

JIM QUEST

Journal of Management and Technology

A Bi-annual Referred Research Journal of Jaipuria Institute of Management, Indirapuram, Ghaziabad

Correlating Environmental Forces and Levels of Change in ISO-14001 Certified Companies

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**M-Wallet Services: A Study on its Growth in Post-Demonetization Period and Exploring Factors on
Users' Satisfaction**

Dr. B. Angamuthu



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JIM QUEST

Journal of Management and Technology

Volume 16, No. 1, July 2019 - December 2020

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Volume 16, No. 1, July 2019 - December 2020



From the Desk of the Chief Editor

It gives me great pleasure to welcome you to the latest issue of the JIM QUEST; a bi-annual referred research journal for disseminating the knowledge between academics and management practitioners regarding theories, methods, and applications related with new perspectives in the field of management and technology. We have faced many challenges due to COVID-19, therefore we have come up with this issue that combines the issue from July 2019 to December 2020.

We recognize how challenging the times caused by the COVID-19 pandemic. We appreciate, also, that we all are trying hard to keep research moving ahead. This special issue addresses the key issues related to Industry 4.0: Global Transformational Changes in Business & Management that changes the ways in which smart technologies would become embedded within organizations, people, and assets. This issue is an attempt to discuss and draw various perspectives of Industry 4.0 that signifies a major shift not only in how companies would operate and goods would be produced, but how entire ecosystems like the suppliers, customers, regulatory authorities, investors, and other third-party experts would function and interact.

I take this opportunity to thank the people who made the publication of JIM QUEST possible especially the authors of papers without whose contribution the journal would not be a reality especially in amidst of COVID-19.

I hope that readers will find the content of JIM QUEST informative and valuable.

Prof. (Dr) Daviender Narang
Chief Editor

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Correlating Environmental Forces and Levels of Change in ISO-14001 Certified Companies

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Dr. Shalini Srivastav**
Dr. Vikas Garg***

Abstract

India has approximately 3000 ISO-14001 certified companies spread over eight major industrial sectors like automobile, oil, power, textile, cement, manufacturing, consumer and service. A study carried out on few companies in each of these sectors has brought out that these companies have undergone major changes while adopting environmental management systems (ISO-14001) compared to non-ISO certified companies.

Adoption of Environmental Management System necessitates changes in the plant, technology, strategy, operations and the very philosophy of the organization and its successful implementation requires support from top management and cooperation from employees and customers. Depending upon the relative magnitude of these factors, a company takes initiatives to change to one of the four levels called selectively- reactive, reactive, pro-active and value seeking. This paper analyzes the relative strength of these factors on different ISO-14001 companies in India and finds out the levels of change achieved by them.

Keywords: Environmental system, ISO 14001, Change Management, Corporate Social Responsibility.

Introduction

The numbers of ISO-14001 certified companies in India have increased gradually from 138 in 2001 to approximately 3000 in 2010. ISO-14001 certification requires an organization to plan its activities in such a manner that reduces the adverse effect of its operation on the environment. The organization experiences environmental pressures forcing it to consume minimum natural resources, save energy at every stage as well as cause minimum damage to the environment. To achieve these objectives, an organization needs to introduce major changes in its plants, technology, processes and procedures. These changes are costly, time and resource consuming and full of uncertainties. An organization would adopt changes depending upon the strength of these pushing forces called pressures.

On the other hand, the very philosophy of environmental management system (ISO-14001) is based on reduction of wastages in raw material, energy and resources at every stage of production. Reduction in wastages amounts to generation of resources. Also, adoption of green initiatives reduces penalties as well entitles it to various national and international grants. By creating an image of a green company, an organization can extract environmental as well as economic benefits. Therefore, an organization is tempted to adopt changes under the influence of these motivating forces called benefits.

Apart from pressures and the benefits, other forces acting on an organization are the costs and support from management and the employee. As brought out earlier, change of plant and technology requires finances. Also, required technology may not be readily available. The change of procedures and processes may not be positively accepted by the managers as well as the employees. Therefore, management support towards meeting the costs as well as towards preparing managers and the employees for the successful change forms a critical factor in deciding the level of change in the company.

Review of literature and findings

There are researches in the current literature on the elements adding to fruitful ISO 14000 usage and advantages acquired through EMS certification. Chin et al. (1999) figured a proper model to assess achievement factors and created methodologies to actualize ISO 14001-based EMS. The model utilized logical progression process approach to play out the cost/advantage analysis. The discoveries inferred that EMS usage by assembling organizations would improve their natural execution and continue their aggressive position, paying little mind to the expenses acquired from its execution.

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Quazi (1999) found that commitment from top management (TMC), teams for inter-departmental implementation, involvement of employee and stakeholder and focus on business needs were some of the critical success factors (CSFs) in ISO 14000 implementation.

Rondinelli and Vastag (2000) added to the proof about the potential preferences of ISO 14000 EMS for a plant that had been already performing admirably well environmentally. As indicated by them, when the organizations pursue the soul of these principles, ISO 14000 could give judicious rules to investment funds from waste reduction, pollution prevention and improved environmental quality.

Ball (2002) found that implementation of ISO 14000 appeared to be a greatly improved method for guiding the development business towards improved environmental performance. The discoveries additionally uncovered that issues, for example, sustainability, regionality and materiality, and ecological rebuilding were still to be addressed to.

A few authors studied the integration of ISO 14000 guidelines with other existing measures in a firm. Renzi and Cappelli (2000) broke down the likelihood of working out a coordinated quality-environment framework, likewise underlining its drawbacks and opportunities, with a specific Italian case. They reasoned that such coordination must concentrate on business the board improvement and on deliberate utilization of information getting from framework control, to accomplish high-advertise intensity.

According to Brio et al. (2001), for the most part, any quality management system that is different from ISO 9000 norms does not present synergies with the ISO 14000 norm. However, the existence of synergies between ISO 9000 and ISO 14000 is recognized because they have common procedures. The study also detected compatibilities between ISO 14000 and occupational risk prevention. Based on the results of descriptive analysis, they enunciated that the company's preferred to coalesce the standards, as there is a possibility of sharing documentation, sharing objectives and providing the system with more consistencies.

Brio and Junquera (2003) studied the influence of external pressure on obtaining ISO 14000 certification. They found that when managers perceive the influence of external environmental pressures as opportunities, more advanced environmental actions are implemented to obtain the certification.

Matias and Coelho (2002) underlined that not just the organizations expected to incorporate the ISO 9000, ISO 14000

and ISO 18001 standards (benchmarks for work related health and safety), yet additionally needed to incorporate ergonomics certification in the reconciliation. Motivations to get EMS certification and pitfalls in doing so have also been researched. Brio and Junquera (2003) considered the impact of outer weight on getting ISO 14000 confirmation. They found that when administrators see the impact of outside natural weights as circumstances, further developed ecological activities are actualized to get the confirmation.

Vastag (2004) completed out a research to distinguish the variables adding to the development of ISO 14000 accreditations and uncovered that at national dimension ISO 14000 affirmation densities could be clarified by the introduced base of ISO 9000 certificates and the quantity of natural arrangements marked and endorsed. The research likewise reasoned that ISO 14000 certification went a long ways behind ecological contemplations, and corporate picture assumed a significant job in the affirmation choices.

Factors Responsible for Causing Change in an Organization

Pressures

An organization resorts to change when subjected to external environmental pressures. According to the three pressure theory, an organization adopts change due to normative pressures (pressures from internal and external stake holders), coercive pressures (pressures from law enforcing agencies, local community and NGO's) or under mimetic pressures (need to follow the successful competitors). Lately a large number of organizations have become environmental conscious and are adopting environmental management as a part of corporate social responsibility (CSR). During a recent study, it was found that the environmental pressures faced by different industrial sectors vary in magnitude. The automobile sector faces high pressures as it is bound by stringent exhaust emission laws (Euro-IV). These laws are well defined and are very strictly enforced, for example every automobile manufacturer has to produce engines conforming to these laws and every customer has to get the pollution certification done once in 3/6 months. Similarly, the oil, power, textiles and cement industries also face high pressures. Oil industry has to invest heavily to prevent spillages. Power stations have to deal with the disposal of huge quantities of fly-ash. Chemical industries are to avoid excessive consumption of water as well as to resolve the problems of toxic wastes. Compared to this, electronics, manufacturing and service sectors face lower pressures. Electronics industry is mainly concerned with disposal of radio-active materials at the end of product life-cycle.

Benefits

An organization is motivated to adopt EMS as this brings in numerous benefits in the form of environmental and economic benefits.

Environmental benefits. An organization aims to reduce its risk to business by adhering to the laid down environmental laws. Reduction in air-liquid pollution reduces penalties on the organization. Additionally, the organization can seek grants from various national and international agencies. A green image of the organization reduces irk some visits from various agencies. Improvement in environmental performance through reduction of solid/liquid waste as well as in air and water pollution results in resource savings indirectly leading to resource generation.

Economic benefits. An organization is motivated to adopt green status as this opens up new markets for it. The present markets being global, an organization needs to design products for all markets. However, non-green products may not be allowed in developed countries. By making the product green, an organization is able to enter all such markets. A green product is sold at a premium and helps an organization to increase its profit margins and market share.

Automobile, power and electronics sectors have been able to extract high benefits. The Manufacturing sector is seen to experience moderate benefits while oil, cement and textile industries gain low benefits. Consequently, the motivating forces on these different sectors are also different.

Costs

As brought out earlier, to effect a change in the organization, major modifications in terms of plants, technology, procedures

and strategies is required. Change of plant is a costly proposition and requires considerable time. In certain cases new plants and technology may not be readily available or may require high amount of foreign exchange which may deter a management to effect this change. Change of plant and technology is normally accompanied by change in the policies, procedures and the skill level of the workers. This creates a feeling of uncertainty in the minds of employees who resist such changes.

The oil, cement and textile sectors incur high costs to effect the required changes while adopting EMS. On the other hand power, automobile, manufacturing, electronics and service sector incur moderate costs for adopting the required EMS.

Management Support

High costs of the equipment and technology along with uncertainty and chances of failure may deter a management to adopt required changes. The management also has to dispel the fears in the minds of employees regarding retrenchment; promotions etc and have to prepare them to meet the challenges of change. This needs strong support from the management to effect this change successfully. Lately, organizations have adopted EMS as a part of their corporate social responsibility (CSR).

Research model

On the basis of above discussions, the following model was adopted to assess the factors affecting change management in any organization:-

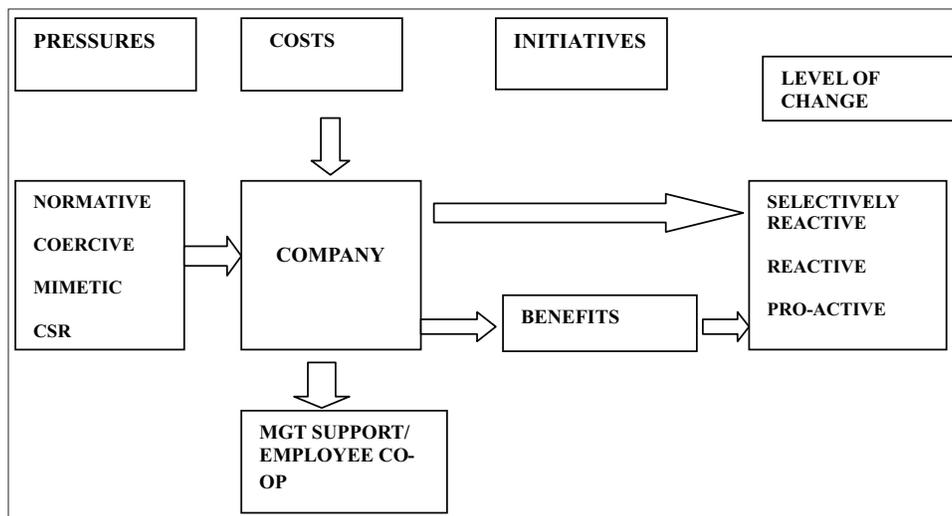


Figure1. Research Model

Depending upon the relative strengths of the above mentioned factors, an organization tends to achieve four different levels of change as shown below:-

Selectively Reactive :

Organizations which adheres to only those environmental laws which are strictly implemented and tries to by-pass the others. Commits minimal resources towards EMS. Actions are half-hearted without active management support. This is the lowest level of EMS. Practiced in under developed/developing countries.

Reactive :

Organizations which respond to the changing environmental laws. Commit minimum resources which are sufficient to escape serious penalties or risk to the closure of business. The EMS has some support from management as well as the employees.

Pro-Active :

Organizations which monitor the laid down environment laws and take actions in anticipation of likely changes. Commit sufficient funds for maintaining EMS. Has active support of management and full cooperation from employees.

Value-Seeking :

Organizations which undertake developmental activities to find innovative methods to reduce wastages in the consumption of

raw material, energy and other resources at every stage of life. Believe that investments in R&D would result in resource generation and value addition in the products. Seek to extract environmental and benefits through well developed EMS. This is the highest level of EMS practiced in developed nations.

Research Methodology

To ascertain the initiatives taken by ISO-14001 certified companies in India in the above eight industrial sectors, a study was carried out on 4- 5 companies in each sector during Jan-Sept 2018. The research methodology consisted of both primary and secondary research. Secondary research was carried out through the companies’ web sites and annual reports. The primary data was collected through personal interviews of top level managers.

Sample Size: 4-5 companies in each industrial sector were taken for carrying out this research. While selecting the above mentioned companies, care was taken to ensure that the group in each sector contains Indian companies, Joint venture companies as well as MNCs and thus constitutes a realistic sample. The details of companies along with the method used for studying are as explained.

Sector	No of Companies Surveyed	Method of Obtaining Data		
		Reports/Journals	Personal Visits	Discussions
Automobile	5	2(General Motors, Mahindra)	2(Honda-SIEL Power Products Limited , Maruti Udyog Limited)	1(Tata Motors)
Power	4	3(Reliance, Tata-Powers, JSW Energy)	1[National Thermal Power Corporation (NTPC(Dadri)]	
Oil	4	4 [Oil and Natural Gas Corporation (ONGC),RIL(Reliance industries Limited),BP(Bharat Petroleum),IOC(Indian Oil Corporations Limited)]	-	-
Chemical	4	3(Arvind,Raymond,Bombay Dying)	1(U-Flex,Noida	-
Cement	5	5(ACC Limited ,Shree Dalmia, Ambuja and JK Cement)	-	-
Electronics	4	2(Samsung, Videocon)	1 LG (Gr.Noida)	1(Videocon)
Manufacturing	4	2(Cummins, Sarita Fabrics)	1(HUL, New Delhi)	1
Service	5	2(ITC,SOTC)	2(SBI, Headstrong)	1

Table-2: DETAILS OF COMPANIES SURVEYED

Initiatives taken by Companies

The summary of the initiatives taken by various ISO-14001

certified companies in the above eight industrial sectors are placed at Table-3.

Automobile	Oil & Petroleum	Power	Cement
Reduction in Exhaust Emission	Controlling oil spillage	Reduction in CO ₂	Restoration of land destroyed due to mining
Reduction in air, water, energy and material consumption	Restoration of Contaminated soil	Reduction of air, water and energy during power generation	Reduction in air pollution created during cement production
Waste Handling	Conservation of Energy	Disposal of large quantities of Fly-Ash	Reduction in energy consumption
Locating dealers in close proximity	Waste minimization	Pollution reduction during coal transportation	Power generation from agriculture waste or fossil fuel
Use of solar and wind energy	Use of wind and solar energy	Optimization of Processess	Use of solar and Wind Energy
Product Recycling	Use of water as input to cement industry	Closed conveyer belt for coal transportation	Use of waste of other industry
Textiles	Electronics	Manufacturing	Services
Reduce Water Consumption	Reuse, Repair, and recycle material at End of Life	Reuse, Repair, and recycle material at End of Life	Encourage use of electronic Media like SMS at Bank
Treatment of Solid and Liquid before Disposal	Reduce Use of toxic and hazardous materials	Reduction in the components and material	Option to work from home(IT Industry)
Reduction in chimney exhaust which is carcinogenic	Proper disposal of unserviceable radio active materials	Lean/ JIT inventory Modular design with reusable components	Tourism promotion through E -Mails, Group Travels, Tourism Industry
Reduction in Environmental Pollution	Treatment of empty ink cartridges	Use of bio -degradable material in construction	Control of electricity in hotels (key used to unlock doors)
Reduction in water consumption during cotton growth	Reduction in energy ion during production. Use of solar/wind energy.	Reduction in energy during production. Use of solar and wind energy.	Automatic switching to stand by mode of computers when not in use(saves energy)
Reduction in use of dyes and bleaching material	Reduction in the use of components and material	Reduction in air, water, energy and material consumption	Sustainable buildings using natural light. Use of solar energy.
Reduction in the use of detergents/lubricants	Increased use of green marketing	Treatment of air and water before disposal	

TABLE3. INITIATIVES TAKEN BY VARIOUS COMPANIES

Correlation between External Forces and the Levels of Change

The table given below highlights the correlation between various forces acting on companies operating in different sectors and the level of change achieved.

Pressures	Benefits	Costs	Management Support	Level	Type of Sector
High	High	Low	High	Value Seeking	Automobile, Electronics
High	Low	Low	High	Pro-active	Oil, Power, Cement, Textiles
Medium	Medium	Medium	Medium	Reactive	Manufacturing Service
Low	Low	High	Low	Selectively-reactive	Industries in under developed Nations

TABLE 4: CORRELATION BETWEEN VARIOUS FORCES ACTING ON COMPANIES AND THE LEVEL OF CHANGE ACHIEVED

Findings

This research has brought out following conclusions:-

- a) There are wide variations in the change management efforts taken by different companies in different industrial sectors. The relative strength of forces acting on the organization determines the levels of change achieved by the organization.
- b) The change management efforts differ from company to company even in the same industrial sector.
- c) Change management is more successful in companies which are subjected to higher pressures, specially the coercive pressures.
- d) Management support for change is stronger in companies where economic and environmental benefits are higher.
- e) Companies subjected to low pressures as well as having low economic benefits show resistance to change management.
- f) High costs of change and delay in procurement of technology deters a company to go in for change management.
- g) A successful change management is possible only with proper training and cooperation of employees and support of customers.

Recommendations

- a) The study has been carried out on limited samples in each category. The findings of this study will help in formulating a suitable questionnaire.
- b) The study need to be extended to at-least 40-50 samples in each sector and the findings need to be proved through suitable null hypothesis.

Conclusion

The adoption of green initiatives by various industrial sectors in India has been gradual. A large number of industrial sectors except those eight listed sectors are subjected to moderate to low pressures. Also majority of the industrial sectors except these eight have not been able to extract substantial benefits by adopting green initiatives. Consequently, majority of the organizations have generally changed slowly.

On the other hand, the eight industrial sectors discussed above have been subjected to moderate to high pressures, have

extracted similar benefits and thus have been strongly supported by their managements. This has resulted in major changes in them whose degree varies between selectively reactive to value seeking.

However, it is clear that by suitably changing these parameters for other industrial sectors, it is possible to effect similar changes in them which can get them both environmental and economic benefits.

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A Study of Entrepreneurial Education and Training Programmes in India

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Abstract

India is one of the fastest growing economies in the world, its creating new opportunities in the world and emerged as one of the top creators of job in Asia and Pacific region due to entrepreneurship . So entrepreneurship plays a significant role in economic development in India as entrepreneurs initiate and sustain the process of economic development in many ways such as capital formation, Improvement in per capita income, generation of employment improvement in living standards and economic independence .Therefore every developing country needs promotion of entrepreneurship and to promote this a proper education and training is necessary. As education can help students develop the skills , knowledge and attitudes necessary for innovation. In India numbers of government institutes, Business schools, NGOs and industrial associations are providing entrepreneurial education. Educational systems especially B-schools prepare young management graduates for entrepreneurship, but the courses are similar to the traditional business courses, but there should be specially designed education programs to expand students' knowledge and experience in entrepreneurship. This paper is designed primarily to understand the present entrepreneurial education system to develop entrepreneurs in India. Addition to that, the aspects like significance and challenges facing right now are discussed. .Lastly suggestions for the new and effective education and training programs are discussed or the promotion of entrepreneurship in India.

Key Words: Entrepreneurial Education , Government Institutes, Business School, Entrepreneurship, Promotion

Prologue

Entrepreneur is someone who has an idea and who work to create a product or services that people will buy by building an organization to support those sales and the process of making these ideas in an implementation is called entrepreneurship. Entrepreneurship is the act of being an entrepreneur, which can be defined as one who undertakes innovations, finance and business in an effort to transform innovation and ecological goods.

Entrepreneurs not only give employment to the entrepreneurs but also a source of direct and indirect employment for many people in a country , they play a vital role in capital formation, improving living standard, GDP and per capita incomes. so facilities overall development of a country. So the developing country like India needs more entrepreneurs who are competent to perceive new opportunities and also needs to promote entrepreneurship and a proper education system should be framed. Here education plays the most significant role as education is the most effective means available to society to challenges the future.

Education is the driving force behind every country's economy, directly and indirectly so to improve the economical as well as the social development of the country should have effective and proper education system .In India entrepreneurial education has gained relevance in today's context as entrepreneurship plays a vital role in economic development of a country. Entrepreneurial education provides individuals with the ability to recognize commercial opportunities, self esteem, knowledge and skills to act on them. Entrepreneurial education helps in creating entrepreneurs.In India two applications are working for the promotion of entrepreneurship one is the formal education with by provided by the Business schools and other programmes and training and application education is provided by government institutes, NGOs, Bank and financial institutes and associations of industries. And in case of Business Schools mostly Business are still following the traditional education of management with specialization in marketing, human resource management, finance and information technology and very few universities which are providing entrepreneurship as a specialization.

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Entrepreneurial education is the fast growing field of education globally, and lots of researches and debates are working on what should be taught in these programmes and how to teach them.

Literature Survey

In the 1980s much entrepreneurial education literature discussed the trend of the increasing number of programmes in universities (McMullan & Vesper, 1987). Overtime, the focus moved towards the actual process and content of entrepreneurial programmes (Vesper & Gartner, 1997). Further other researcher are Ulrich and Cole (1987) emphasizes the importance of successful learning experience in generating and increasing interest in entrepreneurship. Dana's paper (1987) also suggests the entrepreneurial learning style preferences and also emphasis that the entrepreneurial education should be different from traditional education should more emphasis on outside classroom. Ivancevich (1991), Ronstadt (1987), McMullan and Long (1987), McMullan (1988), Plaschka and Welsh (1990) discuss the emergence of entrepreneurship as an academic discipline and its role within the traditional business school structure. Plaschka and Welsh (1990) frame a model of dimensional entrepreneurship program, that includes the numbers of entrepreneurship courses and degree of integration and the other was the number of disciplines and transition stage.

Hood and Young (1993) make a framework that consists of four primary areas where successful entrepreneurs must be developed, the areas are content, skills and behavior, mentality and personality. Then In 1994 Harrison and Leitch focus on the leadership in entrepreneurship education and argue on the need of leadership research in entrepreneurship study.

Entrepreneurial education again get attention in the first half of the 20th century with the course offerings like family business and new enterprises. Since then it has become one of the fastest growing areas in higher education UNESCO inter-Regional seminar on promoting Entrepreneurship education (2008) defines as "Entrepreneurship Education is made up of all kinds of experiences that give students the ability and vision of how to access and transform opportunities of different kinds. It goes beyond business creation. It is about increasing students ability to anticipate and respond to societal needs,". Numbers of other researchers support entrepreneurial education and try to establish relations between entrepreneurship and economy of the society are Dzisi, 2008; Ligthelm, 2007; Mojica Gebremedhin, & Schaeffer, 2010; Pacheco dean & Payne, 2010. Many researcher focus on the curriculum contents and method of teaching and publish articles which focus on the "what" and "how" to teach entrepreneurial education. Benett, 2006; Fayolle & Gaily, 2008; Pittaway & Cope, 2007; Samwell Mwasalwiba, 2010; Solomon, 2007. So according to Solomon

2007 entrepreneurship education is one of the fastest growing fields of education globally.

Objectives of the Study

- To analyze the present entrepreneurial Educational system in India.
- To study the importance of entrepreneurial Education.
- To analysis the bottle neck of the Entrepreneurial Education System.
- To suggest the new and effective ways for the promotion of Entrepreneurial education in India.

Research Methodology

The present study is based on secondary data. The data is obtained through books, and reputed journals related to entrepreneurship. The information has also been obtained by the entrepreneurship related websites through online.

Present Entrepreneurial Education System in India

Education and training play an important role in enhancing entrepreneurship and developing countries like India there is an urgent call for the development and promotion of effective indigenous entrepreneurial education system. Entrepreneurial education helps to understand new age businesses and new business models, entrepreneurship has become one of the most popular subjects being pursued by the college students and working executives. Formal education on the subject is being integrated into the curriculums of the top business schools and government institute. Interestingly after impacting regular curriculums at engineering and management education, schools are now actively adapting as well.

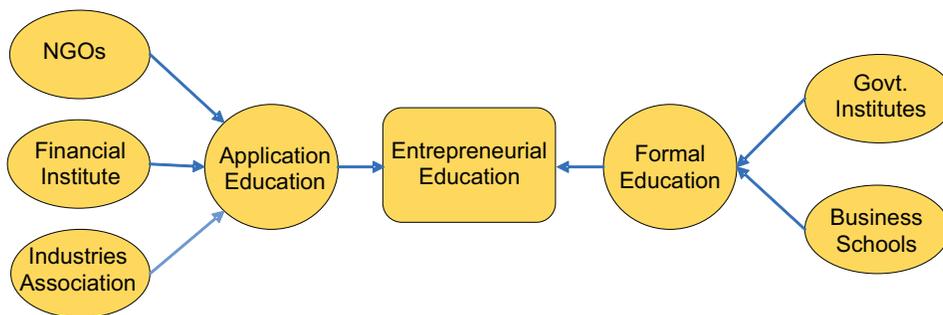
In India two types of applications are providing entrepreneurial education, firstly the formal education students are taught about entrepreneurship in primary, secondary and in professional colleges as a subject. Business schools play a significant role in this course, presently India has 3000 business schools providing traditional business studies and only 83 business school has entrepreneurship has its specialization. So this application focus on academic training.

Secondly, numbers of Government Institutes, Industrial Associations, Financial Institutes and NGOs work for the promotion of entrepreneurship in India, they provide training, consultancy, research and publication in order to promote entrepreneur. They focus on entrepreneurship development and regularly to nurture the talent of youth.

Entrepreneurial education equips students with the abilities that increase their employment potential and includes the abilities to solve problems, to develop social interaction,

abilities to find information and to handle it for decision making, planning communication and presentation skills.

If India want to enhance its economic growth it has to give passable employment opportunity to its people.

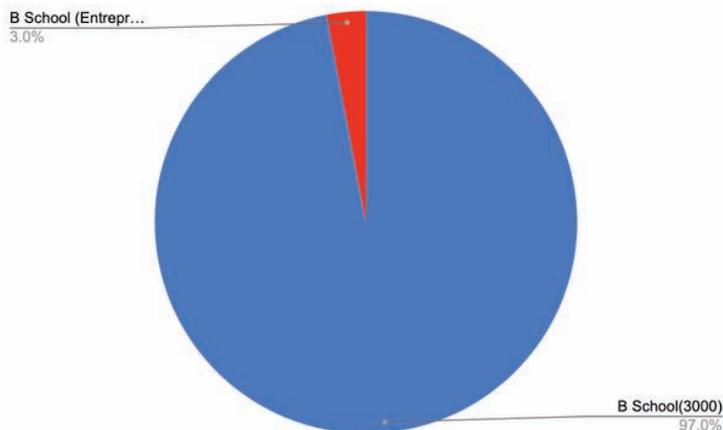


Entrepreneurial education system in India
(Source: Authors own)

Entrepreneurial Education Providers in India

Formal Education : Academic and training institutes, In India there are a number of business schools are providing formal education to the students. Many universities specially management faculties including IIM are making conscious efforts to promote entrepreneurship among their students .Entrepreneurship orientation and awareness programmes which focus on the broader information about entrepreneurship and encourage participants to think in terms of entrepreneurship as a career.

Business Schools : Numbers of B-Schools are giving basis knowledge of entrepreneurship as a subject on the other hand some reputed B Schools had focus on entrepreneurship as a specialization. India is home to more than 3,000 business schools in India offering the Master of Business MBA programs.A significant number of these schools boast of offering great quality of management education. Almost all the Business schools have four specialization , Human Resource Management, Marketing ,Finance and Information technology .There only 83 Business Schools in India which are providing entrepreneurship as specialization, with 11 types of programs, degrees and diploma .These courses have different durations short term courses and long term courses.



Business Schools in blue & Business School running specialized program in Entrepreneurship red
(Source: Authors own)

Government Institutes: Government Institute are engaged in developing training modules, undertaking research and training and providing consultancy services for entrepreneurship development. New enterprise creation programs are designed to develop competences that lead to self employment, economic self-sufficiency or employment generation. These institutes also promote the programs and scheme started by the government of India Apart from creating entrepreneurs they also focus on the small business survival and growth. There are different types of programs with different durations. Ministry of Small-scale industries, Government of India encouraging National Level Entrepreneurship training institute like (NIESBUD) Noida, (NISIET) Hyderabad, (IIE)Guwahati and (EDII) Ahmedabad are the organizations who are working for the promotion of entrepreneurship in India. These institutes are not for profit institutes.

Application Oriented Education/Courses

Industry Associations: Numbers of association of industries which are leading different programs. The aim of these associations is to promote entrepreneurship and facilitate industrial growth as trade and industry form an integral part of economic development of the country. These association focuses on Micro, Small and Medium Enterprises (MSME) and provide program to promote entrepreneurial education. Centre for Entrepreneurship Development

Banks and Financial Institutions: In India there are Central and State levels of Institutes supporting Entrepreneurship. Indian

Financial institute take initiative in establishing entrepreneurship development, these institute provides economic information services and attract entrepreneurs with innovative schemes of Finance .Central banks and Financial institutes are National Small Industries Corporations (NSIC), National Bank for Agriculture and Rural Development (NABARD), National Productivity Council (NPC) ,Industrial Development Bank of India (IDBI).State Levels Financial institutes are Small Industries Development Bank of India (SIDIBI), Small Industries Service Institute (SISI),State Financial Corporation (SFCs),State Industrial Development /Investment Corporation (SIDC/SIIC)

NGOs: Some NGOs are working for the promotion of entrepreneurship and providing different programs with different duration. NGOs are involved with Small Business Management (SBM) The involvement of NGOs in the creation of entrepreneurship helps the economically weaker section of the society to start their own business. These NGOs create training and educational program for the economically weaker section and the duration of these programs are generally short term. Different course and programs are provided by different entrepreneurial education providers in India. There are generally long term and short-term programs the duration of programs varies from 2 weeks to 3 years. Many awareness camps are also organized by different application education providers such as NGOs and Industrial Associations. This providerhas training program as well as awareness program to promote entrepreneurship schemes and facilities initiated by Government.

Course Title	Duration	Duration
Diploma in Entrepreneurship	1 Year	Long Term
Certificate course in Women Entrepreneurs	1 Year	Long Term
Certificate in Entrepreneurship Management	6 Months	Short Term
Post Graduate Diploma in Entrepreneurial Management	2 Years	Long Term
Post Graduate diploma in Entrepreneurial management	2 Years	Long Term
BBA in Entrepreneurship	3 Years	Long Term
MA in Social Entrepreneurship	2 Years	Long Term
Master in Business Administration in Entrepreneurship	2 years	Long Term
Master in Business Administration in Family Business and Entrepreneurship	2 Years	Long Term

MBA innovation Entrepreneurship and Venture Development	2 Years	Long Term
Start your business program	12 weeks	Short Term
Rural Entrepreneurship	10 Weeks	Short Term
Social Entrepreneurship	10 Weeks	Short Term
Entrepreneurship and New Venture Programs	10 Weeks	Short Term
New Venture Financing	10 Weeks	Short Term
Corporate Venturing	10 Weeks	Short Term
Entrepreneurship Awareness Camp	2 Weeks	Short Term
Women Entrepreneurship Development Programme	10 Weeks	Short Term

(Source: Authors own)

Significance of Entrepreneurial Education in India

Today's economy people are more enthusiastic to become entrepreneur as there are various factors to drive them such as independence to work, challenge seekers In life, idea driven mind apart from this government of India is also promoting Entrepreneurship by providing different facilities and schemes .so in present scenario entrepreneurial education is very important as it helps students to enter into the industry of their own choice, moreover teach them how to discover new opportunities. Some of the factors that show how the entrepreneurial education is important are:

Orientation to change: Entrepreneurial Education promote innovation, creative and new ideas. It helps students from all socioeconomic backgrounds to think outside the box and nurture unconventional talents and skills.

Job creator and opportunities: Entrepreneurial education creates entrepreneurs. Entrepreneurs not only give employment to the entrepreneurs but also a source of direct and indirect employment for many people in a country It helps students to learn how to discover new opportunities, evaluate them in close with the environment, market and customers. it helps in developing the skills necessary to quickly identify opportunity, test solutions and adapt them to customer needs.

Individual personal growth: As entrepreneurial education helps in expanding creative thinking and improves the decision-making skills. It helps students to think outside the box. Entrepreneurial education also provides budding entrepreneurs with the skills and knowledge to come up with business ideas and develop their own ventures. So, its sharp

the knowledge, improve one's thinking process open for all the aspects regarding growth in personally and socially and economically.

Encourage startups: Entrepreneurial education is designed to provide students entrepreneurial skills and an entrepreneurial mindset. This enables youth to start and develop their own business. Entrepreneurial education helps people to develop skills and knowledge which could benefit them for starting, organizing and managing their own enterprises.

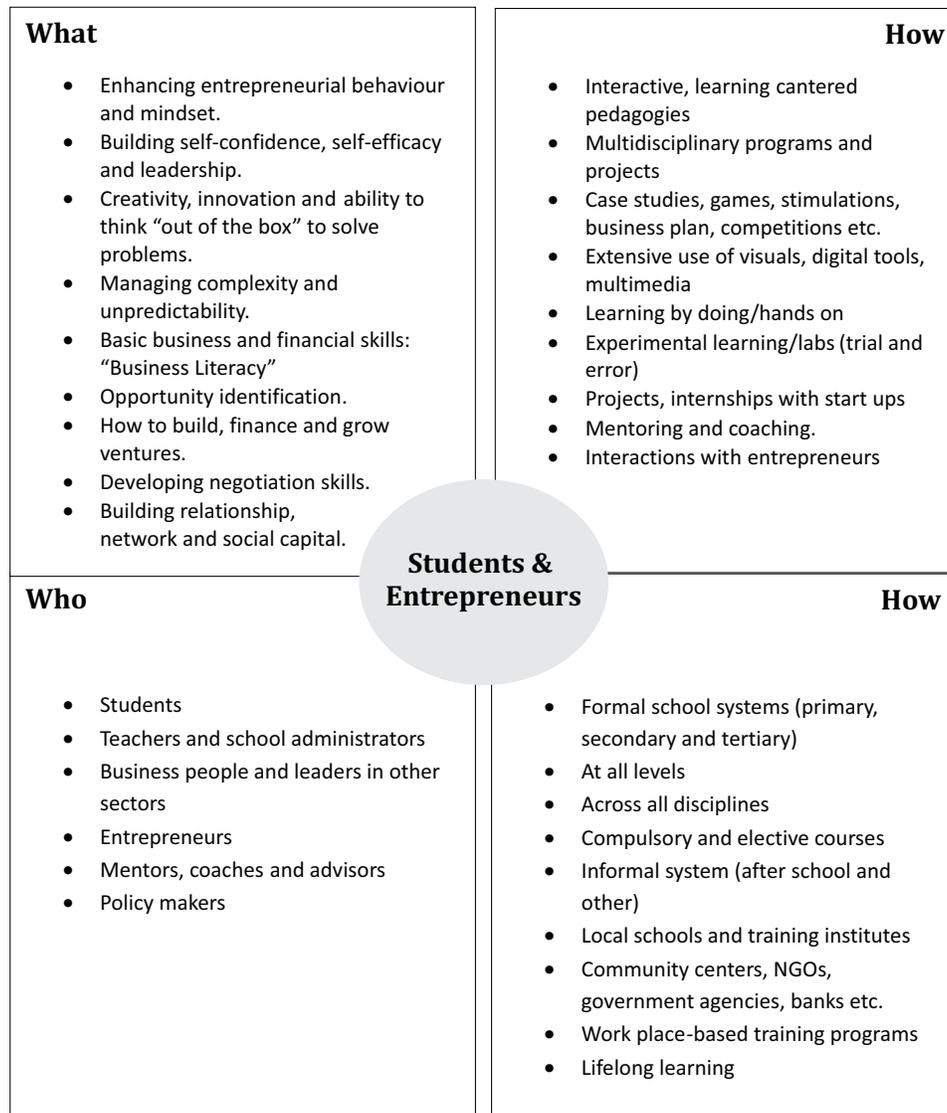
Restructuring and innovation in existing businesses: This education not only promote startups it also enables to help smaller companies grow and scale up faster and contribute to restructuring and innovation in existing businesses.

Reduce Risks: Entrepreneurship education helps students to innovative way of thinking, planning and organizing to contribute and professional manage new form of business ventures. This curriculum helps students in evolving and survives in a competitive global marketplace and to learn about the handling uncertainty and risk. Entrepreneurial education helps in order to reduce the chances of start-up failure and has a great impact on the start-ups and growth stage entrepreneurs.

Benefit for society: Entrepreneurs not only give employment to the entrepreneurs but also a source of direct and indirect employment for many people in a country, they play a vital role in capital formation, improving living standard, GDP and per capita incomes .so facilities overall development of a country. Entrepreneurial education creates entrepreneur so it directly beneficial for society.

Different aspects of the entrepreneurial education system are “what” means what should be the curriculum of course and what should be focused in entrepreneurship education “how” are the method of the teaching of the entrepreneurship as

specialized subject. Then “who” should be the students of the entrepreneurial education system. “Where” are the education providers of the entrepreneurial education.



(Sources: Educating the next wave of Entrepreneurs, World Economic Forum, 2009)

CHALLENGES/SHORTCOMINGS OF THE ENTREPRENEURIAL EDUCATION

Entrepreneurial education is one of the fastest growing fields of education, this education directly make effect on the economy of any society, by providing economic growth, generating employment opportunities and enhancing economic development at large. So, the emerging country, India is also promoting entrepreneurial education to nurture the talent of youth. Entrepreneurial Education in India is well established but it is not free for shortcomings.

Difficulties towards startups: Starting a business is time consuming, economically high demanding and with risk factor. Doing business in India is extremely difficult proposition. While it takes just five days to start a business in United State and just two days in Australia, In India it takes as long as 89 days. What really hurts is that even in neighboring Pakistan, Nepal and Bangladesh, it takes 24,21 and 35 days respectively to do so. The reason for such delay is bureaucratic- to many rules and regulations and to much of paperwork. (Ashish Gupta 2004).

Lack of standard framework: Entrepreneurial education is being taught by textbooks like any other management courses which don't provide students practical knowledge. There is a demand for education program specifically designed to expand students' knowledge and experience in entrepreneurship. The contents and teaching methods have to be differentiated between entrepreneurship and traditional business course. The Biggest Challenge for the educators of entrepreneurship lies in the designing of effective learning opportunities for entrepreneurial students.

Government dependence: As entrepreneurship is time consuming, high economically demanding. There are a number of rules and regulation by the government of India which includes a lot of paperwork and formality to start a new venture. So sometimes this also plays a hurdle for entrepreneurs.

Risk factor: Most of youth still prefer jobs with multinational companies as it is socially more satisfying. So the young people are afraid to start their own business and choose the traditional management courses to secure their career.

Lack of knowledge about the scope of entrepreneurial education: The present entrepreneurship education in India, just concentrates on the professional courses. Most of the youth still prefer jobs with the multinational companies and doesn't think out of the box. Moreover, the so-called entrepreneurship courses are similar to the general business courses. But these general management education has no significant influence on entrepreneurial propensity. Entrepreneurship as a career option is not taken seriously as compared to other professional course as it is assumed that

entrepreneurial education is only help people for starting, organizing and managing their own business, but this education has vast scope in the career line, the scopes of entrepreneurial education are:

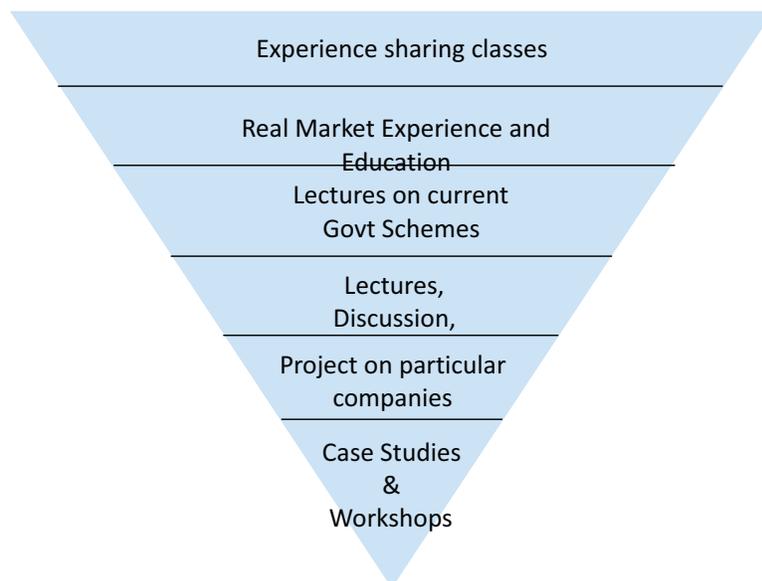
- Business consultants
- Business Reporters
- Sales managers
- Fundraisers and development Officers
- New Venture Developers
- Small Business Owner

SUGGESTIONS

Although the Government of India, Business Schools, Financial Institutes and other Organization has initiated various steps for promoting entrepreneurship. Apart from creating awareness and encouragement among the entrepreneurship students for entrepreneurship as a career option some other practical help could be given them.

Suggestive techniques of entrepreneurship education

The contents and the teaching methods have to be differentiated between entrepreneurship and traditional business course. B-schools are designed for students who want to lead and manage business enterprises. The entrepreneurial students should have more experience sharing lecturers from there successful entrepreneurs. Entrepreneurial education is a practical course not a theoretical so it should more focuses on the experience sharing classes by the successful entrepreneurs so that the students get motivate and also focus on the real market experience. This is the model that can be used by the education providers to develop entrepreneurs.



Sharing of experience: Successful entrepreneurs should come and share their struggle, which can inspire the students. Those entrepreneurs who students should explore the world, visit trade fairs, visit markets and visit different regions and places, they should be able to attend meetings, conferences where entrepreneurs come and share their experience.

Promoting collaboration: There should be a balance in the employment and entrepreneurship. Numbers of organizations are working to develop entrepreneurs so there should be proper collaboration between organization, government policy promoting entrepreneurship and agencies.

Encourage research: Formal education is positively correlated with entrepreneurship. Entrepreneurial education plays a role in producing the entrepreneurs is enormous. The entrepreneurship creation process through education depends upon the quality of education and presence of environment encouraging innovation. Nullifying the research gap between academic syllabi and practical requirement. Preparation for real life situation: the best way of learning about entrepreneurship is through experience and practical knowledge.

Teaching method: Entrepreneurship is a practice driven subject, the need to supplement it with contemporary theatrical knowledge is important. The teaching method for the Entrepreneurial education should be different from the traditional education, it should be more practical based knowledge. They should be encouraged to do some economic activity during their course that can help them to have knowledge about the real market.

Government support: However Indian government is continuously framing schemes and policies to facilitate entrepreneurship, but the knowledge about the schemes and facilities is not part of their course. Students should be aware of various support systems and agencies and they can be facilitated to avail loans from banks and another financial institute.

Conclusion

Entrepreneurship Education for the developed countries it is creativity, innovation and thinking outside the box, whereas for the developing countries it is a way to develop a positive

attitude towards entrepreneurship and self employment. Entrepreneurial education creates entrepreneurs. Entrepreneurs initiate and sustain the process of economic development in many ways such as Capital formation, Improvement in per capita income, generation of employment improvement in living standards and economic independence. So entrepreneurial education plays a significant role in the economic development of a country.

India is fifth most fearful country with half of its residents admitting fear of failure would prevent them from starting a business says a study. But India comes in third place for innovation and in on fourth rank for providing entrepreneurial education in the world. From the study of present entrepreneurial education of India, it is clear government is making an effort to promote entrepreneurship and providing different programs and training to the entrepreneurial students. Business schools play a vital role in the education of entrepreneurship but the teaching method of entrepreneurial education should be different from the traditional education. Education in the area of entrepreneurship may help people to develop skills, knowledge, which could benefit them for starting, organizing and managing their own enterprises. This study indicates that entrepreneurial education powerfully motivates young people to start entrepreneur and highlighted the importance and scope of entrepreneurship education. So being India a developing country should focus more on the more training and educational programs.

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The Effect of Speeches and Political Events on The Stock Market

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Puja Tiwari**
Dr Divya Chowdhry***

Abstract

Fluctuation is an indispensable feature of the stock market. The trend of stock market can never be predicted accurately. There are innumerable factors that work simultaneously and influence the stock prices or cause movements in the stock market. It has been believed by the traditional economists that investors are rational and they invest in such securities where they expect to get higher profit at low risk. It has also been assumed that before investing in any security each and every investor does proper analysis and goes through the herculean task of fundamental and technical analysis of the securities. But this is not the complete picture. There is one dominating factor that plays decisive role in not only taking the investment decision but also affects the price movement of the stock market. It is known as Investors' behaviour. Investors do not always follow the theories of traditional economists before taking investment decisions. Sometimes they just follow other investors or any particular sentiment before investing their hard earned income. They also trust the words of their leaders or any such dominating personalities for assessing the future situation of market and position of their securities irrespective of the reality. They also get influenced by political events and become the easiest prey of their own presumptions about such events. This paper tries to find out the effect of speeches by prominent personalities and political incidents on the investors' behaviour and its subsequent impact on the stock market fluctuation. Furthermore, the paper attempts to develop a conceptual framework to show the chain effect of such entwining incidents on the stock market. The research paper concludes that there exists a direct relationship between the speeches of dominating personalities and political events on the fluctuations in stock market, other factors remaining constant.

Keywords: Stock Market, Fundamental Analysis, Technical Analysis, Investors Psychology, Behavioural Biases

Introduction

Price fluctuation is a part and parcel of the stock market. Stock market cannot be imagined without any movement in prices. These price movements or fluctuations inspire an investor to buy or sell securities. Several theories have proposed that the prices of stock follow a trend or cycle of its movement. But in reality it is hard to forecast the prices of securities. There are many factors that affect the price movement of stock market, such as demand and supply of securities, bank rates, presence of market players (bulls and bears), dividend announcements, trade cycle, speculation, industrial reasons, performance of foreign market, etc. Except aforesaid factors, there is one more factor that influences the price movement in stock market, known as 'sentiments of investors' or 'confidence of investors in the market'. When sentiment or confidence of investors is discussed, it directly refers to the psychological aspect related with the investment, termed as investors' psychology. The term investors' psychology has been evolved with the emerging concept of Behavioural finance.

Behavioural finance is the study of the influence of psychological factors on the behaviour of investors and its subsequent effect on the market. It focuses upon how investors interpret and react to the changing information to make investment decisions. Investors do not always behave in a rational, predictable and unbiased manner, as suggested by traditional economists. Behavioural finance emphasizes upon investor behaviour leading to various market anomalies.

To understand the behaviour of investors it is quite essential to understand the heuristics and biases associated with it. Behavioural biases are the influences that affect the investors while making the investment decisions whereas heuristics are simple, efficient rules, learned by experience, that have been proposed to explain how people make decisions, come to judgments and solve problems, typically when facing complex problems or incomplete information (Abrass, 2014). Some heuristics and biases essential for this paper are as follow:

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- **Confirmation bias:** It refers to the phenomenon of seeking selective information to support one's own opinion.
- **Anchoring:** When making decisions, investors do not rely on fundamental factors. Rather, they tend to base their decision on the price at which the stock was purchased.
- **Representativeness:** It refers to the tendency to form judgements based on stereotypes.
- **Availability:** It happens when people tend to judge something by the ease with which the instances can be recalled rather than going behind the all relevant information.
- **Salience biases:** It is the characteristic of the stimulus that makes it different and more observable than others.
- **Halo effect:** In this, the decision of the investor is influenced by the overall impression of a person upon him.
- **Familiarity biases:** An investor feels more comfortable in investing in those securities or companies which are familiar to him.

Except for these above-mentioned biases and heuristics there are several other aspects of human behaviour such as herd behaviour, mental accounting, etc. that affect the process of decision making. These biases promote investors to take irrational decisions, or decisions under the influence of certain emotion or sentiment. Irrational, emotional investment decisions by investors affect the market in an unpredictable way. Market starts behaving abnormally by showing unprecedented hikes or falls in the prices of stocks. These hikes and falls in the prices of stocks lead to the overall fluctuations of the stock market.

Literature Review

Review of literature plays a crucial role in the research study. This can be treated as the backbone of the study. The study done in the concerned area are reviewed and summarised as follows:

1. Ambrose Jagongo and Vincent S. Mutswenje (2014) have made an attempt to show that psychological factors do influence the investment decisions of the investors. They have also explained that how companies' future strategies and policies are affected by such type of decisions.
2. Margarida Abreu(2014) in her paper has thrown light on individual investors' behavioural biases and heuristic and their relevance in decision making.
3. Christina Bannier, Thomas Pauls and Andreas Walter have shown that investors perceive the sentiment of CEO speeches at AGMs as a valuable indicator of future firm performance and take investment decisions accordingly.
4. Anastasios Maligkris (2017) through her findings suggests that political speeches affect investors' expectations and, in turn, stock market outcomes. She has also shown that industries with high government exposure are more sensitive to government spending information and that politically sensitive industries do not react more strongly to candidate speeches.
5. Lucian Liviu ALBU, Radu LUPU and Adrian Cantemir CALIN (2016) have studied the impact of official speeches delivered by the members of the federal open market committee on the dynamics of sovereign credit default swaps belonging to a vast array of countries. They concluded that these speeches have an important effect on the CDS returns of several of the countries included in the study.

Need for Study

It has been observed that most of the works done so far are based on the factors affecting investors' behaviour, behavioural biases and its impact on investment decision etc. Some studies have also been conducted showing the impact of speeches of CEOs, and members of any Economic Federation or Committee on the investors' decision and stock market. Relationship between the speeches of any dominating personality and some political events on the stock market fluctuations has not been studied so far. The previous studies are based on any single event and show its impact either on investors' behaviour or on the stock market fluctuations. This paper attempts to bind these fragmented events in a single frame and study its relative impact on investors' behaviour along with the stock market movement. The paper covers several incidents from all over the world where any speech or political event has caused any fluctuation in stock market. It would be an interesting task to observe all such incidents and its respective impact on the stock market through the window of behavioural finance.

Objectives

1. To study the psychological effect of political events or speeches of any dominating personality (dominating personality here refers to any person who either holds any supreme position or is an expert of economics or finance) on the investors' behaviour.
2. To examine the chain effect of such events or speeches on the stock market fluctuations.
3. To study how long such events influence stock market fluctuations.

Research Methodology

Sources of data: Secondary data have been collected from the official website of NSE and BSE and reports from various newspapers and journals.

Statistical tools: Simple tools like charts and tables have been used. Japanese candlestick chart has been used to represent the movement of stock market. (It shows the opening, closing, high and the low value of shares on a day to day basis. The highest and the lowest point are joined by the vertical line, the opening and closing points by the rectangle that will lie between the highest and the lowest points. There are mainly two types of candlesticks – white and black. White represents the upward movement while black shows the downward movements in an intraday trending.)

Incidents

Background: Indian economy was slogging after the two historical decisions of Indian govt. i.e. demonetisation and GST. Stock Market was not performing very well. Investors were not very confident about the growth and good return from the market. Amidst of these policies, IMF presented its report in October, 2017, which also lowered the morale of investors. According to its report IMF lowered India's growth projection to 6.75% in 2017, 0.5 % points less than its previous two forecasts

in April and July, attributing it to demonetisation and introduction of the GST. Further, it also lowered the country's growth for 2018 to 7.4%, 0.3% points less than its previous two projections.

Event: On 15th October, 2017, the chief of International Monetary Fund, Christine Lagarde said, "Turning to India... we have slightly downgraded India; but we believe that India is for the medium and long-term on a growth track that is much more solid as a result of the structural reforms that have been conducted in the last couple of years". "But for the medium term, we see a very solid track ahead for the Indian economy", she added.

Impact on stock market: The stock market that was creeping during the first half of the month suddenly got a kick after this statement. The market opened up with a hike in prices. Where Nifty opened up with an increase in 40 points, Sensex also started its trading with an increment of 241 points over its last trading day.

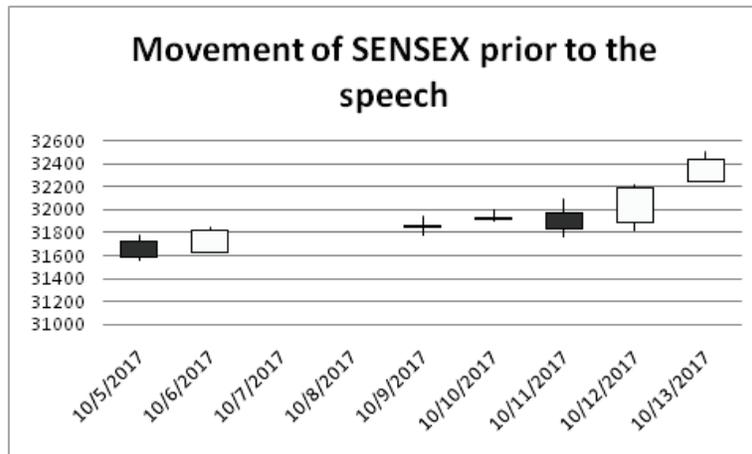
Fundamental Economic and Monetary situation during the period: All the bank rates were constant during October 2017. No new policy or rates were introduced during the period. On its meeting during 4th October, RBI kept the repo rate unchanged at 6% in its credit and monetary policy review.

Table 1: Table showing fluctuations of SENSEX, before and after the speech of IMF chief on 15th October, 2017

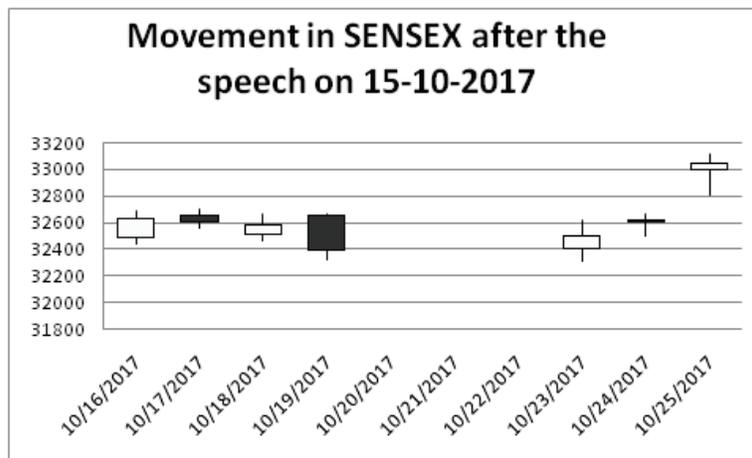
Date	Open	High	Low	Close
05-10-2017	31725.85	31772.41	31562.25	31592.03
06-10-2017	31633.34	31844.28	31632.81	31814.22
09-10-2017	31862.20	31935.63	31781.75	31846.89
10-10-2017	31910.82	31994.77	31896.90	31924.41
11-10-2017	31975.59	32098.03	31769.40	31833.99
12-10-2017	31887.47	32209.03	31813.67	32182.22
13-10-2017	32247.74	32508.59	32247.74	32432.69
16-10-2017	32488.23	32687.32	32445.43	32633.64
17-10-2017	32654.41	32699.86	32556.74	32609.16
18-10-2017	32518.56	32670.32	32462.85	32584.35
19-10-2017	32656.75	32663.06	32319.37	32389.96
23-10-2017	32411.86	32614.89	32312.74	32506.72
24-10-2017	32619.26	32670.37	32502.08	32607.34
25-10-2017	32995.28	33117.33	32804.60	33042.50

Source: Historical indices from the official website of BSE

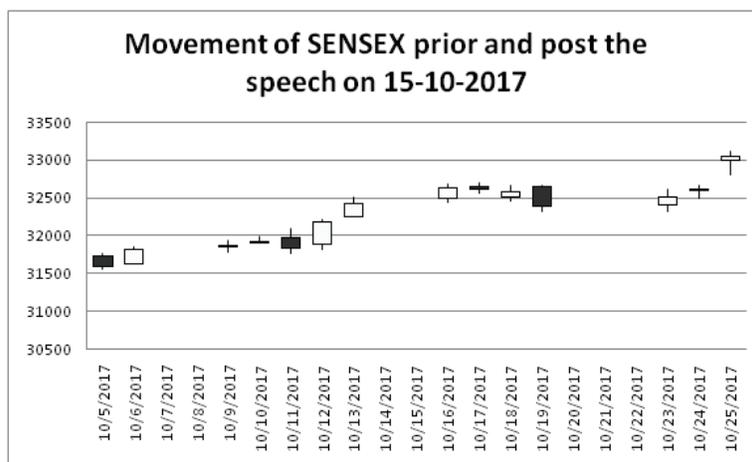
Graph 1.1: Showing the movements of SENSEX prior to the speech of IMF chief on 15-10-2017



Graph 1.2: Showing the movement in SENSEX after the speech of 15-10-2017 by IMF chief



Graph 1.3: Showing the combined effect on SENSEX, prior and post the speech of IMF chief



Explanation: From the chart and graphs we can clearly observe that before 15-10-2017 there was a slow movement in market. Market was trading prior to the speech (graph 1.1). After the speech investors gained the confidence in market and the market has shown a bullish trend afterwards (graph 1.2). The

upward moving trend has remained unchanged for 2 days after the speech, then other factors has influenced the market causing an intraday downfall. But graph 1.3 clearly shows an overall bullish trend after the speech.

Background: With an intention to foster economic cooperation between European nations in the wake of World War II, European Economic Community was established in 1957, after signing the Treaty of Paris by France, West Germany, Belgium, Italy, Luxembourg and the Netherlands. UK after a failed attempt in 1963 finally joined the community in 1973, but just after two years was on the verge of backing out again. Friction between the EEC and the UK exploded in 1984, when the Prime Minister Margaret Thatcher talked tough in order to reduce British payments to the EEC budget. For a long duration Europe and UK have fought over the issues like beef and chocolate export from UK to rest of the Europe. There has been remained a tension mostly because France has never wished to make UK a part of the European Union. France has felt a serious threat in its dominance from the presence of UK in the union.

Event: On 23rd June, 2016, Britain voted to exit the EU with the ‘Leave’ camp winning with 51.9% votes in a historic referendum, which was later on followed by the resignation of David Cameron as Prime Minister.

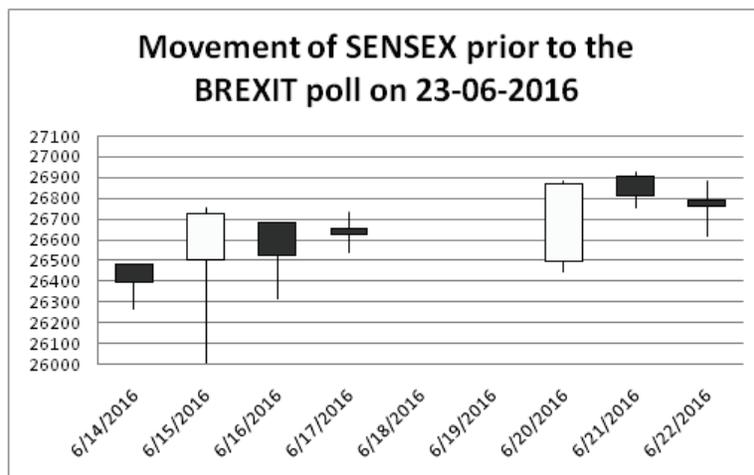
Impact on stock market: Following the news on 24th June, 2016, SENSEX opened lower by 635 points and went down by 1091 points before bottom fishing brought some stability. Even as the index recovered 486 points from the day’s low, it still closed the day with a deep cut of 605 points or 2.24%.

Fundamental economic and monetary situation during the period: The economic condition of the country during June 2016 was constant. The all India CPI inflation remained unchanged at 5.8% in June 2016. The headline WPI inflation increased to 1.6% in June 2016 from 0.8% in May 2016.

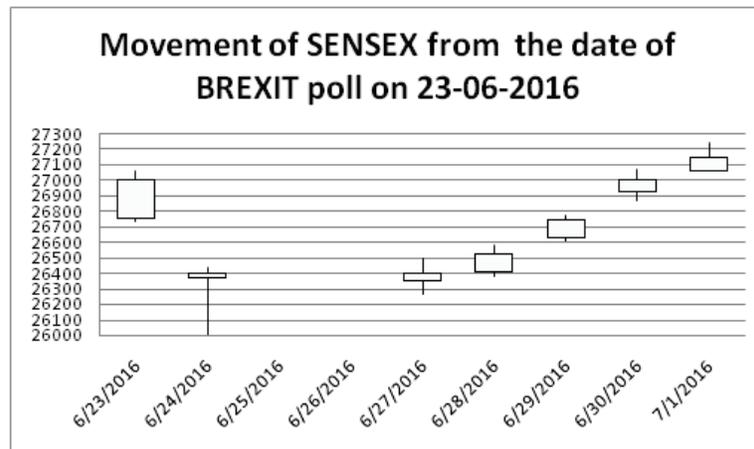
Date	Open	High	Low	Close
14-06-2016	26482.5	26485.45	26264.81	26395.71
15-06-2016	26500.79	26752.59	26446.59	26726.34
16-06-2016	26686.03	26686.03	26314.91	26525.46
17-06-2016	26653.85	26730.55	26538.51	26625.91
20-06-2016	26497.11	26885.49	26447.88	26866.92
21-06-2016	26907.42	26925.64	26754.60	26812.78
22-06-2016	26791.68	26887.29	26617.45	26765.65
23-06-2016	26753.20	27060.98	26736.52	27002.22
24-06-2016	26367.48	26435.85	25911.33	26397.71
27-06-2016	26347.81	26493.51	26262.72	26402.96
28-06-2016	26410.66	26583.33	26378.46	26524.55
29-06-2016	26627.15	26776.17	26606.31	26740.39
30-06-2016	26926.17	27069.23	26872.59	26999.72
01-07-2016	27064.33	27243.36	27061.40	27144.91

Source: Historical indices from the official website of the BSE

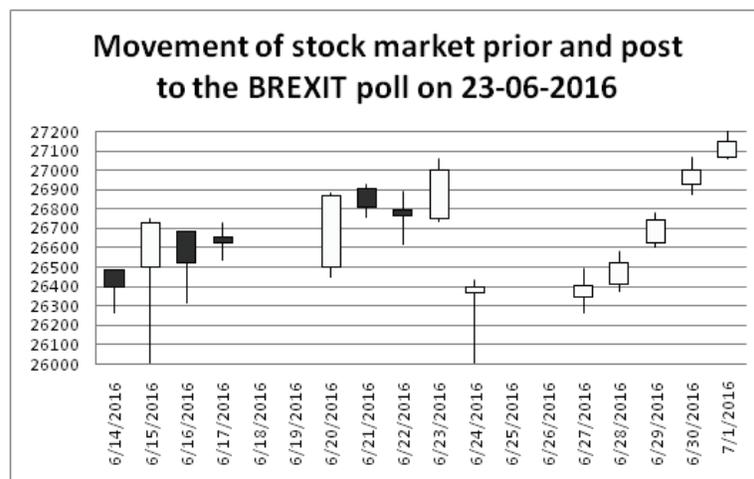
Graph 2.1: Showing the movement of SENSEX before the poll of BREXIT



Graph 2.2: Showing the fluctuations of SENSEX from the poll day of BREXIT



Graph 2.3: Showing the movement in the stock market prior and post the BREXIT poll on 23rd June, 2016



Explanation: The impact of BREXIT poll on domestic stock market can be easily noticed from the above table and charts. Before the poll the SENSEX was showing a good bullish trend with high ups and high downs (graph 2.1). The poll day was also fine for Indian stock market showing a good intraday trading i.e. on 23-06-2016, but the next day market opened with a huge fall. The impact was so strong on the Indian stock market that market reopened on 27-06-2016 with same level after the weekends (graph 2.2). It took almost 4 days for the domestic market to absorb the shocking result of BREXIT. After that market has shown upward movement but it took almost 7 days to reach at the same level where market was before the poll (graph 2.3). The overall graph of the period clearly demonstrates that market was freely moving before the poll, but after the poll it was moving cautiously.

Background: Continuous 10 years ruling of UPA govt. in India was unable in impressing the general public from its works and policies. Scams, some insensitive remarks by leaders of ruling

party, and decreasing global reputation of country has developed a sense of dissatisfaction among the common mass for the government. The opposition took the advantage of this situation and presented a window dressed state as the new model of developing India popularly known as Gujarat Model and presented its chief minister as the only person surviving in the country who can move India from the state of developing to the developed nation.

Event: Not a single state in India has remained uninfluenced from the charismatic personality of Prime Minister, Narendra Modi. So does the stock market. Since 13th September, 2013, the announcement of his candidature as Prime Minister to 16th May, 2014, the winning of general elections by BJP, the stock market has shown a strong bullish trend. The influence was so prominent that it was termed as "MODI EFFECT" by the stock market experts.

Impact on stock market: During 2013, since Modi was declared BJP's Prime Ministerial candidate, the NSE Nifty Index recorded 7.77% of the total price return of 8.12%, and the volatility reduced to 9.1% from 17.96% for the entire year. The markets continued to remain bullish with a record gain of 13.49% in NSE Nifty, with further lower volatility of 7.75% during 2014 until the Victory Day. On the victory day, 16 May, 2014, the NSE Nifty index touched an intraday high of 7552.60 and closed the day at 7203 with a gain of 1.12% and a record turnover of Rs. 21057.07, highest ever turnover on the NSE since its inception.

Fundamental economic and monetary situation during the period:

1. During September 2013: Major announcements made by RBI on September 20, 2013 in the Mid-Quarter Monetary

Policy Review. Increased the policy repo rate under the liquidity adjustment facility from 7.25% to 7.5%, reduced the marginal standing facility rate from 10.25% to 9.5%, and reduced the CRR from 99% to 95%.

2. During March 2014: The headline WPI inflation has increased to 5.70% in March, 2014 from 4.68% in the previous month. The all India CPI inflation (combined) increased to 8.31% in March 2014 from 8.03% in February 2014 mainly on account of vegetables, fruits, pulses, milk, spices, and egg, fish & meat.
3. During May 2014: CRR was 4.00%, Bank Rate was 9.00%, Repo Rate was 8.00% and all other rates were constant during the period.

Table 3: Showing the movement in NSE before and after the declaration of Narendra Modi as Prime Ministerial candidate on 13th September, 2013

Date	Open	High	Low	Close
02-09-2013	5480.25	5564.90	5478.85	5550.75
03-09-2013	5574.70	5580.95	5323.75	5341.45
04-09-2013	5358.65	5460.25	5318.90	5448.10
05-09-2013	5553.75	5625.75	5552.70	5592.95
06-09-2013	5617.45	5688.60	5566.15	5680.40
10-09-2013	5738.50	5904.85	5738.20	5896.75
11-09-2013	5887.25	5924.35	5832.70	5913.15
12-09-2013	5931.15	5932.00	5815.80	5850.70
13-09-2013	5828.00	5884.30	5822.90	5850.60
16-09-2013	5930.30	5957.25	5798.15	5840.55
17-09-2013	5824.20	5857.80	5804.90	5850.20
18-09-2013	5872.75	5916.90	5840.20	5899.45
19-09-2013	6044.15	6142.50	6040.15	6115.55
20-09-2013	6104.55	6130.95	5932.85	6012.10
23-09-2013	5945.80	5989.40	5871.40	5889.75

Source: Historical indices from the official website of NSE

Graph 3: Showing the movement in NIFTY prior and after the announcement of Shri Narendra Modi as Prime Ministerial Candidate i.e. on 13th September, 2013

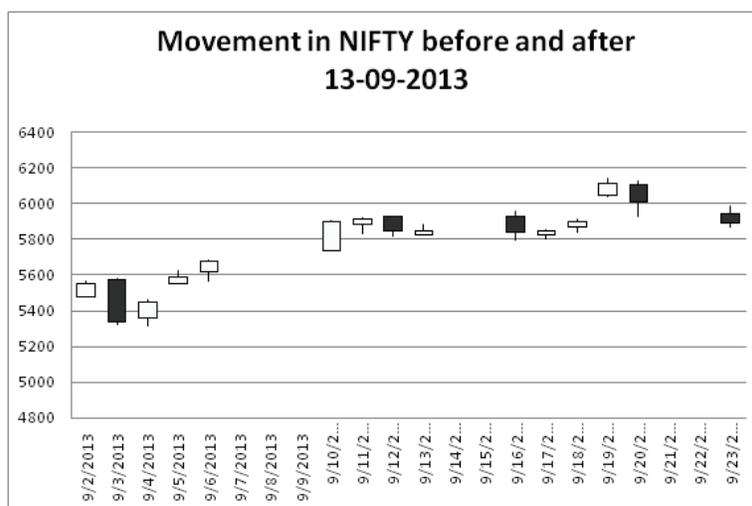


Table 4: Showing the movement in NIFTY during the period of 24th March, 2014 to 23rd April, 2014, when Narendra Modi was actively involved in election campaign

Date	Open	High	Low	Close
24-03-2014	6510.50	6591.50	6510.50	6583.50
25-03-2014	6550.10	6595.55	6544.85	6589.75
26-03-2014	6615.65	6627.45	6580.60	6601.40
27-03-2014	6613.10	6673.93	6599.50	6641.75
28-03-2014	6673.05	6702.60	6643.80	6695.90
31-03-2014	6723.15	6730.05	6662.40	6704.20
01-04-2014	6729.15	6732.25	6675.45	6721.05
02-04-2014	6757.60	6763.50	6723.60	6752.55
03-04-2014	6772.05	6776.75	6696.90	6736.10
04-04-2014	6741.85	6741.85	6685.15	6694.35
07-04-2014	6694.25	6725.15	6650.40	6695.05
09-04-2014	6722.00	6808.70	6705.10	6796.20
10-04-2014	6803.05	6819.05	6777.30	6796.40
11-04-2014	6758.35	6789.35	6743.15	6776.30
15-04-2014	6792.70	6813.40	6711.75	6733.10
16-04-2014	6727.25	6748.65	6665.15	6675.30
17-04-2014	6695.45	6783.05	6684.40	6779.40
21-04-2014	6789.25	6825.45	6786.90	6817.65
22-04-2014	6822.90	6838.00	6806.25	6815.35
23-04-2014	6823.25	6861.60	6820.75	6840.80
25-04-2014	6855.80	6869.85	6772.85	6782.75

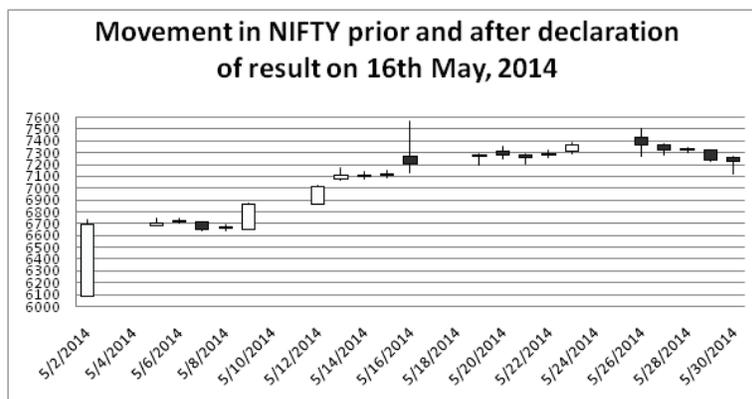
Source: Historical data from the official website of NSE

Table 5: Showing the movement of stock market during the month of May, 2014

Date	Open	High	Low	Close
02-05-2014	6079.95	6737.65	6689.5	6694.8
05-05-2014	6681.65	6741.05	6680.45	6699.35
06-05-2014	6719.25	6743.45	6701.90	6715.30
07-05-2014	6708.60	6718.75	6642.90	6652.55
08-05-2014	6669.90	6688.40	6638.55	6659.85
09-05-2014	6654.15	6871.35	6652.15	6858.80
12-05-2014	6863.40	7020.05	6862.90	7014.25
13-05-2014	7080.00	7172.35	7067.15	7108.75
14-05-2014	7112.00	7142.25	7080.90	7108.75
15-05-2014	7111.30	7152.55	7082.55	7123.15
16-05-2014	7270.20	7563.50	7130.65	7203.00
19-05-2014	7276.85	7291.10	7193.55	7263.55
20-05-2014	7309.95	7353.65	7247.70	7275.50
21-05-2014	7274.85	7287.15	7206.70	7252.90
22-05-2014	7289.95	7319.55	7258.15	7276.40
23-05-2014	7306.50	7381.00	7293.90	7367.10
26-05-2014	7428.75	7504.00	7269.05	7359.05
27-05-2014	7363.10	7372.95	7274.75	7318.00
28-05-2014	7324.95	7344.75	7302.60	7329.65
29-05-2014	7316.60	7325.40	7224.40	7235.65
30-05-2014	7254.85	7272.50	7118.45	7229.95

Source: Historical indices from the official website of NSE

Graph 4: Showing the movement of NIFTY after and before the result declaration on 16th MAY, 2014



Explanation: In this event we have taken a long duration of 9 months, from September 2013 to May 2014. Table and chart number 3 is representing that period when Narendra Modi was nominated as Prime Ministerial candidate on 13-09-2013. From graph and table we can easily notice an emerging bullish trend in the market after the aforesaid date. Table 4 represents the period of March 2014 to April 2014, when Narendra Modi actively participated in election campaign. It was the time when he was ruthlessly blaming the UPA govt. for all the problems and miseries in the country and when he was selling the dreams of “Achhe Din”. It was the period when our stock market was showing a bullish trend continuously. Table 5 and Chart 4 is the proof of MODI EFFECT and euphoria on the stock market. On the winning day that is 16 May, 2014, NIFTY had its lifetime highest turnover of 21057.07, and market was on a long bullish trend. After the huge winning the bullish trend continued and even after several intraday down tradings, market always opened with high ups and closed with high downs.

Background: Republican candidate Donald Trump was the face of highly ambitious businessmen whereas Hilary Clinton was the representative of efficient and devoted politician, during the presidential election of USA. In the beginning it was

believed that this election will be easier for Hillary Clinton, as she was more experienced than Donald Trump as a politician. But with the controversy of using family’s private email server for official communications during her tenure as US Secretary of State rather than official State Department email accounts maintained on secure federal servers dominance of Hillary over Donald, faded. After this controversy the one candidate winning seen converted into the neck to neck battle.

Event: 9th November, 2016, Americans chose their 45th President. Defeating Democrat Hillary Clinton, Republican Donald Trump was elected as the new President of United States of America.

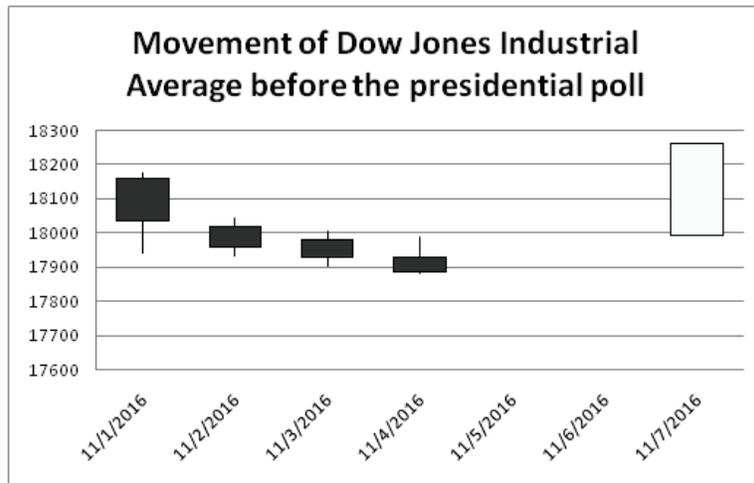
Impact on stock market: The immediate effect of victory of Donald trump was not good. Dow Jones average and NASDAQ index both fell down. But after the speech of newly elected president the market welcomed him with a bang. The Dow Jones Industrial average advanced 0.4%, to close at 18332.74. The S&P 500 also gained 0.45 to close at 2139.56. The tech-laden Nasdaq Composite Index closed at 5193.49, increasing 0.5%. A total of around 7 billion shares were traded, higher than the last 20 session average of 6.7 billion shares.

Table 6: Showing the movement of the Dow Jones Industrial average during the period of November 2016

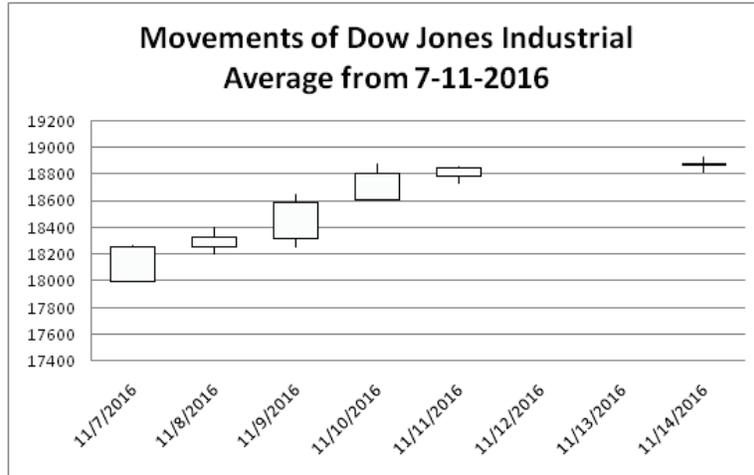
Date	open	high	low	close
01-11-2016	18158.24	18177.01	17940.84	18037.10
02-11-2016	18017.72	18044.15	17931.89	17959.64
03-11-2016	17978.75	18006.96	17904.07	17930.67
04-11-2016	17928.35	17986.76	17883.56	17888.28
07-11-2016	17994.64	18263.30	17994.64	18259.60
08-11-2016	18251.38	18400.50	18200.75	18332.74
09-11-2016	18317.26	18650.06	18252.55	18589.69
10-11-2016	18603.14	18873.66	18,603.14	18807.88
11-11-2016	18781.65	18855.78	18736.96	18847.66
14-11-2016	18876.77	18934.05	18815.75	18868.69

Source: historical data from the official website of Dow Jones

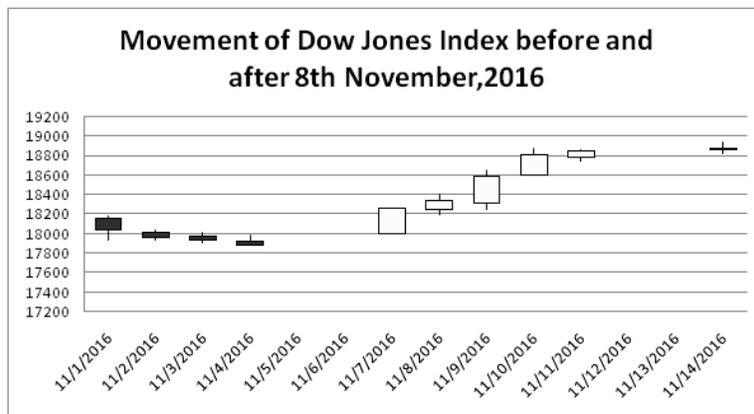
Graph 5.1: Showing the movement of Dow Jones Industrial Average before the presidential poll



Graph 5.2: Showing the fluctuations of Dow Jones from a day before the poll



Graph 5.3: Showing the movement in Dow Jones Industrial average during the presidential election and after the results, November, 2016



Explanation: Table and graphs are representing the very short duration of USA poll and results. From the graph 5.1, strong bearish trend in the stock market can be observed before the starting of poll. A hike has been noticed on a day before the poll i.e. on 7-11-2016. A good intraday trading has been observed on the day of election and result. In short American stock market welcomed its 45th President with a good bullish trend.

Analysis and Interpretation

All of the incidents highlighted above have one thing in common that they all affected the fluctuation of stock market indirectly. Any of the incidents has nothing to do directly with the price fluctuation of the stocks. These incidents worked for the short term by triggering the sentiments of the investors. All the other factors that can influence the market have remained constant during that short duration. The fundamental economic and monetary situation during that period was stable. So in those time period there was only one thing that influenced the market and that was the psychological impact of those events on the investors. Several theories have proved that there is a direct relationship between the investors' psychology and their investment behaviour. Here investors under the influence of halo effect or some other biases take decisions. Halo effect works when somebody derive any conclusion under the

influence of some traits of any person. In the cases of speeches, investors trust the opinion or statement or fact presented by the orator before checking or matching it with reality. Investors under the influence of their charismatic personality take such decision and follow their opinion without any second thought. Similarly when some important political event happens, investor takes decision under the influence of some biases where they believe on their own preconceptions, immediate available resources and myths. They don't counter check there evaluations, assumptions with the present situation, they just believe in what they believe and act accordingly.

These biases and psychological factors influence the investment decisions. Investors under the dominance of these factors often take unexpected and irrational decisions that affect the stock market in unpredictable manner. These biases intrigue to take decisions based on psychological factors rather than technical factors. Here the dominance of psychological factors motivates investors in the other way than the expected way under any situation as suggested by classical economists.

The chain effect of speeches or political events through investors' behaviour on stock market fluctuation can be represented in the flow chart as follow:



Apart from this chain effect one more thing has been observed through this paper. It is the time taken by stock market to fizzle out the impact of speeches and events on its fluctuation.. The answer remains in the concept of emotion and mood. Any emotion sustains for the maximum of 90 seconds. When such emotion is felt deeply and strongly it becomes mood, and mood remains for a longer duration and affects the human behaviour. So the cases which affected the emotions of investors influenced the market for the maximum of 2 days. While the emotions that got the chance of being converted into mood affected the fluctuations of stock market for long, as in the case of Narendra Modi. The announcement of his candidature till his wining, not only influenced the emotions of investors but it was deeply and strongly perceived by the investors. Hence, that event has influenced the behaviour of investors and market for a long duration of 9 months.

Conclusion

Price fluctuation is the essence of stock market. There are various factors that affect stock market movements. This paper has concluded that, speeches by prominent personalities and political events are also a part of these factors. These speeches or events affect the stock market through the investors. According to the human psychology, how anybody perceives any stimuli is an important factor in deciding his reaction. Here speeches or events act as stimuli. Perception of these stimuli by investors, govern their emotions, sentiments and actions. This perception leads towards non-technical and emotional investment decisions. A decision, influenced by emotions and sentiments affect the stock market in unpredictable manner which ultimately result into unprecedented fluctuations. The study also concludes that in general the influence of such speeches and events affect market for the maximum of 2 days, and then it fades away itself even if no other factors are working.

This study is based on secondary data there is a possibility of conducting the study on primary data to get more clear view of the problem. There are various factors that simultaneously affect the stock market, for this paper it has been assumed that other factors are constant for that particular interval. Study with more than one factor together may give a different result.

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Corporate Governance and Insider Trading Regulations: A Comparative Study of India and United States

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Abstract

Investments in the present scenario are subject to have a stake in different organizations. By investing, an investor becomes a stakeholder of an organization. These stakeholders have a direct or indirect interest in the functioning of the organization. A stakeholder of an organization is rewarded with profits, dividends, bonuses and through another financial medium, but on the other hand, they are also exposed to the various kinds of risks such as 'insider trading'. Insider trading might be legal or prohibited activity depending on when the trade is made by the insider. Stakeholders of the organization have a great disadvantage due to the lack of important insider non-public information. It is a known fact that good corporate governance always relies on transparency and accountability towards the stakeholders, so looking at the threat involved into such kind of transactions it is important to build strong regulations which will protect the rights of the innocent stakeholders. Comparing to the world India has not a much stronger set of regulations on this term.

Comparing to India, United States regulated much earlier to Indian jurisdiction. United States adopt traditionally a more successful pattern of enforcement than its Indian counterpart. This study compares the governance of India with the United States in terms of insider trading. This research works an earnest attempt in this direction to give an insight to the government and the body corporate to set their insider trading regulations and assimilate certain effective features from the legal system of United States.

Keywords: Stakeholders, corporate governance, stock trading, insider sales, insider purchase

Introduction

In pursuit of good governance and to make the market more secure for the stakeholders, the Government of India (GOI) is continuously tightening the laws and regulations of the trading. On January 15, a committee constituted by the Securities and Exchange Board of India (SEBI) under the chairmanship of Justice N.K. Sodhi made a remarkable attempt in this direction and notified the SEBI (Prohibition of Insider Trading Regulations) 2015 by replacing the two-decade older insider trading norms in India. The new Insider Trading Regulations has brought about several changes by amending definitions of various concepts. It comprises of Five Chapters, Two schedules and 12 sections.

Investments in the present scenario are subject to have a stake in different organizations. By investing, an investor becomes a stakeholder of an organization. These stakeholders have a direct or indirect interest in the functioning of the organization. A stakeholder of an organization is rewarded with profits,

dividends, bonuses and through another financial medium, but on the other hand, they are also exposed to the various kinds of risks such as 'insider trading'. Insider trading might be legal or prohibited activity depending on when the trade is made by the insider. Stakeholders of the organization have a great disadvantage due to the lack of important insider non-public information. In the words of (Desai, 2013) "Insider trading is an act of trading, directly or indirectly, in the securities of a publicly listed company by any person, who may or may not be managing the affairs of such company, based on certain information, not available to the public at large, that can influence the market price of the securities of such company".

A recent US case is illustrative of a typical civil penalty charged by the Securities and Exchange Commission. In SEC V. Steve Madden, the Commission filed a settled injunctive action against shoe designer Steve Madden alleging that he engaged in insider trading. The complaint alleged that after Madden learned from the criminal authorities that he was the target of a criminal investigation and would be indicted or otherwise charged for securities fraud, he sold 100,000 shares of common

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stock in his company, Steven Madden Ltd. Madden sold this stock without disclosing to the public the information he had learned regarding the criminal investigation. After Madden was arrested, the company's stock price sank and Madden avoided losses of \$784,000. Madden consented to an order of permanent injunction and agreed to disgorge \$784,000 of illegally avoided losses, plus prejudgment interest, and to pay \$784,000 in civil penalties.

Background of Insider Trading in India and United States

- **India and Insider Trading**

Instances of insider trading in India were first reported in the year 1940s. Directors, agents, auditors and other officers of companies were found to be using inside information for profitably speculating in the securities of their own companies. Thomas Committee had analyzed these instances and observed that insider trading occurred due to (i) the possession of information by these people; (ii) before everybody else; (iii) regarding the changes in the economic condition of companies and more particularly, regarding the size of the dividends to be declared, or of the issue of bonus shares or the impending conclusion of a favorable contract. On 14th June 1947, the president of the Bombay Stock Exchange, in his pre-independence speech, referred to some cases of leading companies that were not providing a prompt public declaration of dividends and issue of bonus shares. As a result, in each and every case where the bonus and the right shares were issued, the information had leaked out much prior to the official announcement.

Companies Act 1956 wasn't included any provision to charge the directors and the promoters of the companies for making the unfair use of internal confidential information. Although few areas were pointed out by the Thomas Committee such as the lack of special legislation to deal with the 'unfair use of inside information' in 1948 itself, it almost took a decade for the Indian government to actually formulate legislation to curb insider trading. Later, the Indian government formulated various committees on time to time basis to assess the corporate regulation framework in India. These committees had also examined the then-existing framework in the U.S. as

the US had elaborated laws on the subject. It is worth to note that all committees were foresighted and all suggestions were focused on disclosures. In 1977, a high powered committee named Sachar Committee formulated to review the provisions of the Companies Act and the Monopolies and Restrictive Trade Practices Act, 1969 (the current Competition Act, 2002). This Committee suggested that Sections 307 and 308 of the Companies Act, were insufficient to curb insider trading. In 1984 the Government of India had constituted another high power committee in May 1984 headed by G.S. Patel ("the Patel Committee") to make a comprehensive review of the functioning of the stock exchanges. In 1989, the Abid Hussain Committee was set up to examine the adequacy of the existing institutions, instruments and structures in the Indian capital market and the rules governing its functioning.

With the establishment of SEBI in the year 1988, the regulatory body on insider trading got more wings to protect the interests of the investors in securities. SEBI assumed the statutory status on 21st February 1992, by way of an ordinance promulgated on 30 January 1992. In order to maintain the 'high standard of conduct' with respect to the insider dealing, the SEBI had issued a press release dated 19th August 1992 with a recommendation to formulate the 'internal code of conduct' for the companies to check the practices of insider trading.

Over a period of time, India has strengthened its insider trading regulations and enforcements. In 1992, SEBI (Prohibition of Insider Trading) Regulations were issued with the establishment of the Securities and Exchange Board of India (SEBI) in the same year. Initially, the law doesn't enforce many prosecutions but, initiated a high profile action against Hindustan Lever and a few of its directors for insider trading in connection with the merger of Brooke Bond (Varottil, 2016). Later, with the development and amendments in the regulations, the enforcement escalated with the series of the investigation reported and resolved in the last seven years (See Table 1.1 and Chart 1.1, 1.2, 1.3). Insider trading is a term subject to various interpretations, connotations and definitions. "Insider" means any person who is a connected person or in possession of or having access to unpublished price sensitive information.

¹<http://www.mondaq.com/india/x/371002/Securities/SEBI+Tightens+Rope+New+Insider+Trading+Norms+Introduced> Accessed on 15/01/2018 at 12:30 pm

²At paragraph 63 of Chapter VI titled 'The Indian Security Market as It Is' of Thomas Committee Report

³Thomas Committee in 1948 under the chairmanship of P.J. Thomas the then Economic Advisor to the Finance Ministry. The agenda before the Thomas Committee was framing a central legislation for the regulation of stock market activities and also setting up a competent public authority to administer the law framed.

⁴SEBI (Prohibition of Insider Trading) Regulations, 1992 came into force on 19th November, 1992.

⁵This committee was headed by Justice Shri Rajindar Sachar, the then judge of the High Court of Delhi

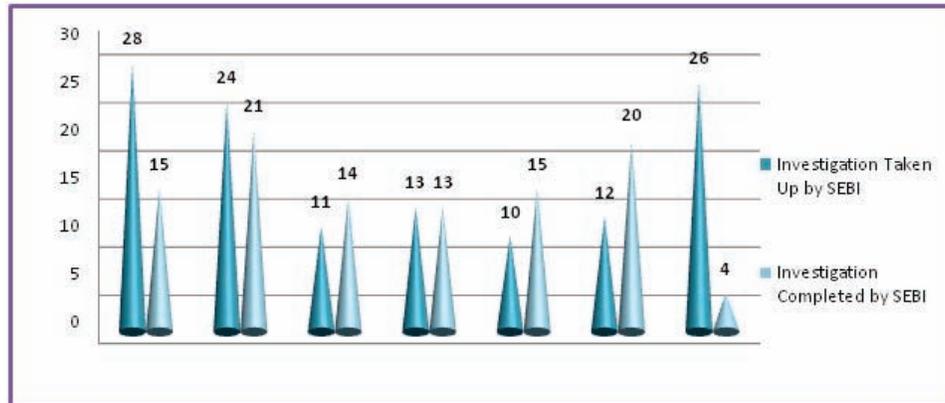
⁶Section 2 (g) of the SEBI (Prohibition of SEBI Insider Trading) Regulation 2015

Table 1.1 Insider Trading Investigation by SEBI

YEAR	2010	2011	2012	2013	2014	2015	2016	Mean
Investigation Taken Up by SEBI	28	24	11	13	10	12	26	17
Investigation Completed by SEBI	15	21	14	13	15	20	4	14

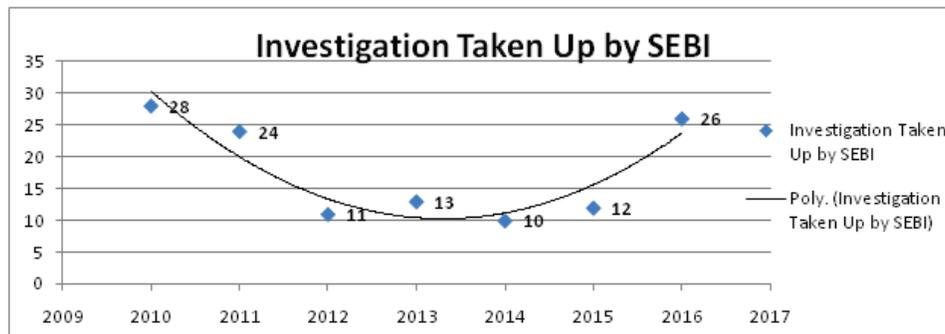
*Source: Data gathered from SEBI Handbook of Statistics of Securities Market 2017

Chart 1.1 Insider Trading Investigation by SEBI



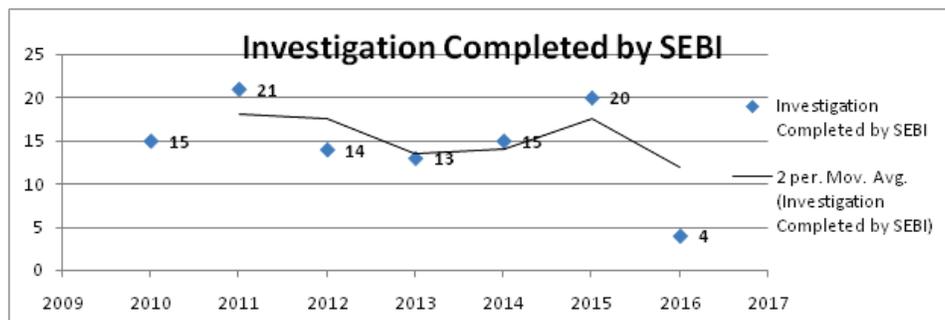
*Chart prepared from the given data in Table 1.1 and MS Excel 2010

Chart 1.2 Investigation Taken Up by SEBI



*Chart prepared from the given data in Table 1.1 and MS Excel 2010

Chart 1.3 Investigation Completed by SEBI



*Chart prepared from the given data in Table 1.1 and MS Excel 2010

Chart 1.2 depicts that the number of investigation taken up by SEBI was witnessed to be declined from 2010 -11 to 2014-15. Later it again increased from 2014 to 2016-17. On the other hand, it can be seen from chart 1.3 that SEBI is consistent in completing the investigation. It shows good governance by the SEBI in terms of the Insider Trading enforcement.

The concept of Insider Trading can also be traced to its establishment. It was realized that such a system is detrimental to the interest of the Indian stock exchange⁵. Prior to the incorporation of the Securities and Exchange Board of India (SEBI), the term Insider Trading was dealt with the provision of companies’ act 1956 which required the disclosure of the directors of the companies.

• **United States and Insider Trading**

In comparison to India, insider trading history of US is very old. It is one of the countries in the world which got a well-established set of Insider Trading regulations. Trading of securities by company executives based on inside information has been illegal throughout much of the history of corporate America, but enforcement has evolved over time. Like the Securities Exchange Board of India, US has the Securities and Exchange Commission (SEC) as their main body to regulate insider trading within the country. Over the years, the Securities and Exchange Commission, the United States attorney for the Southern District of New York and the Manhattan district attorney have pushed to investigate and prosecute those accused of insider trading.

Table 1.2 Historical Timeline of Insider Trading in United States

Date	Event
1611-1799	Birth of stock markets
1800-1929	Growth of markets and financial scandals
1933-1949	Beginning of government attempts to regulate insider trading
1950-1969	Congress begins to standardize rules to prevent financial misconduct by government officials
1970-1979	Government-wide financial rules extend to legislative, executive, and judicial branches.
1980-1989	Increased Congressional and SEC attempts to strengthen insider trading regulations; Supreme Court checks SEC power in rulings
1990-1999	Congress, SEC, and Supreme Court strengthen insider trading law
2000-2004	Financial scandals bring insider trading to greater public attention
2005-2012	Increased public scrutiny of Congressional insider trading and attempts to prohibit trading on Congressional insider knowledge

Source: <https://insidertrading.procon.org/view.resource.php?resourceID=002391>
 Accessed at 9 Pm on 03/02/2018

The market crash in 1929 due to the prolonged lack of investors’ confidence in the securities market followed by the Great Depression of US Economy, led to the enactment of the Securities Act of 1933. Section 17 of this act contained prohibitions of fraud in the sale of securities which were greatly strengthened by the Securities Exchange Act of 1934. This act also covered the prohibition of short-swing profits made by corporate directors, officers or stockholders owning more than 10% of a firm’s share and prohibition of fraud related to securities trading. Later provision regarding the penalties for illegal insider trading was as high as three times the profit gained or the loss avoided from the illegal trading was given in the Insider Trading Sanction Act of 1984 and the Insider Trading and Securities Fraud Enforcement Act of 1988. Notably in the

case of SEC v. Texas Gulf Sulphur Co., the federal court stated that anyone in possession of inside information must either disclose the information or refrain from trading.

With the series of considerable debate and a number of hearings in the 100th Congress, the President signed the Insider Trading and Securities Fraud Enforcement Act of 1988. This act expanded the scope of civil penalties to control persons who fail to take adequate steps to prevent insider trading. The act, among other things, also established a private right of action for buyers or sellers of securities against the inside trader if they traded contemporaneously with the insider (Seitzinger, 2016). In 2012, Stop Trading on Congressional Knowledge (STOCK) Act of 2012 states that insider trading prohibitions apply to

⁷Byomakesh Nayak, “An Overview of Insider Trading Regulations in India” available at www.airwebworld.com Accessed at 2Pm on 7/01/2018
⁸(Dawar)

Members of Congress, congressional staff, and other federal officials. This Act also gave provisions on financial disclosure reporting requirements for legislative and executive branch officials.

Throughout history, United States has been the leading country prohibiting insider trading and it is the first country that

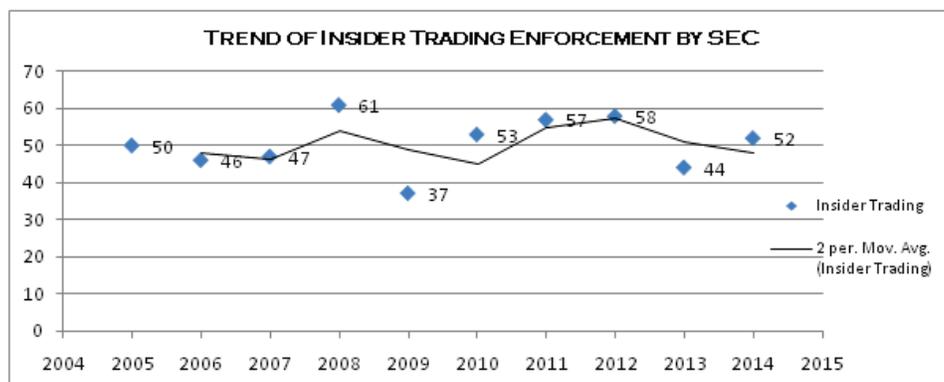
handled the issue of insider trading effectively. Till date Securities and Exchange Commission is found to be a winner in enforcing the legal regulations of Insider Trading with in the country. From case to case basis and from incident to incident basis they have set an example in terms of enforcement. It can also be clearly seen in Table 1.3 and Chart 1.4

Table 1.3 SEC Enforcement Statistics on Insider Trading

Enforcement Actions by Fiscal Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Insider Trading	50	46	47	61	37	53	57	58	44	52

*Source: SEC Enforcement Statistics <https://www.sec.gov/news/newsroom/images/enfstats.pdf>

Chart 1.4 Trend of Insider Trading Enforcement by SEC



*Chart prepared in MS-EXCEL 2010

Remarkable Cases on Insider Trading

India

Hindustan Lever Ltd. V. SEBI

The first case of Insider Trading in India was reported with the case of Hindustan Lever Ltd. v. SEBI where SEBI scrutinized the involvement of a big Company (HLL) on Insider Trading. The case came into the light when this corporate giant purchased 8 lakh shares of Brooke Bond Lipton India Ltd (BBLIL) from Unit Trust of India (UTI) on the basis of unpublished price sensitive information regarding the impending merger of HLL and BBLIL. However, the SAT reversed the order of SEBI on the ground that the proposed merger was generally known and that are cited press reports which revealed the prior market knowledge of the proposed merger. The most significant fall out of this case was the subsequent amendment introduced in the SEBI Regulations, which was aimed at removing the loophole in the law that any information, which was generally known in the

media, could not constitute unpublished price sensitive information. The amendment to Regulation 2(k) introduced in 2002, clearly provided that speculative reports in the print or electronic media would not be considered 'published' information.

Rakesh Agarwal V. SEBI

Rakesh Agrawal v. SEBI is the majorly cited case because the incident was reported to be the milestone in developing the insider trading laws prevalent in India. Mr. Rakesh Agrawal Managing Director (MD) of ABS Industries Ltd., was involved in the Insider Trading transactions while he had access to the price-sensitive information regarding the merger of ABS Industries Ltd. to Bayer AG. After a detailed consideration of issues and evidence, the SAT found that his intention in acquiring the share was to facilitate the entry of Bayer and not to gain unfair personal gain. SAT held that although it was true that in the process the shares purchased at a lower price

⁹[1998] 18 SCL 311 (SAT)

¹⁰<https://corporate.cyrilamarchandblogs.com/2017/10/insider-trading-hindustan-lever-limited-v-sebi/> Accessed on 7/01/2018 at 3:30 Pm

¹¹[2004] 49 SCL 351 (SAT).

fetches a higher price when offered in the public offer, this gain was only incidental, and certainly not to cheat. Thus, the SAT held that Rakesh Agrawal was not guilty of insider trading. SEBI appealed from the decision of SAT to the Hon'ble Supreme Court which has settled the matter by its consent order whereby Mr. Rakesh Agrawal has agreed to pay Rs. 48,00,000 towards the settlement.

Samir Arora Case V. SEBI

The case of Samir Arora v. SEBI was another remarkable incident in the evolution of insider trading laws in India. The case relates back to 2003 wherein Samir C. Arora, the fund manager of Alliance Capital Mutual Fund was alleged to be involved in Insider Trading transactions when he disposed off the entire scrip of Digital Global Soft (DGL) held by him on the basis of the alleged unpublished price sensitive information of the merger ratio of DGL with HPI (Hewlett Packard). On an appeal to the SAT, after carefully analyzing the contentions of both parties concluded that the price-sensitive information which Samir Arora was alleged to have accessed was not correct information because the merger was not infact announced on May 12, 2003. It held that information that finally turns out to be false or at least uncertain cannot be labeled as information. Thus, it was concluded by the SAT that the sale of securities prior to the board meeting could only be considered to be based on Samir Arora's analysis and assessment of the information available in the public domain.

United States (US)

Dirks V. SEC

In 1984, the Supreme Court of the United States ruled in the case of Dirks v. SEC that tippees (receivers of second-hand information) are liable if they had reason to believe that the tipper has breached a fiduciary duty in disclosing confidential information and the tipper received any personal benefit from the disclosure. (Since Dirks disclosed the information in order to expose a fraud, rather than for personal gain, nobody was liable for insider trading violations in his case.). The Dirks case also defined the concept of "constructive insiders," who are lawyers, investment bankers and others who receive confidential information from a corporation while providing services to the corporation. Constructive insiders are also liable for insider violations if the corporation expects the information to remain confidential since they acquire the fiduciary duties of the true insider.

United States v. Carpenter Case

1986 the U.S. Supreme Court cited an earlier ruling while unanimously upholding mail and wire fraud convictions for a defendant who received his information from a journalist rather than from the company itself. The journalist R. Foster Winans was also convicted in this case.

AT&T v. SEC

In one of the largest cases of insider trading on record, the US government charged 17 people who were used confidential information about AT&T's plans to acquire four companies from 1988 to 1993 to realize \$2.6 million in illegal profits. The alleged scheme, involved repeated leaks of planned major acquisitions by AT&T, is widely seen as an embarrassment for the company, whose stock is the most widely held of all U.S. firms.

Enron v. SEC

Kenneth L. Lay and Jeffrey K. Skilling, the chief executives who guided Enron through its spectacular rise and even more stunning fall, were found guilty of fraud and conspiracy. They were among the most prominent corporate leaders convicted in the parade of scandals that represented the get-rich-quick excesses and management failures of the 1990s. Skilling and Enron's former chief accounting officer, Richard Causey, lied and schemed to pump up the company's stock price to enrich their personal bank accounts at the expense of the Houston energy giant, which collapsed into bankruptcy and put thousands out of work.

Legal Scenario of Current Insider Trading Regulations

A. Indian Regulations on Insider Trading

Over a period of time, insider trading was governed by the SEBI (Prohibition of Insider Trading) Regulations, 2015. But, 3 years back SEBI decided to tighten the gaps in the existing norms and introduced the new SEBI (Prohibition of Insider Trading) Regulations 2015 replacing the existing SEBI (Prohibition of Insider Trading) Regulations, 1992. The remarkable features of the new insider trading act are as follows:

- i. There shall be a prohibition on all designated persons for the exercise of ESOPs during the trading window

¹²Agrawal, A. and J. Jaffe, 1995, Does section 16b deter insider trading by target managers? Journal of Financial Economics 39, 295-319.

¹³[2005] 59 SCL 96 (SAT)

¹⁴<http://www.nytimes.com/1995/02/10/business/17-cited-in-insider-trading.html> Accessed on 13/01/2018 at 1Pm

¹⁵<https://www.nytimes.com/interactive/2016/12/06/business/dealbook/insider-trading-timeline.html> Accessed on 13/01/2018 at 4 Pm

¹⁶<https://www.chron.com/business/enron/article/Enron-s-Skilling-charged-with-insider-trading-1987563.php> Accessed on 17/01/2018 at 11 Am

- closure period and there shall be a prohibition on all designated persons for the exercise of ESOPs for six months after the sale of shares, and vice versa.
- ii. There shall be no contra trade even in the case of ESOP.
 - iii. The Regulations prescribe that every employee shall disclose to the Company (Compliance Officer) details of the trade within 2 trading days of the transaction if the value of securities traded in one or a series of transactions in any calendar quarter exceeds Rs.10 lakhs. The disclosures shall include those relating to trading by immediate relatives and by any other person for whom the trading decisions are taken.
 - iv. A designated person who buys or sells any number of securities of the company shall not enter into an opposite transaction i.e. sell or buy respectively any number of securities of the Company during the next six months following the prior transaction.
 - v. A new concept of trading plans has been introduced in India for an insider under the Regulations.
 - vi. If any Designated Person or his/her immediate relative(s) intend(s) to trade in securities exceeding the market value of Rs. 42 lakhs during a calendar month, then he/she should apply to the Compliance Officer for pre-clearance, even during the period when the window is open.
 - vii. The trading window shall be closed for adopting and considering financial results and other Unpublished Price Sensitive Information (UPSI) matters.
 - viii. The trading window shall be closed when the Compliance Officer determines that a designated person or class of designated persons can reasonably be expected to have possession of unpublished price sensitive information. Moreover, the designated persons and their immediate relatives shall not trade in securities when the trading window is closed.

Offences under the 'Insider Trading' regime

The insider trading regime creates two types of offences:

- i. One is a "trading" offence whereby an insider would be liable for trading while in possession of UPSI.
- ii. The other is a "communication" offence whereby an insider would be liable for disclosing UPSI to another person, except if required "in furtherance of legitimate purposes, the performance of duties or discharge of legal obligations".

The first offence merits some discussion. Through SEBI's regulations, India has adopted a strict stance towards

insider trading based on the "parity of information" approach. Under this approach, what matters is that the person trading is in possession of inside information. It does not matter how that person obtained the information, i.e. deliberately or by accident. This is very different from the approach taken in the United States (US) where insider trading becomes illegal only if it accompanied by the breach of a fiduciary duty owed to the company, its shareholders or the source of the information.

India's current policy regime is also sharply in contrast to what prevailed earlier. For instance, although the 1992 regulations required that an insider ought to have traded "on the basis of inside information" in order to be liable for a violation, the regulations were subsequently amended to suggest that mere possession of inside information at the time of trading was sufficient for a violation. The SAT interpreted the regulations such that a person in possession of inside information is presumed to have traded "on the basis of", or to have "used", the information. The insider then carries the burden to prove to the contrary. Such a rigorous approach is tempered by the availability of various defenses, which are discussed below.

B. United States Regulations on Insider Trading

In United States there are two elements to the concept of inside information: confidentiality and materiality. Information is material, under the securities law of the US, if a reasonable investor is likely to consider it significant in making an investment decision or if the information is reasonably certain to have a substantial impact on the market price of a company's securities.

The Securities Exchange Act addresses insider trading directly through Section 16(b) and indirectly through Section 10(b).

- Section 16(b) prohibits short-swing profits (profits realized in any period less than six months) by corporate insiders in their own corporation's stock, except in very limited circumstances. It applies to directors or officers of the corporation and 10% shareholders. Profits earned in that way belong to the corporation.
- Section 10(b) makes it unlawful for any person to use or employ, in connection with the purchase or sale of any security registered on a national securities exchange or any securities, not so registered, any manipulative or deceptive device or contrivance in contravention of such rules that the SEC may prescribe to implement Section 10(b). These broad anti-fraud provisions make it unlawful to engage in fraud or misrepresentation in connection with the purchase or sale of a security. Although these sections do not expressly mention "insider trading," under this

¹⁷SEBI (Prohibition of Insider Trading) Regulations 2015, reg 3(1)

¹⁸Chandrakala v. Adjudicating Officer, Securities and Exchange Board of India, Securities Appellate Tribunal (31 January 2012).

provision, the courts and the SEC have developed theories of insider trading liability.

Penalties

Violations of insider trading laws in the US trigger a broad range of penalties. An insider who willfully violates securities laws is subject to criminal penalties, including a maximum of ten years imprisonment and a fine of 1 million dollars for individuals and 2.5 million dollars for corporations. It should be pointed out that the SEC cannot bring a criminal action for an insider trading violation. It can only recommend criminal prosecution to the Justice Department. On the other hand, the SEC can bring a civil action against an insider and obtain an injunction preventing future securities trading, or an order requiring disgorgement of profits gained through insider trading, and a fine as high as 1 million dollars or three times the profit gained or loss avoided as a result of the insider trading.

An investor may also bring a private lawsuit for damages against an insider. The maximum amount of civil recovery by an investor is equal to the difference between the price at which the investor sold or purchased the shares and the market price of the stock at a reasonable time after the information was announced to the public, limited by the amount gained by the wrongdoer.

Insider trading investigation techniques

The following provisions of federal law have been uncovered as most commonly violated by insider trading:

1. Tender offer provisions;
2. Failure to supervise;
3. Aiding and abetting;
4. Policies and procedures;
5. Perjury/false statements to the government;
6. Obstruction of justice;
7. Issuer's books and records;
8. Broker dealer's books and records;
9. Reporting of beneficial ownership;
10. Manipulation; and
11. Antifraud.

Insider trading investigations are often started after a public announcement that materially affects the price of the issuer's securities (e.g. announcements of proposed tender offers and announcements of significant earnings declines frequently warrant investigations of possible insider trading). Defendants come from a wide variety of backgrounds and include corporate employees, attorneys, investment bankers, physicians, students, account executives, housewives and others.

Insider trading cases typically involve the use of circumstantial evidence to prove that the defendant possessed material non-public information. Telephone records frequently provide this circumstantial evidence in "tipping" cases. Whether this type of circumstantial evidence is sufficient often depends upon the credibility of the defendant who denies, under oath, that a tip took place. For this reason, evidence bearing on the credibility of potential defendants is critical. A false exculpatory statement by a defendant in the course of the investigation is frequently the linchpin of a successful investigation strategy.

The main sources of information on breaching the law concerning insider trading are as follows:

1. Informants, namely: anonymous calls, market professionals, disgruntled employees, and competitors;
2. Market surveillance, namely:
 - a) Self-Regulatory Organizations (SROs) – SROs provide the SEC with reports of suspicious trading, frequently there are detailed reports of their investigations including backup materials,
 - b) SEC review of market trading – the staff monitors market trading through online data services and thorough a review of major periodicals. Depending on the evidence, the staff may immediately either open a Matter Under Inquiry (MUI) to take a further preliminary look at the situation or an investigation.

In the course of insider trading investigations, the following steps are especially important:

1. Establishing materiality of the case (generally a price movement of 10% or more) with obtaining price/volume trade data, contacting issuer, and reviewing news releases.
2. Identification of suspicious trades – it is an ongoing process (e.g. trades which may not appear suspicious at the outset can later become suspicious as more evidence is developed, and vice versa). Large trades are routinely classified as suspicious, however small trades can be suspicious if they can be linked to other suspicious trades or to insiders. To identify suspicious trades the Commission and SRO staff routinely analyze trading records among others in computerized format via the automated Blue Sheet system (namely: monthly account statements, account opening documents, order tickets, price volume runs, etc.).
3. Identification of insiders and traders – the Commission staff routinely requests chronologies from issuers, law firms, investment bankers and tender offerors in order to determine what the material non-public information was, when it was created and when various persons had access to it. These chronologies show the locations, dates, times, participants and subject matter of relevant meetings and documents from the inception of the discussion of the

material event through its public disclosure. In many investigations, the staff creates a master chronology using information from trading records, travel records, daytimers, calendars, telephone and other records.

4. Establishing the connection between insiders and traders – such documents as daytimers, address books, calendars, telephone records, bank records and other personnel files are extremely useful in establishing connections between insiders and traders. These files are available from a number of sources, including employers, witnesses, and institutional databases.
5. Establishing “duty” – employees of law firms, brokerage firms, investment banking firms and issuers routinely executes blanket confidentiality agreements with respect to information they receive in the course of their employment. The agreements are obviously most helpful in establishing a duty of trust and confidence with respect to information that may have been used or conveyed in connection with the suspect trading.
6. Setting stage for disgorgement – last but not least, it is the part of the investigation which includes statements on profit summaries and location of assets as well as profit sharing, payoffs concerning usage of nominee accounts. Cases involving significant foreign trading are more complicated. In order to prevent the dissipation of illegal profits when suspicious trading occurs in a foreign-based account, the SEC frequently seeks emergency relief. The SEC action covers usually several additional steps:

1. Connecting a U.S broker-dealer:

- SEC requests the identity of the account holder. If it is not disclosed, the Commission asks that the account holder be contacted and told to contact the SEC, request information on knowledge of deal and insiders, reasons for the trade, voluntary freeze, etc.
- SEC asks to be informed if the account holder seeks to withdraw/transfer funds or securities.
- SEC requests monthly account statements, Blue Sheet data, etc.

2. Connecting a foreign broker-dealer (coordination with the Office of International Affairs):

- As above and additionally, the SEC warns that a foreign broker-dealer could be named as a defendant in immediate legal action if it fails to identify the customer or freeze funds.

Conclusion

It is clearly visible that insider trading regulations in India were strengthening over a period of time. SEBI being a supreme

power enforced many cases of insider trading and discharge its duty with good governance. In these cases of insider trading, SEBI’s strong resolution helped the Indian market to retain its integrity. Regulations issued by SEBI, their enforcement by SEBI as well as rulings by SAT and various courts have highlighted the need for companies to take serious note of insider trading concerns. In any event, companies and insiders would be well-advised to take precautions to not fall afoul of the legal regime.

On the other hand, when compared to the securities law issues, U.S. regulations have both the advantages and the disadvantages of the “first comer”. The U.S. was the first country engaging in both public and private enforcement of insider trading. In a specific picture, it relied primarily on two provisions i.e. Section 16 (b) of the 1934 Exchange Act, and Section 10 (b) of the same Act and Rule 10b-5. The first one is narrow in scope but easy and preventive to apply. It is helpful in discouraging the most egregious insider trading by primary insiders, but it relies on a presumption of the use of inside information. Section 10, on the other hand, is for catching all anti-fraud provisions characterized by a very broad scope of applications but does not specifically regulate insider trading.

On the final note, the Indian regime of insider trading would have to develop and evolve significantly. It can be concluded from the analytical picture of both the countries that the laws in force in the United States are better equipped than the laws prevalent in India to prevent and penalize the practice of insider trading.

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An Analysis of Corporate Social Responsibility Expenditure of Government Companies in India

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Abstract

Corporate Social Responsibility has been practiced in India since long in one form or another. It has been a part of Indian ethos and values since ages. The obligations of industry towards society are being fulfilled in various forms. Corporate like Tatas, Birlas, Modis, Godrej, Bajajs and Singhanias were practicing social responsibility in form of charity before formally accepting CSR as part of strategic planning and decision making. By making CSR mandatory the government is trying to utilize the CSR spending by corporate to achieve the social goals. Thus, focusing the CSR expenditure towards identified social needs. India being a vast and vibrant country there is a huge need that the corporate should play an active role in taking up the social responsibility so as to enable the country to achieve economic as well as social goals. Government companies play an important role in implementing government plans and act as role model for the industry to follow the league. This paper tries to analyze CSR expenditure and spending pattern of government companies after Company Law amendment.

Key Words: Social responsibility, strategic planning, spending pattern, environmental sustainability

Introduction

Corporate Social Responsibility is not a new practice in India. It has been prevailing since ancient times. The practice is fundamentally rooted in the Indian value system and its allusions can be found in Vedic literature. Ancient Hindu philosophy has given the concept of the four basic objectives of human life — dharma, artha, kama and moksha. CSR in present times is a manifestation of dharma, the duty of human beings towards society. In earlier times, the wealthy people shared their riches with the society by either setting up temples or religious institutions. The approach towards CSR changed with the arrival of colonial rule in India. In the Pre-independence era, the pioneers or propagators of industrialization also supported the concept of CSR. During early 1900s, the industrialist families like Tatas, Birlas, Modis, Godrej, Bajajs and Singhanias promoted this concept by setting up charitable foundations, educational and healthcare institutions, and trusts for community development. During the period of independence struggle industrialists were pressurized to show their dedication towards the benefit of the societyans support the freedom struggle. Mahatma Gandhi urged the powerful industrialists to share their wealth for the benefit of underprivileged section of the society. MahatmaGandhi considered the Indian companies and industries as “Temples of

Modern India”. He gave the concept of trusteeship. This concept of trusteeship helped in the socio-economic growth of India. From 1960-1980, CSR was influenced by the growth of Public sector undertakings (PSUs) to ensure providing proper services and prepoer distribution of wealth among society. After 1980, Indian companies integrated CSR into a sustainable business strategy. With globalization and economic liberalization in 1990s, there was a tremendous increase in the economic growth of the country. This led to the increased industrial growth thus making it possible for the companies to contribute more towards social responsibility. The concept that started as charity is now considered as responsibility. Public Sector Enterprise plays a crucial role in development of the nation’s economy. Central Government and State Government set up PSEs to build the industrial capacity and generating employment along with improving socio-economic condition. Central Government establishes Central Public Sector Enterprise (CPSEs) under the Department of Public Enterprise, Ministry of Heavy Industries & Public Enterprise.

Govt. of India issued revised guidelines for CSR activity carried out by CPSEs taking all stakeholders into account. As per new guidelines, it is obligatory for CPSEs to disclose its various CSR initiatives and performance to stakeholders. Government companies have been actively engaged in a gamut of social

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welfare and upliftment activities across the nation. This paper focuses on analyzing the CSR expenditure and spending pattern of government companies after CSR is made mandatory with amendment to Company Act.

Objective

The present study is analyzing the CSR expenditure of government companies to understand the expenditure and spending pattern after amendment to Companies law.

Literature Review

Howard R. Bowen's (1958) Social Responsibilities of the Businessman was the first comprehensive discussion of business ethics and social responsibility. It created a foundation by which business executives and academics could consider the social responsibility as part of strategic planning and managerial decision-making. The idea of CSR gained importance in the late 1950s and 1960s with the expansion of large corporations. Similar view was expressed by Steiner (1971) that while businesses are economic institutions, they should also contribute towards achieving social goals and such activities should increase with the size of business. R. Edward Freeman (1980) argued that corporation's goals should not only be restricted to maximizing profits for shareholders, it should be with respect to all stakeholders.

Considering the society perspective the arguments for CSR are given on basis of moral and ethical considerations but there are some arguments from economic perspective which are for and against CSR. Levitt(1958) advocated that the companies' only responsibility was to maximize their owners' and shareholders' wealth. As per Friedman (1970) diversion of funds for social good at the cost of making profit is amount to theft. On other hand many researchers have found that CSR has a positive impact on business profitability. Lee, S. and Jung, H. (2016) found that there is positive relationship between CSR and financial performance. As per their research brand reputations

can be source for competitive advantage, the analytical model suggests that products made by socially responsible firms are attractive to consumers.

In India with amendment to Companies Act, CSR has been made mandatory for the companies that have a net worth of INR 500 Crores or more or companies having an annual turnover of INR 1,000 Crores or more or companies having a net profit of INR 5 Crores or more. Indian PSUs have been involved in CSR for a long time. Dr. Jitender Loura(2014) social responsibility is regarded as an important business issue of Indian PSUs irrespective of size, sector, business goal, location of the enterprise. Because Indian PSUs are realizing that without socio-economic development of the local communities, there can be no stability and sustainability for doing business so as to compete with the global market. This paper intends to analyze the CSR expenditure of Indian PSUs after Companies Act amendment to find the pattern of expenditure and areas of expenditure.

Methodology

The research is based on secondary data collected from different sources showing the expenditure of CSR fund by government companies in different development sectors. As per the amendment to the Companies Act the companies need to give the details of the CSR expenditure under the CSR spending report. This data can be accessed from the annual reports and National CSR Data Portal managed by Ministry of Corporate Affairs.

Observations

As per the CSR data available it is shown that there is variation in the total amount spent by the government companies for CSR. It is seen that there is a tremendous increase in amount spent in financial year 2015-16 as compared to financial year 2014-15. There is gradual decrease in amount spent after financial year 2015-16.

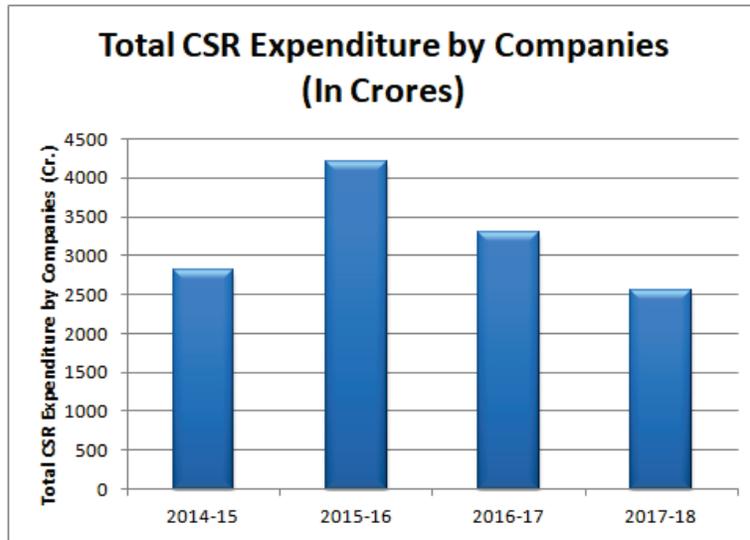


Figure 1: Total CSR Expenditure

Source: National CSR Portal

2014-15

During year 2014-15 the CSR spent is mainly on PAN India

initiatives. There is substantial expenditure in few states such as Tamil Nadu, Odisha and Arunachal Pradesh.

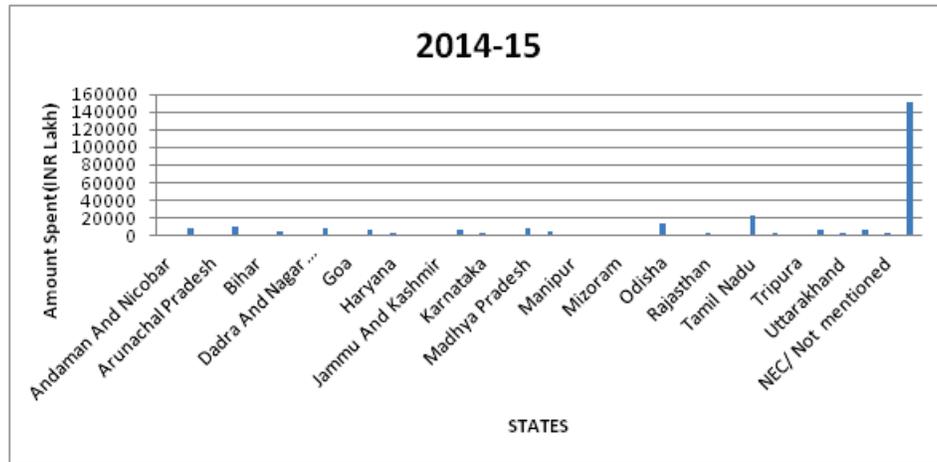


Figure 2: CSR Expenditure 2014-15

Source: National CSR Portal

Classification of expenditure based on the development sector identified by Company Act shows that major contribution is done in field of Education, Health and Environment Stability.

There is expenditures on some flagship projects of government such as 'Swachh Bharat Kosh' and 'Clean Ganga Fund'.

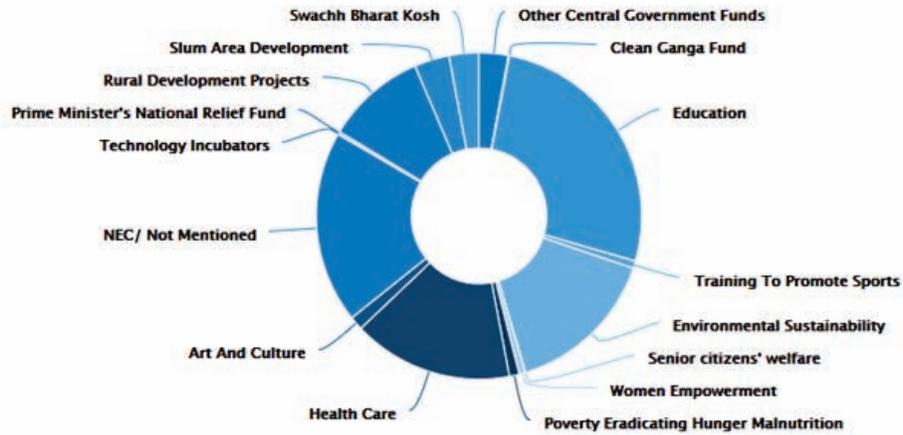


Figure 3: CSR Expenditure Classification 2014-15 Source: National CSR Portal

2015-16: During year 2015-16 there is substantial increase in CSR spending in Andaman and Nicobar and Odisha.

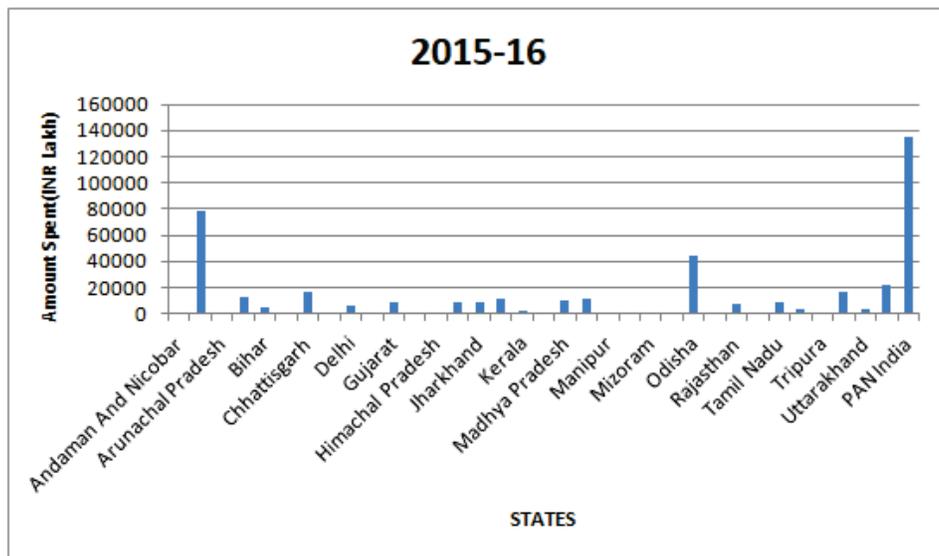


Figure 4: CSR Expenditure 2015-16 Source: National CSR Portal

During 2015-16 the major sectors for CSR Expenditure are Education, Health and Rural development, ending in Andaman and Nicobar and Odisha.

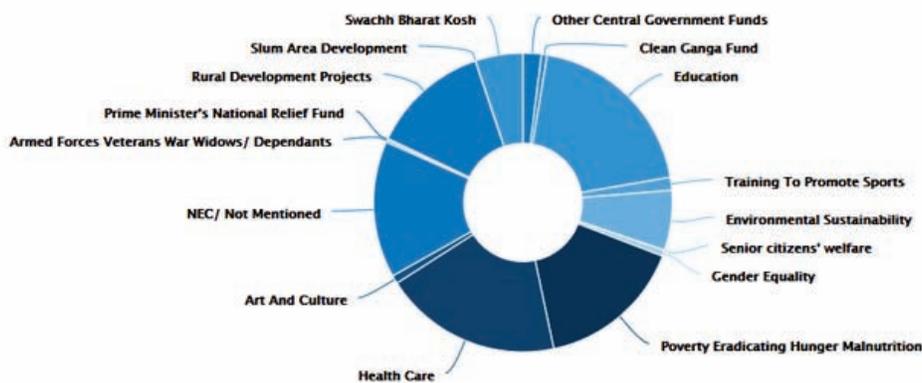


Figure 5: CSR Expenditure Classification 2015-16 Source: National CSR Portal

2016-17: During year 2016-17 the main spent of CSR funds by government undertakings were in PAN India projects.

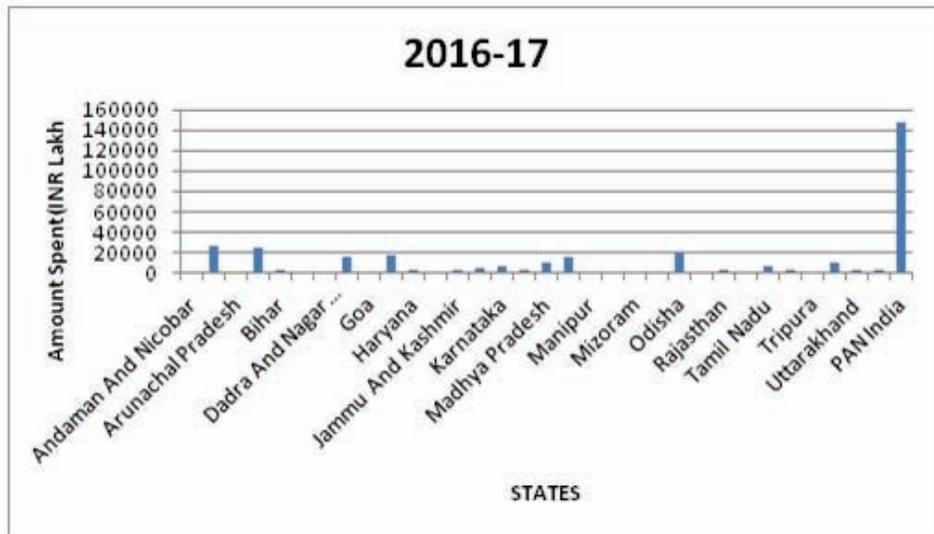


Figure 6: CSR Expenditure 2016-17

Source: National CSR Portal

During 2016-17 major CSR expenditure was in field of Education. Apart from education a substantial fraction was spent in Healthcare, Rural Development and Environmental

Sustainability. In this year contribution is also made in field of poverty eradication hunger and malnutrition.

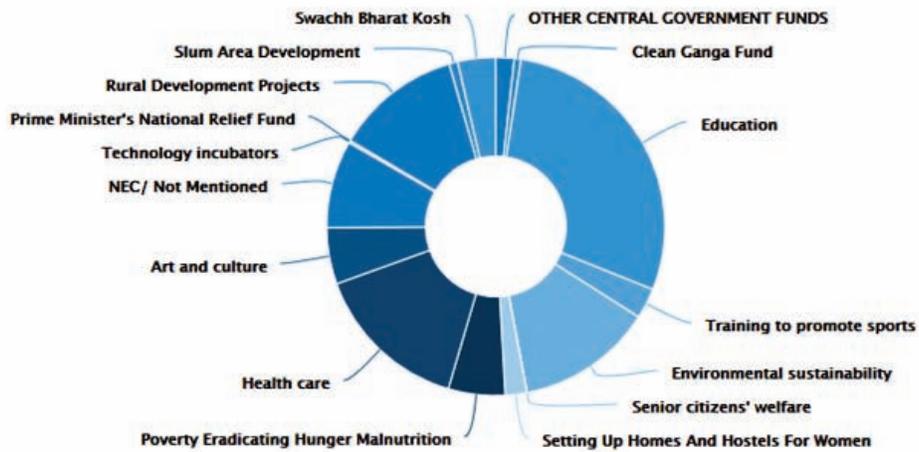


Figure 7: CSR Expenditure Classification 2016-17

Source: National CSR Portal

2017-18: During 2017-18 major CSR spent was in PAN India projects

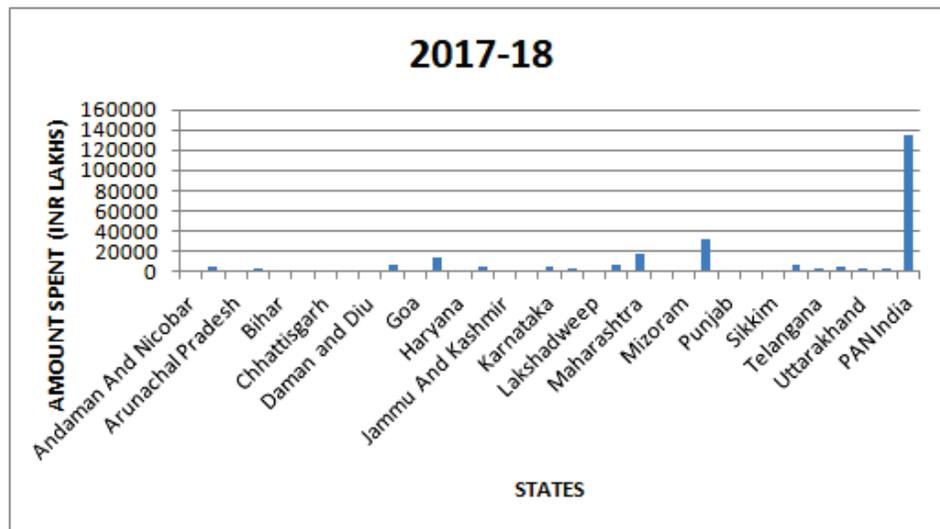


Figure 8: CSR Expenditure 2017-18

Source: National CSR Portal

Classification of projects shows that major contribution was towards Education, Healthcare and Environmental

Sustainability. There are also contributions to Rural Development Projects and Swachh Bharat Kosh.

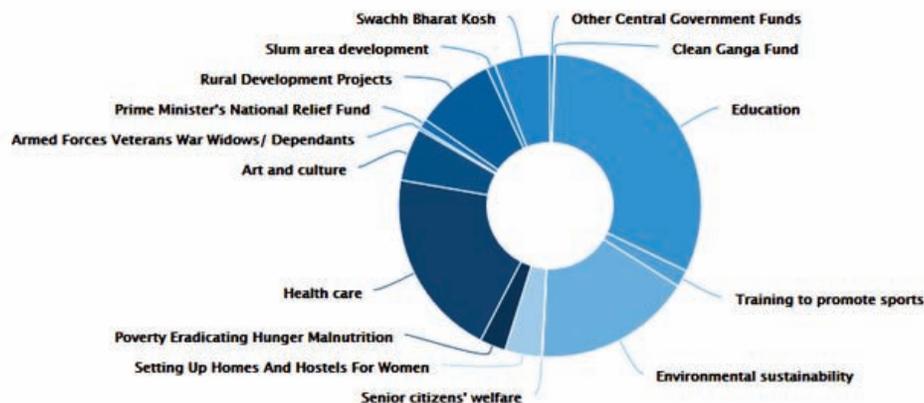


Figure 9: CSR Expenditure Classification 2017-18

Source: National CSR Portal

Conclusion and Recommendations

Analyzing the CSR data of government companies show that they are constantly focused in carrying out CSR activities in field of Education and Healthcare. As both education and healthcare are the areas which need special focus for a vast country like India, CSR contribution is helping in making basic education and healthcare accessible to the population of India. With changing times and current need of the world as per UNGC requirements the government companies are also constantly focusing in Environmental Sustainability which is the need of the time. Government companies are also contributing to the flagship programs of government such as 'Swachh Bharat' and 'Clean Ganga Fund'. Examining CSR trend it shows that most of

the expenditure is done on Pan India projects. This shows that the Government companies are focusing on bringing out change in all parts of India. There are few projects that have focus on local area or some specific states. Thus it can be concluded that government undertakings are actively taking part in CSR activities to fulfill social goals. The following points may be considered for the betterment of both the people at large and the business:

- CSR initiatives should be as per the need of society. For making an initiative successful the company should focus to implement resources to the need of the society.
- Audit should be conducted by external agency to access the impact of initiative.

- Some time it happens that different companies take up similar projects in same geographical region. This way companies end up duplicating each other's efforts. Thus companies should consider pooling their efforts for effective implementation.
- Cross learning is very beneficial in CSR. Government companies have access to large resources and area. These companies can provide learning platform for different companies for effective implementation of CSR initiatives. They can provide various insights to other companies so that they can also learn the best practices and implement them in their CSR initiatives.

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An Econometric Study on Effect of Industrial Growth on Technological Innovation in India

Mr. Pradeep Kumar Panda*

Abstract

This paper examines the causal relationship between industrial growth and technological innovation of India. The study focused on whether or not industrial growth leads technological innovation in India. The methodology applied in the paper is the standard Granger causality tests and Toda- Yamamoto test for causality to time series annual data covering the period 1968 to 2016. The empirical findings reveal the absence of a long-run equilibrium relationship between the variables but there exists uni-directional short-run Granger causality running from industrial growth to technological innovation without any feedback effect. The results are confirmed by cross-checking with the Toda-Yamamoto causality approach. The findings of this study support the "demand-led" or "market-pull" approach to innovation. Therefore, the study suggests an integrated innovative-industrial policy thereby increasing the industrial growth of a developing country like India.

Keywords: Innovation, Patents, Industrial growth, Causality, Co-integration, India

JEL Codes: O3, O4, C1, C3, C5

Introduction

The Indian industrial sector holds a key position in the Indian economy since it is considered to be crucial for employment generation and development of the economy. To address the problem of unemployment and poverty, industrial development is vital for any country. Industrial growth plays a significant role in the overall development of any economy as it raises the productive capacity of people by creating employment opportunities, raising their standard of living, by promoting international trade, boosting national income and by pushing the overall growth of any economy into a higher trajectory. The Government of India has undertaken various economic and institutional reforms including launching ambitious programmes such as Make in India, Start-up India, reforms for improving ease of doing business which has led to significant up-gradation of India's ranking in the Ease of Doing Business by the World Bank 2018 and pushing industrial growth. The promotion of inclusive employment-intensive industry and building resilient infrastructure are vital factors for economic growth and development. The Government is taking several sector-specific measures in this direction to promote sustainable growth of the industry. Industrial growth depends on a variety of factors like adequate infrastructure, availability

of skilled labour, adequate expenditure on R&D and Innovation. Innovation is a crucial factor for the sustained growth of a country and can also help reduce poverty. The Oslo Manual, a worldwide reference for innovation, defines it as "Implementation of new or significantly improved products (goods and services), processes, marketing and organizational methods"¹. It is a wide known fact that innovation is integral to the long-term growth of a nation. Technology is the key to expanding the manufacturing base in the country and increasing India's presence in the global market. Also, India is a heterogeneous market with diverse needs. This heterogeneity in Indian market calls for manufacturing players to innovate. Hence, the Indian industrial sector recognizes the importance of constant innovation in order for survival in a globalised world as a long-term need². According to the World Bank report, India is increasingly becoming a top global innovation player in biotechnology, pharmaceuticals, automotive parts and assembly, IT software and IT-enabled services³. In today's knowledge world, we believe that no firm can survive without innovation.

Technological innovation is not only a way to bring the world closer and closer but it also helps to resolve problems in today's integrated world economy. In addition to trade integration and

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trade openness in the era of globalization, we are witnessing a technological revolution. There are a growing and large body of literature illustrating the positive impact of technological innovation on the industrial growth of a country. Artz et al. (2010) analyzed the impact of patents acquired and product innovation on firm performance in different industries of the US and Canada during the period 1986-2004 using multiple regression models. They found that product innovation had a significant impact on firm performance. Cozza et al. (2012) studied the impact of product innovation on the economic performance of firms (in terms of profitability and growth) using a large sample of Italian firms operating in Medium and High-Tech (M&HT) industries. They used Propensity Score (PS) matching methods and found out a positive and statistically significant relationship between innovation and economic performance of the firms. Atalay et al. (2013) examined the relationship between different types of innovation and performance of firms operating in the automotive supplier industry in Turkey. The data obtained from the questionnaire was analyzed through factor analysis and regression analysis. The results demonstrated that technological innovation (product and process innovation) had a significant and positive impact on firm performance, but no evidence was found for a significant and positive relationship between non-technological innovations (organizational and marketing innovation) and firm performance.

Although there exist behemoth literature on the impact of technological change or innovation on industrial growth, the causal relations among these variables remain somewhat vacuous. To fill this literature gap, this paper focuses exclusively on the causal relations between technological innovation (proxied by a number of patent applications by both residents and non-residents) and the industrial growth (measured by Industrial value added at constant 2010 US\$) in the case of India. The major contributions of this study in the present literature are: Firstly, different from previous various studies that studied the relation or impact among the variables, this study exclusively tests for the direction of causality among these two variables. Secondly, apart from this, the paper uses the most updated and longest time series data (1968-2016) from world-renowned source 'World Development Indicators' of the World Bank. Thirdly, divergent views exist in the literature regarding the effect of innovation on industrial growth but most of them are confined to developed countries. Very few researchers have attempted to describe the issue in case of a developing country like India. Fourthly, the empirical findings of this study will strengthen the understanding of causal relations

between industrial growth and technological innovation which would further help the policymakers to identify sectors to be focused first thereby formulating a coherent and integrated innovative-industrial policy to foster economic growth of India. Against this background, the paper is motivated to explore the causal relationship between technological innovation and industrial growth in the case of India.

The remainder of the paper is organized as follows: Second section explains the review of the past literature; In the third section, the econometric methodology is presented; the fourth section explains the main findings, analysis and discussions; the last section concludes the paper and suggests some imperative policy implications for India which could be applicable to other developing countries as well.

Literature Review

The available empirical evidence in assessing the effect of innovation on industrial growth is limited since it is difficult to quantify the amount of innovation in any economy. When trying to identify proxy variables for innovation, researchers have used many proxies to quantify the technological change such as expenditure on research and development activities (R&D), patent citations, imports of capital goods, royalties and license fees, accumulation of ICT capital, change in Total Factor Productivity (Vashisht, 2017).

The patent counts were taken as a proxy variable for measuring industrial innovative capabilities following Scherer, (1965), Schmookler (1966), Griliches (1984) and Crosby (2000). Patents are used to protect the firm's invention. They have the ability to reflect inventive activity and innovation. Therefore, patents can be used to examine technological change since (i) Compared to R&D expenditure, patent data is more associated with innovative output (ii) Patents data is available for a relatively longer period of time (suitable for time series analysis) (iii) Patent data is easy to measure, access and quantify (iv) Also, it is easily comparable with other countries. The major limitation of using patent data as a proxy variable is its inability to capture the whole range of innovations as not all inventions get patented nor do all patents give rise to successful innovations. In spite of these shortcomings, as Comanor & Scherer (1969) interpreted in detail, patent data still provide valuable and significant information on innovation. A number of studies have emerged in order to study the effect of innovation on industrial growth at both the firm and industry level.

¹Refer (OECD and Eurostat, 2005)

²A Report by (India Brand Equity Foundation)

³See (Dutz et al., 2007)

Fan et al.(2018)estimated the long run as well as short-run cointegration relationship between technological innovation, infrastructure and industrial growth in Bangladesh over the period 1974-2016 using the ARDL Bounds Test methodology and Granger Causality test in an augmented VECM framework. The results showed a positive and significant impact of infrastructure and technological innovation on industrial growth in the short run but technological innovation showed a negative impact on industrial growth in the long run. The VECM Granger causality test suggested a unidirectional causality running from industrial growth to technological innovation. The study recommended an integrated macro-variable policy instead of any single or individual policy action to ensure the sustainable growth of a developing country like Bangladesh as well as other developing countries.

Crosby(2000) explored the importance of innovation in promoting Australian economic growth by using the VAR modelling and found that with the increase in patenting activity (proxy variable for innovation), both labour productivity and economic growth increased, though this increase could take up to 15 years. Pantano et al. (2017) provided a detailed overview of the level of innovation using text mining (i.e. the text describing the patent) and bibliometric analysis (i.e. the number of patents in a certain period of time) and showed a positive effect of innovation on retailing. They concluded their paper by suggesting the need to push more towards innovation-oriented strategies to propose innovative consumers solutions. San & Huang(2010) analysed the causal relationship among technological innovation, capital investment, and market performance for four major industries with different technological levels, namely, the electronics, chemical, machinery and textile industries using Taiwan’s annual data for the period 1988-2005 by using the Granger causality test. They found out that only in the high-tech electronics industry, a complete triumvirate causal relationship among patents, capital investment, and production value exist while there were some missing linkages in terms of technological innovation in the mid-tech and low-tech industries, thereby, suggesting taking sectoral specifications into account while considering innovation policies. Çetin (2013) examined the causal relationship between R&D expenditures and economic growth based on the standard Granger and Toda-Yamamoto tests for causality to time series data covering the period 1981-2008 for nine European countries. Their findings supported the innovation-based growth hypothesis for some European countries and recommended that the government should increase R&D intensity and apply co-ordinated, coherent and effective R&D policies for a sustainable growth.

Guloglu & Tekin (2012) investigated the causal relationship between R&D expenditure, innovation (proxied by the number of triadic patents) and economic growth in 13 high-income OECD countries for the period 1991-2007 by estimating a trivariate panel VAR model through the GMM and panel fixed effects method. The pairwise Granger Causality test suggested that R&D intensity triggers innovation which further enables economic growth, while multivariate causality revealed a multiple of causal relations among their variables implying support for both the "demand-pull" and "technology-push" models of innovation.

Econometric Methodology

The study has employed the standard Granger(1969) and Toda & Yamamoto(1995) tests to determine the causality relationship between innovation and industrial growth. This study takes Patents counts as a proxy variable to measure technological innovation in India.

Data Construction: In order to explore the impact of technological innovation (TI) on Industrial Growth (ING) of India, data have been taken from the ‘World Development Indicators’ of the World Bank published in 2017. The study has covered the longest time period from 1968 to 2016 (that is, duration of 49 years) which is suitable for time series analysis. We have used Industrial value added (constant 2010 US\$) as a proxy variable for measuring Industrial Growth (ING) in India. The sum of the number of patents applied by residents and non-residents is taken as a proxy variable for measuring technological innovation. We have converted all-time series data to their natural logarithm form for standardization of data.

Model Framework: The empirical analysis takes into account the following linear regression models to investigate the causal link between technological innovation and industrial growth.

$$ING_t = \beta_0 + \beta_1 TI_t + u_t \quad (1)$$

$$TI_t = \alpha_0 + \alpha_1 ING_t + v_t \quad (2)$$

Where ING indicates the Industrial value added which has been used as a proxy variable for Industrial Growth and TI denotes the technological innovation; β_0 and α_0 are the intercept term and β_1 and α_1 is the coefficient of the technological innovation and industrial growth respectively; u_t and v_t are the residual terms. The subscript t denotes the time period of each variable being taken in the study. By taking the natural logarithm on both sides of the equation, our final equation becomes:

$$\text{Log}(\text{INGt}) = \beta_0 + \beta_1 \log(\text{TIt}) + u_t \quad (3)$$

$$\text{Log}(\text{TIt}) = \alpha_0 + \alpha_1 \log(\text{INGt}) + v_t \quad (4)$$

Granger Causality Procedures: A standard procedure with three steps is employed to examine the causality linkage between the two variables:

Unit Root Testing: First, in order to determine the time series properties, the unit root properties of the series are tested. In our study, we have applied two kinds of unit root tests: a. Traditional unit root test and b. Unit root with structural break. The reason being if structural breaks are there, the usual approach of unit root testing may get invalidated. The unit root test will show whether the series (LTI, LIVA) are stationary or not. The Augmented Dickey-Fuller (ADF) and the Phillips and Perron unit root testing methods were used to determine the traditional unit root of the variables and modified ADF for structural break unit root tests. The ADF test takes care of the possible serial correlation in the errors term by adding the lagged difference terms of the regressand. Phillips and Perron use the non-parametric statistical methods to take care of the serial correlation in the error term without adding lagged difference terms.

The traditional view of the unit root hypothesis assumed that the current shocks would have only temporary effects and the long-run movement in the series would be unaffected by such shocks. But, the unit root hypothesis propagated by Nelson & Plosser (1982) revealed that random shock does have a permanent effect on the long run level of macroeconomics and hence fluctuations are not transitory. Additionally, Perron (1989) showed that failure to allow for an existing break which may be due to some unique economic events leads to a bias that reduces the ability to reject a false unit root null hypothesis. To overcome this, Perron proposed allowing for a known or exogenous structural break in the Augmented Dickey-Fuller (ADF) tests. Taking these things into consideration, we checked structural breakpoints using Bai & Perron(2003) multiple breakpoint tests and conducting structural break unit tests in the modified ADF test.

Cointegration Test: Cointegration implies that despite being individually non-stationary, a linear combination of two or more time series can be stationary. If there is a long-run or equilibrium relationship between the two given series, then they are said to be cointegrated. The error correction term which is used to tie the short run behaviour to the long run value can only arise if there is cointegration. Therefore, the first step has to be testing for cointegration. If evidence for cointegration

is positive, then error correction term will be present in the equation. The simplest test for cointegration is the one suggested by Engle and Granger which is applicable only for two time series as required in our study. The Engle & Granger(1987)cointegration technique is employed to examine whether there exists the long run relationship between any two variables.

Procedure:

1. Determine whether y_t and x_t are $I(d)$.
2. Provided they are both $I(d)$, estimate the parameters of the cointegration relation.
3. Test to see whether the least squares residual appears to be $I(0)$ or stationary, then the series are cointegrated and the regression equation would not be spurious.

If two or more time series are cointegrated, then there must be Granger causality between them which can either be one way or bidirectional.

Granger-Causality Test: According to Granger (1969), a variable (in this case technological innovation) is said to Granger-cause another variable (industrial growth) if past and present values of technological innovation help to predict industrial growth. The Vector Auto Regression (VAR) framework allows testing for Granger causality and explicitly includes the possibility of feedback causality.

According to Sekantsi & Thamae(2016) there are two approaches to Granger causality which are as follows:

1. If the series X and Y are individually $I(1)$ and cointegrated, then Granger causality tests may use $I(1)$ data because of the super-consistency properties of estimation

$$X_t = \alpha + \sum_{i=1}^m \beta_i X_{t-i} + \sum_{j=1}^n \gamma_j Y_{t-j} + u_t \quad (5)$$

$$Y_t = a + \sum_{i=1}^q b_i Y_{t-i} + \sum_{j=1}^r c_j X_{t-j} + v_t \quad (6)$$

Where u_t and v_t have zero mean, serially uncorrelated, random disturbances

For equations (5) and (6), Y Granger Causes (GC) X

if $H_0 : \gamma_1 = \gamma_2 = \dots = \gamma_n = 0$ is rejected

against $H_A : =$ at least one $\gamma_j \neq 0, j = 1 \dots n$

and X GCY if, $H_0 : c_1 = c_2 = \dots = c_n = 0$ is rejected

against $H_A : =$ at least one $c_j \neq 0, j = 1 \dots r$

If the series is I(1) but are not cointegrated, valid Granger type tests require transformation to make them I(0). So, in this case, the equations become

$$\Delta X_t = \alpha + \sum_{i=1}^m \beta_i \Delta X_{t-i} + \sum_{j=1}^n \gamma_j \Delta Y_{t-j} + u_t \quad (7)$$

$$\Delta Y_t = a + \sum_{i=1}^q b_i \Delta Y_{t-i} + \sum_{j=1}^r c_j \Delta X_{t-j} + v_t \quad (8)$$

For equations (7) and (8), $\Delta Y \text{ GC } \Delta X$ if,

$H_0 : \gamma_1 = \gamma_2 = \dots = \gamma_n = 0$ is rejected

against $H_A : =$ at least one $\gamma_j \neq 0, j = 1 \dots n$

and $\Delta X \text{ GC } \Delta Y$ if, $H_0 : c_1 = c_2 = \dots = c_n = 0$ is rejected

against $H_A : =$ at least one $c_j \neq 0, j = 1 \dots r$

The optimal lag length m, n, q and r are determined on the basis of different information criterion such as Akaike's (AIC) and/or Schwarz Bayesian (SBC) and/or log-likelihood ratio test (LR) Criterion since the results of Granger's test of causality are too sensitive to the selection of the length of lag.

The Toda-Yamamoto Causality Approach: To investigate the causality between industrial growth and technological innovation in India, this study also employed the Toda-Yamamoto (TY) causality approach. This approach is a modified version of the ordinary Granger causality. The reasons for employing TY in this paper are as follows:

1. The TY approach is applicable for any arbitrary levels of integration for the variables. Furthermore, the TY minimize the risks associated with the possibility of wrongly identifying the order of integration of variables. See Dembure and Ziramba(2013)
2. In case of ordinary Granger Causality, the standard VAR is estimated with the variables at their first difference, on the other hand, the TY approach is suitable for the VAR whereby the variables can be estimated at their levels and therefore researcher does not need to transform the standard VAR model.

The TY causality approach involves three stages as follows:

Determining the maximum order of integration: The first step involves the testing of the time series using unit root tests to determine the maximum order of integration (d_{max}) of the variables in the system.

Determining the optimal lag length (k): The optimal lag length can be obtained from estimating VAR with variables at the level. The k can be determined using different lag length criterion

such as the Akaike's Information Criterion (AIC), Schwarz Information Criterion (SC), Hannan Quinn (HQ) Information Criterion etc.

Testing for Causality: This is done by using the Modified Wald (MWALD) procedure to test for the VAR (p) where $p = (k+d_{max})$. The modified Wald Test (MWald) follows a Chi-square (χ^2) distribution asymptotically and the degrees of freedom is equal to the number of time lags ($k+d_{max}$). The rejection of the null hypothesis entails the rejection of Granger causality.

Toda-Yamamoto causality test involving two variables, technological innovation and industrial growth is written as:

$$Y_t = \alpha_0 + \beta_{11} \sum_{i=1}^k Y_{t-i} + \beta_{21} \sum_{j=k+1}^{d(max)} Y_{t-j} + \gamma_{11} \sum_{i=1}^k X_{t-i} + \gamma_{21} \sum_{j=k+1}^{d(max)} X_{t-j} + e_{1t} \quad (9)$$

$$X_t = \alpha_1 + \lambda_{11} \sum_{i=1}^k X_{t-i} + \lambda_{21} \sum_{j=k+1}^{d(max)} X_{t-j} + \delta_{11} \sum_{i=1}^k Y_{t-i} + \delta_{21} \sum_{j=k+1}^{d(max)} Y_{t-j} + e_{2t} \quad (10)$$

Where the error terms e_{1t} and e_{2t} are assumed to be white noise with zero mean, constant variance and no autocorrelation. The series X_t Granger causes Y_t if the γ_{1i} are jointly significant, while Y_t Granger causes X_t if the δ_{1i} are jointly significant, if both the γ_{1i} and the δ_{1i} are jointly significant, there is evidence for bi-directional causality between X_t and Y_t .

Result Analysis and Discussion

The study started analysis with simple statistical tools as descriptive statistics and correlation presented in the below Table 1:

Table 1. Descriptive Statistics and Correlation of Variable		
Variables	IVA	TI
Mean	221000	13477.29
Median	140000	4826.000
Std. Dev.	189000	15057.75
Jarque-Bera (Probability)	3.374285 (0.185048)	6.696049 (0.035154)
IVA	1	
TI	0.967744 (0.0000)	1

Note: IVA: Industrial Value-Added; TI: Technological Innovation

Table 1 above illustrates the mean, median and standard deviation of the series. The Jarque-Bera test is a test of normality wherein the null hypothesis indicates the error term to be normally distributed. Based on the p-value, the test shows that the residual of the variable industrial value added is normally distributed but it is not normal in case of technological innovation. We know that this is not a problem for our analysis since the multivariate framework does not require the normality assumption. The correlation matrix indicates a strong and significant positive relationship between technological innovation and industrial value added.

Unit Root Testing: A test of stationarity (or non-stationarity) that has become widely popular over the past several years is the unit root test. In literature, there are numerous unit root tests available like ADF, PP, KPSS, Ng-Perron and also other special unit root tests as Zivot-Andrews unit root test. According

to the discussion in the methodology section, Table 2 reports the unit root tests results for the series in their level and difference forms considering ADF and PP tests. The test options considered (a) Intercept and (b) Intercept and Trend.

Table 2: Unit Root without Structural Break

Variable	ADF (Level)		ADF (First Difference)		PP (Level)		PP (First Difference)	
	Intercept	Intercept & Trend	Intercept	Intercept and Trend	Intercept	Intercept & Trend	Intercept	Intercept & Trend
Log(IVA)	2.6084 (1.0000)	-1.7055 (0.7335)	-4.9851*** (0.0002)	-5.7898*** (0.0001)	3.2758 (1.0000)	-1.6492 (0.7580)	-5.0214*** (0.0001)	-5.8070*** (0.0001)
Log(TI)	0.6855 (0.9906)	-2.2398 (0.4575)	-5.5724*** (0.0000)	-5.9852*** (0.0000)	0.6855 (0.9906)	-2.2625 (0.4454)	-5.5773*** (0.0000)	-5.9286*** (0.0001)

Note: *, ** and *** indicate statistical significant at the 10%, 5% and 1% level respectively.

Table 2 describes the findings of ADF and PP test. The ADF test uses the existence of a unit root as the null hypothesis. To doublecheck, the robustness of results, Phillips and Perron test of stationarity have also been applied. The findings of both ADF and PP test indicates that both the variables are non-stationary at level but becomes stationary at first difference and are significant at all the levels of significance. Thus, implying that both the variables are integrated to the same order i.e. I(1).

that in the presence of a structural break, the standard ADF tests are biased towards the non-rejection of the null hypothesis. The idea is to confirm that the unit root observed for a particular series is not due to structural breaks. This procedure gives an added advantage of identifying when the structural break occurred and if this break is associated with a particular government policy, economic crises, war or other factors. Taking these insights, we checked structural breakpoints using (Bai and Perron, 2003) multiple breakpoint tests and again conducting structural break unit root tests. The results are shown in below table 3:

It has been witnessed that macroeconomic variables like industrial growth, GDP etc mostly in the developing country like India faces structural changes. Also, as Perron (1989) argues

Table 3. Bai-perron Multiple Breakpoints date

Log (IVA)	Break Dates	Log (TI)	Break Dates
No of Breaks		No of Breaks	
4	1995, 2006, 1983, 1976	3	1995, 2003, 2010

The calculated F-statistic of break tests is significant at 5% level as provided by Bai-Perron (Econometric Journal, 2003) critical values.

The results of the table indicate that there are 4 and 3 structural breaks of the variables industrial growth and technological innovation in the years 1995, 2006, 1983, 1976 and 1995, 2003, 2010 respectively. After identifying the structural breaks in the

given series, we conducted the structural break unit root tests. Table 4 reports the results of unit root with a structural break in levels and first differences.

Table 4: Unit Root with Structural Break

Variable	SC(level)		SC(First Difference)		AC(level)		AC(First Difference)	
	Intercept	Intercept & Trend	Intercept	Intercept and Trend	Intercept	Intercept & Trend	Intercept	Intercept & Trend
Log (IVA)	0.3164 (0.99)	-3.4017 (0.7483)	-5.6279*** (0.01)	-6.0321*** (0.01)	0.3164 (0.99)	-3.8916 (0.4411)	-5.6279*** (0.01)	-5.9404*** (0.01)
Log (TI)	-3.2805 (0.5155)	-4.8858** (0.0464)	-8.0451*** (0.01)	-8.0294*** (0.01)	-3.2805 (0.5155)	-4.8858** (0.0464)	-8.0451*** (0.01)	-8.0294*** (0.01)

Note: *, ** and *** indicate statistical significant at the 10%, 5% and 1% level respectively.
SC: Schwarz criterion; AC: Akaike criterion

The unit root test results represented in the above table show that the series have different orders of integration [both I(0) and I(1)].

Test for Cointegration: The Engle-Granger Test

Considering the unit roots test without a structural break, we infer that both the series are non-stationary at level but

becomes stationary at first difference, that is, both are integrated to the same order I (1). Also, there are only two-time series. Both these conditions fulfil the criteria to apply the Engle and Granger’s Approach. In this method, we first estimated the equation and checked if the residuals obtained are free from unit roots. The result obtained is illustrated in the below Table 5:

Table 5: The Engle-Granger Test for Cointegration

Null Hypothesis: U has a unit root			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-2.81196	0.0641
Test critical values:	1% level		-3.57445	
	5% level		-2.92378	
	10% level		-2.59993	
*MacKinnon (1996) one-sided p-values.				

Note: Engle-Granger critical value at a 10% level of significance is 3.04

With regard to the interpretation of the above table, we used the Enger-Granger critical values at 10% level of significance. It is apparent from the results that the test statistics is less than the critical value, thereby accepting the null hypothesis of residual having a unit root. The results, therefore, implies that the series are not cointegrated and thus do not converge to a long-run equilibrium. Next, we apply the VAR Granger Causality test to check the direction of the relationship between the variables.

Considering the results of unit root with a structural break, we found out that the series was, in fact, a mixture of I (0) and I (1). Since none of the series was insignificant at I (2) we could not

apply ARDL Bound Testing as this could have to lead us to spurious results. Hence, the Toda-Yamamoto Model for causality was considered since this methodology could be applied to series with different orders of integration [say I(0) and I(1)].

Diagnostic Test of the Model

Here, the classical VAR model was preferred to check the Granger causality relationship. Before employing the VAR model, appropriate lag length was chosen using different information criterion. The results of which are shown in Table 6 below:

Table 6: VAR Lag Order Selection Criterion

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-58.5468	NA	0.057291	2.816132	2.898048	2.846340
1	112.7755	318.7392*	2.39e-05*	-4.966301*	-4.720552*	-4.875677*
2	115.3199	4.497092	2.56e-05	-4.8986	-4.48902	-4.74756
3	118.7108	5.677801	2.65e-05	-4.87027	-4.29686	-4.65881
4	120.9892	3.603038	2.89e-05	-4.7902	-4.05295	-4.51832
5	125.6085	6.875294	2.83e-05	-4.819	-3.91792	-4.48671
6	126.0596	0.629420	3.39e-05	-4.65394	-3.58902	-4.26123

** indicates lag order selected by the criterion*

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

The difference information criterion is used to select the appropriate lag length of the model such as AIC, SC, HQ etc. By looking at Table 6, lag 1 is coming out to be most appropriate as confirmed by all the information criterion. In order to check the

stability and fitness of our model, the issues of autocorrelation, constant variance and normal distribution were checked for the optimal lag.

VAR Residual Serial Correlation LM Test and Heteroskedasticity Tests

Table 7: Diagnostic Test

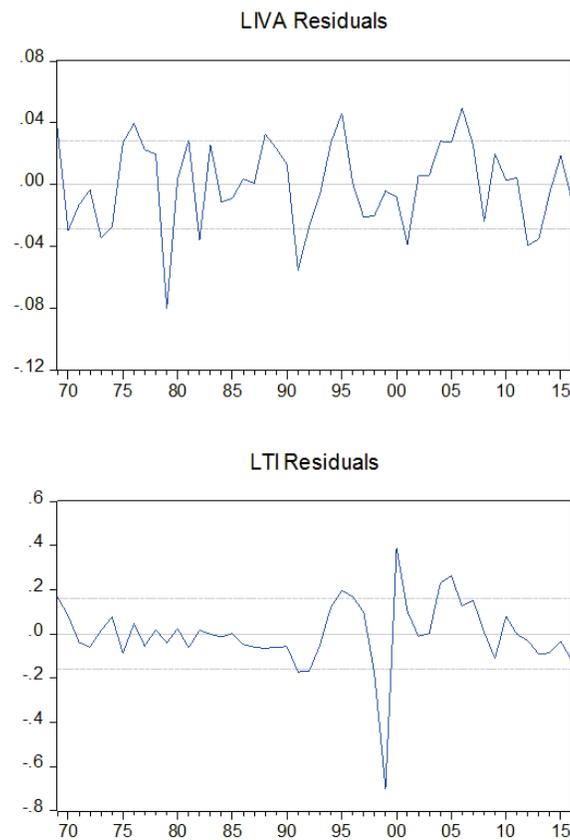
Test	Value of test statistic	Probability
Serial Correlation Test (LM -Stat)	4.713393	0.3180
Heteroskedasticity Test (Chi -sq)	13.82243	0.3122

The results of the above Table 7 reports that the probability of the test statistic is greater than 5% level of significance, thereby accepting the null hypothesis of no serial correlation and no heteroskedasticity. In this situation, we can conclude that this model is of a good fit.

Normality Test of Residuals

In order to check the normality condition of the residuals, graphs of residuals of the series were obtained as shown in the below Graph 1:

Graph 1: VAR Residuals



By looking at the graphs above, one can say that the residuals of LIVA (log of industrial value added) and LTI (log of technological innovation) are showing normal behaviour apart from a few spikes. We see while plotting the graph of technological innovation a major plummet in the year 1999-2000. The reason behind this is that during the year 1999-2000, industrial growth was low, agricultural productivity was low and even export

growth was low. All these lead to a decline in technological innovation as well.

Stability Test of the VAR Model

For a VAR Model, the stability condition requires that the roots of the characteristic polynomial should be less than one. The results are shown below in Table 8:

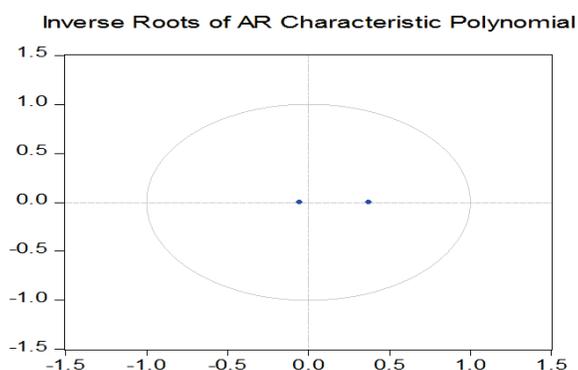
Table 8: Roots of the Characteristic Polynomial

Root	Modulus
0.374879	0.374879
-0.054041	0.054041

The table above reports the modulus of both the roots is less than 1. Also, since no root lies outside the unit circle as shown in

below Graph 2, a conclusion can be made that the VAR Model satisfies the stability condition.

Graph 2: Inverse Roots of AR Characteristic Polynomial



Given that our model passes all the diagnostic tests, we conclude that our model is a good fit and can be used for further analysis.

I(1), the Granger Causality test to the bivariate VAR has been examined and results are reported in the below Table 9. If the series is I(1) but not cointegrated, causality test may give misleading results unless the data are transformed to induce stationarity (Sekantsi & Thamae, 2016).

Causality Tests

Granger Causality Test: Based on study findings, wherein the unit root test without structural break estimated series to be

Table 9: Granger's Causality Tests

Null hypothesis	Chi-Sq (χ^2)	Dof ^a	p – value ^b
Non causality Δ LIVA => Δ LTI	6.315990	1	0.0120
Non causality Δ LTI => Δ LIVA	0.425654	1	0.5141

Note: a Degrees of freedom; b Acceptance Probability

As per the table, the LR ratio statistic for the test of non-causality from technological innovation to industrial growth which is asymptotically distributed as a chi-square variate with one degree of freedom is clearly not statistically significant. While testing the non causality from industrial growth to technological innovation, the observed LR statistic (follows a chi-square distribution with 1 d.o.f) 6.315990 is found to be statistically significant. This indicates the existence of short-run causality running from industrial growth to technological innovation with the absence of any feedback effect.

Toda-Yamamoto Causality Test: Based study findings, wherein the unit root test with structural break estimated series to be a mix of I(0) and I(1), the Toda-Yamamoto Granger Causality approach is utilized to determine the direction of causality between industrial growth and technological innovation since this approach is valid regardless of whether a series is I(0), I(1) or I(2), non-cointegrated or cointegrated of any arbitrary order Wolde-Rufael(2005). The results of unit root with a structural break in Table 4 indicated that the maximum order of integration is 1. After determining the maximum order of integration, the next step is to determine the optimal lag length

as explained in the methodology section. The optimal lag length as shown by different information criterion in Table 6 above came out to be 1. Finally, the results of Granger Causality based

on the Toda-Yamamoto estimated by the MWALD test with a lag length of 2, that is, $(k + d_{max})$ equal to 2, are reported in below Table 10:

Table 10: Toda-Yamamoto Causality (modified WALD) Test Results

Null hypothesis	Lag (k)	Lag (k+d _{max})	Chi-Sq	p-value	Direction of Causality
LTI does not Granger Cause LIVA	1	1+1	1.002468	0.6058	LTI # LIVA
LIVA does not Granger Cause LTI	1	1+1	15.13060	0.0005	LIVA → LTI

Note: LTI is the log of Technological Innovation; LIVA is the log of Industrial Growth

- : (k+d_{max}) denotes VAR order*
- : → denotes one-way causality*
- : # denotes no causality*
- : Eviews 9.0 was used for all computations*

The Toda-Yamamoto Granger Causality also indicates that we can reject the null hypothesis of no causality from LIVA to LTI and conclude that there is a one-way causality running from industrial growth to technological innovation without any feedback effect.

Conclusion and Policy Implication

A strong industrial sector coupled with growth-oriented industries, conducive tax policies encouraging business and investment growth, promoting inclusive employment intensive industry and building resilient infrastructure are crucial factors for the overall economic growth and development. In order to push industrial productivity and growth, it is necessary to enhance the competitiveness of industry by reducing the cost of infrastructure such as power, strengthening ease of doing business environment, easing regulatory/compliance burden, reducing the cost of capital, improving labour productivity, skill development, among others in the coming times.

Technological innovation is regarded as a major force driving the economic growth and development of a country. In order to maintain a competitive edge in today's world, technological change is imperative and requires constant monitoring to keep up with the pace of a fast-moving economy. Indian industry has been progressing towards adopting new and advanced technologies. However, the faster mechanism should be adopted as inefficient technologies led to low productivity and higher costs adding to the disadvantage of Indian products in international markets. Advances in technology result in the emergence of new activities and bring changes to the existing system. One of the significant developments these days is of the industry 4.0, which is expected to impact all the industries. However, appropriate use of new technologies needs to be adopted to ensure greater productivity and competitiveness.

The study investigated the causal relationships among the technological innovation and industrial growth for India over

the period of 1968-2016 by applying the standard Granger-causality test and the Toda-Yamamoto approach of causality. The Engle-Granger's cointegration method results indicated the absence of a long-run relationship between innovation and industrial growth. Granger causality test reveals the unidirectional short-run causality running from industrial growth to technological innovation. The finding of the Granger causality tests supports the results obtained in the Toda-Yamamoto approach in our study. The findings obtained from this empirical analysis have an imperative policy implication for a developing country like India as well as other developing countries.

The empirical findings of this paper challenge the generally accepted notion that it is the technological innovation (patents count) which triggers the industrial growth of any country. The reason being that patents play an important role in providing incentives to the industry in order to create new technology, commercialize their inventions and thereby increasing investments leading to industrial growth. Also, as the number of patents granted increases, it leads to greater FDI inflows and trade Mukherjee & Chawla (2018). But in the case of India, we see the absence of this causality. The several reasons for technological innovation not resulting in industrial growth could be (i) less investment in Research and Development fund: Idea generated is not converted into an application that will lead to more growth (ii) lack of persistence of idea: Generally innovation takes some time to show the result. There is a gestation period of every idea and perfect innovation out of several ideas needs continuous persistence. It is seen in general that Indian Industries lacks this persistence (iii) Lack of Vision: Most industries are looking for that kind of innovation that will give them profit immediately. But they have myopic vision. They are not thinking about long-term profitability which hinders long-term sustainable growth.

The finding of this paper instead suggests a reverse causality running from industrial growth to technological innovation in

India supporting the "demand-led" or "market-pull" approach to innovation rather than the "technology-push" approach to innovation. There are two rival views in the literature regarding the source of technological innovation: (a). The first and older view is associated with the Schumpeterian idea (Schumpeter, 1975) that it is the progress in basic sciences or the supply of technology which determines the rate and direction of innovation. There is thus a transmission of knowledge from basic sciences to applied research that results in the design, development, and commercialization of new products Nemet (2009). Hence, in the "technology-push" approach to innovation, the causality runs from R&D intensity/Patents to technological change. (b). The second view is the "market/demand-pull" approach to innovation influenced by the study of Schmookler (1966). This view says that it is the demand or needs of the customers that drive the emergence of new products. This approach suggests that both inventive activity and innovation are pro-cyclical. Hence, with a rise in industrial growth, the demand in market increases which further triggers the demand for innovative products with low cost of production implying the causality running from industrial growth to technological innovation. Therefore, the findings of our study support the "demand-led" or "market-pull" approach to innovation.

In conclusion, there is a need to boost manufacturing and startups, strengthen startups, investments and availability of capital for industrial growth plus to bring effective financial reforms for the speedy growth of industry and the overall economy. Also, there is a need to bring incentivize and boost indigenous manufacturing with the availability of low costs of operation which would further promote production and employment generation and boost industrial growth in the near future. One of the major factor required to become globally competitive is through major investment in technological upgradation and research and development. Research and Development and innovation should be promoted across the board helping Indian businesses/firms increase their R&D spends and startup ecosystem need to be encouraged and facilitated in the longer run for budding entrepreneurs. There is an urgent need to strengthen the linkage between academia, research institutions and industry, in order to fulfil the industry demands for producing innovative outputs. The thriving innovation ecosystem that provides appropriate support at the right stage of innovation, strengthen and diversifying information technology industry focusing on commercialisation of innovation –incubation and acceleration, among others should be focused in the coming times. From the policy point of view, since it is expensive for a developing country like India to import new technology, the need of the hour is to have an updated and improved integrated innovative-industrial policy

which would help to reduce the production cost thereby increasing the Industrial growth of a country.

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Keys to Resolve the Problems faced by Small Scale Industries- A Literature Review

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Abstract

The purpose of this research study is to highlight the problems faced by Small Medium sized Enterprises (SME's). SME's are the industries who contributes a large portion in GDP and supports the development as well as growth of our nation by helping in various ways like providing employment to large number of youth, maintain the market competition, etc. These types of industries contribute a lot in economic growth but also facing many problems in their daily working life. Keeping these problems in mind, the researcher tries to highlight the problem and also suggest some solutions to these companies through the review of previous studies and their own experience. The researcher also suggest the SME's owner to get aware about the number of schemes which have been already implemented by the government to help these small scale industries in India. Due to unawareness of these schemes and facilities, the small scale firms faced a lot of problem, which can be easily resolved by the assistance of the government organization and other practices. The researcher also highlights the benefit of implementing the HR practices at their workplace. If the Human resources department is fully employed in such industries, then their troubles can be reduced to a great extent, but such industries considered these practices as extra workload and increase company expenses and replace the requirement of HR department with account department to fulfill their basic needs only.

Keywords: Small Medium sized Enterprises, GDP, HR Practices, economic growth etc.

Introduction

This article tries to highlight the role of HR Practices in small scale firms. Most of the small scale industries do not consider the use of keeping Human Resource department at their workplace while some of them are applying the HR practices but the work is managed by the owner itself or by the account department.

In the introduction section the researcher first explain the words used in the title:

- **Small and Small Scale Industries:**

According to the rule passed by the Ministry of Micro Small and Medium Enterprises 2006, the classification of Small Scale industries are divided on the bases of two broad categories which are mentioned below:

1. Production
2. System.

1. According to the production department, there are three types of industries based on their investment potential are explained below
 - 1.1 **Micro-industry** : investment in plant and machineries should not exceed 25 lakhs.
 - 1.2 **Small**: Investment in small scale industries should not below 25 lakhs but not more than 5 crores.
 - 1.3 **Medium**: The investment of the mid size industry should be more than 5 crores but less than 10 crores.

As per the latest amendment in MSMED Act 2006 sec 7 has been amended by the Union Cabinet minister in 2018 and classify the three industries on the basis of the company's Turnover which are mentioned below:

Micro: Not more than 25 crore annual turnover in small firms

Small: 5 crore to 75 crore annual turnover

Medium: More than 75 crore but note more than 250 crore annual turnover

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- **Human Resource Practices:**

Human Resources department is used for the maintenance, facilities and development of employees working in any industry. The practices which are used for maintaining the manpower of any company and also helpful in increasing their profits are called as Human Resource practices.

There are many types Human Resource practices, some of which are given below.

- Skill identification based recruitment
- Handle salary and compensation
- Evaluate their performance
- Providing basic welfare facilities
- Work progress of employees
- Serve as the purpose of the manager
- To fully utilize all the employees present in the industry.
- To resolve the problems of employees etc.

Problems Faced by Small and Medium Enterprises

Investors and managers of these type of industries face a lot of problems. Some of the main problems are described below:

- Lack of capital is one of the main reasons why human resources departments not implentes by the managers to keep in their industries.
- Lack of complete information is also a reason.
- Not able to attract the skilled and professionals
- Heavy competition
- Heavy government taxes, rules and regulations
- Unsupported staff
- High Employee Turnover

According to Ucino and Hezari (2016), small and micro industries are facing many problems in many areas of Asia such as lack of money, lack of research, lack of basic data, lack of sales which slows down the speed of such industries.

Advantages of Human Resource Department in Small Scale Industries

There are many advantages of Human Resource Department in small and medium size industries. The HR practices and growth of the small firms are dependant to each other if these practices are applied in formal way (Barrett & Mayson, 2007). Some of the major advantages are given below in the hope that these benefits might help in clearing the confusion in the mind of owners of these industries and will implement the HR Department at their workplace like other functional

department they at implemented. Some of the major advantages are given below of Human Resource Department practices:

- Helps the managers to full utilize the available manpower of their company
- Skilled and trained labor require less supervision
- Helpful in reduction of waste
- Reduced employee turn
- Improved relationship among the employees and the owners
- Very less grievances and conflicts

Steps Taken by the Government of India to Promote Small and Medium Scale Industries

India Government has already taken several steps to promote and develop the small scale industries. Due to which the small scale firms workload and tension has been reduced to a great extent. The Government of India supported these industries because of their importance like it provides very large number of jobs to the youth of our country. The important steps taken by the Government of India are given below.

1. Institutes run by Government of India:

- **NABARD:** This institute was created in 1982 to promote and train small entrepreneurial people in the village. The task of this institute is to promote hand craft work in the village.
- **NSIC:** The function of this institute was to sell and support the producers of small scale industries and promote them in the market by providing technical information.
- **NCEUS:** The main objective of this institute is to provide employment to the poor people of the village so that they can earn small income monthly in the form of social security.
- **RWED:** The main objective of this institute is to support rural women's by empowering them so that they can earn for themselves.
- **WASME:** This committee was to make the Committee on World level for SSI. This institute work for continuous growth of small enterprises.

2. The Government of India has also announced to provide small enterprises a economic subsidy to the industry promote.
3. Capital assistance is provided by the government to small scale industries to participate in international trade, so that they can make them as a participant and learn about new techniques.

Relationship between HR Department Practices and Small Medium Sized Enterprises



Decisions and Proposals

- Sometimes Small Medium-sized Enterprises get the illusion that the Human Resource department functioning hinders in proving their work. This happens because they have a myth in their mind that all these practices will increase their expenses rather than profit making.
- Another suggestion is that all HR Practices might not suitable in all Small Medium-sized Enterprises due to the variation in their functioning. They should implement Human Resource practices according to their needs at their workplace.
- Sometimes HR department is unable to fulfill the main objective of the industry.
- Small Medium-sized Enterprises are back a bit in terms of advancing and promoting their employees because they are afraid that if they develop them in this way, they will leave the company soon.
- Employees working in Small Medium-sized Enterprises are not highly educated and trained. So. They generally avoid the training and development changes
- About 80% of the small companies in India do not have a systematic Human Resource department and the work handled by the industrialists itself or by employees of the finance department.
- If the HR department proves to be unable to organize the employees properly in the company, then in this situation Small Medium-sized Enterprises should outsource HR available outside for handling all these tasks.

CONCLUSION

Many researchers have been already done a lot of research on this subject, but all of them had made their own discovery by making a scope. Keeping in view the research of all of them, in the end it is concluded that Small Medium-sized Enterprises should adopt the human resource department practices and its functioning. The importance of this HR practices cannot be avoided and also helpful in the sustenance in the market. In order to fulfill all the objectives of Small Medium-sized

Enterprises, it is very important that small and small scale industries should be very sensibly and prudently set up Human Resource practices at their work place according to their needs by considering their type of work system. It is also cleared that these practices does not increases their expenditure. Keeping the workplace and needs in view, the Small Medium-sized Enterprises should implement Human Resources practices for the growth and progress of these firms.

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Sentiment 4.0: Deep Learning based Customer Sentiment Analysis

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Kumkum Garg**

Abstract

Digital and social media transformation have changed the way business operations and their customers are managed. Today, it has become challenging to engage and retain customers. It is now necessary to capture and analyse customer feedback, views, reviews, comments and emotions from different online and social media platforms. Sentiment Analysis (SA) has become an important area of Natural Language Processing (NLP) with the huge amounts of data available on online networks. Sentiment Analysis integrates applications of Natural Language Processing and is a typical classification problem. SA can be done by identifying many features present in texts. Earlier, traditional lexical based techniques, and later, Machine Learning (ML) techniques like regression, were used to analyse sentiment. Today, Deep Learning (DL) techniques like Convolutional Neural Networks (CNN) are being used to solve the SA problem with more accuracy and efficiency. This Chapter discusses the frameworks, tools and techniques available for customer sentiment analysis using Deep Learning techniques. A case study of SA done using the reviews of NPTEL users is also given for clarity.

Keywords: Sentiment Analysis, Natural Language Processing, Machine Learning, Deep Learning.

Introduction

Digital and social media transformation have changed the way business operations and their customers are managed, especially in regard to automation, as spelt out by Industry 4.0. Today, it has become challenging to engage and retain customers. It is now necessary to capture and analyse customer feedback, views, reviews, comments and emotions from different online and social media platforms. The presence of customers on online and social media networks have forced organizations to redesign their business strategies. We are bound to pay attention to social sentiments before taking decisions. Technology enabled customer sentiment monitoring, engagement and retention frameworks are emerging. Customer sentiments are analysed for different aspects with different dimensions for better decisions.

Like the Industry, Sentiment Analysis has also gone through four phases, viz., Sentiment 1.0, which was associated with Symbolic Artificial Intelligence (AI), Sentiment 2.0, which used traditional Machine Learning models, followed by Sentiment 3.0, which emphasized on the applications of Artificial Neural Networks (ANN) and finally, we have come to Sentiment 4.0, which is characterized by the use of complex Deep Neural Networks.

Sentiment Analysis (SA) is the analysis of emotion, views, opinion and attitudes of a person or a group of people, with data available from different sources. SA has become an important area of Natural Language Processing (NLP) with large amounts of data available on online networks.

Sentiment analysis results can be understood based on the following scenarios which provide a simplistic view of sentiment analysis scores.

Scenario 1:

- Let there are 500 negative, 100 positive and 30 neutral reviews
Sentiment → Negative.

Scenario 2:

- Let there are 300 negative, 650 positive and 80 neutral reviews.
Sentiment → Positive

SA is a typical classification problem and can be solved by identifying many different features in the texts. Earlier, traditional Machine Learning (ML) techniques were used to solve this problem. Deep Learning (DL) techniques like DNN, CNN and RNN are now available to solve the SA problems with more accuracy and efficiency.

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The Sentiment Analysis process passes through the phases of Data collection, Dataset preparation, Model generation and Training & Sentiment prediction as shown in Figure 1.

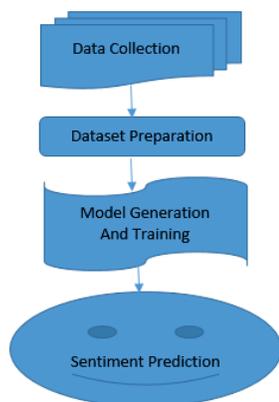


Figure 1 : The Sentiment Analysis process

Web Scraping for Data Collection

Data collection from online and social media platforms is a critical and cumbersome task. Web scraping is an automatic data extraction technique from the web, online and social media platforms [1,2]. There are three general categories of web scraping tools that can be used for our purpose: browser extension based, installable software based and cloud based, as shown in Figure 2.



Figure 2 : Categories of Web Scraping Tools Analysis process

There are many techniques available for web scraping: Manual (Human copy-and-paste), through APIs, HTTP programming, data mining tools and algorithms, etc., as shown in Figure 3.

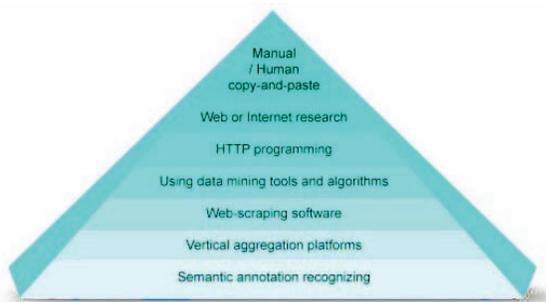


Figure 3 : Techniques of Web Scraping

The extracted data is stored in some preferred formats like xls, csv, xml, sql or json for the SA process as shown in Figure 4.



Figure 4 : Preferred formats of Data for Sentiment Analysis
NLP Framework for dataset preparation

Natural Language Processing(NLP) techniques are used in the analysis of text and documents for Sentiment Analysis. NLP for SA passes through different stages: tokenization, part of speech(POS) tagging, stemming and parsing [3]. The NLP framework has many dimensions and can be represented as shown in Figure 5. These may include, for e.g., multilingual considerations, methods for analysis, etc.

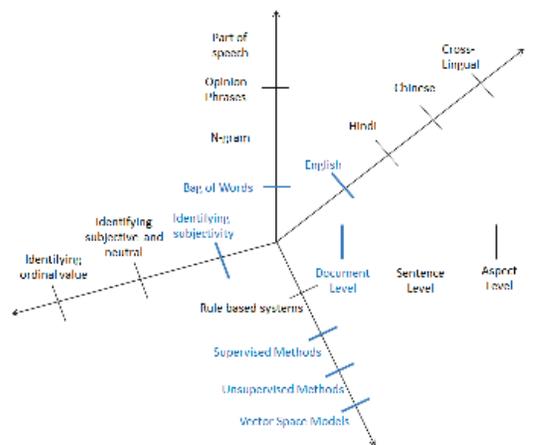


Figure 5 : Dimensions of NLP framework for Sentiment Analysis

Deep Learning based Frameworks for Sentiment Analysis

Deep Learning is suggested for large volumes of data, while Machine Learning is suitable for small datasets. DL is useful when we deal with complex and unstructured data in the form of text, audio, video, pictures or images; hence it is more suitable for Sentiment Analysis. Many researchers have used DL frameworks to show their usefulness in sentiment analysis.

Deng et al have provided extensive analysis of DL methodologies, frameworks and their applications. This

research work describes three categories of deep networks: DNN for supervised learning, DNN for unsupervised and hybrid deep networks. They have emphasized on the use of DL autoencoders for feature detection and described the benefits of a pre-trained DNN in multiple applications such as NLP, Language Modelling and Speech Processing [4].

Ruder et al have developed a DL framework for SA, based on aspect in multilingual context. This research describes the use of CNN for this purpose. They also demonstrated the applications of a DL-based prototype for SA and evaluated the model, outlining weaknesses and potential future improvements [5].

Rout & Kumar introduced an architecture combining SA and Emotion Analysis(EA) using social media data in unstructured text format. They proposed a decision making model for understanding and mining the opinions of users. They used supervised and unsupervised ML techniques on datasets.

Unsupervised technique has been applied to Twitter sentiment acquisition automatically [6].

Sohangir S et al developed a DL system for financial SA. They applied DL techniques as a key component of the framework for Big Data. DL techniques are more efficient to capture features that are hidden inside Big Data. This research work used the standard stock financial data [7].

Zhang et al studied and analysed DL and its applications in SA. They introduced various DL architectures (DNN, CNN, RNN, etc.) for SA. They found that these DL techniques provided better results than traditional ML techniques. They suggested that there are many opportunities for research of DL in multiple domains of SA [8].

It is clear from the above that integrated and hybrid models are useful for sentiment analysis. Figure 6 shows the generic view of an integrated framework for sentiment analysis.

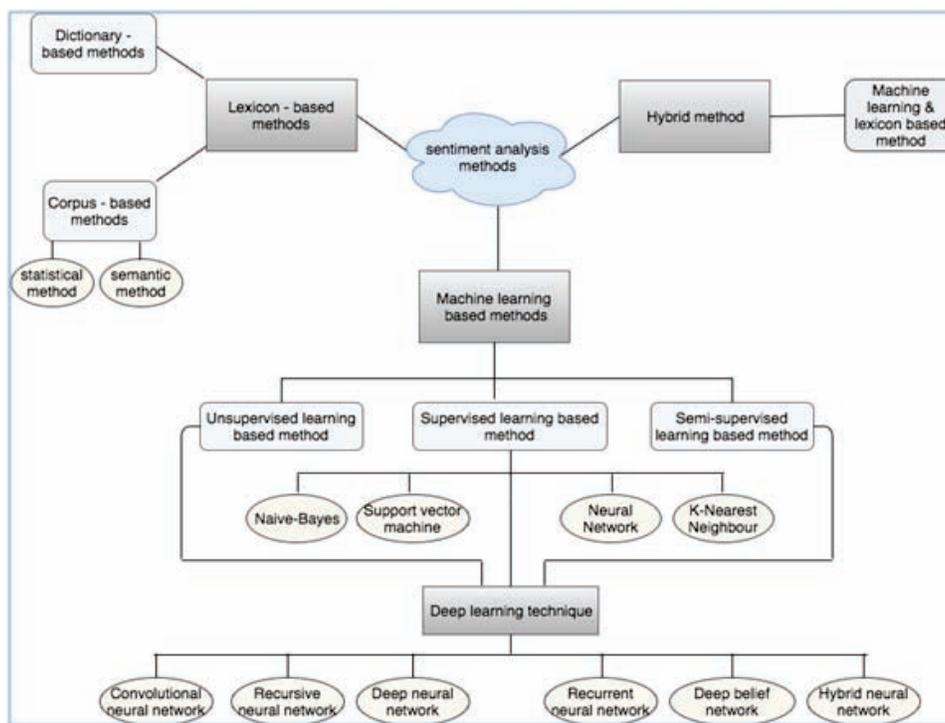


Figure 6 Integrated framework for Sentiment Analysis

(Source: <https://www.researchgate.net>)

DL based Sentiment Analysis: Case Study of NPTEL

We have used a pre-trained DL model from Google, for Sentiment Analysis of NPTEL users on a dataset of 200 reviews.

Keyword: Python Programming

Sources of Reviews: Native NPTEL Site, Social Media(Facebook)

Source Categories: Facebook Groups and Pages

Analysis, Results and Interpretation



Figure 7 : NPTEL Sentiment Analysis

Figure 7 shows favourable sentiments for NPTEL course content with SA score of 47.5. SA Score is low for NPTEL video contents (26.8) and faculty (35.3).

A timeline based sentiment analysis can also be performed on real time data. Figure 8 shows the results of a SA (1-day) done for Python Programming courses on NPTEL.

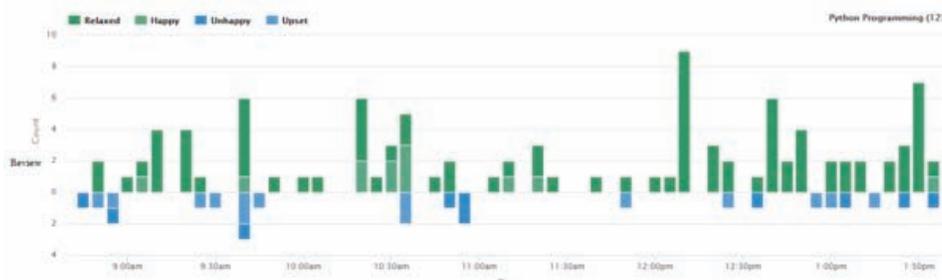


Figure 8 : Real Time based Sentiment Analysis

Multi-criterion Sentiment Analysis has also been performed by us on the above dataset. It provides in-depth insights based on various levels of emotions. Details of this are beyond the scope of this chapter.

Choice of software for SA –Python, Matlab or R

The choice of which software to use for SA, is an individual decision, based on availability and expertise on tools. Matlab is an enterprise Package for DL based SA. DL based models for SA using Matlab are fast, but Matlab places many constraints on libraries and modules. R is an open source platform and has rich libraries for SA. R provides amazing visualization in SA. Python is also an open source platform having rich DL libraries like theano, tensorflow and keras. Python is more popular for sentiment analysis due to its customizable modules and active user community.

Conclusion

In this chapter, we describe the steps and techniques used in Sentiment Analysis. Web scraping techniques used for data extraction from web and social media are discussed. NLP

frameworks and their application in SA are covered. Document classification and summarization is a challenging task in SA and it can be handled properly with integrated NLP models. For small datasets we prefer to use pre-trained models for SA like that of Google for NPTEL users. For large datasets, hybrid models integrated with pre-trained models and personalized models can be used.

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A Stochastic Model Compelling Value Equity to Control the Brand Switching Behaviour

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Mahesh**

Abstract

The present competitive markets encourage long lasting superior value goods and services which is a big challenge for the companies. The present markets emerged out of VUCA (Volatile, Uncertain, Complex and Ambiguous) conditions in which the competitive advantage is a short lived phenomenon. Product proliferation due to the competition is both advantageous in some situations and disadvantageous in other situations. In the process of selecting the right product to his satisfaction, the customer may get baffled that force him to switch the brand within no time. The major challenge under these circumstances is to retain the customers and increase the number of loyal customers. Ehrenberg Stochastic Models are still modern to identify the reasons for brand switching and to plan the future marketing mix strategy based on the customer expectations. Brand preference of the customers has been taken in two occasions with a gap of 6 months. Joint probability and conditional probability were calculated to understand the probability of repeating the same brand and the probability of switching the brand in the next purchase. The 5 brands selected were using different USPs to capture the maximum market share. The Ehrenberg model helped us to identify the brand that retained more number of customers from switching to the other brand.

Key Words : Brand, Value Equity, Brand Switching, Stochastic Model, relation equity

Introduction

Customer equity has become an oasis to the marketer in today's dynamic and complex market situations. Among the three drivers of customer equity, viz., Value equity, brand equity and relationship equity, brand equity plays a major role in contributing significantly to the customer equity. The major challenge for gaining customer equity is to congeal brand switching. Incessant search for value is acting as a driving force on the customers to switch the brands, which has become a quite common phenomenon in important and low involvement products. Companies are relentlessly working on creating superior value. In the process of superior value creation, companies are striving for competitive advantage as Xaviour (1999) expresses that companies are fighting with each other to offer value to customers and the firm that creates better value can gain higher share in the market and increase profitability. Day (1990) recommends that the companies need to monitor the fast changing customer needs and wants, identify the influence of changes, increase the pace of innovation in product development and execute strategies. These are the steps that fetch competitive advantage to organizations.

Liquid Milk is an essential, crucial and unavoidable household product with multiple uses. In India, 85% of the milk market is the unorganized market, which cannot be measured or understood in terms of brand. It is the local vendors with household business capturing maximum customers. Cooperatives are the leaders in the 14% organized milk market. The scope of expanding the organized milk market by the milk producers is wide, which is the main reason for more and more businesses getting attracted towards milk business though the scope for product differentiation is low. Because of the less scope for product differentiation customers are indifferent with strong perceived value and switching brands frequently. Deepak C.Jain (1994) examines the household's successive purchases of important products and states that brand switching is common in low priced and frequently purchased products. It is more appropriate with milk as it is frequently purchased and the low involvement product.

Reasons for Brand Switching

A good number of researchers are working on brand switching, publishing various reasons for switching brands by consumers.

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Keon (1980) addresses that consumers search for information and switch brands. Due to the cognitive dissonance, consumers need information about the reputed brands, when confusion arises from repeat use of a particular brand. Mc Alister and Pessemier (1982) studies consumer behavior and psychology in general and stimulation levels in particular. The results of their studies are that consumers switch brands because of different levels of stimulation given by switching among brands which are familiar as well as unfamiliar. Derived and varied behaviours result in switching brands as per the Mc Alister model on attributes inventory.

Research works in the field of brand loyalty and brand switching can be categorized into three areas. One is psychological stimulations of consumers. Second is behavioral intentions and the third, product importance. In case of liquid milk, product importance category plays a primary role followed by the behavioural intentions. Quality perception is the determining factor in selecting a particular brand. It is examined that taste and thickness are the drivers in perceiving the quality of liquid milk. Meenakshi Trivedi (1996) states that the brand specific measures like market leadership, unique feature and national distribution are useful in assessing each brand's uniqueness, loyalty and strength in the market. Paurav Shukla (2009) examines that the contextual factors like primary reference group, product type and image and the super market the customer shops have a significant impact on brand switching behavior. Komal Nagar (2009) investigates the response of loyal and non-loyal consumer's brand switching behaviour towards sales promotion and found that there is no difference that exists between loyal and non-loyal consumers. Don Hosky (2006) proves that pricing and promotion decisions are the deciding factors in brand switching. Understanding consumer heterogeneity is helpful in designing marketing mix strategies to gain loyal customers. Randolph E. Bucklin (1991) works on planned and opportunistic shopping behavior and information seeking that influences on brand switching. Menze Shi (2006) opines that price plays an important role in brand switching. Companies reduce price along with switching costs to get more customers to switch towards their brand. Barry L. Bayus (1992) research work on home appliances reveals that replacement timing is an important reason for switching brands. Kapil Bawa (1990) proved that variety seeking tendencies in consumer coexist with inertia that results in brand switching. Jagmohan S. Raju (1994) works on three types of package coupons in sales promotion, which influence customers significantly to switch brands.

Value, as a whole is the main reason for brand switching which is proved with the help of the stochastic model using Ehrenberg

Model in this paper. Value is the ratio between what customer gets and what he gives. Benefits include functional benefits and emotional benefits, costs include monetary cost, psychic cost, energy cost and time cost (Kotler). Companies select the core element from among various marketing tools, around which they knit their marketing strategy to increase market share. Core element can be anything that stimulates consumer decision to buy or not to buy a product or service. Core elements of the top brands are identified through customer opinion survey and a thorough analysis of their marketing strategies. The work started with the hypothesis of consumers switch brands in search of value. The organizations that consider value as a core element and develop their marketing strategy attract more and more switchers from other brands and increase market share, which is proved by the application of Ehrenberg multi brand model.

Marketing Strategies of top 5 brands

Success of an organization is not an accident. It depends on how marketing mix elements are organized to integrate as a marketing strategy. Guadagni and Little (1983) works on the way marketing mix elements designed by the firm that influences consumer choice in frequently purchased products. Consumer choice in case of liquid milk depends on various factors like quality, price, shelf-life, availability (distribution) and of course the impact of promotion.

- Brand A identifies value as a core element, which is rated as high the quality product with low price by consumers.
- Brand B is maintaining high quality and at the same time spending more on brand building and hence price is high. The core element of brand B is the brand name that is built over years.
- Brand C is of medium quality product and emphasizing on sales promotion strategies, which increases cost and price subsequently. The core element in the marketing strategy of Brand C is sales promotion.
- Brand D is a medium quality product with medium price and getting sales through concentrating on particular religion and named the product by using a word associated with a religion that is dominating in the market. Hence, the marketing strategy of Brand D is to make use of the values and beliefs of a particular religion.
- Brand E is the high quality product, but spending more on internal and external relationships. PR and Publicity are the core elements on which the company developed marketing strategy.

Core elements around which the marketing strategies are developed are shown in the following table.

Table 1: Core Elements of Marketing Strategies of Top Brands

Brand	Quality	Price	Core element
A	High	Low	Value
B	High	High	Brand Name
C	Medium	High	Sales Promotion
D	Medium	Medium	Culture
E	High	Medium	PR & Publicity

Source: compiled by author from survey findings.

Brand switching is related to behavioural intentions which are the key input in various behavioural models (Shreeran and Abraham, 2003). The brand choice is depending on the changes in the market-place and has an impact on market share (Dilip Roy and Lahiri, 2002). Choosing the core element and developing a marketing strategy around that to match with the market dynamics will fetch significant share in the market which is proved with the help of Ehrenberg multi brand model.

The Application of Stochastic Models

Market survey on liquid milk consumption in India conducted among 2634 households reveal that they are switching brands among 21 brands. The top 5 brands have a market share of 89% and the rest 16 brands have 11% market share. Consumer' brand choice on two different occasions spanning in 6 months' time is the base for the study. Brand switching is noted as a common habit among households as far as milk consumption is concerned.

Stochastic Models of brand choice are applied as they effectively deal with population heterogeneity, purchase feedback and exogenous market factors.

Primary data collected is plotted on a brand switching matrix. Part (i) is the actual purchases of consumers on two occasions. Part (ii) and (iii) are derived from part (i). Part (ii) and part (iii) show transition probabilities expressed as Joint and Conditional Probabilities.

$P(i,j)$ = Joint probability that a consumer buys brand i on the second occasion and Brand j on the first purchase.

$P(i/j)$ = Conditional probability is that a consumer purchases brand i on the second occasion Given that brand j was purchased on the first occasion.

Brand switching habits of 2634 households over two purchase occasions is shown in the following brand switching matrix.

Brand Switching Matrix

Table II: Brand purchased on occasion – 2

Brand purchased on occasion – 1		Brand (A)	Brand (B)	Brand (C)	Brand (D)	Brand (E)	Other Brands (F)	Total
	Brand (A)	647	70	48	45	50	44	904
Brand (B)	85	146	29	12	9	23	304	
Brand (C)	113	45	122	25	11	18	334	
Brand (D)	36	12	0	363	3	7	421	
Brand (E)	58	30	19	5	147	11	270	
Other Brands(F)	110	36	21	26	10	198	401	
Total	1049	339	239	476	230	301	2634	

Source: compiled by author from survey findings

(a) Purchase of brands A,B,C,D,E,F over two purchase occasions :
647 of 2634 people bought brand A on both purchase occasions.

Table III: Brand purchased on occasion – 2

Brand purchased on occasion – 1		Brand (A)	Brand (B)	Brand (C)	Brand (D)	Brand (E)	Other Brands (F)	Total
	Brand (A)	0.246	0.027	0.018	0.017	0.019	0.017	0.343
	Brand (B)	0.032	0.055	0.011	0.005	0.003	0.009	0.115
	Brand (C)	0.043	0.017	0.046	0.009	0.004	0.007	0.127
	Brand (D)	0.014	0.005	0.000	0.138	0.001	0.003	0.160
	Brand (E)	0.022	0.011	0.007	0.002	0.056	0.004	0.103
	Other Brands (F)	0.042	0.014	0.008	0.010	0.004	0.075	0.152
	Total	0.398	0.129	0.091	0.181	0.087	0.114	1.000

Source: compiled by author from survey findings

(b) Joint probability matrix : 647 of 2634 or .246 of the population buy brand A on both purchase occasions.

Table IV: Brand purchased on occasion – 2

Brand purchased on occasion – 1		Brand (A)	Brand (B)	Brand (C)	Brand (D)	Brand (E)	Other Brands (F)	Total
	Brand (A)	0.716	0.077	0.053	0.050	0.055	0.049	1.000
	Brand (B)	0.280	0.480	0.095	0.039	0.030	0.076	1.000
	Brand (C)	0.338	0.135	0.365	0.075	0.033	0.054	1.000
	Brand (D)	0.086	0.029	0.000	0.862	0.007	0.017	1.000
	Brand (E)	0.215	0.111	0.070	0.019	0.544	0.041	1.000
	Other Brands (F)	0.274	0.090	0.052	0.065	0.025	0.494	1.000
	Total	0.398	0.845	0.596	1.187	0.574	0.751	

Source: compiled by author from survey findings

(c) Conditional probability matrix: of the 904 people who have purchased brand A on the first purchase occasion, 647 or .716 (647 / 904) purchase it on the second occasion.

$P(i, j)$ = Joint probability that a consumer buys brand i on the second occasion and brand j on the first occasion.

$P(i / j)$ = Conditional probability that a consumer purchases brand i on the second occasion given that brand j has been purchased on the first occasion.

Relationship of these probabilities is as follows:

$$P(i, j)$$

$$P(i / j) = \frac{P(i, j)}{P(j)}$$

$P(j)$ = probability of purchasing brand j on the first occasion.

$$P(j) = m_j$$

m_j = Market Share of brand j .

$$\sum_j P(i, j) = m_i$$

$$\sum_i P(i / j) = 1$$

Ehrenberg multi brand model is applied further to calculate the expected market share of each brand. Ehrenberg postulates that the joint probability of a consumer purchasing brands i and j on successive purchase occasions is given by

$$P(i, j) = k m_i m_j$$

Where $\{m_i\}$ are the market shares of the respective brands.

$$P(i, i) = m_i - k m_i (1 - m_i)$$

Summing up equation over brands, an equation for k is as follows

$$k = \frac{1 - \sum_i P(i, i)}{1 - \sum_i m_i^2}$$

i
 Noting that $p(i) = m_i$, from the above equations we get the following equation

$$p(i/j) = 1 - k(1 - m_i), j = i$$

$k m_i, j \neq i$

Conditional probabilities of purchasing brand i are independent of brand j.

Table V: Computation of theoretical switching levels using the Ehrenberg model

Brand	Share (m_i)	$m_i (1 - m_i)$
A	.3983	.6017
B	.1287	.8713
C	.0907	.9093
D	.1807	.8193
E	.0873	.9127
F	.1143	.8872

Source: compiled by author from survey findings

$$K = 1 - .6161 / .7629 = .5032$$

Table VI: Expected and observed brand switching matrix

	Brand (A)	Brand (B)	Brand (C)	Brand (D)	Brand (E)	Other Brands (F)	Total
Brand (A)	0.278 / 0.246	0.022 / 0.027	0.016 / 0.018	0.031 / 0.017	0.015 / 0.019	0.020 / 0.017	0.343
Brand (B)	0.023 / 0.032	0.072 / 0.055	0.005 / 0.011	0.10 / 0.005	0.005 / 0.003	0.006 / 0.009	0.115
Brand (C)	0.025 / 0.043	0.008 / 0.017	0.049 / 0.046	0.012 / 0.009	0.006 / 0.004	0.073 / 0.007	0.127
Brand (D)	0.032 / 0.014	0.010 / 0.005	0.007 / 0.000	0.106 / 0.138	0.007 / 0.001	0.009 / 0.003	0.160
Brand (E)	0.021 / 0.022	0.007 / 0.011	0.0047 / 0.007	0.009 / 0.002	0.047 / 0.056	0.006 / 0.004	0.103
Other Brands (F)	0.031 / 0.042	0.010 / 0.014	0.007 / 0.008	0.014 / 0.010	0.007 / 0.004	0.063 / 0.075	0.152

Source: compiled by author from survey findings

Table VII: Expected Brand Switching

	Brand (A)	Brand (B)	Brand (C)	Brand (D)	Brand (E)	Other Brands (F)	Total
Brand (A)	732	58	42	82	40	53	903
Brand (B)	61	190	13	263	13	16	303
Brand (C)	66	21	129	32	16	192	335
Brand (D)	84	26	18	279	18	24	421
Brand (E)	55	18	12	24	124	16	271
Other Brands (F)	82	26	18	37	18	166	400
	1080	340	234	716	229	466	2634

Source: compiled by author from survey findings

Conclusion

Value creation is the most important part of marketing. Value is benefits offered to the customer Vis a Vis the costs incurred. The good number of marketing strategies are mushrooming and fetching profits to the companies. But all those are short lived strategies. The core of marketing is value. Brand switching is more frequent in low involvement and important products. The switching behavior can be controlled only through value creation. The brands that maintain quality and offer the product at an affordable price will seize brand switching and gains more loyal customers and in turn stable revenues from the loyal customers.

The liquid milk market is an attractive market due to its low cost entry facility. There is a huge scope for the growth in this sector as the organized milk market is only 15%. Owing to its low cost entry and huge unorganized market to capture, the number of competitors is increasing. In search of quality milk, customers keep on switching the brands. Another important challenge for milk marketer is that there is no or less scope for product differentiation. Being a natural and daily use product, the chances for use of technology are less. In an attempt to study the market conditions, it has been noticed that the milk marketers are focusing on brand building strategies, sales promotion strategies, niche marketing, public relations, publicity etc., to retain customers. However, customers are sticking to the brands that maintain quality. Therefore, it is concluded that those who maintain quality and give value to the customer will capture maximum market. An attempt has been made to apply the empirical data using Ehrenberg Multi Brand Model to calculate the future market share of various milk brands.

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Case Study

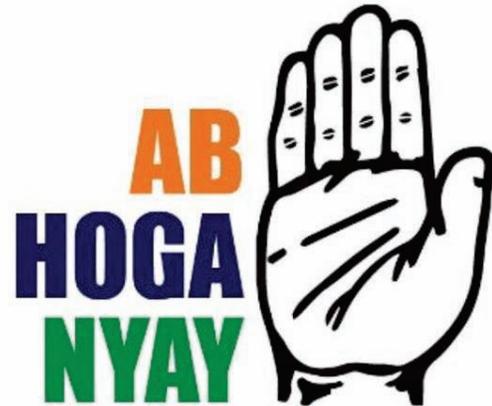
Failure of Communication in Political Campaign

Ms. Jyoti Mishra*

The influence of Political communication over the voters has been acknowledged by various stakeholders over the years. Be it the social media posts, lingos, rhetoric, dialogues, phrases, advertisements, etc., every segment of political communication works towards forming a positive impression in the minds of the voters. If the element of communication is in place, it works wonders for the candidates and parties helping them to connect instantly with their aspirational voters. The Indian election of 2019 is a perfect example of this. With the forming of the second Modi Government it is imperative to reflect on the story of Congress party's miscommunication. The case discusses the failure of communication in light of a political campaign gone wrong. It is indeed surprising for a party like Congress that has ruled the nation for 60 years to taste a second consecutive defeat in 2019 primarily due to miscommunication. In a country like India, it is important to articulate your political narrative well, to connect with the masses.⁽¹⁾

The Indian election of 2019 was fought with various innovative schemes and campaigns. Congress party in order to curb the incumbency atmosphere started with a campaign called "NYAY". Minimum income scheme, Nyuntam Aay Yojana (NYAY) promised to provide Rs. 6000 a month, Rs 72,000 annually to 20% families in poorest of the poor category, benefiting around 25 crore people.⁽²⁾

Senior Congress leader Mr. Anand Sharma announced that there is an atmosphere of injustice prevalent in the country and this particular scheme was targeted at the growing unrest in the nation. The party campaigned fiercely in order to throw the ruling party out of power. The intention was to counter the narrative of nationalism created by the ruling party, BJP.⁽³⁾



The scheme was relayed by many mediums (like radio jingle, TV commercial, etc.) to proliferate the message. Congress party roped in film director Nikhil Advani, writer Javed Akhtar and Anuja Chauhan for creative direction and writing. The work was further given to agencies such as Goddess Productions, Silver Push for a digital campaign, and Idea Box and Nixon for ad targeting other political parties. Congress party also took the assistance of Nobel laureate Abhijit Banerjee in giving shape to its NYAY program. Currently, the world is ready to take note of his work on poverty alleviation. The entire failure of the political campaign takes you by surprise that if NYAY which is a promise to deliver Rs. 72000 annually to poor families, has a brain bank of the likes of Banerjee, Raghuram Rajan, and Thomas Piketty, how it failed to achieve its desired result in the elections of 2019.⁽⁴⁾

However, there were not many takers for the "NYAY" scheme of the Congress party. The response this campaign got was of ignorance or dismissal as a misleading mirage during elections. The political analyst and experts concluded that the common

¹ (Sadhvi Khosla June 2019) The story of BJP's communication and Congress' miscommunication <https://www.dailyo.in/politics/narendra-modi-bjp-rahul-gandhi-congress-nyay-social-media-lok-sabha-2019/story/1/31086.html>

² <https://www.dailyo.in/politics/narendra-modi-bjp-rahul-gandhi-congress-nyay-social-media-lok-sabha-2019/story/1/31086.html> nyay: will Rahul Gandhi's minimum income guarantee scheme prove to be Congress' trump card. Kaushik Deba march 2019

³ (Lokniti team May 2019) Did Nyay help the Congress make a leap? <https://www.thehindu.com/elections/lok-sabha-2019/did-nyay-help-the-congress-make-a-leap/article27180048.ece>

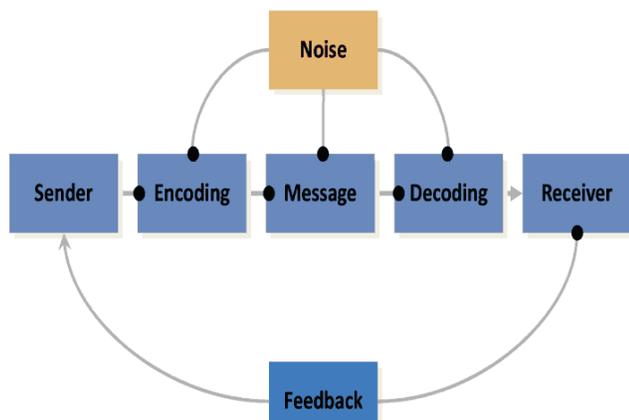
⁴ (Barkha Dutta October 2019) The Week <https://www.theweek.in/columns/barkha-dutt/2019/10/18/why-congress-nyay-conceived-by-brilliant-minds-failed-to-click-with-the-masses.html>

folk was either unaware of NYAY or was perplexed about its implication. To put it simply, the NYAY scheme failed to resonate with the masses of India.

In its desperate bid to win the elections of 2019 congress party overlooked and undermined the role of communication during this campaign. They had believed this Nyay scheme to be a game-changer for the elections of 2019, however much to the disappointment of the Congress Party the scheme failed to connect with the voters of India.

Typically the communication happens in the following way as shown in the diagram. The sender encodes the message in verbal/written/nonverbal form. The receiver decodes communication and comprehends the message. This all happens in the medium which is full of noises (enabling constraints to decipher the message). Once the receiver receives the communication, feedback is taken by the sender to confirm the quality and quantity of communication.

The Communication Process



Typically there are many challenges in the communication process which may hinder the communication from the sender to the receiver like

- Choice of medium (print, post, advertisement, leaflet, brochure, banner, language)
- Improper encoding by the sender
- Reliability of sender (Sender's perception in the mind of Receiver)
- Effectiveness of Message (Ability of capture receiver's attention)
- Improper decoding of message by the receiver
- Absence of Feedback mechanism

The sender of the communication campaign "NYAY" was a political party (Congress party in this case) intends to win the election. Receiver in this case was a common person of India who was eligible to vote. Noises also include the communication campaign of other political parties.

The decision of Congress party to announce the proposal of NYAY was a hasty one. Its colossal defeat further adds compartments to the deep chain of lapses in the party's campaign for the 2019 general election. Without gauging the real meaning of the scheme, voters dismissed it as one of the electoral gimmicks of the party.⁽⁵⁾

The main reason for communication failure was the encoding of the message. The campaign was about a minimum income scheme but campaign jingle was worded "Ab hoga nyay" (Now Justice will prevail!!!). The receiver got confused about the content and could not decode the message properly. Jingle talked about justice (rather income to poor) and voters were confused about the context.

This campaign faced stiff competition from the rival political party which was based on national security and patriotism. Noises from rival political party captured more attention due to emotional nature (patriotism) and target-based campaign (Main Bhi Chowkidaar, Modi hai to Mumkin hai, Phir ek baar, etc).

Many economists and intellectuals cast suspicions on the practical implement ability of the scheme. This also raised doubts about the credibility of the sender.

Moreover, the hoardings of NYAY were placed targeting the educated class like in the chic Khan Market of Delhi where the receiver (families below the poverty line, daily wage earner, small farmers, etc) of this message was not to be found. In short, the message was wasted on the people who were not the perceived target audience for the campaign.

Last but not the least, there was no feedback check for the effectiveness of the campaign. People entrusted to run the campaign failed to take the proper feedback related to the campaign. The entire success of such a campaign depends largely on the assessment of people's reactions to these phrases.

This study shows that while designing a communication campaign, we need to stick to the basics. We need to know our target segment well in advance. The encoding process should be very simple which can be easily related /decoded by the

⁵ (This is why Congress' NYAY scheme has failed to connect with voters May 2019) <https://tfipost.com/2019/05/nyay-congress-appeal-01/>

receiver. The content of the message should always occupy the priority of the receiver. The important thing is to have a feedback mechanism to judge the effectiveness of communication. The political fiasco of NYAY is a lesson for all the parties to learn and not to repeat. What needs to be understood here is the chasm between the intent and communication of the sender which led to the failure of the entire campaign.

As per the communication matrix, communication happens when a message is relayed with the help of a medium between

the sender and receiver. However, messages which can be interpreted in many ways often fail to fulfill the desired objective of the sender. This is a classic case where the sender (Congress party) believed that they are offering better proposition to Indian voters whereas the receiver (Indian voters) got confused and rejected this campaign. The case analyses the impact of confusing communication in the political domain.

M-Wallet Services: A Study on its Growth in Post-Demonetization Period and Exploring Factors on Users' Satisfaction

Dr. B. Angamuthu*

Abstract

Smartphone has become essential part of daily life around the Globe. Due to advanced technology, mobile users started to use their Smartphones to make money transaction or payment by using applications installed in the phone. It widely known as Mobile Wallet or Digital Wallet. Mobile Wallet (M-Wallet) services have enabled convenience and ease of transaction, and have made transactions much more secure. In India, M-Wallet service is available since 2004 whereas it being on the trend among millions of people in post-demonetization. So, this empirical and analytical research paper measures the growth of M-wallet services in post-demonetization and also to explore the factors that determine the satisfaction level among the users of M-Wallet services. This study reported that the growth of M-wallet service indicates a better growth both in terms of its volume and value of transactions for the reference period. Based on the users' perception, this study reveals that availability of financial Services, security concern, privacy provided by M-Wallet, Wide acceptance and quick fund transfer are the major factors that determine the satisfaction level towards M-wallet services.

Keywords: Digital Wallet, Mobile Payment, Mobile Wallet, Mobile Money

Introduction

After the NDA Government came to power in 2014, vigorous initiatives and innovations have been introduced in almost all facets of national life. In 2015, Government of India launched a flagship programme named Digital India with the intention to develop India into a knowledge economy and a digitally empowered society by ensuring digital access, digital inclusion, digital empowerment and also enables creation of an honest, transparent and progressive less cash economy. The mother of all action was at 8 pm on 8th November, 2016. The prime minister announced demonetization of higher value currencies Rs. 500 and Rs. 1000 notes worth Rs 15 lakh crore to bring out black money out of the closets. One of the important objective of demonetization was to make India a less cash economy and thereby reduce the flow of black money in the system. Moreover, union budget 2017-18 is giving much more importance to adoption of digital payment methods in various areas. Driving the development and modernization of the payment system, it has promoted transparency and accountability; reduced transaction costs and have decrease the size of the grey or informal economy. India is making an

attempt to transition to a digital payment which aims to transform India into a cash-lite economy and ensure that the country has a 'state-of-the-art' payment and settlement systems that are safe and secure (Payment And Settlement Systems In India: Vision – 2019-2021; Reserve Bank of India). Currently, as part of promoting cashless transactions and converting India into less-cash society, various modes of digital payments are available. They are banking cards, Unstructured Supplementary Service Data (USSD) channel, Aadhar Enabled Payment System (AEPS), Unified Payments Interface (UPI), Banks prepaid cards, Point of Sale (PoS), Internet Banking, Mobile Banking, Micro ATMs and Mobile Wallets (M-wallets). Now-a-days, people started finding M-wallet is the best mode to conduct various financial services. The first M-wallet service launched by oxigen wallet in July 2004 but M-wallet services are most successful in post- demonetization and currently, over 40 M-wallet operators exist in the market. It provides access to financial services to the millions of people who have a smartphone, and it provides people with a safe, secure and affordable way to send and receive money, mobile recharge, make bill payments and much more. Further, it makes faster purchases at merchant points via QR code. In India, both banks

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and some private companies offerings M-wallet services and currently, over 40 M-wallet brands are available in the market. Among them, top 10 M-wallets in India are according to its number of users are Paytm, Amazon Pay, Google Pay, PhonePe, Mobikwik, SBI Yono, Citi Masterpass, ICICI Pockets, BHIM Axisapay and HDFC Payzap.

Objectives of the study

- ❖ To measure the growth of M-Wallet services in Post-demonetization period
- ❖ To explore the factors that determinants of satisfaction level among the users of M-Wallet services
- ❖ To assess and analyze the satisfaction level towards M-Wallet services across demographics

Hypotheses of the study

- ❖ Ho1: There is slow growth of M-Wallet services in Post-demonetization period
- ❖ Ho2: A few variables that are determine the satisfaction level among users of M-wallet services
- ❖ Ho3: There is no significant association between demographic factors of the users of M-Wallet services and their satisfaction level.

Review of Literatures

Jason et al. (2018) identified technology innovation, evolution of a new value chain and active customer demand are the important drivers on success of M-Commerce. Chawla and Joshi (2019) in their empirical study examine that influencing factors on consumer's attitude and intention to use M-Wallets through Technology Acceptance Model (TAM). There are six different factors namely ease of use, usefulness, trust, security, facilitating conditions and lifestyle compatibility have a significant impact on the consumer attitude and intention to use M-wallet services. Dinh et al. (2018) in their study reported that the perceived usefulness, promotional offers, convenience and public acceptance are the major drivers on acceptance of M-payment services whereas satisfaction with the quality of the services increased use experience and enhanced consumers' expectations, which in turn positively affected

loyalty and purchase intentions (Ramadan and Aita, 2018). Some barriers are concerned to adoption of the said service namely lack of trust, complexity and limited opportunities for usage Dinh et al. (2018). Moreover, the active use of M-Money services has significant impact on spending behavior (Cobla and Osei-Assibey; 2018) and it increases average spending behavior than the others who do not use M-Money. Samudre and Gramopadhye (2018) concluded that Paytm users are in the satisfied category towards various services but users have an issues in ease of use, security issues and slow network server. Vikas and Arun Kumar (2018) identified that easy to use and wallet free is the pros of Paytm app whereas security issues, connectivity issue and unaffordable are cons of Paytm app among the Indian consumers.

Methods and Materials

This analytical and empirical research design were used both secondary and primary data. The secondary data helps to measure the growth of M-Wallet services based on the volume and value of M-Wallet transactions in post-demonetization period. The primary data helps to find out the factors that determine satisfaction level towards preferred brand of M-Wallet services. 83 valid responses were used for final study. In order to users of three different M-wallet services namely Phonepe (n=61.4%), Paytm (n=25.3%) and Google Pay (13.3%) were considered. The secondary data were collected from the report published by authorized website of Reserve Bank of India for the total period of 35 months from Nov' 2016 to Sep'2019 and the primary data collected in Coimbatore district of Tamil Nadu state. The primary data collected through the self-designed questionnaire and it accomplish the objectives of the present study. The primary data were collected during the month January to April' 2019. The questionnaire covers two parts like Demographic factors Gender, Age group, Education, Occupation, Monthly income and Place of Living and second part includes variables that are related to satisfaction towards M-Wallet services. The response against satisfaction level has been collected through five-point likert scaling technique. Purposive sampling method is adopted and the inferences draw from the application of Mean, least square trend, Correlation, Discriminat analysis and Chi-Square test (χ^2) test.

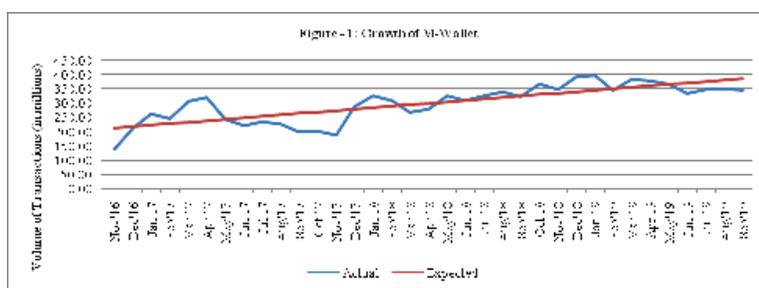
Analysis and Discussions

4.1 Growth Movement of M-Wallet Services in Post-Demonetization Period

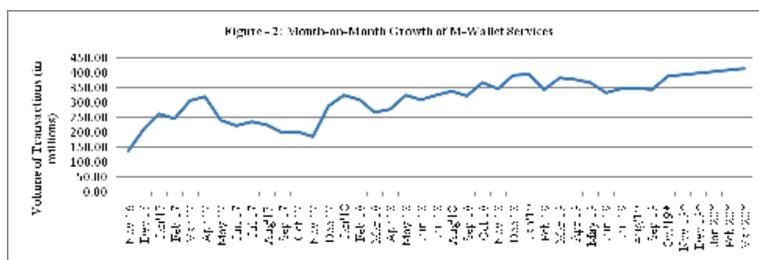
Table – 1: M-Wallet Services in Post-Demonetization Period		
Statistic	M-Wallet Services	
	Total	Mean
Volume of Transaction (in million)	104556	299
Value of Transactions (Rs. in Billion)	4192.37	119.78
M-Wallet Services in Pre-demonetization period (2013-14 to 2016-17)		
Statistic	Total	Mean
Volume of Transaction (in million)	966.49	322.16
Value of Transactions (Rs. in Billion)	316.73	105.57
Source: Reports from RBI		

Table 1 shows that the volume of M-Wallet transactions during Nov'16 to Oct'19 were 10456 million with an average of 299 million per month and its value shows that Rs. 4192.37 Billion during the study period with an average of Rs. 119.78 Billion per month which indicates a better growth on M-wallet services in post-demonetization period whereas on an yearly average 322 million volume of transactions with Rs. 106 Billion business has been takes place during the period from 2013-14 to 2015-16. Availability of smartphones at lowest price, increased internet subscribers, offering 4G data at lower costs, digital India initiatives, increasing awareness among the public irrespective of areas, several M-wallet providers exists in the market and also speedy adoption of technologies in financial services are

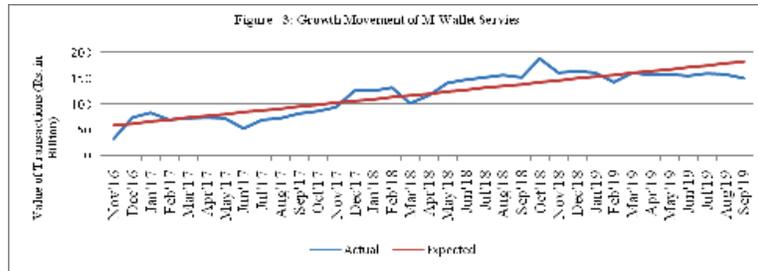
the mainly influenced to the better growth of M-Wallet services in Post-demonetization period. In post demonetization period the actual growth of M-wallet services shows both up and downward tendency in terms of its volume (Refer figure -2) and value (Refer figure – 4) of transactions. In the recent past, the actual and expected growth of M-Wallet services according to its volume of transactions continuously descending trend during the period from May'17 to Nov'17 (Refer figure – 1) as well as in terms of value of transactions during Apr'19 to Sep'19 (Refer Figure – 3). Moreover, this study predicts that M-wallet services which will cross 400 million (Refer Figure – 2) in terms of its volume and Rs. 200 Billion in terms of its value (Refer Figure–4) of transactions in Mar'2020



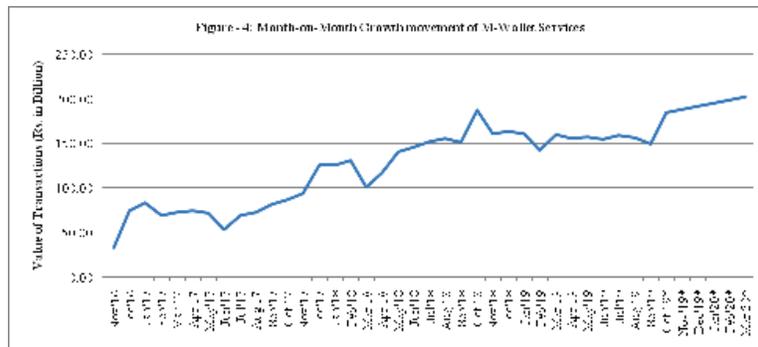
Source: Reports from RBI



Source: Reports from RBI



Source: Reports from RBI



Source: Reports from RBI

4.2 Volume and Value of M-Wallet Transactions – Correlation Analysis

Table – 2: Relationship of Volume and Value of M-Wallet Transactions	
Correlation (r)	0.876**
N	35
Sig.	P<0.01
**Sig. at 1% level; *Sig. at 5% level; NS = Not Sig. at 5% level	
Source: Secondary data	

Table 2 shows that the 'r' value between volume and value of M-wallet transaction is 0.876 and statistically significant at 1% level, which indicates a strong degree of correlation. So, the M-Wallet service providers asked to give more incentives, rewards and offers at maximum possible extent because only the volume of M-wallet transactions has been increased business value of M-Wallet services.

Satisfaction towards Preferred Brand of M-Wallet Services

Table 3 shows that mean score of satisfaction of users on various parameters towards M-Wallet services. It explained that more than half of the users are in the higher satisfied group towards preferred M-wallet services.

Table - 3: Mean Scores on Satisfaction Level towards Preferred M-Wallet

Variables	Satisfaction level towards M-Wallet Services	
	Higher (n = 54.22%)	Lower (n = 21.69%)
X1-Quick fund transfer	3.80	2.56
X2-Availability of Financial Services	3.87	1.72
X3-Security concerns	3.53	1.83
X4-Rewards and Incentives	3.91	2.28
X5-Range of uses (ex. Bill payments, recharge etc)	3.89	2.94
X6-Privacy provided by M-Wallet	3.47	2.17
X7-Cash back offers	3.96	3.39
X8-Availability of discounts/offers	4.18	2.33
X9-Wide acceptance of M-Wallet	3.29	2.11
Source: Field Survey		

Table - 4: Satisfaction Level towards Preferred M-Wallet:

Tests of equality group Means Univariate ANOVAs		
Variables	Wilks' Lambda	f (df = 1, 61)
X1-Quick fund transfer	0.666	30.637**
X2-Availability of Financial Services	0.357	109.922**
X3-Security concerns	0.608	39.282**
X4-Rewards and Incentives	0.589	42.478**
X5-Range of uses (ex. Bill payments, recharge etc)	0.805	14.762**
X6-Privacy provided by M-Wallet	0.751	20.174**
X7-Cash back offers	0.907	6.266*
X8-Availability of discounts/offers	0.546	50.746**
X9-Wide acceptance of M-Wallet	0.762	19.079**
**Sig. at 1% level; *Sig. at 5% level; NS = Not Sig. at 5% level		
Source: Field Survey		

Discriminant fitted model

Test Functions:

Eigen value: 7.431

Percentage of variance explained: 100

Wilks Lambda: .119

Chi-square = 122.587**

DF = 7; p= <0.01

Canonical correlation: 0.939

Table – 4 shows that the calculated ‘f’ value towards users’ satisfaction level of selected variables statistically significant. The canonical correlation is 0.939 when squared is 0.882 that is 88.2% of the variance in the discriminant group can be

accounted by this model, Wilk’s Lambda and chi-square value is significant at one percent level. Therefore, the selected variables that are eligible to discriminating the satisfied groups . Based on the selected variables the corresponding discriminat functional coefficients are calculated. Discriminat fitted model is

$$D = -14.742+.627 X1+.698 X2+ 0.614 X3 + .531 X5 + .721 X6+.562 X7+0.729 X9$$

Furthermore, for using the above model the observed predictor variables that are classified into satisfaction groups. The correct percent of classification is presented in the Table – 5.

Table – 5: Percentage of Correct Classification of the Users of M-wallet Services

Satisfaction level towards preferred M -Wallet	Higher	Lower	Total
Higher	45 (100)	0 (0)	45 (100)
Lower	0 (0)	18 (100)	18 (100)
Source: Field Survey			

Relative Importance of predictor variable towards Preferred M-Wallet Services

The relative importance of each predictor variables in discriminating between the higher and lower satisfied category is obtained and the results are presented in the table - 6. Among the selected variables under study, five variables namely

Availability of Financial Services-X4, Security concerns-X2, Privacy provided by M-Wallet-X6, Wide acceptance of M-Wallet-X9 and Quick fund transfer-X1 are substantially important variables in discriminating between groups of users namely with lower and with a higher satisfaction level towards the preferred brand M-Wallet services.

Table – 6: The relative importance of variables in discriminating between the groups (Satisfaction towards Preferred M-Wallet Services)

Explanatory variable	Relative Importance	Rank
X1-Quick fund transfer	13.14	V
X2-Availability of Financial Services	25.21	I
X3-Security concerns	17.58	II
X5-Range of uses (ex. Bill payments, recharge etc)	8.45	VI
X6-Privacy provided by M-Wallet	15.79	III
X7-Cash back offers	5.36	VII
X9-Wide acceptance of M-Wallet	14.46	IV
Source: Field survey		

Relationship of Demographic factors and Satisfaction level of M-Wallet Services: X² Analysis

Ho: There is no significant association between gender, age group, education, occupation, monthly income, place of living of the users and their satisfaction level towards M-Wallet services.

Table - 7: Demographic factors and Satisfaction level of M-Wallet Services

Table - 7: Demographic factors and Satisfaction level of M-Wallet Services				
Variables	χ^2	df	T.V	Result
Gender	0.705 ^{NS}	1	3.84	Accept Ho
Age group	.075 ^{NS}	1	3.84	Accept Ho
Education	6.318 ^{NS}	4	9.49	Accept Ho
Occupation	7.538 ^{NS}	10	18.31	Accept Ho
Monthly income	1.295 ^{NS}	3	7.82	Accept Ho
Place of living	3.977*	1	3.84	Reject Ho
** Sig. at 1%; * Sig. at 5%; NS - Not Sig. at 5% level				
Source: Field Survey				

Table – 7 shows that the calculated values of χ^2 between demographic factors except place of living of the users and their satisfaction level of M-Wallet services are lesser than the tabulated values at 5% significant level. Hence, null hypothesis is accepted and it is concluded that there is no significant association towards satisfaction level of M-Wallet services among various gender, age group, education, occupation and monthly income. On the other hand, there exists a significant association towards satisfaction level of M-Wallet services between rural and urban areas because the calculated value χ^2 is greater than the tabulated value at 5% significant level. Therefore, null hypothesis is rejected.

Conclusion

M-Wallet has become a mainstream payment instrument than other digital payment services in India. In order to the growth of the M-Wallet services was noteworthy in post-demonetization period. On monthly average the volume of M-Wallet transactions in India, were nearly 300 million and its business value of Rs. 120 Billion. The M-wallet business market likely to generates 400 million volume of transactions with Rs. 200 Billion in March' 2020. Further, this study reveals that more than half of the users are highly satisfied with services provided by preferred M-Wallet. So, the M-wallet service providers must take important steps to gain their consumers' trust at maximum possible extent by ensuring the safe transactions which helps to improve the satisfaction level of the users.

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