share, gross non-performing assets, net profit, net non-performing assets, profitability, regression

**Introduction**

A non-performing asset (NPA) is defined as the credit facility in respect of which the interest and/or instalment of bond finance principal has remained due for a specified period of time. NPA is used by the financial institutions that refer to loans that are in jeopardy of default. Once the borrower has failed to make interest or principle payments for 90 days the loan is considered to be a non-performing asset. Non-performing assets are problematic for financial institutions since they depend on interest payments for income. Troublesome pressure from the economy can lead to a sharp increase in non-performing loans and often results in massive write-downs. Non-performing assets is one of the important phenomena that have to be properly followed by the banks, to maintain the growth of the banking activity. NPA is an inevitable burden on a banking system. Banks need to observe their standard assets regularly in order to prevent any account becoming an NPA. Now- a-days a good performance of any bank depends upon the proper maintenance of the NPAs and locking them within the control level. There are two types of NPA – Gross NPA and Net NPA. Gross NPA is advance which is considered irrecoverable, for which bank has made provisions, and which is still held in bank's books of accounts. Net NPA is obtained by deducting items like interest due but not recovered or a part of amount received but kept in suspense account from Gross NPA.

**Review of literature**

Chouchary and Sharma (2011) made an attempt to analyze how efficiently Public and Private sector banks have been managing NPA. They used statistical tools for projection of trend. It has become very mandatory to study and to make a comparative analysis of services of Public sector Banks and Private Sector banks. Increased competition, new information technologies and thereby declining processing costs, the erosion of product and geographic boundaries, and less restrictive governmental regulations have all played a major role for Public Sector Banks in India to forcefully compete with Private and Foreign Banks.

Balasubramaniam (2012) assumed significance with the recent proposal by RBI to introduce Basel III norms in the banking sector from January 2013. Basel III framework of guidelines formulated by Bank for International Settlements (BIS) in consultation with central banks operating in a number of countries all over the world expect the participating banks in their respective economies to be following healthy financial and operational management policies. This paper discussed on the concept of NPA in the context of identification and control procedures, impact of NPA on profitability and financial soundness of banks in general. The paper also presented a trend analysis of NPAs followed by a series of in depth analyses on the high level of borrowings from banking sector indicating a buildup of sectoral credit booms in general and also raising concerns about financial performance and operations of the borrowers. Further, the impact of restructuring of advances by banks on the basis of asset classification was studied. Finally, certain issues and perspectives/ challenges on the performance of banking sector and financial stability of the economy emerged as conclusion.

Chatterjee.C et al (2012) attempted to focus mainly on the causes and consequences of NPAs, policy directives of RBI, initiatives of Indian Government, scenario of NPAs sector wise and bank group wise and finally the curative measures for NPAs in India. The paper made a comparative study of NPAs of public sector banks, private sector banks and foreign sector banks. It also attempted to understand the relationship between NPA's net profit and advances and the recovery of NPAs through various channels.

Patidar, S.,Kataria, A. (2012) analyzed the percentage share of NPA as components of priority sector lending, the comparative study was conducted between SBI and Associates, Old Private Banks and New Private Banks and Nationalized Banks of the benchmark category, to find out the significant difference of the NPA and also find out the significant impact of Priority Sector Lending on the Total NPA of Banks using statistical tools like regression analysis and ratio analysis.

Ahmad.Z and Dr. Jegadeeshwaran.M. (2013) attempted to study the non performing assets of nationalized banks. The data was collected for a period of five years and analysed by mean, CAGR, ANOVA and ranking banks. The individual banks got ranks as per their performance in management of NPAs. It was also tested, whether there was significant difference between nonperforming assets of banks, it was found that there is significant difference in the level of NPAs of nationalized banks which reflect their varied efficiency in the management of nonperforming assets.

Gavade-Khompi.S (2013) focused on the comparative analysis of NPAs within the Scheduled

Commercial Banks in India. The NPAs had analyzed for the period of sixteen (16) years i.e. from 1997-2012. The data had been analyzed by statistical tools such as percentages and Compound Annual Growth Rate (CAGR). The trend values had been calculated with the help of 'least square method' of 'time series analysis'. The study observed improvement in the asset quality of SCBs till 2010-2011and categorically noticed sudden change in the asset quality in the year 2011-12.

Samir and Deepa Kamra (2013) mentioned that now-a- days banks were not decided based on branches of banks and volume of deposits but also on the basis of assets. Non-performing assets constitute a major portfolio of the Banks portfolio and hence were an inevitable burden on the banking industry. NPAs adversely affect the profitability, liquidity and solvency of the banks. This study analyzed the position of NPAs in selected banks namely State Bank of India (SBI), Punjab National Bank (PNB) and Central Bank of India (CBI).It also highlights the policies pursued by the banks to tackle the NPAs and suggests a multi-pronged strategy for speedy recovery of NPAs in banking sector.

Parmar.R (2014) studied the trend of Total advances, Net profit, Gross NPA, Net NPA of SBI and ICICI Bank. The study reflected that during three years period of study, the total advances and net profit had shown growing trend in both the banks but as compared to SBI, NPA in ICICI bank had shown downward trend because of effective NPA management. It also highlighted on the relationship between Net Profit and Net NPA, while SBI has shown positive relationship between Net Profit and Net NPA, negative relationship has been found in ICICI between Net Profit and Net NPA.

Prasanna.P.K (2014) investigated the determinants of nonperforming loans (NPL) in the Indian banking system with the help of panel data modeling. Panel dataset of 31 Indian banks with yearly data that spans the period of 2000 to 2012 totaling 372 firm years had been analyzed. It was found that higher growth rate in savings and GDP is associated with lower NPLs in Indian banks. Higher interest and inflation rates contribute positively to rising non performing loans.

Joseph. A.L, Dr. Prakash.M (2014) studied the trends of NPA in banking industry from 2008 to 2013, the factors that mainly contributed to NPA rising in the banking industry and also provided some suggestions to overcome this burden of NPA. They found that as compared to private sector banks, public sector bank is more in the NPA level. The authors had suggested that Credit Appraisal and Monitoring, adherence to documented risk management policy, proper risk architecture, independent credit risk evaluation, centralized data base, credit management information system and credit modeling can help prevent nonperforming assets to a great extent. Credit modeling, in particular can predict impending sickness.

Das.S and Dutta.A (2014) tried to analyze, with the help of secondary data from RBI website, net nonperforming asset data of 26 public sector banks, by using ANOVA statistics, and with the help of SPSS software for the period of 6 years, (2008-2013). The main objective of the study was to find out if there are any significant differences in the mean variation of the concerned banks. This paper also focused on the reason behind the NPA and its impact on banking operations. The study found out that there was no significant deference between the means of NPA of the banks at five percent level of significance.

**Research Gap**

Chatterjee, Mukherjee and Das made a comparative study of NPAs of public sector banks, private sector banks and foreign sector banks. It also attempted to understand the relationship between NPA's net profit and advances and the recovery of NPAs through various channels. Patidar and Kataria found out the significant difference of the NPA and also find out the significant impact of Priority Sector Lending on the Total NPA of Banks using statistical tools like regression analysis and ratio analysis. Ahmad and Jegadeeshwaran studied on the non performing assets of nationalized banks. The data was collected for a period of five years and analysed by mean, CAGR, ANOVA and ranking banks. Gavade and Khompi focused on the comparative analysis of NPAs within the Scheduled Commercial Banks in India. Samir and Kamra analyzed the position of NPAs in selected banks namely State Bank of India (SBI), Punjab National Bank (PNB) and Central Bank of India (CBI). Prasanna investigated the determinants of nonperforming loans (NPL) in the Indian banking system with the help of panel data modeling. But the correlation between non-performing assets and profitability, liquidity and growth of the either public sector banks or private sector banks has not been discussed in any of these studies. As the non performing assets have big impact on the profitability, liquidity and growth of banks, so it is very important find out the multiple correlation coefficient and coefficient of regression between these parameters.

**Objective of the study**

The objective of the study is to test whether there is any difference the non- performing assets, profitability and earnings of the select private commercial banks and find the correlation between the non performing assets and profitability of the select private commercial banks. Here net non performing assets (NNPA), net profit (NP), return on net worth (RONW) and earnings per share (EPS) taken as parameter. And the secondary data relating to NNPA, NP, RONW and EPS are collected as on 31st March of year 2012 to 31st March 2016.

**Hypothesis of the study**

**H1 :** There is difference in non- performing assets of the select private commercial banks.

**H2 :** There is difference in profitability of the select private commercial banks.

**H3 :** There is difference in earnings of the select private commercial banks.

**H4 :** There is correlation between the non performing assets and profitability of the select private commercial banks.

**Research Methodology**

**Selection of Data :** There are 20 private and 43 foreign banks in India. The study has taken into consideration only ten private sector banks. The selected banks are HDFC Bank, ICICI Bank, Kotak Mahindra Bank, Axis Bank, Indusind Bank, Yes Bank, Federal Bank, City union Bank, Karur Vysya Bank and South Indian Bank. Private sector banks whose market capitalization more than Rs.5,000 crores and the private sector banks whose total assets amounting more than Rs.30,000 crores as on 31.05.2017, are selected for the study. The net non performing assets (NNPA), net profit (NP), return on net worth (RONW) and earnings per share (EPS) taken as parameter. And the secondary data relating to NNPA, NP, RONW and EPS are collected for five years from 31st March of year 2012 to 31st March 2016.

- **Collection of Data :** This study is based on secondary data only.The secondary data have been collected from www.moneycontrol.com. Editing, classification and tabulation of the data collected from the above mentioned sources have been done as per the requirements of the study.

- **Analysis of Data :** For analyzing the data simple mathematical tool like ratios, percentages etc. and statistical techniques like ANOVA test, Karl Pearson's simple correlation and multiple correlation and regression analysis have been used.

**Analysis and findings**

**Table 1: ANOVA test of net non performing assets (NNPA)**

| Variable | Source of variation | Sum of squares | df | Mean square | F | p-value | F-crit |
|---|---|---|---|---|---|---|---|
| NNPA | Between groups | 10.98 | 9 | 1.22 | 3.485714 | 0.002919 | 2.124029 |
| | Within groups | 14.00 | 40 | 0.35 | | | |
| | Total | 24.98 | 49 | | | | |

Table 1 shows the ANOVA test of net non performing assets (NNPA) and the H1 (H1: There is difference in non- performing assets of the selected banks) is rejected as F> F-crit and the p-value is less than the value .05.

**Table 2: ANOVA test of profitability ratios**

| Variable | Source of variation | Sum of squares | df | Mean square | F | p-value | F-crit |
|---|---|---|---|---|---|---|---|
| Net profit | Between groups | 87758479.01 | 9 | 9750942 | 1.00 | 0.45 | 2.12 |
| | Within groups | 389167888.75 | 40 | 9729197 | | | |
| | Total | 476926367.849 | 49 | | | | |
| Return on networth | Between groups | 356.68 | 9 | 39.63 | 4.94 | 0.00 | 2.12 |
| | Within groups | 320.71 | 40 | 8.02 | | | |
| | Total | 677.39 | 49 | | | | |

Table 2 shows that ANOVA test of net profit ratios the H2 (**H2:** There is difference in profitability of the selected banks) is accepted as F< F-crit and the p-value is higher than the value .05. But for return on networth ratios the H2 (**H2:** There is difference in profitability of the selected banks) is rejected as F> F-crit and the p-value is less than the value .05.

**Table 3: ANOVA test of earnings per share**

| Variable | Source of variation | Sum of squares | df | Mean square | F | p-value | F-crit |
|---|---|---|---|---|---|---|---|
| Earnings per share | Between groups | 67598.96 | 9 | 7511.00 | 42.02 | 0.000 | 2.12 |
| | Within groups | 7150.30 | 40 | 173.76 | | | |
| | Total | 74749.26 | 49 | | | | |

Source: Analysis of secondary data

Table 3 shows the ANOVA test of earnings per share and H3 (**H3:** There is difference in earnings of the selected banks.) is rejected as F>F crit and p-value is less than the value .05.

So, it can be said from the above analysis that H2 only in case of net profit is accepted and H1, H3 are rejected and H2 in case return on networth is rejected. The table 4 shows the Pearson simple correlation between net non-performing assets (NNPA) and profitability of the selected private sector banks in India. The table shows that there are negative correlations between the NNPA and NP of HDFC Bank which is statistically significant at 1% level. In case Axis Bank there are correlation between NNPA and NP and NNPA and RONW which are statistically significant at 1% level and 10% level respectively. The table shows that there are positive correlations between the NNPA and NP of Indusind Bank which is statistically significant at 1% level. In case Yes Bank there is negative correlation between NNPA and NP which is statistically significant at 1% level and there is positive correlation between NNPA and RONW which is statistically significant at 10% level. In City Union Bank there is negative correlation between NNPA and NP which is statistically significant at 1% level and there is positive correlation between NNPA and EPS which is statistically significant at 1% level. In Karur Vysya Bank there is negative correlation between NNPA and EPS which is statistically significant at 1% level.

**Table 4: Pearson simple correlation analysis of NNPA and profitability ratios of the selected private sector banks in India**

| Pearson Simple Correlation Analysis of NNPA And Profitability Ratios | | | |
|---|---|---|---|
| | Correlation coefficient between NNPA and NP | Correlation coefficient between NNPA and RONW | Correlation coefficient between NNPA and EPS |
| HDFC Bank | -0.66(t=5.02)* | -0.21(t=1.30) | -0.70(t=0.00) |
| Kotak Mahindra Bank | -0.20(t=0.00) | -0.65(t=0.00) | 0.22(t=0.00) |
| ICICI Bank | -0.37(t=0.71) | -0.15(t=0.56) | 0.51(t=0.22) |
| Axis Bank | 0.14(t=7.17)* | -0.45(t=2.24)*** | 0.72(t=0.00) |
| Indusind Bank | 0.72(t=3.68)* | -0.73(t=0.00) | 0.70(t=0.00) |
| Yes Bank | -0.50(t=2.26)** | 0.13 (t=5.00)* | -0.71(t=0.00) |
| Federal Bank | -0.98(t=0.96) | -0.98(t=0.92) | -0.96(t=0.60) |
| City Union Bank | -0.48(t=3.31)* | -0.84(t=0.00) | 0.33(t=5.95)* |
| Karur Vysya Bank | -0.50(t=0.00) | -0.75(t=0.00) | -0.37(t=6.15)* |
| South Indian Bank | -0.67(t=0.00) | -0.73(t=0.01) | -0.55(t=0.05) |

Figures in bracket show (t)values
***Significant at 10% level
** Significant at 5% level
* Significant at 1% level

Table values of t with (n-2) i.e 8 degrees of freedom at 10%, 5% ,1% levels are 1.86, 2.31 and 2.90 respectivelyTable 5 shows the multiple correlation and regression between NNPA and NP, RONW and EPS of the select banks in India. The computed multiple correlation co-efficient is tested with the help of 'F' test and computed multiple regression coefficient is tested with the help of 'T' test. The multiple correlation coefficient of Federal Bank is statistically significant at 5% level of confidence. The regression co-efficient of Federal Bank is statistically significant at 5% level of significance.

**Table 5: Multiple correlation and multiple regression of NNPA on NP, RONW and EPS**

**[Regression equation NNPA=β0+β1. NP+β2. . RONW+. β3. EPS]**

| Name of Banks | R | $R^2$ | F | $\beta_0$ | | $\beta_1$ | | $\beta_2$ | | $\beta_3$ | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | value | t | value | t | value | t | value | t |
| Hdfc Bank | 0.85 | 0.72 | 0.85 | 0.55 | 0.86 | 0.89 | -0.17 | 0.55 | -0.85 | 0.58 | -0.77 |
| Kotak Mahindra Bank | 0.99 | 0.98 | 13.94 | 0.15 | 4.18 | 0.65 | 0.60 | 0.15 | -4.16 | 0.26 | 2.31 |
| Icici Bank | 0.99 | 0.97 | 11.27 | 0.26 | 2.29 | 0.98 | -0.03 | 0.50 | -1.00 | 0.18 | 3.36 |
| Axis Bank | 0.97 | 0.93 | 4.59 | 0.28 | 2.14 | 0.25 | -2.47 | 0.59 | 0.75 | 0.19 | 3.27 |
| Indusind Bank | 0.97 | 0.93 | 4.75 | 0.41 | -1.33 | 0.33 | 1.75 | 0.25 | -2.43 | 0.36 | -1.57 |
| Yes Bank | 0.92 | 0.85 | 1.90 | 0.51 | -0.98 | 0.42 | 1.28 | 0.68 | 0.54 | 0.32 | -1.79 |
| Federal Bank | 1.00 | 1.00 | 484.16# | 0.01 | 50.00** | 0.12 | 5.18 | 0.09 | -6.71* | 0.13 | -4.61 |
| City Union Bank | 0.95 | 0.89 | 2.79 | 0.82 | 0.29 | 0.85 | -0.25 | 0.29 | -2.07 | 0.39 | 1.41 |
| Karur Vysya Bank | 0.98 | 0.96 | 7.23 | 0.43 | 1.27 | 0.23 | 2.64 | 0.16 | -4.00 | 0.49 | 1.04 |
| South Indian Bank | 0.78 | 0.61 | 0.52 | 0.68 | 0.54 | 0.98 | 0.03 | 0.79 | -0.33 | 0.89 | 0.18 |

**# Significant at 5% level of table value (n-k-1), k i.e (1,3) degree of freedom at 5% is 215.7**

*Significant at 10% level
** Significant at 5% level
*** Significant at 1% level
Table values of t with (n-k-1) or 1 degree of freedom at 10%, 5% and 1% levels are 6.31, 12.71,63.66 respectively.

**Conclusion**

It can be concluded from the above analysis that there is significant difference in NNPA and profitability ratios of the selected private sector banks 10 private sector banks were selected for the study. There are no difference between the NNPA, RONW and EPS of the selected private commercial banks in India. But there are difference between the net profit ratios of the selected private commercial banks in India. There is negative correlations between the NNPA and NP of HDFC Bank which is statistically significant at 1% level. In case Axis Bank there is correlation between NNPA and NP and NNPA and RONW which is statistically significant at 1% level and 10% level respectively. It is also seen that there is positive correlations between the NNPA and NP of Indusind Bank which is statistically significant at 1% level. In case of Yes Bank there is negative correlation between NNPA and NP which is statistically significant at 1% level and there is positive correlation between NNPA and RONW which is statistically significant at 10% level. In City Union Bank there is negative correlation between NNPA and NP which is statistically significant at 1% level and there is positive correlation between NNPA and EPS which is statistically significant at 1% level. In Karur Vysya Bank there is negative correlation between NNPA and EPS which is statistically significant at 1% level. Federal Bank has significant multiple correlation and multiple regression between NNPA, NP, RONW and EPS.

**Limitations of the study**

- The study is limited for a period 5 years from March 2012 to March 2016.
- The study has taken into consideration only 10 out of 20 private and 43 foreign banks in India. The selected banks are HDFC Bank, ICICI Bank, Kotak Mahindra Bank, Axis Bank, Indusind Bank, Yes Bank, Federal Bank, City union Bank, Karur Vysya Bank and South Indian Bank
- The study has used limited numbers of mathematical and statistical parameters.

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# Differences in Perception between Salaried and Businessmen Investors- A Study on Factors Affecting the Commodity Market

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### Abstract

India is a commodity based country where two-third of the population depends on agricultural commodities, still it has an under developed commodity market. However in the current turbulent times Commodity Market has turned into a vital part of the Indian Economy. It has been found that there is a complementary relationship between the ups and downs of the commodity market, investors' perception and investors' occupation. Therefore it is essential to understand the difference in the investors' perception on the factors affecting the investment in the commodity market. The present study found that the salaried and businessman investors of the commodity market differ significantly in their perception on the factors affecting the investment in the commodity market. The salaried investors perceive factors like Market Variations, Future Prospects of the Investment, Sector's Volatility and Fundamental and Technical Analysis as more significant criteria for investment in the Commodity Market than the Businessman investors of Commodity Market. Whereas the Businessman Investors perceive factors like Investors Types and Price and Term of the Investment as more significant criteria for investment in the Commodity Market than Salaried investors of Commodity Market.

**Keywords :** Commodity market, Investors' Perception and Occupation

### Introduction

According to Dolak (2012), commodity products are chiefly undifferentiated products that offer slight or no apparent differences between competitive offerings. It is something that is useful or can be curved to commercial or other gain or an article of trade or commerce, mostly an agricultural or mining product, which can be transported. It can also be defined as a physical substance, such as food, grains and metals, which is exchangeable with a different product of the same type, and which investors buy or sell, often through futures contracts.

Commodity market can be described as a place where trading in commodities occurs. In this market, raw commodities are dealt on regulated commodity exchanges, in which they are purchased and sold in standardized contracts. According to NCFM basic module (2012), a Commodity Exchange is an association, or a company of any other body corporate organizing futures trading in commodities. These are the centers where futures trade is accessible. It includes complete organized market place where deal is routed through one mechanism, thereby allowing capable competition in buyers and among sellers. This would hold auction-type exchanges, except wholesale markets, where trade is localized, and perfectly takes place through several non-related individual transactions between different combinations of buyers and sellers.

Commodity market aids in price discovery as players obtain to set future prices that are also made available to all participants. Secondly, this market helps actual users specifically farmers, agro processors, industry to hedge their price risk uncertainty of the future particularly in agriculture where there is uncertainty regarding the monsoon and prices. Thirdly, by connecting the cluster of investors and speculators, it offers liquidity and buoyancy to the system.

### Investors

A person or an entity that purchases assets with the objective of receiving a financial return, an individual who places money to investment products with the anticipation of financial return. Investor compromises money in present and bears risk in hope of some return in future. The portfolio of an investor usually includes a variety of assets that balance the returns and risks of each investment. There are many types of investors in the commodity and stock market. But the most significant are arbitrageurs, hedgers and speculators.

Harvey (2012) explained arbitrageur as one who gains from the differences in price when the same or extremely similar security, currency or commodity is traded on two or more markets. Sen and Mahua (2010) found hedgers as those who have definite dealings with the underlying commodities, and desire to mitigate the risk of prices declining or lifting by the time the actual sale is to take place. Speculators, on the other side, gamble on the movement of prices: they buy futures if they believe spot prices will rise, and sell them if they feel spot prices will fall, by the date of the expiry of the contract.

**Occupation**

Occupation is a demographic variable being studied in this research. It is a categorization tool for organizing all jobs into a clearly defined set of groups according to the tasks and duties undertaken in the job. Occupations are identified and assembled chiefly in terms of the work usually performed, this being determined by the tasks, duties, and responsibilities of the occupation. It can also be defined as a collection of jobs: adequately similar in work performed to be grouped under a common title for classification purposes. This approach to the grouping of occupations guarantees definite homogeneity within groups and permits a distinction between groups (Statistics Canada, 2006). Occupation can be classified into Salaried and Businessmen. Salaried employee is one who works for other known as employer, and get a return over that, that is known as salary. On the other hand, a businessman is the owner of a business. At its most common, a businessperson is anyone who engaged in commerce or industry.

**Review of Literature**

Kaur and Anjum (2013) found that there has been implausible growth in commodity futures market in terms of number of products to offer participants, volume of trade and technology. Commodity futures are extended asset class as they do not boost resources for firms to invest instead they permit producers to achieve insurance for the future value of their outputs. Commodity futures performed two fundamental functions of the economy namely price discovery and risk management. Futures market provides liquidity and facilitates to hedge against future price risk. It aids buyers and sellers of agricultural products to swiftly manage their trade at a fair price. Commodity trading also offers a chance for financial leverage to speculators, hedgers and other traders. The growth of Commodity derivatives market of India will direct to further progress in the field of electronic warehouse receipts which make possible seamless nationwide commodity spot market. It would make the Indian economy strong enough to face the challenge of globalization.

Oberoi (2013) concluded in his study on the nine common myths about investing in the commodity market, the commodity market has its share of speculators. Like hedgers and arbitrageurs, speculators also facilitates in the price discovery exercise. All commodities are internationally traded and the worldwide demand-supply situation is comprehensively known and available to anyone who achieves out for it. The commodity markets are now as unstable and unpredictable as stock futures. If investors trade more and utilize the margin to the limit, then they cannot hold liable the commodity market for the adverse outcome. Since commodity exchanges persuade price transparency, he disagreed to the statement that commodity exchanges fuel inflation. On the other hand, by allowing wider participation, these exchanges depress centralization on the part of local traders and associations. Even investors with small amount of investment can do the commodity trading.

Delivery is essential only in specific commodities and that too only if one remains in the position open after the delivery notice period. There is obligatory delivery in commodities such as Chana and gold. Largely commodities that are traded are produced and consumed across the globe, as a consequence an individual or a group of people cannot easily manipulate prices. Price manipulation is feasible only when production is determined in one area. It does not occur with essential commodities. Regulators and governments examine prices of essential commodities and take actions whenever there is an endeavour to manipulate the markets. One cannot change a commodity's fundamentals. Commodity prices represent the demand-supply dynamics and thus operators cannot manipulate prices.

Besides, commodities are traded internationally and thus there is negligible chance of manipulation by some of the participants. According to Gentzkow and Shapiro (2010) media coverage by newspapers, television, magazines, etc was not casual rather the product of profit maximization. A number of unobservable factors that influence these coverage decisions also affect investor behaviour like friends, colleagues and relatives are the informal sources of information for the investors; they have a direct impact on the mind of the investors. Therefore there is very close relationship between investment decision and them.

Ahuja (2006) declared that Indian commodity market has made enormous progress since 2003 with increased number of modern commodity exchanges, transparency and trading activity. This had happened due to the role played by market forces and the active encouragement of Government by changing the policy concerning commodity derivative. He also reminded that commodity derivatives appeared in India as early as 1875, hardly about a decade after they arrived in Chicago. Since 2002, the commodities futures market in India has faced an exceptional boom in terms of the number of modern exchanges, the number of commodities allowed for derivatives trading as well as the value of futures trading in commodities. Still, there are numerous impediments to be overcome and issues to be settled for a sustained development of the market. He also said that if this rapidity can be continued and tried to identify the obstacles that need to be overcome if the market is to realize its full potential.

Nirmal Kumar and Balaji (2006) agreed that since 2004 the growth of the commodity derivative market in the country has been impressive. With institutional players prohibited from participating in the commodity futures market, the retail investors as a group have emerged as major players in the said market. Chandra (1990b) discovered five major factors that affect the investment behavior of individual investor in stock market namely prudence, precautions attitude, informational asymmetry, conservatism, under confidence, and financial addition. He proved that these are the main psychological components seem to be influencing individual investor's trading behavior in Indian stock market. Shanmugam (1990) conducted a survey on a group of 90 investors to study the factors affecting investment decision. The research focused its analysis on the investment objective and the degree of awareness of factors affecting investment decision. He discovered that the investors are high risk takers and they should possess sufficient knowledge of Government regulations, monetary and fiscal policy.

### Rationale of The Study

There is a very close relationship between Indian Economy, commodity market and investors. A slight change in the economy affects the commodity market and vice-versa. All these outcomes have direct or indirect impact on the investors. The investors' one decision changes the direction of the economy and commodity market. These decisions are governed by numerous factors present in the economy. That's why it is necessary to understand the meaning and impact of the factors on the investors' perception.

### Objectives of the Study

1. To study the factors influencing the investors perception while investing in commodity.
2. To study the impact of the factors on the investors' perception.
3. To study the perception difference between the salaried and businessman investors on the factors affecting the investment in the commodity market.
4. To analyze the investment patterns of the Commodity Market investors.

### Research Methodology

The present study is an exploratory study. The study is an effort to understand the investing behavior of investors as per different occupation. The study is carried out in Indore, Ujjain, Bhopal, Pune, Delhi, Ahmedabad and Bangalore taking them as representative cities of investing in India. A variety of primary and secondary sources of data collection are used to collect the data. Secondary sources like websites and books related to commodity market are referred. The primary data was collected using the questionnaire. The initial part of the questionnaire proposed to collect information on the demographic variables such as Name, Gender, Age and Occupation. The second part of the questionnaire enclosed 40 statements to be answered on 5 point Likert scale.

### Research Design

The respondents of the study are classified as shown in Table 1:

**Table 1: Classification of Respondents**

| | COMMODITY MARKET | |
|---|---|---|
| | SALARIED | BUSINESSMAN |
| MALE (160) | A (40) | B (40) |
| FEMALE (160) | C (40) | D (40) |
| TOTAL | 80 | 80 |

The initial pool of items was generated based on insights from existing scales and suitable literature. The pilot study of 51 statements was conducted on 60 respondents. In this stage, with a view to establish internal consistency, the data generated was subjected to item-total correlation to establishing correlation between each item and all remaining items thereby eliminating those items that do not correlate strongly with the assessed construct. Eleven items were found non-significant in sample questionnaire and therefore were deleted from the final questionnaire.

### Result of Factor Analysis

SPSS 20 was used to do Factor Analysis test, which was applied on the responses of the investors to find out the factors affecting the commodity market. Z-test in Excel 2007 was applied to measure the perception difference between Salaried and Businessman investors on the factors affecting the commodity market. Principle component factor analysis method was used to drive the minimum number of factors and explain the maximum portion of variance in the original variable. **For Orthogonal rotation, Varimax** was used to simplify the column of the factor matrix so that the factor extracts are clearly associated and there should be some separation among the variables. This resulted into 13 factors on all the variables of the Perception of Investors. The factors *(Appendix-Rotated Component Matrix) are Investors Types, Market Variations, Secondary Information Source, Primary Information Source, Price and Term of the Investment, Future prospects of the Investment, Investment Motive, Sector's Volatility, Sector's Return on Investment, Fundamental and Technical Analysis, Sector's Dispersion, Liquidity and Documentation and Speculation Motive.*

The *first* factor is Investors Types. There are several types of investors in the commodity and stock market like day traders, long term traders, short-term traders and so on. But the most important and well-known investors are hedgers, speculators and arbitrageurs. The *second* factor is Market Variations; it can be defined as the increase/decrease in the price level of commodity or share. There is an extremely close relationship between investors' perception and prices of commodities/shares. A positive investor's perception about the commodity or share lifts its price into upward direction and vice-versa. The *third* factor is Secondary Information Source which is mostly considered by the investors before investing in the commodity market. This factor comprises referring friends, Business T.V. channels, Business News Papers and credit rating of the companies. These sources are important as they are referred first before making investment decision.

The *fourth* factor is Primary Information Source, includes commodity market performance, sector's performance and past performance of the company and investment by the foreign investors. These sources are generally referred by investors before investing. Investment by Foreign Investors means the investment by Foreign Institutional Investors (FIIs) in India. A FII is an investor or investment fund registered in a country outside of the one in which it is investing. Institutional investors most particularly include hedge funds, insurance companies, pension funds and mutual funds. The term is used most commonly in India and refers to outside companies investing in the financial markets of India. Countries with the highest volume of foreign institutional investments are believed to have developing economies. These types of economies supply investors with higher growth potential than in mature economies. That is why these investors are most commonly found in India. All of which must register with the Securities and Exchange Board of India to participate in the market.

The *fifth* factor is Price and Term of the Investment. Normally, the investors' basis of investment is good market price. If the current market price of their potential investment is good, they will invest more and vice-versa. The amount of the investment also depends on how frequently the investor is investing in the market and term means the time of holding of the investment. The holding term is defined as the intervening time between the initial date of purchase and the date on which the security was sold. It can be short term holding means holding for one year only or long term holding means holding for more than one year. The *sixth* factor is Future Prospects of the Investment. Future prospect refers to the scope of growth of the market in the future. It depends on the current trends and challenges faced by the market. An investor before investing mostly observes the market present growth structure. This helps him to take the investment decision. The *seventh* factor is Investment Motive. The motive of investment has two sides namely, risk and return. Risk refers to the uncertainty of getting the return. Return is what an investor receives in bearing the risk of the amount given as investment. A risk taker investor earns more profit because he diversifies portfolio while a risk averse investor enjoys less but constant return on his investment.

The *eight* factor is Sector's Volatility, it refers to the range to which the price of a security may increase or decrease. Volatility computes the risk of a security by calculating the standard deviation of the annualized returns over a given period of time. If a security's prices changes very frequently, it confirms high volatility and vice-versa. The ninth factor is Sector's Return on Investment. The Commodity and Stock markets are divided into various sectors on the basis of commodities and companies. This research studied only three sectors namely, agriculture sector, base-metal sector and precious metal sector. The investors before investing in any sector first checks its previous growth and return rate and then invest in that sector.

The *tenth* factor is fundamental and technical analyses which are commonly used by the investors before investing. Suresh (2013) defined fundamental analysis as the process of calculating the intrinsic value or worth of a share. It is the study of a company's fundamentals with the motive of determining its exact worth. Its process is based on analyzing the information that is 'fundamental' to the company. It focuses on creating a portrait of a company, identifying the intrinsic or fundamental value of its shares and buying or selling the stock based on that information. According to Canadian Securities Course (2013), technical analysis is the study of historical stock prices and stock market behavior to identify recurring patterns in the data. Because the process requires large amounts of information, it is frequently ignored by fundamental analysts, who find the process too cumbersome and time consuming, or thinks that "history does not repeat itself". Technical analysts analyze price movements, trading volumes, and data on the number of rising and falling stock issues over time looking for recurring patterns that will assist them to predict future stock price movements.

The *eleventh* factor is Sector's Dispersion. Dispersion is a statistical term describing the size of the range of values expected for a particular variable. In finance, dispersion is applied in studying the effects of investor and analyst beliefs on securities trading, and in the study of the variability of returns from a particular trading strategy or investment portfolio. It is often understands as a measure of the degree of uncertainty, and thus risk, associated with a particular security or investment portfolio. *Dispersion* calculates the degree to which the components of an index perform similarly. If the components are tightly clustered, dispersion will be low and, other things equal; the index's volatility will be low.

The *twelfth* factor is Liquidity and Documentation. Liquidity means the feasibility of the investment to be converted into cash. Generally for short-term investors, liquidity is very much essential as they don't want holding the investment for longer period rather they want to sell and purchase the investment speedily and easily. Documentation criteria include felicitation fees and other documentation fees charged by the brokers. It also affects the perception of the investors towards the commodity market. The *thirteenth* factor is Speculation Motive. Motive means the reason behind the investment is very much important. Speculation is spread throughout the world in commodity and stock markets. Speculation in commodity market refers to the forecasting and invests according to that. Such speculators will usually observe the market charts and how the stock has performed. Then they gamble on the principle of how high or low the stock will go in the coming days, weeks and months. The speculators who aren't able to forecast correctly will lose out and book heavy losses also.

**Result**

**Problem: Do Salaried and Businessman Investors differ significantly in their perception of the factors affecting the investment in the Commodity Market.**

**$H_{01}$:** The Salaried and Businessman investors do not differ significantly in their perception of factor Investors' Types affecting the investment in Commodity market.

**The null hypothesis is rejected. The Salaried and Businessman investors of Commodity Market differ significantly in their perception of the factor *Investors' Types* affecting the investment in the commodity market. The Businessman investors perceive the factor *Investors' Types* as more significant criteria for investment in the Commodity Market than the salaried investors of Commodity Market.**

**$H_{02}$:** The Salaried and Businessman investors do not differ significantly in their perception of factor Market Variations affecting the investment in Commodity market.

**The null hypothesis is rejected. The Salaried and Businessman investors of Commodity Market differ significantly in their perception of the factor *Market Variations* affecting the investment in the commodity market. The Salaried investors perceive the factor *Market Variations* as more significant criteria for investment in the Commodity Market than the Businessman investors of Commodity Market.**

**$H_{03}$:** The Salaried and Businessman investors do not differ significantly in their perception of factor Secondary Information Sources affecting the investment in Commodity market.

**We fail to reject the Null Hypothesis.**

**$H_{04}$:** The Salaried and Businessman investors do not differ significantly in their perception of factor Primary Information Sources affecting the investment in Commodity market.

**We fail to reject the Null Hypothesis.**

**$H_{05}$:** The Salaried and Businessman investors do not differ significantly in their perception of factor Price and Term of the Investment affecting the investment in Commodity market.

**The null hypothesis is rejected. The Salaried and Businessman investors of Commodity Market differ significantly in their perception of the factor *Price and Term of the Investment* affecting the investment in the commodity market. The Businessman investors perceive the factor *Price and Term of the Investment* as more significant criteria for investment in the Commodity Market than the Salaried investors of Commodity Market.**

**$H_{06}$:** The Salaried and Businessman investors do not differ significantly in their perception of factor Future Prospects of the Investment affecting the investment in Commodity market.

**The null hypothesis is rejected. The Salaried and Businessman**

**investors of Commodity Market differ significantly in their perception of the factor *Future Prospects of the Investment* affecting the investment in the commodity market. The Salaried investors perceive the factor *Future Prospects of the Investment* as more significant criteria for investment in the Commodity Market than the Businessman investors of Commodity Market.**

**$H_{07}$:** The Salaried and Businessman investors do not differ significantly in their perception of factor Investment Motive affecting the investment in Commodity market.

**We fail to reject the Null Hypothesis.**

**$H_{08}$:** The Salaried and Businessman investors do not differ significantly in their perception of factor Sector's Volatility affecting the investment in Commodity market.

**The null hypothesis is rejected. The Salaried and Businessman investors of Commodity Market differ significantly in their perception of the factor *Sector's Volatility* affecting the investment in the commodity market. The Salaried investors perceive the factor *Sector's Volatility* as more significant criteria for investment in the Commodity Market than the Businessman investors of Commodity Market.**

**$H_{09}$:** The Salaried and Businessman investors do not differ significantly in their perception of factor Sector's Return on Investment affecting the investment in Commodity market.

**We fail to reject the Null Hypothesis.**

**$H_{010}$:** The Salaried and Businessman investors do not differ significantly in their perception of factor Fundamental and Technical Analysis affecting the investment in Commodity market.

**The null hypothesis is rejected. The Salaried and Businessman investors of Commodity Market differ significantly in their perception of the factor *Fundamental and Technical Analysis* affecting the investment in the commodity market. The Salaried investors perceive the factor *Fundamental and Technical Analysis* as more significant criteria for investment in the Commodity Market than the Businessman investors of Commodity Market.**

**$H_{011}$:** The Salaried and Businessman investors do not differ significantly in their perception of factor Sector's Dispersion affecting the investment in Commodity market.

**We fail to reject the Null Hypothesis.**

**$H_{012}$:** The Salaried and Businessman investors do not differ significantly in their perception of factor Liquidity and Documentation affecting the investment in Commodity market.

**We fail to reject the Null Hypothesis.**

**$H_{013}$:** The Salaried and Businessman investors do not differ significantly in their perception of factor Speculation Motive affecting the investment in Commodity market.

**We fail to reject the Null Hypothesis.**

**Table 2: Means and p-values of the Salaried and Businessman investors' perception on thirteen different factors affecting the investment in Commodity Market**

| Factors | p value | Mean of Salaried Investors | Mean of Businessman Investors |
|---|---|---|---|
| Investors Types | 4.48 | 14.1 | 15.76 |
| Market Variation's | 0.00 | 6.06 | 5.03 |
| Secondary Information Sources | 0.74 | 12.96 | 12.73 |
| Primary Information Sources | 0.13 | 19.21 | 18.1 |
| Price & Term of the Investment | 0.01 | 8.12 | 8.98 |
| Future Prospects of the Investment | 0.01 | 8.55 | 7.43 |
| Investment Motive | 0.69 | 6.31 | 6.16 |
| Sector's Volatility | 0.04 | 9.08 | 8.23 |
| Sector's Return on Investment | 0.07 | 6.07 | 5.53 |
| Fundamental & Technical Analysis | 1.45 | 9.46 | 7.01 |
| Sector's Dispersion | 0.07 | 5.93 | 5.37 |
| Liquidity & Documentation | 0.05 | 9.37 | 8.56 |
| Speculation Motive | 0.24 | 5.71 | 5.31 |

Source: Primary study

## Discussions

This part of research paper is an effort to discuss the findings of the present study in the light of the available literature. The results have projected 13 factors on all variables of the Perception of Investors. The factors are ***Investors' Types, Market Variations, Secondary Information Sources, Primary Information Sources, Price and Term of the Investment, Future prospects of the Investment, Investment Motive, Sector's Volatility, Sector's Return on Investment, Fundamental and Technical Analysis, Sector's Dispersion, Liquidity and Documentation and Speculation Motive.*** The present study has confirmed that the investors of different occupation namely Salaried and occupation, differ significantly in their perception of the factors affecting the investment in the Commodity market. The Businessman investors perceive the factor *Investors'* Types as more significant criteria for investment in the Commodity Market than the salaried investors of Commodity Market.

The Salaried investors perceive the factor *Market Variations* as more significant criteria for investment in the Commodity Market than the Businessman investors of Commodity Market. Inflation and other economic changes also affect the investors' perception towards price of commodity. A commonly cited relationship is that between commodity price increases and inflation. Inflation can be caused by consumers', producers' and investors' expectations of the future. In an overheated economy, increased futures trading activity on the part of speculators can amplify already rising commodity prices (Kyrtsou & Labys, 2006). If speculators expect demand for a good to rise, the price for that good will amplifies the increase in demand, thus leading to higher consumer prices. As per Devi (2012) safety of the investment can be pre-assessed if the company's ability and capacity to pay-off the principal and other accruing dues is indicated in advance through a reliable assessment of the ability and creditability called rating. This credit rating provides superior information at low cost, enables the investors to take calculated risk, encourages investing in companies to get high returns, reduces dependence on brokers and merchant bankers, encourages disintermediation, and increases investors' population and so on.

The Businessman investors perceive the factor *Price and Term of the Investment* as more significant criteria for investment in the Commodity Market than the salaried investors of Commodity Market. Morck, Shleifer and Vishny (1990) found only a minor role for prices beyond their ability to predict fundamental determinants of investment. In contrast, Doan, Litterman and Sims (1983) showed that once allowance is made for other determinants of investment, prices still play a prominent role in explaining investment. The Salaried investors perceive the factor *Future Prospects of the Investment* as more significant criteria for investment in the Commodity Market than the Businessman investors of Commodity Market. As per Kumari (2014), the commodity market has been experiencing ups and downs since its inception, but with strengthening of the working our country has been able to bring a degree of stability to this market. It has been progressing in terms of technology, transparency and trading activity with the removal of government protection from a number of commodities. This action of our government has thus, allowed the market forces i.e. supply and demand, to rule the commodity. Thus the step proves to be a big lesson for all the developing economies that the pricing and price risk management should be left to the market forces rather than to be dependent on the administered price mechanism.

As the management of price risk is going to assume greater importance in future with the promotion of free trade in the world. Thus, all the above activities shall act as the indicators to the success of the commodity markets in our country. The Salaried investors perceive the factor *Sector's Volatility* as more significant criteria for investment in the Commodity Market than the Businessman investors of Commodity Market. Pindyck (2004) stated that Commodity prices are volatile, and volatility itself varies over time. Changes in volatility can affect market variables by directly affecting the marginal value of storage, and by affecting a component of the total marginal cost of production, the opportunity cost of producing the commodity now rather than waiting for more price information. He finally concluded that volatility should affect market variables through the marginal value of storage and through the opportunity cost component of marginal cost.

The Salaried investors perceive the factor *Fundamental and Technical Analysis* as more significant criteria for investment in the Commodity Market than the Businessman investors of Commodity Market. Sehgal and Tripathi (2007) examined the perceptions, preferences and various investment strategies in Indian market. Study revealed that investors use both fundamental as well as technical analysis while investing in market. Most of the respondents strongly agree that various company fundamentals (such as size, book to market equity, price earnings ratio, leverage etc.) significantly influence prices and hence addition of these factors in asset pricing model can better explain cross sectional variations in equity returns in India.

Viswambharan (2009) examined the recent trends in market, opportunities for investors and problems faced by the investors. He suggested that the investors should rely more on long term investment than speculation. Speculation in market is good for players in the market. But a constant high and low can affect the trust in the market and can even affect the economy. When the markets are touching a high, speculation among investors is rampant as the prices are extremely volatile and the prices are changing in an hour to hour basis.

## Conclusion

The salaried and businessman investors of the commodity market differ significantly in their perception on the factors affecting the investment in the commodity market. The salaried investors perceive factors like Market Variations, Future Prospects of the Investment, Sector's Volatility and Fundamental and Technical Analysis as more significant criteria for investment in the Commodity Market than the Businessman investors of Commodity Market. Whereas the Businessman Investors perceive factors like Investors Types and Price and Term of the Investment as more significant criteria for investment in the Commodity Market than Salaried investors of Commodity Market.

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**Table 3: Rotated Component Matrix[a]**

| | Component | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| VAR00025 | **.822** | .126 | .149 | .070 | -.100 | .108 | .053 | .089 | .047 | -.067 | -.018 | -.003 | .039 |
| VAR00026 | **.757** | .209 | .015 | -.010 | -.056 | .098 | .087 | .182 | .147 | .046 | -.012 | .044 | .049 |
| VAR00024 | **.742** | -.046 | .114 | .045 | .152 | -.078 | .045 | -.020 | -.012 | .134 | .133 | .085 | -.012 |
| VAR00022 | **.365** | .090 | .114 | .209 | -.310 | .242 | .247 | .154 | -.180 | .330 | .127 | -.064 | -.001 |
| VAR00040 | **.099** | .813 | .060 | .019 | -.002 | .149 | .061 | .153 | .091 | .184 | .054 | .024 | .049 |
| VAR00039 | .056 | **.739** | .164 | .174 | -.042 | .111 | .133 | .106 | .057 | .113 | .022 | .013 | .059 |
| VAR00038 | .224 | **.572** | .214 | .190 | -.084 | .026 | .115 | -.061 | .199 | -.264 | .175 | .141 | -.035 |
| VAR00031 | .014 | .011 | **.765** | .015 | .001 | .012 | .002 | .020 | .173 | .166 | -.034 | .048 | -.018 |
| VAR00032 | .199 | .221 | **.700** | .042 | -.067 | -.054 | .157 | .004 | -.055 | .036 | -.098 | .117 | -.119 |
| VAR00030 | .009 | .025 | **.693** | .269 | -.059 | .282 | -.044 | .069 | .034 | .034 | .038 | .072 | .022 |
| VAR00033 | .185 | .264 | **.605** | .069 | .200 | -.045 | .105 | -.002 | -.098 | -.102 | .118 | -.079 | .187 |
| VAR00028 | -.106 | .010 | .081 | **.723** | -.027 | .107 | .124 | .137 | .000 | .154 | .189 | -.008 | .128 |
| VAR00029 | .035 | -.038 | .233 | **.547** | .083 | .046 | .220 | .164 | .276 | .002 | -.147 | .216 | -.028 |
| VAR00027 | .193 | .391 | .061 | **.528** | .066 | .042 | .189 | .136 | .054 | -.016 | .021 | .070 | -.039 |
| VAR00036 | .283 | .262 | .105 | **.510** | .158 | -.027 | -.049 | -.106 | .100 | .032 | .116 | .137 | .092 |
| VAR00037 | .007 | .402 | .249 | **.508** | .003 | .129 | -.195 | -.098 | -.018 | .175 | .038 | .093 | -.161 |
| VAR00035 | .195 | .256 | -.248 | **.374** | .001 | .295 | .118 | -.093 | -.009 | -.167 | -.100 | .139 | .132 |
| VAR00002 | .052 | -.009 | -.054 | .016 | **.808** | .110 | .141 | .048 | .032 | .084 | .005 | .038 | -.004 |
| VAR00001 | -.036 | -.051 | .046 | .246 | **.695** | .113 | .199 | -.061 | .069 | -.065 | -.027 | -.249 | -.031 |
| VAR00020 | .174 | -.067 | -.064 | .249 | **-.438** | .382 | .157 | .087 | .247 | .062 | .056 | -.050 | -.017 |
| VAR00003 | -.040 | .101 | .060 | .010 | .094 | **.653** | .151 | .162 | .107 | -.028 | -.094 | .229 | .183 |
| VAR00019 | .128 | .185 | .068 | .113 | .120 | **.609** | -.018 | .033 | -.019 | .173 | .243 | -.073 | -.005 |
| VAR00034 | .086 | .136 | .276 | .189 | -.135 | **.364** | .063 | .137 | .081 | -.222 | .319 | -.211 | -.032 |

**Table 4: Rotated Component Matrix[a]**

| | Component | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| VAR00006 | .070 | .147 | .053 | .101 | .123 | -.005 | **.787** | .057 | .102 | -.005 | .004 | .075 | -.127 |
| VAR00007 | .080 | .070 | .052 | .076 | .116 | .139 | **.768** | -.089 | .041 | .052 | .113 | .026 | .033 |
| VAR00011 | .081 | .039 | .022 | .024 | -.070 | .127 | .000 | **.764** | .057 | .013 | .005 | .097 | -.039 |
| VAR00010 | .104 | .215 | .009 | .131 | .107 | -.179 | .064 | **.538** | -.122 | .012 | .038 | .012 | .332 |
| VAR00012 | .159 | .072 | .081 | .075 | .021 | .291 | -.114 | **.531** | .176 | .005 | .233 | .288 | -.131 |
| VAR00016 | .066 | .035 | .023 | .016 | -.060 | .101 | .070 | -.005 | **.672** | .128 | .150 | .120 | .110 |
| VAR00015 | .086 | .232 | .077 | .151 | .117 | -.008 | .042 | .065 | **.667** | .053 | .151 | -.037 | .111 |
| VAR00017 | .031 | .121 | .203 | .068 | .095 | -.016 | .039 | -.003 | .233 | **.719** | .051 | .120 | .085 |
| VAR00023 | .382 | .103 | -.133 | .147 | -.358 | .242 | .016 | .025 | .188 | **.471** | .023 | .022 | .025 |
| VAR00021 | .341 | .115 | .075 | .299 | -.177 | .113 | .025 | .329 | -.059 | **.392** | .111 | -.163 | .066 |
| VAR00014 | .061 | .098 | -.091 | .096 | -.028 | -.068 | .120 | -.100 | .148 | .088 | **.736** | .153 | .085 |
| VAR00013 | .045 | .027 | .052 | .022 | -.005 | .249 | .022 | .281 | .154 | .022 | **.671** | .001 | -.034 |
| VAR00004 | .006 | .013 | .070 | .165 | -.139 | .074 | .008 | .190 | .223 | .045 | .050 | **.696** | .007 |
| VAR00005 | .135 | .165 | .155 | .100 | -.024 | .003 | .378 | .117 | -.148 | .050 | .121 | **.522** | .065 |
| VAR00018 | .124 | .189 | .019 | .151 | .106 | .339 | .082 | -.187 | -.281 | .336 | .183 | **.376** | -.013 |
| VAR00009 | .082 | .054 | -.068 | .014 | -.007 | .064 | -.101 | -.021 | .042 | -.041 | .047 | .210 | **.779** |
| VAR00008 | -.026 | -.021 | .076 | .065 | -.037 | .080 | .014 | .046 | .229 | .167 | -.009 | -.229 | **.642** |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 14 iterations.

# Cognitive Influence and Selection of the Retail Stores - with special reference to apparel retailing

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**Abstract**

The cognitive influence has a well-defined role in consumer's preference towards selection of retail format. But its role in the selection of the apparel retail stores has been ambiguously demarcated. This research attempts to fill this gap by investigating the effect of various stores atmospheric and merchandise cues on consumer's preference towards the selection of apparel retail format choice. Data is collected from 180 shoppers who visited and made at least one purchase from the retail stores. The study has revealed the role of 31 variables factorized into six factors, recreation, rendition, rapport, rate, range and recurrence constituting 'Six R model' of factors affecting apparel retailing. The fun and enjoyment during shopping are preferred over the quality of product while the prices and discount offered are not the preferable choices for modern shoppers to select the retail store.

**Keywords:** Cognitive influence, Retail format, Apparel retailing, India

**Introduction**

The purchasing process is a blend of mental and physical activities that ends with an actual purchase. This is a daily occurrence in consumer's life and therefore it is interesting to study the connection within "what we buy", "why we buy it" and "where we buy", "how we buy" and "with what we buy". The consumer decision making is influenced through the rational and the emotional means throughout the consumer buying process. The cognitive influence is individuals' emotional, physiological, and behavioural responses as mediated by their perceptions of experience, which are influenced by their beliefs, the ways of interaction with the world, and the personal experiences (Bandura 1977). Therefore, it was interesting to study the cognitive influence as an independent element affecting the customer decision making process (Shiv and Fedorikhin, 1999).

Whenever a customer is required to purchase a product, various factors affect his decision about 'from where he should buy it'. The selection of organized or unorganized retail store to purchase that product depends on various factors. The main purpose of the following study is to extract all those factors and convert them into a sequential model in order to understand the logical arrangement of factors affecting the cognitive influence on consumer's preference in selection of organized or unorganized retail stores in case of apparel purchase.

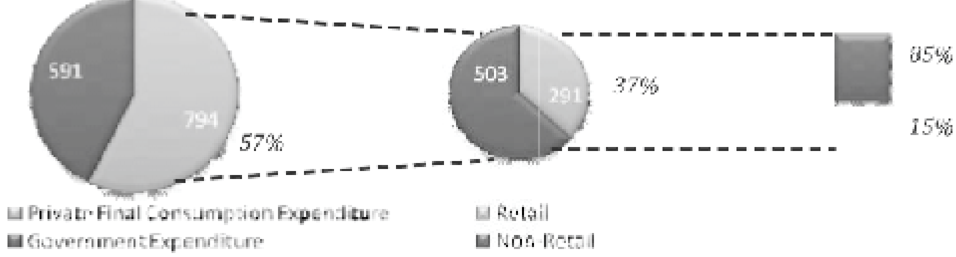
**India: Retail Scenario**

The retail market in India is the second fastest growing retail market after China in the world (Economist Intelligence Unit 2015). According to a survey by A T Kearney, the size of the retail industry in India by 2015 is pegged at $750 billion and is expected to reach at $1.3 trillion by 2020. The industry has been expanding at a compound annual rate of 9.7 per cent since 1998 (IBEF 2015).

ETIG (Research arm of the Economics Times Group) estimates the value of unorganized retail sector as $925 billion, growing at the rate of 13 per cent per annum. It is expected to cross the $ 1.3trillion sales mark by 2020. A T Kearney estimates that the organized retail market as $ 45 billion, while KSA Technopak (India's leading management consulting firm) values it at $55 billion. By 2020, A T Kearney predicts a five-fold increase in organized retail while KSA Technopak estimates a threefold growth. The difference in these projections is attributed to their divergent definitions of 'organized retailing'.

| Indian Retail Sector - Quick Facts (2015) | |
|---|---|
| Market Size | $ 750 Billion |
| Organized Retail Penetration | 5 - 8% |
| Unorganized Retail Market | 15 Million Kirana Store |
| Growth Rate | 15 - 20% |
| Retail Density | 7% (Highest in the world) |
| | Source : IBEF |

Figure 1




The last decade has witnessed a remarkable growth in service sector and industrial output. The per capita expenditure has increased by 43%. The % of expenditure in retail sector per head given here.

**Organized vs. Unorganized Retail Sector**

The retail outlets which fall under the category of the unorganized retailing refers to the all local shops owned by single person (sometimes more than one persons are involved too) and are situated in the dense street with no additional facilities except providing the transaction process. These shops follow the third degree of distribution network generally (Goswami and Mishra, 2009), therefore the retailers here are void of heavy discount or commission and other benefits which big organized retailers get on bulk purchase directly from the manufacturers. These retailers run the business on a small scale and a major portion of them sell the daily need products like grocery items, cigarettes and beedis, clothings, various household products, vegetables and fruits, books and stationery, and street food items (Zia &Azam, 2013).

The organized retailers on the other hand have the chain of retail stores in various cities. They try to target the major portion of both urban as well as rural population by opening their stores in the various formats like hypermarket, supermarket, and departmental stores. Location of the store is the most important criteria for the organized retailers because still the access to the unorganized retailers is much easier for the consumers. The organized retailers provide the experience of shopping with the add-on facilities of movie theatre, gaming and dining under one roof only (Crawford, 2004).

The proposition of the study is to find whether the clothing units purchased from the organized or unorganized retail stores are influenced by the ambience of the store, branding strategy or any other factor which develops a positive perception in the consumer's mind towards the retail stores and compel the shoppers finally to enter into the retail store. All the retailers generate and develop various cues to attract the shoppers (Baker et al, 2002).

**Cognitive Model**

Unlike the behavioral learning, the cognitive learning highlights the importance of learning through information available. The shoppers actively seek information from the external environment and use it to resolve the problems they face from time to time. Thus the cognitive learning occurs as a result of the processing of information using the human mind (Anderson, 1990).

In this process, the shoppers gets cues in form of various hedonic and utilitarian approaches (Jones, Reynolds and Arnold, 2006; Childers et al, 2002; Arnold, & Reynolds, 2003) from the retailers. They acquire it, process it and store the information in their mind (Mazursky and Jacoby, 1986; Puccinelli et al, 2009). On the basis of information stored in their mind, the shoppers analyze it conceptually as well as reasonably to develop a perception towards retail store (Morschett et al, 2005; Ok Kim, and Jin, 2001) and make their decision based on their attitude (Pan and Zinkhan, 2006).

**Selection of retail format and role of cognitive variables**

The selection of retail format is a cognitive process (Sinha and Banerjee, 2004) which is complex and comprises of all emotional, physiological and behavioral components (Jain, and Bagdare, 2009). It also contains several stages that precede the purchase itself (Wells and Prensky, 1996; Engeletal, 2005; Schiffman and Kanuk2009).

This process is influenced by various situational factors (Mc Goldrick, 2002). The place (Sinha and Banerjee, 2004; Keen et al, 2004) where fusion of the local culture and consumer's traits is the most preferred, the period (various chronological period) where the evaluation of various traits keep on transforming (Severin et al, 2001),the personal characteristics (Prasad, & Aryasri, 2011),and the purpose where the format choice is affected due to volume of purchase (Baker et al, 2002),devotion of more or less time in searching the relevant item (Fox et al, 2004), frequent purchase of specific set of items in basket of consumption (Bhatnagar, &Ratchford, 2004),or buy more or less complex items (Mantrala et al, 2009).

In a summarized way various cognitive variables affecting the retail format choice can be segmented into psychographics, demographics, store attributes and other social factors.

**Theoretical Framework**

The theoretical framework for the study has been adapted from the various cognitive and S-O-R model proposed by Reynolds and Betty (1999), Carpenter and Fairhurst (2002) and Jacoby (2002). The adaptation of models is based on their past success and relevancy with the study of consumers' cognitive evaluation process. The adapted framework has been shown in figure 2.

**Figure 2**

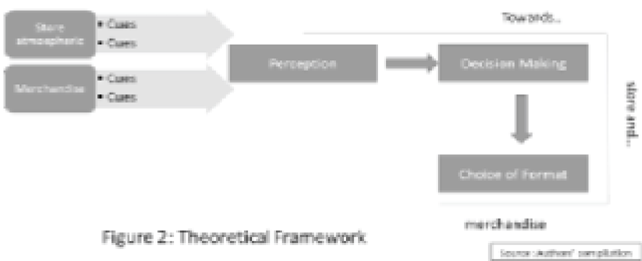



Figure 2: Theoretical Framework

**Research Objectives**

**The specific research objectives of this study are**

- To explore various cues shaping out the consumer behaviour towards the organised and the unorganized apparel stores.
- To examine whether the store atmospheric cues (i.e., societal, design and ambient signals etc.) and the merchandise cues affect the consumers' cognitive evaluation toward both the store and the merchandise.
- To examine the effect of the cognitive evaluation of the store and the merchandise on the consumer's preference towards selection of a specific store.

**Hypothesis of the Study**

- **Price**

H1. The perceived image of a store is related to the price of the products.

- **Assortment**

**$H_2$:** The perceived image of a store is related to the assortment of brands available in the stores.

- **Store Image**

**$H_3$:** The perceived image of a store is related to the quality of products distributed in the store.

- **Advertising Frequency**

**$H_4$:** The perceived image of a store is related to the advertising frequency of the store.

- **Price Promotions**

**$H_5$:** The perceived image of a store is related to the frequency of price promotions used for the store.

- **Country of Origin**

**$H_6$:** The perceived image of a retail store which has a tag of 'origin in other country' other than India is higher.

- **Word-of-Mouth (WOM)**

**$H_7$:** The perceived image of a retail store is influenced by positive WOM.

**Research Methodology**

The study has been split into two research phases.

**Phase I**

This phase is exploratory and qualitative in nature. An observation research has been carried out in few organized apparel retail chains and unorganized apparel retail stores to understand the elements which prompt a customer to choose any of these two retail stores. In the present research it has been concluded with ten elements (Ranking Method), which trigger the cognitive influence of consumer's selection of organized and unorganized retail apparel store.

**Phase II**

In this phase an empirical field research was conducted to find the significance and value the shopper connects, to each of the ten elements of cognitive influence (recognized in Phase I). In the present study researcher has developed ten elements on a scale of 38 items which was similar to (Sinha and Banerjee, 2004)

To measure shoppers' overall assessment of these elements, a self-administered structured questionnaire was constructed and piloted.

**Pilot-testing of the Instrument**

The questionnaire was pilot-tested on 10 male and 10 female respondents (approximately 10 per cent of the main survey sample size) belonging to different age groups, household income levels and socio-economic backgrounds. Based on their responses, the required modifications were made in the instrument. The amended questionnaire was used for the further study.

**Sample Design**

**Population and Sample Size:** A sample of shoppers from 3 different cities namely Jalandhar (Punjab), Bareilly (UP), and Old Delhi (NCR) were selected and surveyed. Convenient sample of

180 shoppers was drawn from 12 stores (2 stores each of both categories of organized and unorganized from each city selected from yellow pages randomly and 15 customers from each store were interviewed) of both categories of organized and unorganized apparel stores under this study.

**Shopper's Profile:** The questionnaire was administered to visiting customers and families (comprising husband + wife + children), who have made at least one single purchase clothing from the shop to know the views of all the age group of people while the shoppers who have not made a purchase have not been interviewed (Dabholkar et al., 1995; Prasad and Aryasri, 2011). The age of the subjects ranges from 16 to 50 years, across all the socio-economic backgrounds.

**Contact Method and Research Instrument:** The 'Questionnaire' was administered on180 shoppers. The questionnaire was distributed systematically to the shoppers instantly after their shopping experience. This type of survey has been well supported in the name of mall intercept survey (Tripathi and Dave, 2013;O'Cass and Grace, 2008)

## Data Analysis and Results

### 1. Respondent Profile

The profiles of shoppers were analyzed with the help of pivot table in MS Excel. Almost 53:47 ratio was noticed among male and female shoppers which resembles the gender ratio proposed as per Indian Government for three states UP, Punjab and Delhi which is 1.12 as per census 2011 (Chandramauli, C. 2011).

58% respondents were in favor of branded clothes only while 62% respondents were interested in shopping only in shopping malls.

**Table 1**

| Profile of Respondents | | | | | | |
|---|---|---|---|---|---|---|
| Row /column Labels | Monthly Expenditure (Rs) | Any one | Branded Only | Non Branded Only | Grand Total | Percentage Values |
| Female | | 1 | 23 | 70 | 84 | 47% |
| | <2000 | | 7 | 14 | 21 | |
| | 10000-20000 | | | 2 | 2 | |
| | 2000-5000 | | 15 | 34 | 49 | |
| | 5000-10000 | 1 | 1 | 10 | 12 | |
| Male | | 1 | 96 | 14 | 96 | 53% |
| | <2000 | 1 | 19 | 6 | 26 | |
| | >20000 | | 1 | | 1 | |
| | 10000-20000 | | 5 | | 5 | |
| | 2000-5000 | | 37 | 8 | 45 | |
| | 5000-10000 | | 19 | | 19 | |
| | Grand Total | 2 | 104 | 74 | 180 | 100% |

**Table 2 : Dimensions of responsible factors**

| Rotated Component Matrix | | | | | | | Proposed Factors | Reliability Coefficient (α) |
|---|---|---|---|---|---|---|---|---|
| | Component | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | | |
| Name of Store | .761 | | | | | | Recreation | 0.814 |
| Family clothes under one roof | .702 | | | | | | | |
| Add on facility, water, refreshment | .668 | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Past Personal Experience | .645 | | | | | | | |
| Mall shopping give me recreation | .643 | | | | | | | |
| Interior Designing of Shops | .617 | | | | | | | |
| Ease of shopping, selection | .611 | | | | | | | |
| Design of clothes | | .841 | | | | | Rendition | 0.875 |
| Societal Image of Shoppers | | .827 | | | | | | |
| Image of Store | | .780 | | | | | | |
| AC | | .719 | | | | | | |
| Mall gives me value for money | | .641 | | | | | | |
| Reference Group Experience | | .605 | | | | | | |
| Word of mouth communication | | | .796 | | | | Rapport | 0.827 |
| I enjoy more in mall | | | .746 | | | | | |
| Sales Person's Behaviour | | | .737 | | | | | |
| Advertising | | | .702 | | | | | |
| I get more satisfaction at Mall | | | .685 | | | | | |
| Ambience inside shop | | | .613 | | | | | |
| Discount offered | | | | .760 | | | Rate | 0.758 |
| Price of product | | | | .724 | | | | |
| Quality of Product | | | | .690 | | | | |
| Parking issue | | | | .619 | | | | |
| Display of various items | | | | | .814 | | Range | 0.798 |
| Trial Facility | | | | | .691 | | | |
| Variety of choice | | | | | .664 | | | |
| Safety Issue in trail room & Parking | | | | | .611 | | | |
| Payment System | | | | | | .816 | Recurrence | 0.823 |
| Money Value of Clothes | | | | | | .730 | | |
| Exchange facility | | | | | | .667 | | |

The 38-variables scale(see appendix) was analyzed through SPSS factor analysis. Before factor analysis, the data reliability was checked and cronbach' alpha value was found as 0.730. The KMO measure of sampling adequacy was found 0.746 and Bartlett' test for Sphericity was significant. The factors were extracted by applying principal component analysis with Varimax rotation. The factor analysis has dropped 7 variables and after six iterations it has given six factors. The remaining 31 variables have been restructured into the six factors (Table 2). The factors have been decided on the basis of eigen value more than 1.0 and only those variables have been retained of which loading value was more than 0.60.

The communality score was kept as 0.50 to retain the variables. After six iteration the total variance was 64% and four factors have loading more than 0.7 and two factors have loading more than 0.6 give almost a significant picture of factorization of data (Tripathi and Dave, 2013; Hair Jr. et al, 2007). The six factors extracted have been proposed as "Six R Model for Apparel Retailing" and their reliability Cronbach $\alpha$ score has been found for 'Recreation' ($\alpha = 0.814$), 'Rendition' ($\alpha = 0.875$), 'Rapport' ($\alpha = 0.827$), 'Rate' ($\alpha = 0.758$), 'Range' ($\alpha = 0.798$) and 'Recurrence' ($\alpha = 0.823$).

**Criteria for Selection of organized or unorganized retail store**

- **Recreation**

The importance of recreation has been highlighted by other authors (Li, wang and Cassil, 2004; Fincham and Minshall, 1995) too in the form of name of store, the name which resembles a brand name (Carpenter and Fairhurst, 2005) also it creates the image of store (Liljanderet al, 2009).

- **Rendition**

Performance is directly proportional to the results. The retailers who keep the latest design and styles of clothing (Han, Morgan and Kang-Park, 1991) are successful to maintain and gleam the image of retail store (Birtwistle, Clarke and Freathy, 1999).

**Figure 3**


Figure 3: Six R Model for Factors Affecting Retail Format Choice for Apparels Purchase

- **Rapport**

Another major factor which affects the cognitive evaluation of the retail store is the communication between the customers and the salespersons. On an average a male shopper spend 1 hour in purchasing of clothing while the female shoppers take much higher time of 2-3 hours. The retailers can easily increase this time with the help of effective communication to shoppers and this rapport with the shoppers also play a significant role in the choice of retailer (Westbrook, 1981 and Guiryetal.,1992).

- **Rate**

The price is a decisive factor in purchasing decisions of consumers. The customers refrain from the bargaining and prefer the fair pricing system (Bäckström and Johansson, 2006)also they prefer the quality product (Grewalet al, 1998)

- **Range**

Nowadays, the customers seek a range of various brands under one roof. They need a deep assortment in the form of categories of the merchandize, different sizes, colors, styles, fabric, and trends. The quality parameters of the merchandizes are different for each of the customers which also provide a tag to the retailer as a 'Quality Retailer'.

- **Recurrence**

The convenience in form of flexible opening hours of the stores, offering money value for their purchase by the customers (Dabholkaretal., 1995andClarkeetal., 2006), and the flexi-payment system also affect the customer's choice.

**Hypothesis Testing and Analysis**

The hypotheses were tested through chi square analysis and the Pearson Chi-square values and the significant values have given the following results

**Table 3**

| Chi-Square Tests | | | |
|---|---|---|---|
| | Pearson Chi-Square | df | Asymp. Sig.(2-sided) |
| Image of Store * Price of product | 20.781 | 16 | .187 |
| Image of Store * Variety of choice | 8.507 | 16 | .932 |
| Image of Store * Quality of Product | 18.963 | 16 | .271 |
| Image of Store * Advertising | 26.607 | 16 | .146 |
| Image of Store * Discount offered | 13.335 | 16 | .345 |
| Image of Store * Foreign origin Brand | 9.66 | 16 | .884 |
| Image of Store * Word of mouth communication | 21.116 | 16 | .174 |

**$H_1$.** The perceived image of a store is related to the price of the products.

The significant value (0.187) fails to reject the null hypothesis.

Price plays an important role in creating and maintaining the image of a retail store. The higher the price the higher the image of the retail store (Grewal and Krishnan, 1998).

**$H_2$:** The perceived image of a store is related to the assortment of brands available in stores.

The significant value (0.932) fails to reject the null hypothesis. A one stop shopping convenience that a broad product assortment enables is a successful key for a better image of a retail store (Ailawadi and Keller, 2004).

**$H_3$:** The perceived image of a store is related to the quality products distributed in the store.

The significant value (0.271) fails to reject the null hypothesis. The good quality of products is a basis for store-image (Bakeret *al*, 1994). There are various other parameters to measure the product quality which are not under the scope of present paper.

**$H_4$:** The perceived quality of a store is related to the frequency of advertising of the store.

The significant value (0.146) fails to reject the null hypothesis. The brand and store image and directly associated with advertising. The way in which the store is defined in the shopper's mind partly by its functional qualities and partly by its psychological attributes (Porter and Claycomb, 1997).

**$H_5$:** The perceived image of a store is related to the frequency of price promotions used for the store.

The significant value (0.345) fails to reject the null hypothesis. The customers have a negative approach towards the bargaining approach of stores. They are also apprehensive towards ongoing sales for a continue time period. The shoppers need value for their money but they prefer the fix price stores (Bakeret *al*, 1994).

**$H_6$:** The perceived image of a retail store which has a tag of origin in other country other than India is higher.

The significant value (0.884) fails to reject the null hypothesis. The store image is found to be more in case of origin outside India. The origin of the store has a significant impact on the consumer choice behavior (Thorelliet *al*, 1998).

**$H_7$:** The perceived image of a retail store is positively influenced by positive WOM.

The significant value (0.174) fails to reject the null hypothesis. The word of mouth communication is more potent than the commercials. The receiver tends to generate predictable attribution pattern about image of store which has to be take care wisely (DeCarlo and Motley, 2007).

**Conclusion**

This paper is an attempt to analyze the factors affecting the retail format choice for apparel purchasing process of a customer. It also tries to find out *"what cognitive influence is"*, as a concept, and *"what cognitive influence does"*, as a factor, in buyers "decision making process". The various cognitive factors can be presented in form of 'Six R model of apparel retail format choice'. The factors extracted were 'Recreation', 'Rendition', 'Rapport', 'Rate', 'Range', and the 'Recurrence'. These six factors measure the influence of all 31 variables. These six factors are statistically significant and explain more than 64% of the total variance. The factors explain that the shoppers look at these six constructs carefully while evaluating an outlet and making their final decision of selection of retail store.

So based on the above findings and considerations it can be summarized that 'the shoppers go through a composite assessment process before selecting a retail outlet'. This evaluation is affected by several variables which can be summarized in the form of 'The six R model of retailing format choice for apparel purchasing'. This must be kept in mind by the retailers while designing the layout, deciding about assortment and pricing policies.

**Managerial Implications**

The present study is an attempt to analyze the various psychological, psychographic, demographical and other retail attributes in selecting the organized retail store (shopping mall or company outlet) and traditional retail shops in Indian context. The extraction of six factors gives a clear message of Indian retail managers to give special attention towards the recreation of retail services. How to put the products and related services in a new and innovative way before the customers? The shoppers must feel an ease during shopping right from entering into the shops to selection on required designs and verities to payment system.

Also the rendition in form of value for money in terms of ads on services and other auxiliary services are important for shoppers. A clean and appealing image of retail stores, designer clothes and a pleasant experience of reference group have to be maintained by the retailers. The retailers must be able to develop a positive communication with the shoppers and maintain a good rapport with them. The range in the form of variety of clothes and the recurrence in form of exchange facility and money value of clothes also affect the retail format choice of shoppers.

The shopping malls provide more value for every rupee spent for the shoppers. They enjoy more at shopping malls as well as get more overall satisfaction at malls. The traditional retailers must adhere to the proposed factors and try to include the missing variables to attract more number of shoppers.

**Limitation of study**

The selection of variables was based on ranking method which can be further investigated and more variables can be extracted. The study was confined to three different cities which cover the northern part of India only. India has a much diversified segment of shoppers. The extension of study to various parts can give a better understanding to the retailers who have their retail-chain throughout the country.

Data was collected from the shoppers who have made at least once purchase, yet the sample size is not large enough. The proposed 'Six R Model' can be further tested to validate the findings and more concrete retailing policies and strategies can be framed.

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# Awareness & Perception towards PMT Machines Ltd.: A case study of Capital Goods Company

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**Abstract**

Economic growth of any country depends on growth of Capital Goods sector. This research paper aims at how manufacturing sector perceived about Machine tools industry. It is very important to understand the perception of manufacturing sector about Machine tools due to the fact of changing economy and upcoming GST. This study focuses on specific company named PMT MACHINES LTD. for which 4 different industrial areas have been penetrated. During this study, around 75 manufacturing companies have been contacted from Makarpura GIDC, Waghodia GIDC, Por GIDC, V.U.Nagar GIDC. The data collected from these companies shows the awareness and perception about machine tools Sector. For PMT Machines, major awareness source found is Buzz Marketing and awareness can be increased by organizing more trade shows and exhibitions. From Chi square test, it was found that there is an association between Respondent companies having CNC Machines and awareness about PMT Machines Ltd. By performing Factor analysis, 4 factors named as In-bound requirement for effective running, Future Benefit, Payment Slab, repetitive service requirement governed the preference of respondent companies towards the Capital Goods.

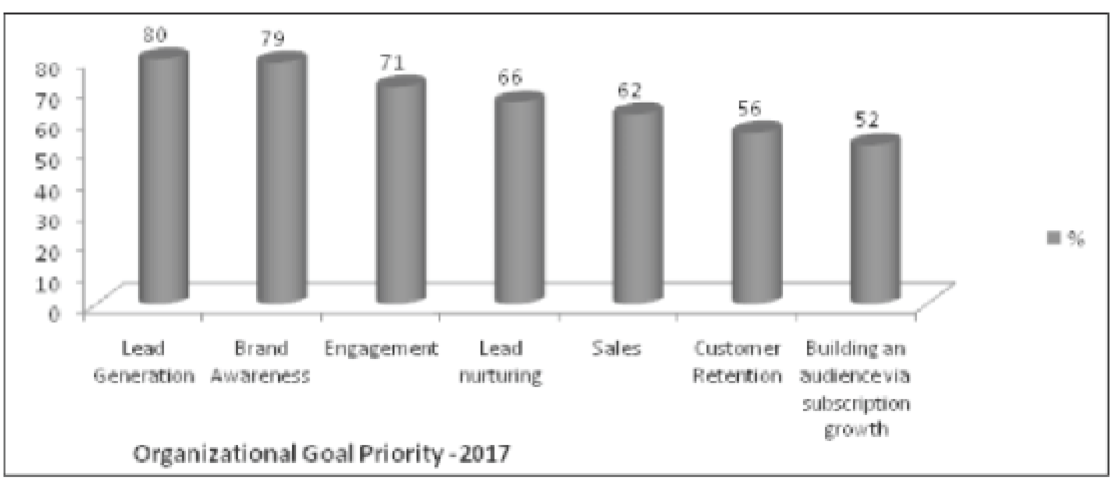
**Key Words**

CNC Machine, Machine Tool, VMC, B2B

## Introduction

The Machine tool sector has very customised requirement nowadays in terms of features of Capital goods. So it is very important to find out Manufacturing Companies different requirement before starts Capital goods selling. The research paper is written to find the perception of manufacturing sector about capital goods sector in central Gujarat. The similar study hereby provided which represents the importance of lead generation in manufacturing sector. Recently Junta42 & Marketing Professors in conjunction with Business Marketing Association (BMA), American Business Media (ABM) released the largest study with title of "2017 B2B Content Marketing Benchmarks, Budgets and Trends". Dianna Huff has conducted this study and published the report. According to this study, the objective is to how B2B marketers are using content within marketing mix. They had taken the data from manufacturing / processing industry and some of the findings about priorities of organizational goal are given below.

**Image 1: Organizational Goal Priority**




*Source: B2B Content Marketing 2017: Manufacturing/Processing Industry Report

Now, as with all B2B marketers surveyed, top organizational goal found is "Lead Generation" among 80% of manufacturing marketers. So, with perspective of this study one can easily found that the suitable primary research for any manufacturing or machine tool producing firm is about identifying prospects in market through different tools. From above, lead generation is 1st major organizational goal of almost every manufacturing marketer with total 80%.So, this research paper also contains one objective of Lead Generation.

PMT Machines Limited is successfully operating for more than 50 years and is one of the largest machine tool manufacturing company in India. t has started its operations in 1961 as Traub India as a subsidiary of Traub Germany. Later on the company absorbed technologies from various Swiss and German machine tool companies like Fortuna, Voumard, Mikrosa, Pittler to manufacture world class turning and grinding machines in India. Now the company is in the business of providing complete solution to its customers, machining challenges rather than just stand-alone machine tool. The products include Automats, CNC Turning, CNC Internal Grinding, CNC Cylindrical Grinding, CNC Surface Grinding Machines and Special purpose machines in Turning as well as Grinding.

**Literature review**

Literature reviews represent the glimpse of awareness about Capital goods Sector. Eunsang Yoona & Valerie Kijewskib (2008) published one online article as a study of semi-conductor manufacturing industry with the title "The Brand Awareness-to-Preference Link in Business Markets". The main objective of the article was to identify brand awareness to preference relationship in semi-conductor manufacturing industry. The paper focuses on key challenges in business-to-business communication, the relationship between brand awareness and brand preference. Research results confirm the existence of threshold and saturation effects in the brand awareness-preference association. In the semiconductor industry, the sensitivity of brand preference share to increase brand awareness level displays increasing returns to scale for most brands across various product categories. This sensitivity is higher when purchasing process is short, only price is an important purchase-decision criterion, annual buying volume is large, technology is stable, and numbers of competitors are less.

G. Sudarshan, K. D. Gunawardana had conducted the study with the title of "An Analysis of E-Commerce (B2B) Awareness in Manufacturing Industries of SriLanka". The main purpose of this study is to identifying the present level of awareness about E-Commerce technology and the potential drawbacks which are preventing the implementation of E-Commerce technologies. This study also identifies the future investment level of E-Commerce technologies.

**Research Objectives**

- To increase the awareness among manufacturing industry and SME's about PMT Machines and their product line.
- To identifying target prospects for PMT Machines and generation of lead by penetrating the region of Central Gujarat.
- To identifying improvement areas for PMT Machines through analysing different factors that influence on purchase decision.
- To identify the future sources of lead generation which help Capital Goods Companies to find out the new prospects.

**Research Methodology**

The study has been conducted in Central Gujarat. For research methodology, descriptive research design has been adopted & personal interviewing survey method is used for data collection. Population considered is all CNC & Conventional Machine user manufacturing companies in Central Gujarat. Non probability convenience sampling method has been used with sample size of 75 comprises 60 companies from Makarpura GIDC,8 companies from Waghodia GIDC, 2 companies from Por GIDC and 5 Companies from V.U. Nagar GIDC. Data has been collected by Structured questionnaire with analysis been performed on various statistical software packages.

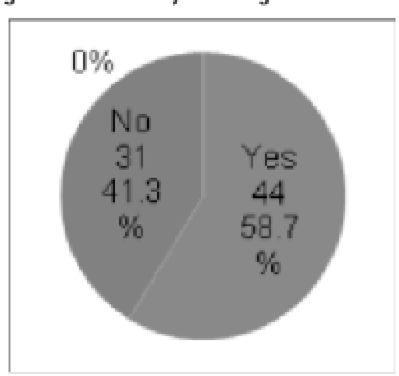
**Data Analysis**

**Section 1: Respondent Companies CNC Machine usage and requirement Analysis**

**Table 1: Currently Existing CNC Machines**

| Particulars | Frequency | Percent(%) |
|---|---|---|
| Yes | 44 | 58.7 |
| No | 31 | 41.3 |

**Figure 1: Currently Existing CNC Machines**

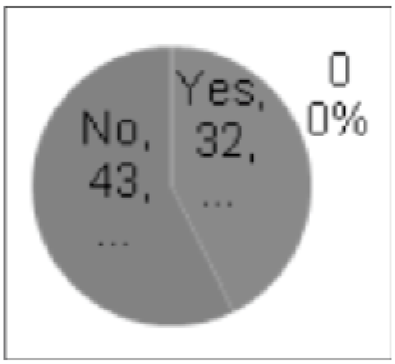


As shown in Figure 1, it has been concluded that 58.7% respondent manufacturing companies are having CNC Machines and rest 41.3 are having conventional machines for work.

**Table 2 : Any Future Expansion Plan of Respondent Company**

| Particulars | Frequency | Percent(%) |
|---|---|---|
| Yes | 32 | 42.7 |
| No | 43 | 57.3 |

**Figure 2 : Any Future Expansion Plan of Respondent Company**

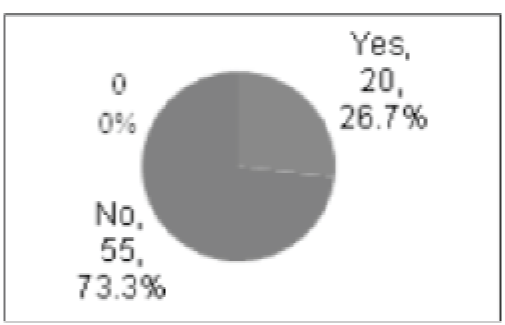



As shown in Figure 2, it has been concluded that out of 75 total respondent companies, 32 companies are in current requirement of CNC Machines and 43 companies had no idea for future expansion.

**Table 3 : Any Special Purpose Machine Requirement**

| Particulars | Frequency | Percent(%) |
|---|---|---|
| Yes | 20 | 26.7 |
| No | 55 | 73.3 |

**Figure 3 : Any Special Purpose Machine Requirement**



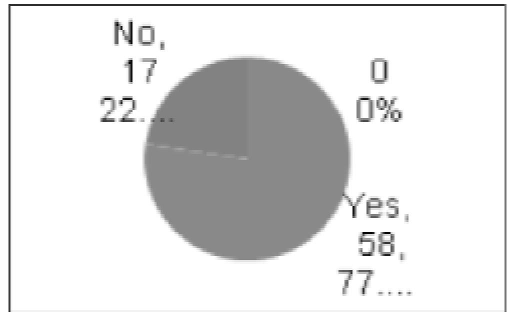

As shown in Figure 3, it has been concluded that 20 respondent manufacturing companies are in the current need of special purpose machine and remaining 55 had such no requirement.

**Section 2 : Awareness & Perception Analysis**

**Table 4: Awareness about PMT Machines Ltd.**

| Particulars | Frequency | Percent(%) |
|---|---|---|
| Yes | 58 | 77.3 |
| No | 17 | 22.7 |

**Figure 4: Awareness about PMT Machines Ltd.**

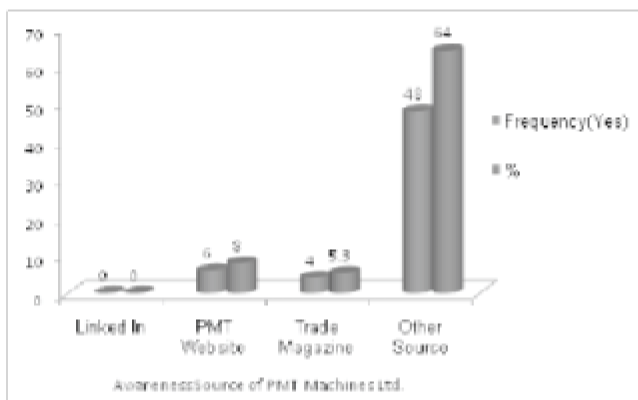



As shown in Figure 4, it has been concluded that 77.3% respondent manufacturing companies are aware about PMT Machines Ltd. and only 22.7% are unaware about it. From above data, it has been observed that the awareness about PMT Machines is high in Central Gujarat region.

**Table 5 : Awareness Source of PMT Machines Ltd.**

| Particulars | Frequency (Yes) | (%) |
|---|---|---|
| Linked In | 0 | 0 |
| PMT Website | 6 | 8 |
| Trade Magazine | 4 | 5.3 |
| Other Source | 48 | 64 |

**Figure 5: Awareness Source of PMT Machines Ltd.**




As shown in Figure 5, it has been concluded that nobody is aware about PMT Machines is on Linked In (professional network).Interesting fact is that 64% respondent companies are aware about PMT Machines through buzz marketing or word of mouth.8% respondent company are aware through PMT website and 5.3% are aware through trade magazine.

**Section 3 :** Chi Square Test

H0: There is no association between respondent company having CNC machines and aware about PMT Machines Ltd.

H1: There is an association between respondent company having CNC machines and aware about PMT Machines Ltd.

**Table 6: Association between respondent companies who have CNC Machines and awareness about PMT Machines Ltd**

| Particulars | Value | Df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 15.254[a] | 1 | .000 |
| Continuity Correction[b] | 13.145 | 1 | .000 |
| Likelihood Ratio | 15.694 | 1 | .000 |
| Fisher's Exact Test | | | |
| Linear-by-Linear Association | 15.050 | 1 | .000 |
| N of Valid Cases | 75 | | |

0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.03

By performing chi square test and as shown in Table 6, it has been concluded that the null hypothesis has been rejected. Hence, the respondent companies who have their own CNC Machines are more aware about PMT Machines compared to those who had their conventional machines.

**Section 4: Factor Analysis**

For the present study, the factor analysis is performed on the 10 statements of respondent company's preference towards purchase of CNC Machines. The responses of the respondents for these statements were measured on a continuum ranging from 1 to 5 (1-Least preferred to 5-Most preferred).

**Bartlett's Test of Sphericity:-** As shown in Table no.7, the significance value of Bartlett's Test is 0.000, this leads to rejection of the idea that the correlation matrix is identity matrix.

**Kaiser-Meyer-Olkin Test for Sampling Adequacy:-**

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is an index used to examine the appropriateness of factor analysis. It compares the magnitudes of observed correlation coefficients to magnitude of partial correlation coefficients. High value (between 0.5 and 1.0) indicates factor analysis is appropriate. Small values of KMO Statistic indicate that correlations between pair of variables cannot be explained by other variables, and hence, factor analysis is not suitable. The data has KMO statistic as 0.560 (Table no. 7), which is greater than 0.5. Hence, this value is acceptable and justifies the appropriateness of factor analysis.

**Table 7: KMO and Barlett's Test**

| KMO and Bartlett's Test | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .560 |
| Bartlett's Test of Sphericity | Approx. | 87.828 |
| | Chi-Square | |
| | df | 45 |
| | Sig. | .000 |

**Communalities**

Communality is the amount of variance a variable can explain with all the factors being considered. This is also the percentage of variance explained by the common factors. The method selected for conducting the factor analysis here is Principal Component Analysis. In this method the total variance in the data is considered. The initial communalities for Principal Component Analysis are 1. However, the primary concern is the extracted communalities, which are achieved after extraction of factors. A look at this table shows that the extracted communalities are high, and hence, acceptable for all the statements.

**Table 8: Communalities**

| Communalities | | |
|---|---|---|
| | Initial | Extraction |
| Preference for purchasing any CNC Machine-Periodical Availability | 1.000 | .724 |
| Payment Terms | 1.000 | .851 |
| After Sales Service | 1.000 | .807 |
| Any New Machine Demo | 1.000 | .644 |
| Forecasting higher resale value | 1.000 | .627 |
| Availability of Spares | 1.000 | .501 |
| Continuous New Technology Requirement | 1.000 | .579 |
| Safety Interlock | 1.000 | .698 |
| Maintenance Manual | 1.000 | .484 |
| Dependability on Machine Supplier Brand | 1.000 | .477 |

* Extraction Method: Principal Component Analysis.

Source: SPSS Analysis, Primary data

**Variance Explained**

It is required that the scale constructed and the components extracted should be able to explain maximum variance in the data. For this, an analysis of the Eigen values is required. Eigen value represents the total variance explained by each factor. Table shows the Eigen values of all the components that can be extracted and cumulative variance. However, it is required that the maximum amount of variance should be explained in minimum number of components – for this reason extraction of the components is required. Only those factors are extracted for which the Eigen values are greater than one. These factors are four in number and together contribute 63.921% of total variance. This is a fair percentage of variance to be explained and assumes of the appropriateness of the factor analysis.

**Table 9 : Variance Explained**

| Total Variance Explained | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
| Component | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 2.490 | 24.896 | 24.896 | 2.490 | 24.896 | 24.896 | 2.072 | 20.725 | 20.725 |
| 2 | 1.455 | 14.549 | 39.445 | 1.455 | 14.549 | 39.445 | 1.609 | 16.088 | 36.813 |
| 3 | 1.322 | 13.220 | 52.665 | 1.322 | 13.220 | 52.665 | 1.392 | 13.916 | 50.729 |
| 4 | 1.126 | 11.255 | 63.921 | 1.126 | 11.255 | 63.921 | 1.319 | 13.191 | 63.921 |
| 5 | .956 | 9.563 | 73.483 | | | | | | |
| 6 | .809 | 8.089 | 81.572 | | | | | | |
| 7 | .595 | 5.953 | 87.525 | | | | | | |
| 8 | .494 | 4.944 | 92.469 | | | | | | |
| 9 | .420 | 4.202 | 96.671 | | | | | | |
| 10 | .333 | 3.329 | 100.000 | | | | | | |

*Extraction Method: Principal Component Analysis, Varimax Rotation Method.
Source: Primary data

Further Table 9 shows the extraction sum of square loadings for the scale for measuring the preference towards purchase of CNC Machines. However, a careful look at Table no. 9 shows that 63.921% variance is not uniformly distributed across all components where only the first component accounts for 24.896% of variance. Thus in order for the variance to be uniformly distributed across all the components a rotation of the components matrix is required. Components matrix is the loadings of various variables to the extracted components.

Although the initial or un-rotated matrix indicates the relationship between the factors and individual variables, it seldom results in factors that can be interpreted, because the factors are correlated with many variables. In such a complex matrix it is difficult to interpret the factors. Therefore, through rotation, the factor matrix is transformed into a simpler one that is easier to interpret. The method of rotation used for this analysis is VARIMAX, which is the most commonly used rotation method. The variance explained by each component after the rotation method is shown in table. It is visible from this table that the variance is now evenly distributed in a range of 20.725%- 13.191% which was 24.896% - 11.255% before rotation.

**Table 10: Rotated Component Matrix**

| Rotated Component Matrix(a) | | | | |
|---|---|---|---|---|
| Statements | Component | | | |
| | 1 | 2 | 3 | 4 |
| Preference for purchasing any CNC Machine-Periodical Availability | .309 | -.293 | .308 | .669 |

| | | | | |
|---|---|---|---|---|
| Payment Terms | -.057 | -.061 | .918 | -.039 |
| After Sales Service | -.012 | .175 | -.182 | .862 |
| Any New Machine Demo | .784 | -.039 | -.046 | -.160 |
| Forecasting higher resale value | .050 | .762 | -.148 | .146 |
| Availability of Spares | .615 | .280 | .074 | .198 |
| Continuous New Technology Requirement | .061 | .730 | .164 | -.122 |
| Safety Interlock | .318 | .488 | .599 | .030 |
| Maintenance Manual | .679 | -.099 | .052 | .100 |
| Dependability on Machine Supplier Brand | .642 | .217 | .056 | .124 |

*Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization; Source: Primary data

**Table 11: Grouping of Key Statements based on factor Loadings**

| STATEMENTS | Factor 1 | Factor 2 | Factor 3 | Factor 4 |
|---|---|---|---|---|
| Any New Machine Demo | **0.784** | | | |
| Maintenance Manual | **0.679** | | | |
| Dependability on Machine Supplier Brand | **0.642** | | | |
| Availability of Spares | **0.615** | | | |
| Forecasting Higher Resale Value | | **0.762** | | |
| Continuous New Technology Requirement | | **0.730** | | |
| Payment Terms | | | **0.918** | |
| Safety Interlock | | | **0.599** | |
| After Sales Service | | | | **0.862** |
| Periodical Availability | | | | **0.669** |

Source: Primary data

### Naming of Factors

The following four factors were identified as per the factor loading in table no. 11.

**1. Inbound requirement for effective running:** There are 4 statements in this factor (any new machine demo, maintenance manual, dependability on machine supplier brand, availability of spares) which clearly indicates that respondent companies preferred maintenance manual, new machine demo and availability of spares while making a purchase of CNC Machines.

**2. Future Benefits:** There are 2 statements in this factor (forecasting higher resale value, continuous new technology requirement) which clearly indicates that respondent companies are in search of that type of CNC Machine supplier which provides them long term future benefits with higher ROI.

**3. Payment slab:** There are 2 statements in this factor (payment terms and safety interlock) which clearly indicates that respondent companies are in desire of liberal payment terminology with additional features like safety interlock while making a purchase of CNC

Machines.

4. **Repetitive Service requirement :** There are 2 statements in this factor (after sales service, periodical availability) which clearly indicates that respondent companies required repetitive service from CNC Machine supplier company if they prefer to purchase CNC Machine from them.

### Findings

The findings carried out from study are as follows:

From survey, it was found that there are 58.7% respondents who got CNC Machines and remaining 41.3% are operating in conventional way. The major finding is 77.3% of respondents are aware of PMT Machines.64% respondents are aware through buzz marketing and nobody is aware through Linked In(professional network).

Another interesting fact is that out of 75 respondent companies, there are 32 companies through which lead is generated. Also 20 Companies are in search of Special Purpose Machine. From survey, it was found that only 9.3% of respondents have CNC Machines of PMT compared to 20% who got from Jyoti CNC company.48% of CNC Machines are purchased for turning operation & only 1.3% are purchased for grinding operation. The important fact found from the survey is that 61.3% respondent companies prefers to purchase CNC Machines from regional supplier & as a PMT is currently existing in regional market, this 61.3% will become their target market.

### Conclusion

From above findings, the conclusions obtained are as follows:

Due to 41.3% respondent do not have any CNC Machines, it will be a target segment for PMT Machines to focus on. The key finding obtained is about the awareness source of PMT Machines which is buzz marketing. But throughout the survey there are some negative feedback obtained which creates negative impact of this major awareness source. These type of feedback can be very harmful to brand image. So ,PMT Machines will have to work on brand image by improving channel of after sales service.

For increase in awareness among industry, PMT shall organize trade show or can take a part in many trade exhibitions around the Nation. Jyoti CNC is also taking a part in trade exhibition and trade show to increase awareness and building brand image. As PMT is regional India based CNC Machine supplier, 61.3% respondent who prefers such type of supplier can be a bigger target segment for them.PMT Machines should try to increase awareness among respondent companies who consist CNC Machines compared to those who consist of conventional machines.

PMT Machines should conduct one survey within 6 months from their existing customers about after sales service quality, any repair requirement and any future CNC Machine requirement. These type of surveys helps PMT to build their brand image.PMT Machines should work on turning CNC Machines by upgrading the technology and applying more focus on safety interlock because more selling of CNC turning machine happened due to these two factors.PMT Machines should find out new ways to promote fast delivery of spares and for improving on after sales service there is one example as shown below.Ex.(some customer has any repair query, then according to query one mail attached with repair cost, service engineer's wage, should be provided in advance to him).PMT Machines should focus on constructing CNC Machines which provides their customers higher resale value in future.PMT Machines should try to change their payment policy because all the respondent who have CNC Machines preferred to have liberal payment terms for making a purchase of CNC Machine.

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# A Conceptual Understanding of Consumer Behaviour

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**Abstract**

Consumer behaviour is the study of individuals, groups, or organisations and the processes which they use to select, secure, and dispose of products, services, experiences, or ideas to satisfy their needs. In the fields of marketing and advertising, consumer behaviour is related to as the behaviour that consumers display in searching, purchasing, using, evaluating and disposing of goods and services. It is the act of consuming or using commodity or service. It is the behaviour of consumers which they display right from the searching of product till the disposing of that product. It is related to the decision of consumer to spend their available resources like time, money, and effort on purchase and consumption of goods and services. In the present paper an attempt is made to study about the meaning, definition and concepts of consumer behaviour, including an exhaustive literature study related to the subject, and thus giving a comprehensive understanding of consumer behaviour.

**Keywords:** Consumer Behaviour, Marketing, Advertising, Goods and Services.

**Introduction**

A person who purchases goods or services for own consumption is called consumer. It may be an individual person, group, society, government institution, organization etc. Consumer Behaviour is the study of individual customers, groups or organizations when they select, buy, use and dispose ideas, goods, and services to satisfy their needs and wants. It refers to the actions of the consumers in the marketplace and the underlying motives for those actions. It has two aspects. They are decision making process and final decision to purchase the goods and services. Taking any decision is not an easy activity. This activity requires more knowledge about the identification, existence, features and benefits of the various product and their alternatives available in the market. On the basis of this information the consumers has to take final decision to purchase the product and services. Thus, the combination of these two aspects, i.e., decision making process and final decision is called as consumer behaviour.

**Definition of consumer behaviour**

After understanding the meaning of consumer behaviour, there is a need to define the term consumer behaviour. Many authors have given various definitions for this word. Few important among them are discussed below:

• According to **Engel, Blackwell, and Maniard**, 'consumer behaviour is the actions and decision processes of people who purchase goods and services for personal consumption'.

• **Schiffman and Kanuk** says "Consumer behaviour may be defined as the behaviour that consumers display in searching for, purchasing, using, evaluating and disposing of products, services and ideas which they expect will satisfy their needs."

• **The American Marketing Association** has defined consumer behaviour as, "The dynamic interaction of affect and cognition, behaviour, and the environment by which human beings conduct the exchange aspects of their lives."

• According to **Webster,** "Buyer behaviour is all psychological, social and physical behaviour of potential customers as they become aware of, evaluate, purchase, consume and tell other people about products and services."

• **Kotler and Armstrong** viewed that "Consumer buying behaviour refers to the buying behaviour of final consumers – individuals and households who buy goods and services for personal consumption."

• According to **Kurtz,** "Consumer behaviour consists of the acts of individuals in obtaining, using and disposing of economic goods and services, including the decision processes that precede and determine these acts."

According to the above definitions, the consumer behaviour includes the following aspects:

1. To satisfy the basic needs and wants the consumers have to search the required goods and services.

2. For this purpose they have to search the available products and services in the market.

3. After searching and getting the information about the existing product they have to evaluate and acquire the required product from the market.

4. This process is a physical activity for purchasing, acquiring and using the goods and services.

**Concepts of Consumer Behaviour**

Consumer behaviour is relatively a new field of study in the research. It is a subset of human behaviour and often it is difficult to draw distinct line between consumer behaviour and other aspects of human behaviour. The discipline of consumer behaviour has borrowed heavily from the concepts developed in other disciplines of study such as psychology, sociology, cultural anthropology and economics. Therefore, it is important to understand the concepts of consumer behaviour. It is grouped into three categories. They are as follows:

1. Pre purchasing concept
2. Purchasing concept
3. Post purchase concept

**1. Pre purchase concept**

The first concept of consumer behaviour is the pre purchase concept. The knowledge about this concept is important for both the consumers and marketers. In this concept, both the consumers and marketers recognize the basic needs and wants of consumers. Based on these needs and wants, consumers and marketers behave differently in the market. This concept can be divided into three parts. These are as follows:

• **Needs and wants of consumer:** Needs are the core concept of consumer behaviour. The study of consumer behaviour refers to all the processes that drive in a person to perceive a need and pursue a definite course of action to fulfill that need. Every individual has needs that are required to be fulfilled. Primary needs are food, clothing, shelter and secondary needs are society, culture etc. Needs are the necessities, but wants are something more in addition to the needs. For example, food is a need and type of food is our want. In order to satisfy the needs and wants, the consumers enter into the market. These needs and wants make the consumers to follow the purchasing process.

• **Information search:** After the need recognition, consumers generally take steps to gather adequate information to select the appropriate solution to satisfy their needs and wants. Information search refers to the consumer surveys in the available environment for suitable information to make a satisfying purchase decision. It is an ongoing process for consumers and they use internal and external searches to get the information. Consumers may also be involved in ongoing search activities to acquire information for possible future use. In case of high involvement purchases, the relative importance of external information search tends to increase. In general, information search plays a vital role in the process of purchasing the product and services.

• **Searching for alternatives:** After identification of the needs the consumer have to know about the product which gives maximum satisfaction. In the market there are many products with different brand names are available. Among the available product he has to select best alternative from which he can get maximum satisfaction.

**2. Purchasing concept**

As per this concept the consumer has to take final decision to purchase the product. In this context, there are two important considerations. The considerations are evaluation of alternatives and purchasing the product. These considerations are discussed below.

• **Evaluation of Alternatives** : For the purpose of evaluation the consumer has to gather required information from number of sources. The sources are consulting friends, relatives, middlemen and having concentration on the print media, electronic media and the social media. The method of searching alternatives much depends upon the nature and cost of the product. As the cost increases the consumer will spend more time to evaluate.

• **Final purchase:** Once the product of a particular brand is selected he has to go for final purchasing. However, at the time of purchase he can use his option for colour, size, prize, etc.

**3. Post-purchase concept**

The consumer after purchasing the product will take delivery of it and carry to home. He starts using this product. In the process of using the product he may experience some problems. Such problems are discussed under this concept.

• **Dissonance about product :** Dissonance means level of dissatisfaction. When the consumer starts using the product the point of dissatisfaction may rise. Dissatisfaction may be because of not working of the product, interruptions at the time of working, and break or cracks in the product. It will be more if he compare with the existing old product or with the product available with the friends or relatives. Sometimes, the dissonance is so high where the consumer may go to the extent of returning the product.

• **Feedback**: In the market, there is a general practice by the reputed organisations to have feedback about the product or services which they have supplied. In general, majority of the consumers gives a positive report by ignoring minor level of dissatisfaction. Only few consumers may speak about the actual feedback.

Thus, this feedback about the product by the consumers is important information for business firms and middlemen who are involve in the marketing process. This concept has significant influence on the consumer behaviour. It may give guidance for the businessman and creates an opportunity to modify the product to turn back the consumers to their side so that future sales can be increased.

**Literature Review**

So far we have discussed in brief about the concepts of the study. The concepts covered are consumer, consumer behaviour and other related aspects. Our study is mainly related to the conceptual understanding on consumer behaviour. Regarding this topic and related topics earlier many researchers have conducted plethora of studies. Thus, in the context, a need was felt to study the available literature as well, to gain a more comprehensive understanding. Therefore, the findings and conclusions drawn by some important researchers are being presented in this section.

According to **Louden and Bitta**, 'consumer behaviour is the decision process and physical activity, which individuals engage in when evaluating, acquiring, using or disposing of goods and services'. **Peter D. Bennett**, ed. Dictionary of Marketing Terms, 2nd ed. 1995. "Consumer behaviour refers to the actions and decision processes of people who purchase goods and services for personal consumption." **James F. Engel, Roger D. Blackwell and Paul W. Miniard**, "Consumer Behaviour" (1990): Consumer behaviour refers to "the mental and emotional processes and the observable behaviour of consumers during searching for, purchasing and post consumption of a product or service."

**The American Marketing Association** has defined consumer behaviour as, "The dynamic interaction of affect and cognition, behaviour, and the environment by which human beings conduct the exchange aspects of their lives." It is the study of how individual customers, groups or organizations select, buy, use, and dispose ideas, goods, and services to satisfy their needs and wants. It refers to the actions of the consumers in the marketplace and the underlying motives for those actions. The study of consumer behaviour assumes that the consumers are actors in the marketplace. Starting from the information provider, from the user to the payer and to the disposer, consumers play these roles in the decision process.

**A. Abdul Brosekhan and Dr. C. Muthu Velayutham** in their study stated that consumer behaviour has been always of great interest to marketers. The knowledge of consumer behaviour helps the marketer to understand consumers think, feel and select from alternatives like products, brands etc. A consumer's buying behaviour is influenced by cultural, social, personal and psychological factors. Most of these factors are uncontrollable and beyond the hands of marketers but they have to be considered while trying to understand the complex behaviour of the consumers.

**Kumar, K. Ambarish, Jordan, B.B. and Barker Tansu, A. (1987)** in their article says that consumer behaviour comprises both mental and physical activities of a consumer. It is an integral part of human behaviour. In many cases, it is the sum total of the behaviour of a number of persons. They examined various factors influencing the purchasing decision making of different food products. Results revealed that age, education and income were the significant factors influencing in buying decision. Consumers were attracted by the brand image than the origin of the product.

**Ramasamy, K., Kalaivanan, G., and Sukumar, S (2005)** has concentrated on the buying behaviour that is vastly influenced by awareness and brand image towards the product. Based on the opinion of consumers accept, quality and price of the product as an important factor to purchase. As consumers become savvier, they only respond to the right messages delivered in a timely manner. For marketers to be customer-centric, they must collect and analyse the information available to manage customer expectations. Today, marketing has changed to the extent where it has moved from getting to know the average consumer's behaviour to focusing on individual customers.

**Rani Pinki (2014)** expresses that study of consumer buying behaviour is gate way to success in market. Consumer behaviour is deeply influenced by cultural factors. Basically, culture is the part of every society and is the important cause of person wants and behaviour. Social factors also play an essential role in influencing the buying decisions of consumers. For a successful consumer oriented market service provider should work as psychologist to procure consumers.

**Rai Naveen (2013)** has studied the impact of advertising on consumer behaviour. The findings of the study are that advertisement worldwide influence the behaviour and attitude formation of consumers not only in India but also worldwide. The consumers of durables products have their motivational sources which are advertisements and study revealed that advertisement motivates them to materialize the purchase of durables. The consumers are induced significantly by advertisements when the target is on quality and price. Purchase attitude and behaviour is influenced by variety of advertisements which cover product evaluation and brand recognition.

**Sharma Manoj Kumar (2014)** has suggested some strategy with which service organization might reduce cognitive dissonance. Their study reveals to focus on more encouraging beliefs that offset the dissonant belief or behavior; change the conflicting belief so that it is consistent with other beliefs or behaviours. Looking for credible source which the target consumers trust at the same time word-of-mouth communications need to be increased. Finding out the sources which match customer's previous belief is more important to maintain consumer satisfaction.

**N. Ratna Kishor (2014)** in his article suggests that modifying the product to market is more suitable for the needs/usage conditions of rural consumer. The organization has to consider the pull strategy and push strategies in rural market to capture durable market share. It is better to use mixed strategies of promotional techniques in rural market to promote the consumer durable products in markets. Campaigns, exhibitions and trade fairs are important to create the awareness about products and brands. Collection of feedback is important among the products after using the products in terms of price, durability, service, and satisfaction. It is better to use right promotional techniques in rural areas for win rural consumer's mind.

**Rambabu Lavuri (2015)** tells us that consumer buying behaviour changes due to income level and other factors like age, economic and social statures but consumers have awareness towards Fast Moving Consumer Goods (FMCG) products through daily advertisements. Success of business depends on the effective media communication. Media advertising has served a critical purpose in the business of FMCG by enabling seller to effective compute with one another for the attention of customer. Media advertising has been a very important communication tool for FMCG. It is highly visible and more effective. It helps to create awareness, remind, persuade to buy and retain the existing customers.

**Si Suman (2014)** stated that the consumer behaviour can be built through effective advertisement. It is very much important for any business. A huge amount is paid by companies against advertisement. There are many ways available to give advertisement on which this amount is paid this are TV, Newspaper, Radio, Internet etc. At the initial phase of a company it is important that they give emphasis on corporate advertising because it helps in brand recall. The author opines that giving advertisement in any type of media is not the only medium for interaction but it also help to provide social service, by way of educating people. In the market it can easily be realized that the Television audience had a huge impact of these ads. Radio is seems to be outdated in urban areas. But after revolution in mobile technology and satellite, the radio is again starts growing. It can be interpreted from the survey that effective advertising has a great impact on the decision making process of the consumers for which the advertising has to be effective so as to leave a lasting impact on the consumers' mind and help them make correct decisions.

**Fazlollah Kazemi (2010)** stated that advertisement and quality are the major factors responsible for the success of Cadbury Dairy Milk. Advertising in particular have major influence on consumers' preference for Cadbury Dairy Milk. The study also showed that advertisement is the major source of awareness of Cadbury Dairy Milk and Television is the most effective medium which most consumers cited. The Consumers perception of effectiveness of five different media used in advertising Cadbury Dairy Milk was examined.

**Lavanya Rajendran and Preethi Thesinghraja** summarized their findings that young and middle-aged consumers prefer to get information from online sources, whilst newspapers and other legacy print media are popular amongst the older population. Ease-of-access to information, interactive nature of social media and on-demand availability of news are the primary reasons cited by the former group of population to favor the new media. New media and print media is bound to coexist reinforce each other.

**Rajagopal's** study on impact of radio advertisements on consumer behaviour revealed that advantage shopping at retail stores in response to radio advertisements is highly influenced by the physical, cognitive and economic variables. In analyzing the relationship between firms' sales and advertising this study differentiates between the type and content formulation of the advertising message, and the effectiveness of medium used to communicate it. Radio is an ideal media for marketing fast moving consumer goods because it can reach wide targeted listener demographics in urban habitat. Radio advertisements propagating promotional messages on sales of products have quick response to the supermarkets and department stores. Listeners of radio commercials are attracted towards advertisements which are more entertaining while disseminating the message. Advertisements on radio are designed around the concept of customer value and focused to deal with widespread retail competition, and knowledgeable and empowered consumers.

**R. Renjith Kumar (2007)** concluded that the advertisement influences product purchase for a non-durable product like masala powder, the main factor is the 'quality'. Consumers get more awareness and influence from advertisements. As there is an option for home made preparation of masala powder, the marketers should be highly competitive without sacrificing the quality of the product. He has developed a model to understand the determinants of consumer behaviour regarding buying decision. The frequency of consumer's shopping for food products has been analysed among different occupations. Efforts have been taken to know the attitude of the consumers towards food product labels and their perception about food safety which has also analysed.

**Ramaswamy Nandagopal, Rengasamy Natarajan Balamurugan, Mahendran Sathish** has discussed a study on the consumer attitudes towards mobile advertisements. Generally, the attitude of the respondents in Coimbatore city towards mobile advertisements is positive. 'Informativeness' has been found to be the most significant factor in mobile advertising. This finding has significant implications for companies in terms of marketing their products and services.

To conclude our review of literature we can say that many researchers have covered the following areas of the research which is related to this topic.

i. The study of consumer behaviour is important in the context of individual, group of consumers and organisational view point.

ii. There are various factors that can influence the consumer behaviour. Major factors are personal, social, psychological, and cultural factors

iii.There is another important factor that influences the consumer behaviour. This factor is media.

iv.The media is also an important factor which can influence the consumer behaviour.

v. Advertisement is one of the methods of building consumer behaviour. Through advertisement consumers gets the awareness about the existence and features of the product.

**Consumer Behaviour Models**

The behaviour of the consumer can influence the quantum of sales. The behaviour depends upon the nature and type of consumer. Thus, it has necessitated us to study the nature of the consumers to understand the concept of consumer behaviour. Technically speaking, the nature can be described as model. For the purpose of our study the models of consumer and their behaviour are classified into two categories. They are as follows:

I. Domestic models

II. Contemporary models

**I. Domestic models:** These models are being developed in India. They are related to the level of perception, intention of spending and saving, psychology and social behaviour. Thus, these models can be grouped into four categories. They are as follows:

- Learning model
- Economic model
- Psychoanalytical model
- sociological model

**Learning model:** According to this model consumer wants to satisfy his basic needs with his income and earnings. They include food, clothing, shelter, education, and health, etc. After satisfying of these essentials he may plan to go for non essentials to enjoy his life. Thus, this model is related to the level of perception of the consumer about his income, essentials in particular and non essential in general.

**Economic model:** This model is related to the study of nature of consumer. The nature can influence the behaviour of consumer. In general, consumer wants to get more benefits for the amount which he is spending. The expenditure and benefits much depends upon the purchasing power of the consumer. The prevailing market prices can also influence the behaviour. Technical speaking, this model is based upon a return on expenditure concept.

**Psychoanalytic model:** This model stressed on the psychology of the consumer. It tells that psychology can have significant influence on the consumer. Many factors can influence the consumer psychology. They include a price of the product, quality of the product and durability of the product etc. In the market, some consumers may give importance to brand name. Thus, to conclude we can say that there is a perfect correlation in between psychology and behaviour of the consumer.

**Sociological model:** Every consumer wants to maintain economic status and social status. Economic status depends upon the income and family expenditure whereas social status depends upon the manner of living in a society. This status is to be maintained because man cannot live without society. The society can guide the consumers regarding to their social behaviour. Thus, on this basis this model is developed.

**II. Contemporary models:** Simultaneously, many researchers of different countries have developed the models which are related to consumer behaviour. Thus, we have named these models as contemporary models. Few important models are being discussed in the study. They are as follows:

- Nicosia model
- Howard Sheth model
- Webster and Wind model
- Engel – Kollat – Blackwell (EKB) model
- Engel – Blackwell – Miniard (EBM) model

**Nicosia Model**

Francesco Nicosia, an expert in consumer motivation and behaviour has developed this model in the year 1966. He has established a link between the organization and its consumers. According to this model the organisation has to attract the consumers towards the product manufactured. In order to attract the consumer, the organisation has to give advertisement. In the advertisement copy it has to describe about the positive features of the product. On the basis of advertisement the consumer evaluates the product with the available alternatives in the market. If satisfied, the consumer will buy the product. Finally, the author of this model stated that the consumers after using the product may give feedback to the organisation. However, it can be expected from the few consumers. Thus, in this way Nicosia has established the link between the organisation and the consumers.

**Howard Sheth Model**

In the year 1969, Howard and Sheth have developed this model. This model is also related to consumer behaviour. As per the Howard and Sheth, learning, perception, and attitude of the consumers can directly influence the consumer behaviour. In the model they have covered the following important aspects:

i. The consumers get the information about the availability of the product.

ii. Information may be available to them from the following sources:

a) The first source is the advertisement from the organisation about the product and its features.

b) Information can also be available from the marketing middleman.

c) It can be understood from the friends, family members and relatives etc.

iii. In the case if he is satisfied with the available information about the product the consumer will form a positive attitude towards it.

iv. This positive attitude will encourage the consumer to purchase the product.

v. Finally, Howard and Sheth have concluded this model with a view that the consumers may give response to the organisation.

This model is almost all similar to the model developed by Nicosia model. However, it is exhaustive model covering the role of marketing middleman and friends and relatives in the context of consumer behaviour.

**Webster and Wind Model**

In the two models we have discussed about the relation between the product and consumer behaviour. In the year 1972, F.E. Webster and Y. Wind have given different dimension to the study of consumer behaviour. They emphasized that performance of the organisation, organisation behaviour and brand name of the organisation can also influence the consumer behaviour. The consumers who are satisfied with the image of the organisation can formed a positive attitude towards product. However, to purchase the product the consumer will also consult his friends and relatives. To conclude this model we can say that there is a link between organisation and consumer. Further, there is an impact of brand name of the organisation on the consumer behaviour in general and consumer buying process in particular.

This model refers to the environmental, organizational, interpersonal and individual buying determinants which influences the organizational buyer(s). This determinant influences both the individual and group decision making processes and consequently the final buying decisions. The organizational determinant is based on Harold Leavitt's four elements of organization buying viz., people, technology, structure and task. This model is a valuable contribution and helps in revealing the whole range of direct and indirect influences which affect the organizational buying behaviour. However, the limitation is that this model provides a static representation of a dynamic situation.

**Engel – Kollat – Blackwell Model (EKB Model)**

The Engel-Kollat-Blackwell model of consumer behaviour is an analytical and descriptive model over the model discussed earlier in the study. This model was developed in the year 1968. This model shows components of decision making and the relationship and interaction among them. .In their model of consumer behaviour, they view consumer behaviour as a decision process and identify five activities occurring in this decision process over a period of time. It has discussed the five steps in the context of consumer behaviour. The five steps are as follows:

• **Problem Recognition:** At the first the consumer identifies his own problem which will satisfy desire and needs. The authors have illustrated this aspect with a beautiful example. A young girl to enjoy the beauty may think to purchase the diamonds or to look to purchase fairly good looking dress. Likewise, many ideas may fit into her mind. The girl tries to get the solution of the problem. This stage is called as the problem identification or problem recognition stage.

• **Information Search:** The consumer after problem identification plans to get the required information. The information can be obtained from many sources. They include media, sale personnel, friends, neighbours and relatives. The authors have considered this process as information searching stage.

• **Alternative Evaluation:** On the basis of preliminary mindset, the consumer may precede further to get the information about the brands available in the market. However, his believes, attitudes are playing important role in this process. Thus, this stage is called as alternative evaluation stage.

• **Choice:** On the basis of alternative evaluation the consumer may proceed further. In the opinion of the authors who developed this model, this stage is called as the choice stage. The purchase of the product much depends upon the consumer believe, attitude and psychology. The process of buying of the product even after this sage can be disturbed. Many factors can become obstacle for the consumer to purchase the product. For example, losing the job suddenly, diversion of funds for some urgent needs, or has to meet unexpected expenditure to come out from the unforcing problem etc.

• **Outcome:** In the case the consumer if satisfied with the available information, alternative evaluation and do not have any hurdles, will go for purchase of the product.

• In this model all the important steps of the consumer behaviour such as problem identification, searching of information, alternative evaluation, and free from all the hurdles of purchasing the product and final purchase of the product are covered. Thus, it can be consider as superior model over the other models.

**Engel Blackwell and Miniard (EBM) Model**

On the basis of previous model i.e., Engel, Kollat and Blackwell model, this model is developed in the year 1972. The authors of the model are Engel, Blackwell and Miniard. This model is the combination of Howard – Sheth model and EKB model. As per this model, there are four stages in the process of consumer behaviour. The detailed explanation of each stage is given below:

• They have described the first stage as information input stage. A consumer can have the require information from the marketing and non marketing sources. Information can also be collected from the past transactions and experiences.

• In the second stage the consumer makes attempt to understand the collected information can be retained in the memory.

• The actual decision process of the consumer starts at this stage. While taking decision the consumer has to identify the need, and using the information which is available in the memory. In the case if the consumer is not satisfied he can search additional information. At a penultimate stage the consumer will go for alternative evaluation. In the case if the consumer is satisfied with the product he purchases the same from the market.

• As per the authors, at the final stage of decision making process of the consumer many factors are playing important to reverse it. They include social, situation and other factors.

In almost all the models, which are being developed by the Indian and foreign authors, the following aspects, are discussed:

• Consumer has to identify his needs of the life. Needs may be related to essentials and in some cases may be related to non essentials.

• After identification of need, the consumer has to search the product which is fit to give comfort to him.

• For this purpose the consumer has to collect the required information about the available products in the market.

• Such information can be collected from many sources.

• There is an alternative evaluation of the products available in the market. For evaluation the consumer may consider the features of the product, image of the organisation, durability of the product and price of the product etc.

• After evaluation, the consumer will be mentally prepared to purchase the product. Few authors have stated that at this stage also decision may be reversed because of unforcing factors.

- Consumer, who will come out successfully after passing all the hurdles, will purchase the product and carry to home.
- After the purchase consumer sometimes go for post purchase analysis.

**Conclusion**

To conclude the study, we can say that consumer behaviour is the physical activity for purchasing, acquiring and using the goods and services. After studying the definitions, concepts and models, we can say that it involves three major concepts. They are pre purchase, purchase, and post purchase concept. Pre purchase concept is related to the needs and wants of the consumers. Based on these needs and wants, consumers behave differently in the market. To satisfy these needs and wants consumers go for searching the information and then they search for alternatives of the product. Purchasing concept consider the two important concepts i.e., evaluation of alternatives and purchasing the product. For the purpose of evaluation of alternatives the consumer has to gather required information from many sources.

After the thorough evaluation the consumer finally purchases the product. Post purchase concept explains about the behaviour of consumer over the product after the consumption. In the process of using or consuming the product the consumer may experience some problems. Such problems are under this concept like dissonance about the product and feedback. Dissonance means level of dissatisfaction of the consumer. Dissatisfaction may be because of not working of the product, interruptions at the time of working, and break or cracks in the product. In the present paper, an attempt was made to give a comprehensive view of the various concepts, including the models of consumer behavior, alongwith a detailed literature review to give a complete conceptual understanding of the concept.

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# A Study of Effect & Impact of Macroeconomics Variables of India on Sectorial Indices of NSE and Indian Volatility Index (VIX)

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**Abstract**

Capital market is affected by many factors including internal and excluding factors. Changes in capital market also have reciprocal impact on other variables called micro and macro economics variables.

This research has focused on analysing effect and impact of Macro Economic variables on Indian Indices Volatility Index. The study has two objectives, first deals with the impact and another is related to integrity. 10 Macro Economic Variables and 10 Sectorial Indices from NSE have been selected for study.

Appropriate tests have been applied to achieve objectives. It is found that Macro economic variables have effects and impacts on Indian VIX.

**Key Words:** Macro economic variables, Indices, Volatility Index

**Introduction**

The Indian equity broking industry has gained momentum in terms of scope and scale. The industry has tremendous opportunities as India moves towards adding another trillion GDP. Competition in the broking space has intensified with entry of new firms and recognised brands with strong balance sheets.

With the Indian securities market experiencing rapid growth and financial integration gaining speed, the role of intermediation will strengthen further. However, in the long term, quality and maturity of services would determine the success and sustainability of firms in this industry. Key factors driving growth and success in the broking industry are distribution networks, diversification of services, expertise and research, transparency and disclosure, and compliance and market integrity.

Technology is one of the key growth drivers since ability to scale up businesses and engage customers and yet manage costs is only possible with state-of-the-art technology in place. Customers require access to latest information and analytical tools, to engage effectively in the capital markets due to the real-time environment in which all operate. Equity broking terminals consists of NEAT, BOLT and CTCL.

Following the trends of previous year's studies the western region continues to be the biggest region in terms of broking companies. More than 50% companies that form a part of the current publication were based in western India (Gujarat, Maharashtra and Dadra & Nagar Haveli). City wise, Mumbai leads the pack with 41% companies followed by Ahmedabad, Rajkot, Vadodara and Surat.

Broking activities are emerging in a number of cities other than the main ones and the metros. Backed by the growing broking culture across the country and the onset of IT has enabled mainly equity broking firms to broaden their network across the country. The SENSEX is a major stock market index which tracks the performance of large companies based in India. A stock market or exchange is the centre of a network of transactions where securities buyers meet sellers at a certain price.

**Literature Review**

Chen, Nai-Fu, Richard Roll, and Stephen A. Ross (1986): suggested that economic variables have a systematic effect on the stock market returns. This implies that the economic forces affect discount rates and, consequently, the ability of companies to generate cash flows and future dividend payments.

Hamo, Y.(1988), has done a similar study on the Japanese stock market by APT and found that changes in inflation, unexpected changes in the risk premium, and term structure of interest rates, significantly affects stocks. He observed that changes in monthly production is weekly priced and unexpected changes in the exchange rate as well as changes in oil prices are not priced in the Japanese stock market.

Abdullah, Dewan A., and Steven C. Hayworth. (1993) studied that the money market is represented by interest rate and money supply. Inflation, GDP and IIP contribute to goods market. Security market includes Sensex, NIFTY, FDI /FII. Exchange rate and oil price relates to influence of the overseas markets on the external sector of the Indian economy. Interest rates play an important role in stock returns.

Mukherjee, Tarun K., and Atsuyuki Naka (1995) concluded that an increase in interest rate may reduce corporate profitability due to probable recession or because of increase in the cost of capital. On the contrary, a positive relationship was found between short-term interest rate represented by call money rate and Japanese stock price.

Patra, Theophano, and Sunil Poshakwale (2006), in their study confirmed an indirect effect of money supply on the stocks prices through inflation .The decrease in money supply led to reduction in inflation which in turn increased the demand of stocks for Athens stock market.

Erdem, Cumhur, Cem Kaan Arslan, and Meziyet Sema Erdem (2005), Examined volatility spillover from inflation, exchange rate, M1 money supply and industrial production to Istanbul Stock Exchange's stock price indices including IMKB 100, financial, industrial and services indices using monthly data. EGARCH model captured significant unidirectional spillovers from inflation, interest rate to all stock price indices. There are negative volatility spillovers from inflation to stock price indices except the Service Index and positive spillover from interest rate to stock price indices except Service Index (negative spillovers).

Hosseini, Seyed Mehdi, Zamri Ahmad, and Yew Wah Lai (2011) Examined relationships between stock market indices of China and India and four macroeconomic variables, crude oil price (COP), money supply (M2), industrial production (IP) and inflation rate for the period 1999 to 2009. They used Johansen-Juselius (1990) multivariate co-integration and VEC model technique which indicated that both countries have short as well as long-run relationships between macroeconomic variables and market index of individual countries. The results for both economies are different. In the long-run the impact of increase in crude oil price and money supply for China is positive, whereas, for India, it is negative.

Vardhan, Harsh, and Pankaj Sinha. (2014), Investigated the relationship between FII investments and the Indian stock market using ARIMA model and found that the past FII investments 12 Positive feedback traders are rushing to buy when the market is booming and are selling when the market is declining. They are eager to mimic each other's behavior have significant impact on the current Sensex & NSE Index, but there is no significant impact of current FII investment on the current indices.

### Objectives of the study

1.To analyze cause and effect as well as impact of Macroeconomic Variables on Sectorial Indices as well as volatility index.

2.To find the interdependence relationship between two or more Indices as well as Macro Economic Variables

### Data Collection

In this research secondary data of Macroeconomics Variables and Sectorial indices data from 2005 to 2014 monthly data are collected through National Stock Exchange and Reserve Bank India database through internet.

### MACROECONOMIC VARIABLES AND INDICES

Table 1 shows the macroeconomic variables as well as indices considered in this research.

**Table 1: Macroeconomic variables as well as indices**

| A. Macroeconomics Variables | B. Various Indices |
|---|---|
| • Gross Domestic Production | • CNX _ Auto Index |
| • Index of Industrial Production | • CNX _ Bank Index |
| • Exchange Rate (S-INR) | • CNX _ Energy Index |
| • Crude Oil Price | • CNX _ Finance Index |
| • Wholesale Price Index (WPI) | • CNX _ FMCG Index |
| • Foreign Exchange Reserve | • CNX _ IT Index |
| • Export | • CNX _ Metal Index |
| • Import | • CNX _ Pharma Index |
| • Repo Rate | • CNX _ PSU Banks |
| • Reverse Repo Rate | • Indian Volatility Index |

### Research Methodology

The purpose of this research is to analyze the Effect and Impact of Macroeconomic Variables on Sectorial Indices on NSE (National Stock Exchange) and Indian Volatility Index (VIX)." The term of effect and impact for this research means to what extent will the macroeconomic variables effect or influence the investor's perception, sectorial indices and volatility index by analyzing the variables which will lead to change in these factors.

**Table : 2**

| | |
|---|---|
| **Effect** | In this effect is the causal relationship between independent Variables(Macroeconomic Variables) and dependent variables (Sectorial Indices return and Indian Vix return) |
| **Impact** | In this time duration of the effect between independent Variables (Macroeconomic Variables) and dependent variables (Sectorial Indices return and Indian Vix return) |

| | |
|---|---|
| **Macroeconomic Variables** | Macroeconomic Variables are independent variables which affect dependent variables sectorial indices return |
| **Sectorial Indices** | Various sectorial return like Automobile, PSU Banks, Bank, Realty etc…are dependent variables who affected by independent variables |
| **Indian VIX** | Indian VIX is the index for measuring volatility in Indian stock market |

**Tools For Analysis**

**(a) Descriptive Statistics and Graphical presentation**

To identify the mean return of various sectorial indices as well as mean changes in macroeconomics variables.

**(b) Correlation Analysis**

To identify co-relationship between Macroeconomic variables with Sectorial indices return and VIX volatility.

**(c) Multi Regression Analysis**

To identify what percentage changes in Macroeconomics variables leads to the what percentage change in sectorial indices return as well what percentage change in volatility in volatility index.

**(d) Unit Root Test (ADF Test)**

To identify the normality as well as longitudinally of Macroeconomics variables, Sectorial Indices and Volatility Index.

**(e) Ganger Causality Test**

To identify causal relationship between Macroeconomic variables with Sectorial indices return and VIX volatility and its use to determine short run relationship between Macroeconomics variables, Sectorial Indices and Volatility Index.

**(f) Johnson Co Integration Test**

To identify co-integrated relationship between two or more indices return and VIX volatility and its use to determine short run relationship between two or more indices, Sectorial Indices and Volatility Index.

**(g) VAR ( Vector Auto Regression) Analysis**

VAR is used for to measure the interdependence among various Macroeconomic Variables. It measures the percentage change in one Macroeconomic variable leads to what percentage change in another Macroeconomic variable.

**Hypothesis**

**A. Augmented Dickey Fuller Unit root Test**

Ho: There is no unit root of series of data

**H1**: There is unit root of series of data

**B.Ganger Causality Test**

Ho: There is no significant effect of Macroeconomics Variables on Sectorial Index

**H1**: There is significant effect of Macroeconomics Variables on Sectorial Index

Ho: There is no significant effect of Macroeconomics Variables on VIX

**H1**: There is significant effect of Macroeconomics Variables on VIX

**C.Johnson Co-Integration Test**

Ho: There is no significant co-integration of Macroeconomics Variables with Sectorial Index

**H1**: There is significant co-integration of Macroeconomics Variables with Sectorial Index

Ho: There is no significant co-integration of Macroeconomics Variables with VIX

**H1**: There is significant co-integration of Macroeconomics Variables with VIX

**Data Analysis**

- To apply the various tests and to balance the data, Mean has been found of all the data of of Macroeconomics Variables and Sectorial indices data from the year 2005 to 2014. Monthly data has been collected from websites of National Stock Exchange and Reserve Bank India database.
- Correlation Analysis has been done to identify co-relationship between Macroeconomic variables with Sectorial indices return and VIX volatility for the data from the year 2009 -2014.
- By using Unit Root Test (ADF Test) To identify the normality as well as longitudinally of Macroeconomics variables, Sectorial Indices and Volatility Index have been test for stationary of data.

**Objective 1**

To analyze cause and effect as well as impact of Macroeconomic Variables on Sectorial Indices as well as volatility index.

To achieve this objective,

- Multi Regression Analysis and Ganger Causality Test have been run to identify the cause and effect as well as impact of various macroeconomics variables on Sectorial Indices as well as volatility index

**Objective 2**

To find the interdependence relationship between two or more

Macro Economic Variables.

To achieve this objective,

- **Johnson Integration Test** has been applied to identify co-integrated relationship between two or more indices return and VIX volatility and its use to determine short run relationship between two or more indices, Sectorial Indices and Volatility Index

- **VAR (Vector Auto Regression)** Test has been used to measure the interdependence among various Macroeconomic Variables. It measures the percentage change in one Macroeconomic variable leads to what percentage change in another Macroeconomic variable.

**Findings from data analysis**

**Objective 1**

- Multiple regression analysis revels that 15% of the variation in the CNX_AUTO, 6.3% of the variation in the CNX_BANK, 5.4% of the variation in the CNX_ENERGY, 23% of the variation in the CNX_FINANCIAL SERVICE, 8.5% of the variation in the CNX_FMCG, 1.5% of the variation in the CNX_IT, 27.2% of the variation in the CNX_METAL, 1.9% of the variation in the CNX_PHARMA, 30.8% of the variation in the CNX_PSU BANK, 6.3% of the variation in the CNX_VIX is explained by selected Macroeconomics Variables i.e. WPI, GDP, IIP, Crude Oil, Foreign Reserve, Repo Rate, Reverse Repo Rate, Import, Export, Exchange Rate.

- Granger Causality Test reveals that there is an unidirectional relationship between there are some macroeconomics variables that affect indices and indices not affect macroeconomic variables I.e., Export to CNX_AUTO, Crude oil to CNX_Energy, CNX_IT, CNX_Metal, CNX_PHARMA, Exchange Rate to CNX_VIX.

- There is one more unidirectional relationship found out that some of the indices affect macroeconomics variables but macroeconomics variables does not affect indices i.e., CNX_BANK to Crude oil, CNX_Energy to exchange rate, CNX_Financial Services to Crude oil and CNX_IT to Export as well as import.

- Other than that there is bidirectional relationship between macroeconomic variables with indices that is they affect each other. Indices affect macroeconomic variables and macroeconomic variables affect indices.

- So study found out that there is causal relationship prevailing between macroeconomic variables and indices.

**Objective 2**

- Johnson Integration Test has been applied to find out the interdependence relationship between two or more indices. The test results shows that the existence of both co integrating equation at 5% level of significance. And, the maximum Eigen value test makes the confirmation of this result. So, there is the significance co- integration between two or more indices.

- Vactor Auto Regression (VAR) is used for to measure the interdependence between two or more various Macroeconomic Variables. The test result shows that there is a rejection of making vector between two or more Macro-Economic Variables as no variables value is in a range on -0.5 to 0 or more than 0.5.

**Conclusion**

The main objective was to study the capital market insight as well as how it performs during any change in the external environment that is, the changes in macro level variables like WPI, export, import exchange rate etc.

The prior studies examined the time series behavior of Indian Sectorial indices on NSE and India VIX and its relation with different Macro-Economic Variables. This study examines the time-series properties of Indian Sectorial indices on NSE and India VIX and the relationships between of Indian Sectorial indices on NSE and India VIX and returns of the Macro-Economic Variables for the period 2005-2014.

The study results indicate bidirectional causality from INDICES & VIX to Variables. This study confirms integration between VIX and Indices with Variables as well as in the long run Variables will cause indices and VIX movement whereas in the short run reverse is true. Apart from co-integrating and causal relationship a more comprehensive study in the direction of test of efficiency and chaotic behavior is also required. In developed markets derivatives on Macroeconomic Variables is most popular instrument.

Thus, this study will help policymakers in designing of appropriate Strategy to responds the market based on Macroeconomics variables for hedging and risk management

### 1. Annexure

Correlation between various Macro economic variables and Indices

| | Auto Index | Bank Index | Energy Index | Finance Index | FMCG Index | IT Index | Metal Index | Pharma Index | PSU Banks | Volatility Index |
|---|---|---|---|---|---|---|---|---|---|---|
| **WPI** | **0.163078** | **0.074386** | **0.069795** | **0.094599** | **0.152809** | 0.069148 | **0.204436** | 0.060414 | 0.042939 | 0.023189 |
| **GDP** | -0.03445 | 0.09769 | 0.125006 | -0.03714 | 0.031667 | 0.010814 | -0.05068 | 0.038226 | 0.06086 | -0.05545 |
| **IIP** | -0.03672 | -0.01177 | 0.022222 | 0.003087 | -0.02083 | -0.00388 | 0.058799 | 0.05947 | -0.02512 | 0.133806 |
| **Crude Oil** | 0.05475 | 0.087694 | 0.070888 | -0.10219 | -0.07499 | 0.042224 | 0.173629 | 0.038625 | **-0.12761** | 0.12899 |
| **Foreign Reserves** | -0.02263 | 0.055404 | -0.00312 | 0.049803 | -0.05306 | -0.08912 | -0.09599 | 0.016675 | 0.021285 | **-0.15311** |
| **Repo Rate** | 0.006298 | 0.012076 | 0.018339 | -0.02209 | 0.074521 | -0.08021 | 0.068732 | 0.034708 | -0.0343 | -0.08013 |
| **Reverse Repo Rate** | 0.006298 | 0.012076 | 0.018339 | -0.02209 | 0.074521 | -0.08021 | 0.068732 | 0.034708 | -0.0343 | -0.08013 |
| **Import** | -0.10471 | 0.068013 | **-0.22205** | -0.00683 | -0.03698 | -0.05224 | 0.0136 | **-0.11758** | -0.03379 | **-0.16595** |
| **Export** | -0.05543 | 0.028864 | -0.17916 | -0.02502 | -0.06496 | 0.027967 | 0.01732 | -0.08259 | -0.09196 | 0.142217 |
| **Exchange** | **-0.406** | **-0.311** | -0.152 | **-0.502** | **-0.305** | **-0.183** | **-0.506** | **-0.228** | **-0.560** | 0.064052 |

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# Effects of Demonetization on Indian Economy

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**Abstract**

Demonetization is the act of stripping or removing off money currency unit of its status as legal tender. Demonetization is legal action to deal with black money functioning in the economy. It is a strong weapon to fight against corruption and illegal activities. Indian government decided to demonetize Rs. 500 /- and Rs. 1,000 /- rupee notes that were the two biggest denominations in currency system accounting about 86% of the total cash circulation on 8th November 2016. Present research is an exploratory study mainly based on secondary data that brings to light the impact and influence of introducing demonetization on various segments of Indian economy. Study focuses on analyzing different economic indicators that signify the effects of demonetization on economic growth and development of the nation. Different economic ratios were determined in present study including ratios related to gross domestic product, agricultural turnover, collection of taxation, number of tax payers, purchase manager index of manufacturing industry and of service industry.

**Key Words:** Demonetization, India, Effects, Impact, Economic Performance

## Introduction

Money is the life blood of any economy. Demonetization is the act of stripping or removing off money currency unit of its status as legal tender. It generally takes place whenever there is a change of national currency. The current form of money currency is pulled out from circulation and retired. This old currency is replaced with new notes and / or coins. Sometimes, a country completely replaces its old currency with new currency. In 1923, Dr. B. R. Ambedkar in his book titled 'Problem of Rupees' had recommended that Indian currency should be replaced after every ten years to end the hazards of rupees as well as controlling inflation. Demonetization is the historical decision which puts short term and long term effects on the economy. Dictionary meaning of the term *demonetization* is 'ending something (gold or silver) that is no longer legal tender of a country'. However, it must be noted that there is much more than the literal meaning of the word.

Demonetization is legal action to deal with black money functioning in the economy. It is a strong weapon to fight against corruption and illegal activities. Demonetization is very important for proper flow of money. It is also unique way to check the inflation. In India, demonetization was done for the first time in January 1946, when Rs. 1,000 /-, Rs. 5,000 /- and Rs. 10,000 /- notes were taken out of circulation. Later in the year 1978, the Janata Party Leader Morarji Desai who was more bullish about cracking down on counterfeits and black money demonetized Rs. 1,000 /-, Rs. 5,000 /-, Rs. 10,000 /- notes for the second time. Both these demonetizations were not as effective as expected. This was because according to Central Board of Direct Taxes (CBDT) report, less than 15% high currency notes were exchanged in 1946 and 1978. Whereas, more than 85% currency notes were not recovered or brought into circulation due to fear of penal actions and punishments from different authorities. Another important reason identified during demonetization of 1978 were suggestions given by Wanchoo Committee 1970. Even though the committee forwarded recommendations in year 1970, but decision was implemented after a long time periodic discussions. This gave sufficient time to black money holders to exchange and get rid of demonetized currency, making the entire decision unsuccessful. Demonetization announced on 8th November 2016 was the third of its kind in the Indian history.

### Demonetization in November 2016

Indian government decided to demonetize Rs. 500 /- and Rs. 1,000 /- rupee notes that were the two biggest denominations in currency system. These notes accounted for 86% of the country's cash circulation. With little warming, India's Prime Minister Hon. Shri. Narendra Modi announced to the public on 8th November 2016 that Rs. 500 /- and Rs. 1,000 /- rupee notes shall become worthless and ineffective immediately. These currencies were required to be deposited in bank accounts or exchanged with new currency notes of Rs. 500 /- and Rs. 2,000 /- by the end of calendar year 2016. PM Modi announced an open war against black money and corruption. He declared that RBI shall issue new currency notes of Rs. 500 /- and Rs. 2,000 /- which shall be introduced in the economy for circulation from 10th November 2016. The currency notes of Rs. 100 /-, Rs. 50 /-, Rs. 20 /-, Rs. 10 /-, Rs. 5 /-, Rs. 2 /- and Re. 1 /- shall continue to remain legal tender and shall remain unaffected by this decision. This measure was implemented as an attempt to solve problems of corruption, black money, terrorism and bogus / fake notes. Main reasons behind demonetization included dealing with black money present in economy, to reduce the cash circulation in country that is directly related to corruption, to abolish & remove fake currencies and dishonest funds that are used by terror groups to finance terrorism in India and finally, to eliminate black money from the economy. Also heavy stocks of black money are used by various political parties during election campaigning and promotions. Demonetization is expected to wash out formal economic system and discard black money simultaneously.

One prime disadvantage associated with demonetization was the difficulties and inconvenience experienced by common public at large standing in queues entire days outside their banks for withdrawing money from their accounts. Tensions increased to such a extent number of deaths and unrest among people were recorded at different places across the country. Also there was heavy scarcity of money circulation in the economy. Every person was offered new Rs. 2,000 /- currency note which was not acceptable by local shops, traders and businessmen due to lack of exchange denominations. People found many difficulties in finding out change of Rs. 2,000 /- currency notes. ATM machines were not calibrated (adjusted and standardized) as per requirements; hence many were neither functional (out of order) nor were having sufficient cash balance. Problems became worst when fraudulent and deceptive practices got started by banking officials and post office personnel who started exchanging old currencies with new ones for certain commission. In some cases, brokers and agent charged upto 60% commission for executing such exchange of demonetized currencies.

An important aspect that prompted Government to demonetize Rs. 500 /- and Rs. 1,000 /- notes was that circulation of such currency notes was not related to or linked with economic growth and development. According to Ministry of Finance, circulation of all notes increased by 40%, but circulation of Rs. 500 /- and Rs. 1,000 /- notes rose by 76% and 109% respectively from 2011 to 2016. On the contrary Indian economy has grown only by 30% which was comparatively quite less than the money circulation. Overall, the move of demonetizing currency shall help in eliminating existing stock of black money, fake currency and positive outcomes are expected to come during medium to long term period. A critical question that arises is that how creation of black money in future will be prevented and controlled. This aspect remains answered as of now.

**Research Methodology**

**Objectives of Study**

• To study effects of demonetization on the different sections of Indian economy

• To analyze different indicators indicating the economic performance of India

**Scope of Research :** Present research is an exploratory study based on secondary data which brings to light impact and influence of introducing demonetization on various segments of Indian economy. Study focuses on analyzing different economic indicators that signify the effects of demonetization on economic growth and development of the nation. Different economic ratios were determined in present study including ratios related to gross domestic product, agricultural turnover, collection of taxation, number of tax payers, purchase manager index of manufacturing industry and of service industry.

**Sources of Data :** Research is primarily based on secondary data that was collected from sources including internet, newspapers, research papers, articles and reference books.

**Effects of Demonetization on Indian Economy**

• Effect on Circulation of Money: Demonetization affected economy on account of liquidity aspect. About 86% of currency value in circulation was withdrawn without replacing it with suitable exchange medium. Because of withdrawing Rs 500 /- and Rs 1,000 /- currency notes with immediate effect in November 2016, there was a huge gap occurred in composition of currency notes. After Rs 100 /- notes, directly Rs 2,000 /- currency notes was available after demonetization. Removing Rs 500 /- and Rs 1,000 /- notes shall reduce utility of Rs 2,000 /-. Practically, currency notes of Rs 2,000 /- turned less useful and less functional among people after demonetizing.

• Effect on Gross Domestic Product (GDP): GDP means monetary value of all finished goods and services produced within national geographical borders of a country during specific period of time. GDP is a comprehensive barometric tool for measuring country's overall economic activities. Demonetization affected production of goods and commodities as well as affected availability of services. This was due to manufacturers and producers are not able to buy raw material from market because of lack of money. This influenced production and distribution of goods and services in the economy.

• Effect on Agriculture: Agriculture was affected through both, input-output channels as well as effects of price & output feedback. Cash is the primary medium of economic transaction in the agricultural sector, which contributed 15% to domestic total output formal financing in many parts. States like Punjab, Uttar Pradesh, Gujarat, Kerala, Odisha and Maharashtra that had large number of co-operative banks were restricted and barred from either depositing or exchanging demonetized currency. Sales turnover, transportation, marketing and distribution of ready finished produce to wholesale centers or mandis are mainly dependent on cash.

• Effect on Banking Sector: Biggest beneficiary because of demonetization is the banking sector because millions of common people rushed into banks for depositing demonetized currency notes available with them. This enabled banks for improving and enhancing their liquidity positions. Consumers at large became highly economical resulting in drastic fall market demand for various goods and services. Industries including agriculture, manufacturing & production and service were required to face heavy burden due to fall in scale of operations. Sectors like transport, telecommunication and real estate were affected significantly. With the increase in CASA, bank deposits in various banks also increased. This ultimately increased net interest income as well as net income earnings for banks. Although this income would not be peculiarly large as the central bank RBI had increased Cash Reserve Ratio (CRR) in short-term to clean some part of bank liquidity. Cash collection cycle of non-banking financial institutions and micro-finance institutions has been knocked severally. Many such institutions had announced 'collection holidays' till the time enough funds was injected back in the system. On the other hand, phenomena of demonetization would demolish earnings for most banks as advances and loans dealings had tear down in many such organisations.

• Effect on Inflation: Inflation denotes rise in general price level or average level of prices of aggregate goods and services. Sustained inflation occurs when general price level continue to increase during a comparatively long period of time. After since demonetization was put into action, it expected to have negative impact on inflation. Consumer expenditures and spending decreased drastically, almost negligible. Except essential requirements, consumers are not willing to purchase any goods and services which brought market demand to standstill.

• Effect on Tax Revenue: Deposits above Rs. 2.5 lakhs that have not been justified or declared to the income tax department will be penalized and taxed 200%.This can help being black money into the white money fold, making it legal. This can also provide revenues for government which can be used to pay the deficit in the budget estimation. If economic activity is slow, then the indirect taxes will be lesser than estimation.

• Effect on Budget: Demonetization was a bold and crucial strike to reach towards bigger, cleaner and real GDP. Demonetization and GST would had long period impact. Many people in India practiced tax evasion for years together. Due to demonetization, Government shall be looked as a trusted custodian of money of common man. It was highly expected that there would be higher GDP growth and collection of tax revenues due to demonetization.

• Effect on Foreign Trade: The business of imports and exports has been heavily influenced and affected negatively by recent and shocking implementation of demonetization. This is primarily due to negative impact on the exchange value of Indian rupee. Although with the entry of black money in open white economy shall undoubtedly be very beneficial for imports and exports during long run. Not only in India, but out of 161 currencies all over the world, demonetization got positive response and good impact only for 47 currencies. However, for 141 currencies, foreign exchange rate got depreciated / devalued because of demonetization.

• Effect on Sale of Fuels: Petrol and diesel sales recorded heavy rise of more than 60% immediately after announcement of demonetization. This was because vehicle owners queue up at different fuel stations to tank-up their means of transportation. Primarily, vehicles owners faced problem of shortage of currency change. Also free passage at various toll gates resulted in avoiding means of public transports and auto rickshaws. On the contrary, people preferred to drive and travel in their own cars or ride their own automobiles.

• Effect on Gold: According to the Indian Bullion and Jewelers Association (IBJA), jewelers had sold jewelleries, ornaments and bars of about fifteen tons of gold (approximately worth Rs. 5,000 crores) after the demonetizations of currency notes in the country.

**Analysis and Discussions**

**Effect of demonetization on circulation of currency**

**Table 1: Percentage share of demonetized currency in circulation**

| Currency Denominations | Share in Circulation (%) |
|---|---|
| Rs. 2 /- to Rs. 5 /- | 1% |
| Rs. 10 /- | 1% |
| Rs. 20 /- | 2% |
| Rs. 50 /- | 1% |
| Rs. 100 /- | 9% |
| Rs. 500 /- | 48% |
| Rs. 1,000 /- | 38% |
| Total | 100% |

Source: www.marketrealist.com

Table 1 displays demonetized currency in circulation in India. It can be seen that currency notes of Rs. 500 /- and Rs. 1,000 /- occupied lion's role in total currency under circulation. Share of Rs. 500 /- was almost half (48%) while that of Rs. 1,000 /- was just under 2/5th share (38%). This also indicated that usage of both these currency denominations were quite high as compare to other currency notes and coins because of their high value. People generally at large preferred to transact in currency notes of Rs. 500 /- and / or Rs. 1,000 /-.

### Effect of demonetization on GDP

**Table 2: Percentage change in GDP**

| Year | GDP in (%) |
|---|---|
| 2016 | 7.60% |
| 2017 | 7.10% |

Source: www.googleweblight.com

GDP is considered as an important indicator of economic progress and performance of any industry. It can be seen that due to demonetization, there was been negative impact on the domestic GDP. This was mainly because production & manufacturing activities, sales turnovers, service organisations, investments, etc. were hit seriously and severely.

### Effect of demonetization on agriculture

**Table 3: Amount of turnover from agricultural sector**

| Year | Annual Turnover (Rs. in crores) |
|---|---|
| 2016 | Rs. 4,381 |
| 2017 | Rs. 2,538 |

Source: Business Standards Newspaper on 2nd February 2017

Share of agricultural sectors in the domestic GDP accounts nearly 15%. Large numbers of transactions in this sector are settled using cash (liquid money). Farmers in general prefer to transact in hard cash, rather than electronic and / or banking mode of making and receiving payments. Further, many farmers and agriculturists were unaware of modem and online methods of transactions. Therefore, agricultural sector underwent huge influence due to demonetization. Turnover of agricultural sector declined drastically by more than 40% in year 2017 as compared to year 2016.

### Effect of demonetization on business sector

**Table 4: PMI of manufacturing industry and service industry**

| Year | PMI of Manufacturing Industry | PMI of Service Industry |
|---|---|---|
| Quarter III 2016 | 52.30% | 54.50% |
| Quarter IV 2016 | 49.60% | 46.70% |

Source: www.thehindu.com retrieved on 21st January 2017

Not only the agricultural sector, but also the manufacturing sector and service sector got affected considerably because of demonetization. The Purchasing Manager Index (PMI) for both these sectors decreased significantly from quarter III to quarter IV of year 2016. PMI reading of less than 50 signifies contraction and of above 50 indicates expansion. PMI of manufacturing sector declined from 52.30% to 49.60% because producers and manufacturers were not able to purchase raw materials and other requirements from open market. Also workers and labours were not ready to work due to unavailability of cash for payment of remuneration. On other hand, PMI of service sectors declined from 54.50% to 46.70%. Business in service sector declined largely resulting in service sector dropped into contraction due to decreased expenditure and shortage of cash reserves.

### Effect of demonetization on tax revenue collection

**Table 5: Amount of total tax revenue collected**

| Year | Total Tax Revenue (Rs. in lakhs crores) |
|---|---|
| 2016-17 | 10.88 |
| 2017-18 | 12.27 |

Source: Business Standards Newspaper on 2nd February 2017

Tax revenue collection got huge boost on account of demonetization. Primarily old demonetized currency notes of Rs. 500 /- and Rs. 1,000 /- were allowed and accepted by authorities to pay-off balance arrears of tax liabilities. Many people used such old currencies to clear pending tax liabilities. Tax revenue collection increased more than 12% in year 2017-18 compared to year 2016-17. Tax revenue plays vital role in overall economic development of an economy.

**Table 6: Number tax payers in India**

| Year | No. of individual tax payers | No. of corporate tax payers |
|---|---|---|
| 2015-16 | 57,000 | 76,857 |
| 2016-17 | 74,000 | 83,492 |

Source: Business Standards Newspaper on 2nd February 2017

Government decided to demonetize currency notes from transactions, but this gave opportunity to many people to convert their black money into white through payment of tax liabilities. Not only the amount tax revenue collection increased due to demonetization, but also number of tax payers also increased drastically. Further, both number of individual tax payers as well as number of corporate tax payers increased significantly. Number of individual tax payers increased nearly 30% in year 2016-17, while that of corporate tax payers increased by more than 8% during the same period.

## Research Findings

• Demonetized currency notes of Rs. 500 /- and Rs. 1,000 /- occupied significant role in the total circulated currency in India compare to other currency notes and coins. Share of Rs. 500 /- and of Rs. 1,000 /- were 48% and 38% respectively. People generally preferred to transact in currency notes of Rs. 500 /- and / or Rs. 1,000 /- before demonetization.

• Negative impact was recorded on domestic GDP because of demonetization. This was mainly because production & manufacturing activities, sales turnovers, service organisations, investments, etc were severely affected.

• Agricultural sector experienced tremendous impact because of demonetization as the amount of turnover fall severely in the year 2017. Main reason of this fall is that farmers were not aware of modern digital modes of transactions and even today prefers to transact using physical hard cash.

• Purchasing Manager Index (PMI) for manufacturing sector and service sector got affected largely and decreased from quarter III to quarter IV of year 2016. Manufacturers were neither able to purchase required raw material and other necessities, nor were ready to pay wages & salaries to workers and employees. Similarly, business in service sector dropped due to decreased expenditure and shortage of cash reserves with common public.

• Tax revenue collection observed heavy boost after demonetization as old currency notes were accepted by tax authorities to pay-off current as well as balance arrears of tax liabilities. Public openly used old demonetized currencies to clear pending tax liabilities.

• Number of tax payers (including individual tax payers as well as corporate tax payers) increased enormously after demonetization. However, number of individual tax payers increased much high compare to number of corporate tax payers.

## Conclusion

Main objective of demonetization was to deal with black money existing in the economy. Both the tax revenue collection as well as number of tax payers in the country increased notably and have directly come within the control of regulatory authorities. Demonetization has helped in bringing out into circulation heavy stocks of hidden monetary resources. Demonetization assisted in eradicating the practices of corruption and accepting briberies. Also problem of fake and duplicate currency notes available in market became meaningless and turn merely piece of paper to be thrown away. Banks, financial institutions, central and state government, local authorities (municipalities) and many such agencies positively recovered huge amounts of unpaid and due arrears from different people and organisations. This helped to overcome liquidity problems by making required finance available for productive and meaningful investments. Through demonetization, government has taken an effective step resolve many financial problems faced by the country. It is expected that the measure of demonetization shall accelerate the pace of economic growth and development of India.

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