



ASM Business Review

(The Bi-annual Refereed Journal)

ISSN No. 0974-9136 | Volume - 7 | Number - 2 | July 2018

Business Strategies Practices and Innovations

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Success Publications

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Theatre, Pune - 411030. Contact - 9422025610, 8390848833,
020-24433374, 24434662 Email-
marketing@sharpmultinational.com Website-
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Published by : Audogik Shikshan Mandal

For,

ASM Group of Institutes

Address- Survey No 29/1+2A'C' Wing Opp. Central Mall,
Near PCMC building, Pune Mumbai Highway, Pimpri, Pune-411019.

From The Editor's Desk

This is the sixth issue of “ASM Business Review”, the referred research journal of the ASM group of Institutes.

ASM Group of Institutes is committed for qualitative research in academics. And this ASM Business Review is a product of its commitment. Audyogik Shikshan Mandal has been playing a pioneering role in the field of creative education ever since its inception in 1983. With a mission “Excellence in Management Education, Training, Consultancy and Research for success”, ASM is marching towards excellence having more than 65,000+ alumni working at all levels of management in all types of industries.

ASM has seven full fledged academic institutions, has earned affiliation to Savitribai Phule Pune University and Mumbai University, Government of India and Government of Maharashtra. ASM has global vision for education and as a part of our academic commitment for excellence; we are in association Savitribai Phule Pune University, CETYS Universidad Mexico, Indo European Education Foundation, Poland and City University of Seattle USA and also our academic partners for various activities. ASM is spreading wings across the border for continuous upgrading academic excellence.

The ASM Business Review is a medium created by ASM to demonstrate the research skills of authors. It is a strong communication link between industry and academia and aims to work as a catalyst for knowledge sharing between various sections of society. ASM Business Review provides a platform for academic scholars and champions from industry to come together for common cause of developing innovative solutions to various problems faced by society and business entities. The present review is a medium to faculty members, research students and they like to present their research findings before the wider audience. The opportunity to publish their research results would provide ample motivation to this type of scholars. The previous issue of the Review received encouraging response from the academic and corporate community as well. Research articles accepted and printed herein are subject to objective editorial processing and are peer reviewed.

ASM Business Review looks forward as a strong link and partner for society and industry to develop workable solution for day to day problems. We believe our success is a team work of various contributions to this journal. ASM BUSINESS REVIEW is always committed to excel academic research and consultancy.

Dr. Asha Pachpande

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INCLUSIVE GROWTH IN INDIA: CSR – ELEGANT STEPS TOWARD SUSTAINABLE DEVELOPMENT GOALS

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Abstract:

Objectives and Purpose: *Corporate Social Responsibility (CSR) has got legalised in India since 1st April 2014. The objectives of this paper are to explore the companies parameters covered in CSR and its motto towards more inclusive growth fulfilling the objective of sustainable development goals.*

Design/Methodology/Approach: *Data was collected from few top companies in India by face to face comprehensive interviews with stalwarts of different departments.*

Findings: *Results specify centre of attention on transformation of villages by corporate sector by joining hands with governments and NGOs. This helps in the direction of more inclusive growth. The findings are exceptional in nature as the companies have started taking interest on the weaker section of the population to reduce inequality, poverty and hunger.*

Conclusion/ Improvements: *From the time when the country took special steps towards corporate social responsibility, there has been ideal shift in the focus towards more developmental goals. However, Indian companies need to pursue with their new developmental strategies.*

Originality/Value: *The paper is a structure to facilitate more inclusiveness by providing collectively accountable practices by corporate sector to the deprived section of the population for recovering the sustainable intensification model of India.*

Paper Type: *Empirical Research Paper*

Key Words: *Corporate Social Responsibility, Companies Act 2013, Inclusive Growth*

Introduction:

Corporate social responsibility (CSR) is nothing other than an observation whereby organisations reconcile on generously to articulate for progressing the social order and a cleaner adjacent neighbourhood.

The concept of CSR can no more be linked to philanthropy or charity. The most powerful institution in today's world is business beyond economic profit. Globalization has made the world smaller with the massive expansion in the business.

There is no universal definition of CSR but common understanding amongst most of the definitions concern about knowing the profits usage by the organizations with respect to the stakeholders. The main component of CSR would include Business Ethics and Corporate Governance.

Social Problems:

The general and common problems of mankind namely poverty, inequality and human development index (HDI) have taken a prominent attention. These are eternal problems. These problems were always there in the past, they are still there and the problems of mankind will also continue to be there in the future.

Poverty:

Recently, amongst the most dynamic countries, the financial condition of India has got altered hugely. But the settlement of escalation is mainly concentrated amongst the upper class and upper middle class of the society. Very less of such settlements went to low income groups. Similar kind of situation was experienced in other countries too. This is more unequal pattern of distribution.

Hence, the outcomes of poverty are lack of health, food, shelter, hunger, disease, illiteracy and Human Development Index etc..... Poverty has many dimensions. It includes ill treatment by state and society over and over again.

Studies show that the hard truth remains for poverty not declining in the real terms. Can corporate join hand to combat poverty or at least bring down the biggest evil of India?

Inequality:

Despite all the international organizations and campaigns working actively, the real problem of malnutrition has not been appropriately addressed. Every nation should guarantee healthy sufficient and safe food to feed its countrymen. At the same time, it should maintain the doctrine of promoting sustainability. Pope Francis in his video message talks about the "paradox of abundance." Through CSR projects and campaigns

in India, the task needs to be applied in a more alert, sharper and smarter way to improve the unequal distribution of income and wealth.

Human Development Index:

A higher human development index can be attained if each individual is allowed to enjoy one's self respect and human rights. Other than income, the important aspect for human development has been gender equality and poverty alleviation.

The Schedule VII of New Companies Act, in India deals with such issues. Now, it has been made mandatory that the CSR activities undertaken as a part of 2% net profit of the average of the preceding three years have to flow in this direction which may lead to higher GDP of the country with all the women employed equally and enjoying equal rights. This will lead to higher HDI in our country.

India has a long way to go in terms of HDI- measured on the basis of health, education, standard of living and gender equality. India's rank is the lowest amongst the BRIC countries. If the big business houses take more initiative towards the country's small communities at a time and include the beneficiaries in the meetings from time to time, then perhaps our country can show a higher performance in the HDI data.

Progress Of Reforms After 1991:

The government of India had decided to privatize a certain percentage of non – performing public sector enterprises (PSEs) after the economic reforms of 1991. This led to two opposing camps in the debate. One school of thought believed in the power of markets to distribute only the rewards to the factors of production. The opponents feel that there should be an economy with active role of government in managing the country's economic affairs. It talks about a welfare state and the wealth concentration and distribution as a fair act. The government supported monopolies face very little competition. Being a monopoly, their products are in high demand which leads to high level of profit.

Population:

Economists and statesmen are very much concerned with the problem of population. It has become the central problem of India as because the population has increased more than proportion to the means of subsistence. The population of the country should not rise faster than the rise in National Income. According to the demographers, by the year

2030, India's population will overtake that of China which is the most populated country in the world today.

Economic Aspects :

This aspect of CSR consists of economic issues of company's functions. While considering the CSR objectives many a times the economic issues are disregarded. Although, it was thought that the economic aspects are well managed but actually, the corporate responsibility agenda was under- presented. The economic aspects should turn into visible undeviating and tortuous impacts that the organization's operations have on the adjacent neighbourhood.

The assumed duties of business in society have been an increasing debated study in the research. The contradictory situation on the one hand is that the resources other than the economic purpose are the criminal waste of resources, because they are contradictory to a firm's responsibility to its shareholders. On the other hand, the proponents of CSR have a business case for CSR. They argue that sometimes the social benefit accruing to the beneficiaries may outweigh its costs. In that case, it is seen that CSR engagement is a necessity for business.

Social Aspects:

In today's context, social responsibility is getting extra awareness than it had got previously. Plenty of organizations are becoming all the time more active in addressing social concerns. The companies are becoming accountable to the whole lot of stakeholder which includes people within the organization, the nearby community of the location of the company and also its customers. The key social aspects of the company are responsibility towards its customers, employees, community, etc. Being responsible to the customers has a direct positive effect on the company's profits. These responsibilities may include such issues as the safety and durability of products or services, standard or after sales service, prompt and courteous attention to queries and complaints etc.

A responsible way of managing the business attracts more investors, reduces their risks, and addresses stakeholder concerns. Companies now have strict environmental targets showing their statistics in global reporting initiatives. This shows the economic, ethical and environmental impact of the performance of the company.

A study shows that happier staffs are one who has a fair say in the business rather than pay rises. If the staffs are updated on the business and their opinions are taken into consideration then they are more motivated and loyal to the organization. Investing on them by the means of training helps the organization get a better job and reduce the attrition rate.

If there is a policy to purchase locally, then it would advance the local economy and help the environmental emissions by unnecessary travels.

Corporate Aspects:

The big business houses need to have a committee on CSR. The committee needs to quantify the expenditure proposed for CSR projects and to monitor the CSR projects more frequently.

It is very important to make the corporate sector more transparent and accountable. The journey begins from state sponsored developmental programme to participative social action. CSR adds more relevance, creativity, spontaneity, sustainability and innovation. Social Responsibility progressively brings perfection of the concept. Even developed countries, United Nations have accepted this concept in a fully fledged manner.

CSR Challenges as MDGs and SDGs:

Study stresses corporate philanthropy rather than strategic CSR in cases of MDGs and SDGs. The specific direction of the act is towards the local neighbourhood and also the surroundings around where it operates. The research question is to find out if at all the business contributes have led a way to equitable and sustainable economic development.

CSR is a challenge in the developing countries which was visualized in the Millennium Development Goals (MDGs) in the year 2000. The main goals of the MDGs were in align to inclusive growth. The same roles are modified in Sustainable Development Goals (SDGs) in the year 2015. The unanswered knowledge gap is regarding the roles played by the business house for combating the crucial issues of human development, inequality and poverty.

Methodology:

The methodology for this thesis is a two phase process. The sampling technique is developed through both probability and non-probability sampling. The phases involved

in the methodology are done through the extensive review of literature and then validate it through annual reports of companies and in-depth interviews.

A survey was carried out on CSR amongst the top business houses. The purpose of the survey was to find out the various opportunities and challenges with respect to the different issues of social relevance under the domain of CSR. The main view points of the respondents of the corporate sector were specially analyzed. Extreme confidentiality was assured to the respondents. This is because the views and information shared by the survey was used only for the intention of research and aggregated common analysis without highlighting any particular individual or single organization's views.

Findings:

The findings are offered in following four different stages:

Stage A: Beneficiaries from Companies CSR Initiatives

Stage B: Type of CSR Initiative in the Last Three Years

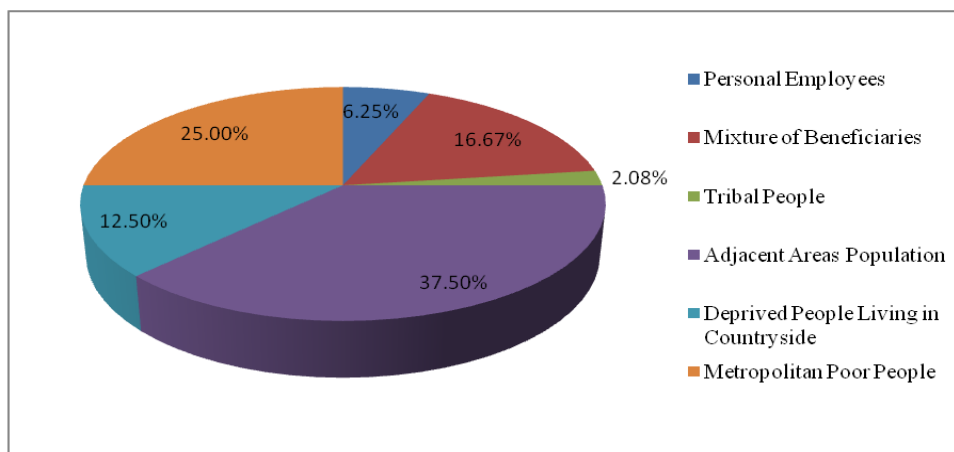
Stage C: Modifications or Redrafting of the Project after Launching

Stage A: Beneficiaries from Companies CSR Initiatives:

The study of the primary data reveals that amongst the beneficiaries of CSR initiatives of the organizations under study, 6.25 % were the company's personal employees, 16.67 % had mixture of beneficiaries, 2.08 % were the tribal people of the country, 37.50 % were the adjacent areas population, 12.50 % were deprived people living in countryside and 25 % were the metropolitan poor people.

Table 1

Beneficiaries	Frequency	Percentage
Personal Employees	3	6.25
Mixture of Beneficiaries	8	16.67
Tribal People	1	2.08
Adjacent Areas Population	18	37.50
Deprived People Living in Countryside	6	12.50
Metropolitan Poor People	12	25.00
Total	48	100

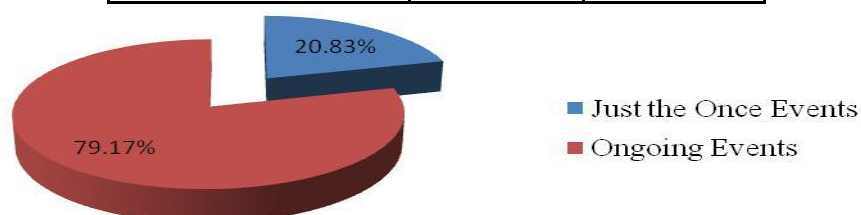


Stage B: Type of CSR Initiative in the Last Three Years

It was found that out of the total number of respondents selected for the study; 20.83 % organisations follow just the once events while 79.17 % of the organizations follow continuous ongoing events. It is found that there is no significant association between the funds collected by Profit after Tax and the kind of initiatives they follow

Table 2

CSR Initiative	Frequency	Percentage
Just the Once Events	10	20.83
Ongoing Events	38	79.17
Total	48	100

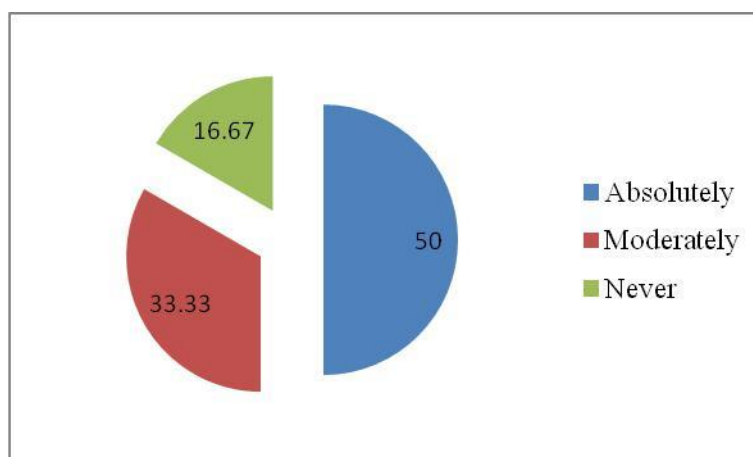


Stage C: Modifications or Redrafting of the Project after Launching

The study emphasises that 50 % of the projects were modified and redrafted absolutely followed by 33.33 % being modified moderately. It has been observed that 16.67% projects have never undergone any adjustment or redrafting after the launch. This shows that earlier, the companies taking up CSR initiatives exclusively for their own employees had to completely modify the draft.

Table 3

Modifications /Redrafting of Project After Initiation	Frequency	Percentage
Absolutely	24	50
Moderately	16	33.33
Never	8	16.67
Total	48	100



Conclusions:

Some of the companies would like to empower women by constructing toilets for them in the vicinity, inculcate sanitary habits in the villagers nearby through videos, provide cheap sanitized drinking water to the villagers and promote education by providing science laboratories to the school within the vicinity.

Few companies aspire to educate talented students with weak financial background and low household income. These companies provide these students free books and carrier counselling support and services. Many companies would like to build capabilities and assess needs in the areas of health, education and skill building. Some companies' objectives are to empower women and make them independent to earn their livelihood; to build capacity among the economically backward masses in supporting through vocational courses and also to rehabilitate HIV patients in the municipal hospital.

Government of Maharashtra has launched Maharashtra plans CSR drive where they have promised to transform 10,000 villages within next three years. Maharashtra plans will be done by involving top industrialists, philanthropists and executives such as Anand Mahindra, Ratan Tata, Mukesh Ambani and Deepak Parekh for a massive CSR initiative.

This concludes that CSR initiatives are smart strategies toward more inclusive growth and achieving sustainable development goals by the year 2030 in India.

Suggestions:

Any CSR initiative can be successful if it is owned by the employee group, the vision and complete program is shared and employees are involved right from conceptualization till execution. It is also equally important to have leaders as executive sponsors to support the initiative. For a CSR program to be successful one must have at least some part of the activities aligned to core business area. This helps in sustenance. It is extremely imperative that CSR activities should be focused with the needs of the community. It should be passed through stakeholders views and have leverage govt. schemes wherever available. They should also partner with other companies in the area to share resources. It is advised to make long lasting sustainable programs and is required to involve the community for ownership of projects. Monitoring and evaluation mechanisms are needed to be spelt clearly. Endeavour of the CSR providing company should be to get directly involved with the social cause. Government can add their values and funds in CSR with the coordination with corporate for social, environmental and economical change in India. CSR as an occupation should be more professionalized.

Creating awareness and making the function more society friendly is expected. The fundamentals of CSR should be started with clear strategy and vision. Better information of data on the problems and needs of the community are the basic requirement of the big business houses.

Target areas are suggested to be well defined and authentic, lean implementation of policies and funds should be taken care of. Connect more to rural and backward areas. As per the observations; sources of income in backward areas are less; or in spite of being literate, there are many jobless in our country, which is one of the major issues. These issues are needed to be addressed to prevent further social risks. Some specific programme on CSR is required to be volunteered by each company.

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MANUFACTURE OF ELECTRONIC EQUIPMENT FOR AIR NAVIGATION IN BAJA CALIFORNIA

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Abstract:

The purpose of this study is to analyze the characteristics, dynamics and opportunities of the Electronic Equipment Subcluster for Air Navigation in Baja California. The information is presented starting from a general perspective and then narrowing it down to a more particular focus. The Aerospace Industry in Mexico has shown an annual grown rate of 17.2% over the last decade. The aerospace industry was relevant for the regions' development because it supports higher salaries than average manufacturing plants. The importance of this analysis is that in Mexico, over 70% of aerospace companies focus on component manufacturing and it is concentrated in specific regions, in particular in Baja California. Policy recommendations for strategically improving and upgrading the Subcluster competitiveness are provided.

Key Words: *Aerospace, Competitiveness, Mexico, Cluster.*

Introduction:

The purpose of this study is to analyze the characteristics, dynamics and opportunities of the Electronic Equipment Subcluster for Air Navigation in Baja California. The information is presented starting from a general perspective and then narrowing it down to a more particular focus.

The Aerospace Industry in Mexico has shown an annual grown rate of 17.2% over the last decade. By 2014, firms in the industry totaled 287 and employed 32,600 workers. The aerospace industry was relevant for the regions' development because it supports higher salaries than average manufacturing plants. (Aragón, 2015).

Mexico's aerospace sector is composed by five axes: Manufacturing; Engineering; Design; Education (training, coaching and education) and Maintenance, Repair and Overhaul (MRO). The importance of this analysis is that in Mexico, over 70% of aerospace companies focus on component manufacturing (Sandoval, et al., 2011).

The activity of innovation and technology of the aerospace sector in Mexico is highly concentrated in certain regions the main capabilities of these companies involve design, innovation and engineering services such as: systems design, engineering development, design for manufacturing, and system integration, to name a few (Grupo de trabajo de la Industria Aeroespacial Mexicana, 2009).

During the consultation forums of the Mexican Space Agency (Academia de Ingeniería en México, 2013), it was proposed the formation of clusters with the electronics industries, telecommunications, and information technologies.

Objective :

This research intends to study specifically the sub cluster of Manufacture of electronic equipment for air navigation in Baja California.

Cluster and Subcluster Worldwide Conditions :

The aerospace sector is one of the most dynamic industries in the world; its estimated market exceeds 450 billion dollars. All this growth is due to continuous innovation, the development of new technologies and cutting-edge materials manufactured by the countries with the greatest participation and presence in the cluster.

This cluster has many years existing, thus some companies have a lot of advantage over others, and many countries are specialists in this, for example Canada, France, Spain, USA; similarly, these important companies have seen opportunities for growth and have established plants in different parts of the world, for example Mexico, Argentina, Italy, UK, India, which has caused the cluster to expand and grow worldwide.

The construction of an airplane requires many parts, technology and external components. For some of these products the companies have specialized suppliers, but

others are responsible for manufacturing their own components, they have laboratories and specialists in each area to make the product of the highest quality. There are many companies around the world dedicated to providing these technologies, but OEMs to Aerospace worldwide are: Airbus, Boeing and Bombardier.

Subcluster Development:

During the first half of the twentieth century, the aeronautical industry was concentrated only in industrialized countries, primarily in regions of the United States and Europe. However, the situation has changed, and thanks to the commercial openness of many countries including Mexico, the emerging countries and the Asia-Pacific area have a greater participation in this industry, thus helping to create a subcluster in different parts of the world.

Studies show that this sector is going to have a great growth in the next years, this scenario presents a great opportunity for the emerging economies like China, Russia, India, Middle East and Latin America, that will be driven increasingly towards the world economic growth and Which will be the largest suppliers of the supply chain in this industry; not only because of their capacity but also because they represent more security in case of recessions or economic crises. Within the Latin American economy, Brazil and Mexico are the main drivers in the race.

Mexican Electrical-Electronic Subcluster vs. the world

The electronic sector focuses on devices or components that process some type of information. This industry is divided into five major subsectors: audio and video, computing and office, semiconductors, communications, and medical equipment and precision instruments, measurement, navigation, control and optical.

In 2015, Mexico ranked as the 8th largest electronics producer in the world and the 1st in Latin America. It is estimated that, in 2015, the production of the sector in our country was close to 62 billion dollars.

In 2015, the sector's exports reached an amount of 75.867 million dollars. The United States was the main export destination accounting for 86.2%, followed by Canada, France, the Netherlands and Colombia.

National Cluster in Mexico

In the last decade, Mexico has represented a strategic location for the development of the aerospace industry and component manufacturer in the United States, with more than 40 firms established in Baja California representing a single concentration with 35% of the total companies in Mexico assembling, manufacturing and making

aerospace components. Most of these companies are concentrated in the industrial corridor of Mexicali-Tecate-Tijuana.

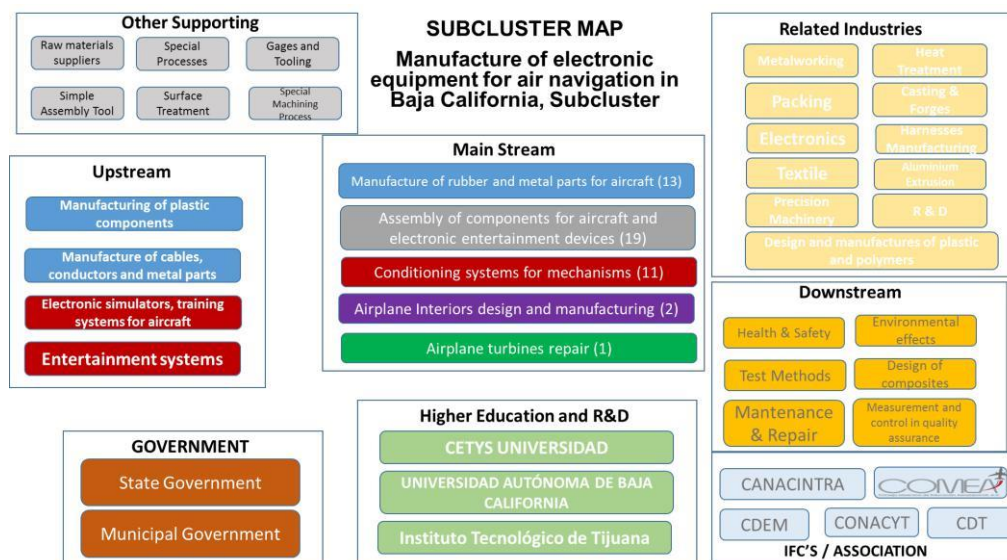
Baja California

In Baja California, there is a current trend towards increasing production processes and the implementation of cutting-edge technology. The private sector in B.C. is in a process of transition. Industries seek to create value-added processes in manufacturing and research and development of strategic products. Likewise, an effort is made to improve the state's infrastructure in order to be able to efficiently distribute, service and in general logistics. Mainly to be able to reduce costs, increase competitiveness, process efficiency and increase profits. Figure 1 shows the elements of the Manufacture of Electronic Equipment for Air Navigation in Baja California.

Electronic Equipment Subcluster for Air Navigation in Baja California

Baja California is a production and export platform for 80 companies from the aerospace and defense industries that center their innovation capacities in complete airplane integration tests, as well as the interior design. With regard to manufacturing, the state specializes itself in precision machinery, electric and potency systems, hydraulic and interior systems, and metal plaque configuration processes. Some companies have the internal capacity for special processes and thermal and superficial treatments. These also realize motor part maintenance, repair, and operations (MROs).

Figure 1. Manufacture of Electronic Equipment for Air Navigation in Baja California.

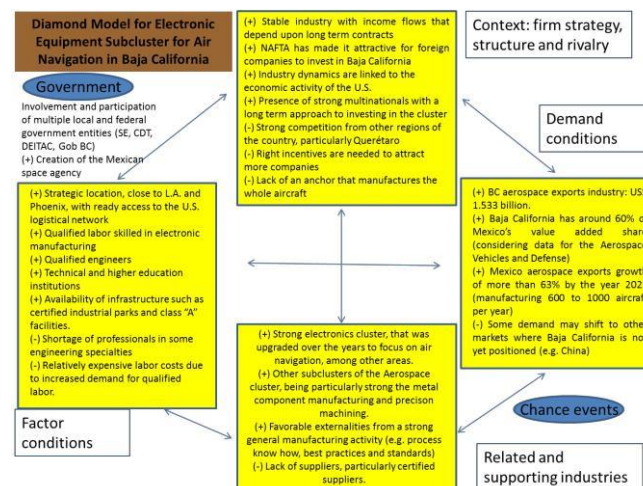


Source: Authors development with information from: Aerospace Industry Directory 2011 Baja California.

Together, these companies employ 50% of the industry's workforce in Mexico, represent almost 27% of the sector's exports at a national level, and make up the manufacturing corridor of complex components, which optimize the assembly line associated with the California-Seattle corridor (Bonfante, 2014)

The benefit that Baja California offers to aerospace companies is the proximity to the United States, the stability its workers offer, the flatness of the land, the proper assembly operations and the low cost of labor. However, they also have disadvantages, such as the Mexican's lack of openness to recognize his own mistakes. These disadvantages offer challenges for this industry, such as building trust and discipline in workers. Another challenge is to retain skilled workers mainly due to strong job demand (Aragón, 2015). All of these challenges and particular conditions of the Subcluster are summarized in Figure 2

Figure 2. Diamond Model for Electronic Equipment Subcluster for Air Navigation in Baja California



Source: Author's analysis using Michael E. Porter Diamond framework.

Value Chain of Aerospace Cluster

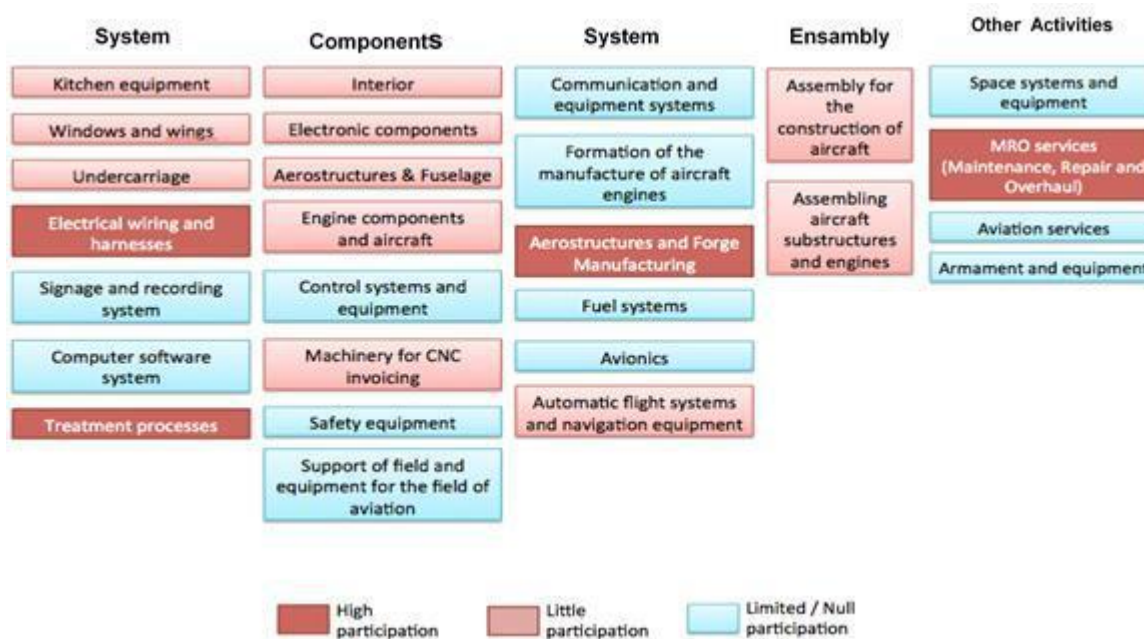
The Global Value Chain is divided into five main segments based on its activities: 1) Aircraft and parts; 2) Aircraft engines and parts; 3) Electrical and electronic systems and Avionics; 4) Maintenance, Repair and Supervision (MRO), Simulators and Training; and 5) Space, missiles, weapons and others. (FEMIA, 2012). Figure 3 shows how the strength in each area is distributed along the value chain.

Competitiveness of the subcluster

The most interesting thing about the creation of this sub cluster is to strategically establish itself so that it is born strong in an important geographic area and with the

integration of entities that can support it, for this we will support in a technology transfer (TT) model that allows to promote strategically innovations and knowledge from existing research, attending to the needs of the cluster of origin that is the aerospace (Workgroup, 2011).

Figure 3. Value Chain Participation of the Electronic Equipment Subcluster for Air Navigation in Baja California



Source: Author's analysis with information from the Secretary of Economy and Pro-Mexico.

As part of the innovative creation of the Sub-cluster, we will take the references to apply a technology transfer model that allows it to be created strong once it is constituted. For this the Triple Helix Model is the reference that will allow developing this model. The components of the Triple Helix are the relations that exist between the State, the Academia and the Industry, being these the main actors so that the sub-cluster has the strength and the capacity to generate competitiveness. In such a way that the Triple Helix (see Figure 4) is the joint and coordinated work carried out simultaneously by the State (Government), Academy (University) and Industry in the specific case of the sub-cluster, the industry of manufacturing electronic navigation equipment and thereby boosting the technological development (Etzkowitz, 2000). Based on the Triple-Helix model, the proposed model for cluster consolidation is shown in Figure 5.

Figure 4. Etzkowitz Triple Helix Model.

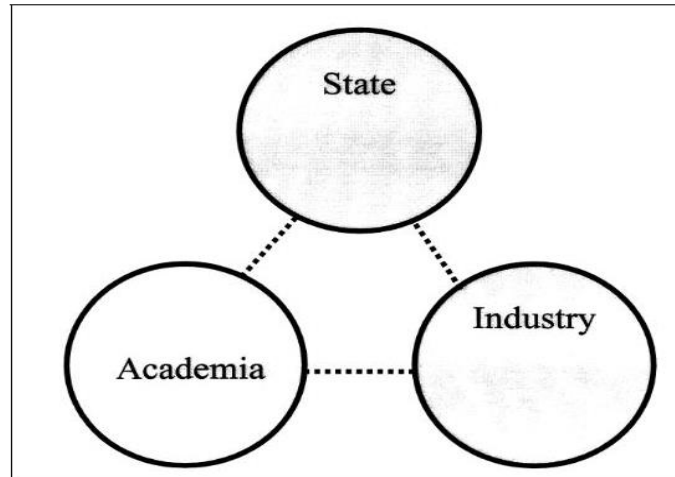
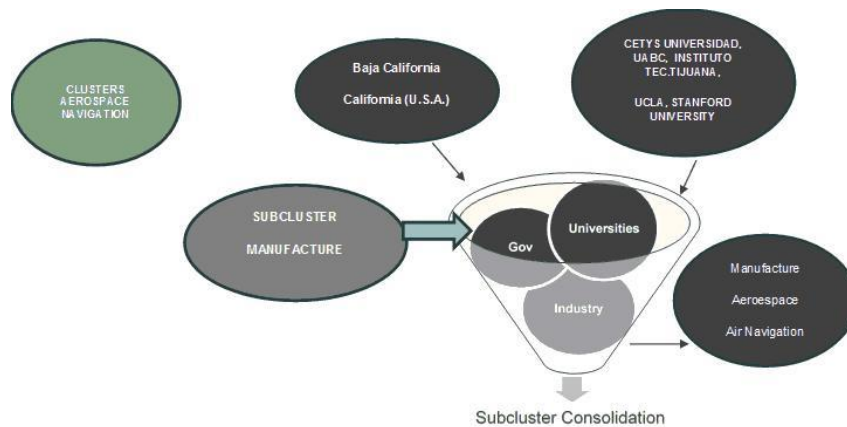


Figure 5. Model for Consolidation of the Electronic Equipment Subcluster for Air Navigation in Baja California



Source: Author's elaboration, on the consolidated integration of the sub cluster.

Strategic Projects

As a result of the analysis of the relevant conditions in the Subcluster, a number of key strategic projects are recommended, for the improvement of its strategic conditions.

1) Specialized Training for Qualified Personnel

As a condition for success in this sub cluster, “it is necessary to have highly qualified personnel who can be competent with the rest of the world”. We proposed a specialized training for qualified personnel.

2) Highly Efficient Transportation System

As this text mention that some work force goes to other country to get a better quality of life, we propose a highly efficient transportation system. Companies in the cluster bring their workers from neighborhoods that are far from their facilities.

This condition makes transportation time consuming, more expensive and unreliable. For those who live far from their plants, coming each day to work means one to two hours in the bus, Trans boarding buses due to lack of direct services.

3) Investment Promotion for Tier 2 and Tier 3 Certified Suppliers

As another condition for success “Knowing the challenges of the supply chain, they must find way to improve it, this will help them increase and strengthen their relationship with suppliers, which will make them more competitive”. We propose an investment promotion for Tier 2 and Tier 3 Certified Suppliers.

4) Shared value project

Increasing Workforce Participation. - It would be a great effort for the sub cluster and for society to join forces to prepare more qualified work force. In recent months, a stream of migrants mainly from Haiti has been occurring in Baja California. According to unofficial sources, the migrants have an educational level that may allow many of them to fulfill unqualified positions in companies. By having a flux of unqualified people into the workforce, turnover at that level may be reduced, but more importantly, current unqualified workers with experience in their companies, may have a higher likelihood of being selected for training programs to upgrade their skills. For this project, relevant government agencies will establish a resource center, where migrants will have support for regularizing their immigration status, psychological support, and basic health assistance. In that center, they will be evaluated as to their educational and skill level, and then sent for interviews at participating companies. Participating companies support part of the operational budget of the center, and in return regularly receive candidates for hiring.

5) Unique value proposition

The proposal is focused so that the sub cluster can supply the aerospace cluster and thus facilitate communication, reduce the cost of tailoring and facilitate the joint provision of ancillary or support services.

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BARRIERS OF INNOVATION ON THE EXAMPLE OF POLISH ENTERPRISES

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Abstract :

Poland occupies a distant place in the rankings of innovative countries. This article describes problems that make Polish companies were not yet interested to grow through innovation. The financial and organizational barriers of innovation are presented. The legal solutions to encourage innovation and ways to encourage cooperation between research units and enterprises were also mentioned. This article explains the reasons for innovation barriers in the context of Poland's development successes. The future of Poland is associated with the need to support innovative solutions, therefore defining areas for improvement seems important for Poland's further economic development.

Key words: innovation process, research&development, diffusion of innovation,

Introduction:

Innovation processes, which in recent times are seen as a critical elements in the development, are a major challenge for enterprises. This particularly concerns radical innovations that have a strategic importance. Choosing the correct innovation idea, innovation process planning and its efficient introduction requires appropriate knowledge, ability to make quick decisions, securing necessary resources, and above all the approval of the environment. Ensuring the right conditions favoring the atmosphere of innovation in the enterprise environment is the first important element of innovation activities. Factors that have a significant impact on the level of innovation in the company are defined as innovation diamonds.

Innovation processes in nature are different from other processes within the

framework of the business. They are characterized by a high level of risk and high uncertainty of the expected results. The results of particular stages of the innovation processes have a big impact on the way of implementation of the process's successive stages. Hence derives the need to implement these processes in a sequential (serial) way, which clearly can be observed in all of the innovation process model.

Introduction of innovation, as a consequence of the modern market mechanisms aim through introduction of new constructions and technologies in products or implementation of modern processes to bring particular benefits - tangible or intangible. Not only the level of novelty is important, but also the economic benefits that will be achieved thanks to it. Having these benefits in mind, can not be forgotten the costs to be incurred as a result of the introduction of the innovation process. To think in perspectives of future profits, it is necessary to conduct economic analyzes of innovative project's cost-effectiveness. In this paper is raised the problem of estimating the costs, which carried out in the right moments of the innovation process, allow to obtain assurance of the projected outcomes, and to make the right decisions during its implementation.

As a result of economic and political transformation, Polish companies were subjected to a strong competition on the market. Present actions were conducted in the direction to lower the costs of the current activities and have proven to be inadequate. Reduction of prices ceased to satisfy customers who are now oriented for modern products and their appropriate quality. Orientation for the production of innovative products is necessary to follow the path of innovation. Until recently, Polish companies tried only to imitate innovative solutions. Currently it can be observed, that there is a change of perception of innovation. Polish companies try independently to develop and implement innovations. However, hence the potential of Polish enterprises is not large, the implementation of innovative processes or products without the support of external institutions is often not possible. As a result of the policy of privatization of Polish companies, the biggest of them, with big traditions have been passed into the hands of large foreign corporations. Therefore, the innovative activities are limited to the implementation processes.

On the Polish market, on the other hand, were created many young companies based on the Polish capital, which have not much experience in the implementation of innovation processes. However, they try to meet a strong competition by introducing innovations, their own efforts are often insufficient to cope with the difficult tasks.

Innovation processes are subject to a number of global studies and a number of publications were dedicated to them. It should be noted, that these processes are highly influenced by the specificity of the market and the economy of the country. Therefore, to support Polish companies in the area of innovation process planning were undertaken tasks of analyzing innovation processes of Polish companies to develop planning and costs estimating models. They are designed to help managers and people responsible for implementing innovation processes in the area of organization and management.

The research was financed by the National Science Center. They were completed in 2014 and the results were published in the book.

One of the stages of this research was to identify the barriers to innovation in Polish enterprises. This article is about this part of the research due to the understanding of such a low position of Poland in the country's innovation ranking prepared by Eurostat (fig. 1). Data for research were collected in randomly selected 30 enterprises belonging to the group of 100 most innovative companies in Poland representing various industries.

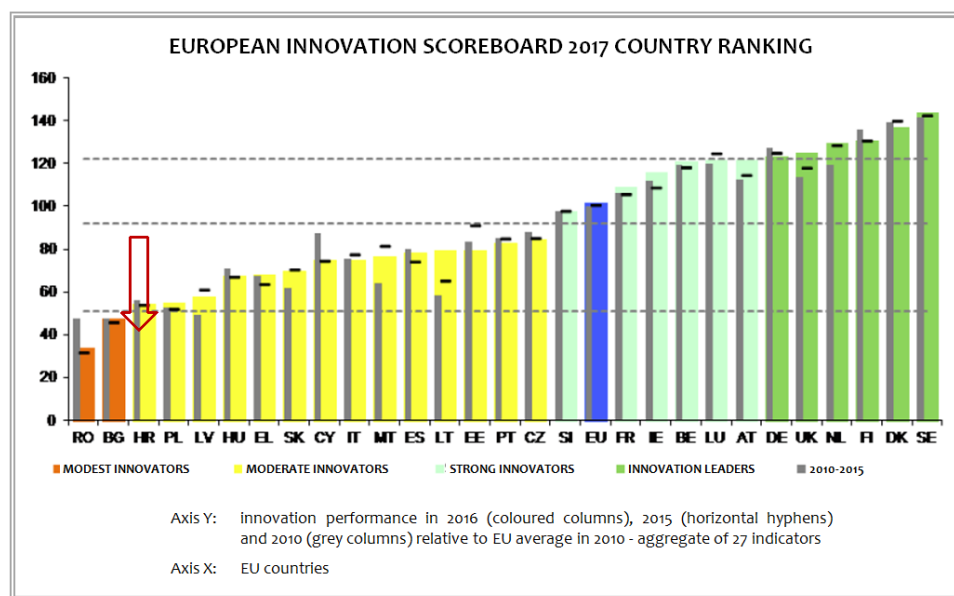


Fig. 1. European innovation scoreboard 2017 country ranking

Source: Eurostat

Innovation processes:

Rapidly developing market poses difficult problems for businesses. Surviving on the competitive market requires a flexible approach to the ever-changing conditions.

Not only adapt to the demands of the market is important, but also to anticipate upcoming changes and proper preparation for them. Innovation is the best way to prepare for these new market conditions. They also allow for the development of the company and the effective fight against competitors.

Important elements of the innovation are the ability to perceive the market opportunity, creating conditions for the development of innovative solutions and the ability to organization and management of innovation processes. But the most important element of innovation is the ability to make decisions under uncertainty. The uncertainty is associated with the implementation of activities that have a unique character. They were not carried out in the past and thus can yield surprising results. Therefore, managing the process of innovation brings with it a high risk that may affect the need for high costs and even the failure of the realized process.

The process of creating new solutions is complex and usually does not run linearly. Not every innovation is the result of research and development. often new ideas appear and are implemented on the occasion of regular business operations, in particular, it applies to incremental innovations that improve already existing processes and products. Similarly – in a diffusion process - some of the innovations can be implemented and developed by the company based on external solutions. However, at the level of the entire economy, each stage of innovation creation is important. The existence of bottlenecks in this chain leads to systematic waste of resources (eg when the results of R&D works are not further implemented) or dependence on increasingly expensive and inaccessible foreign know-how and marginalization on the international market of modern technologies (when, despite financing the implementations and diffusion there are no funds for any of the R&D stages). That is why designing an effective innovation support policy requires a holistic view of all stages of creation and implementation. In this analysis, five of them were distinguished - from basic research to the diffusion of new solutions (fig. 2).



Fig. 2. Stages of creating and implementing innovation.

Fundamental research:

The aim of fundamental research is acquiring new knowledge, which does not have immediate, direct practical application, but it can be the basement for further

implementation-oriented R&D works. Conducting basic research has, besides the cognitive motive, also an intermediate utilitarian goal - economic. Knowledge obtained by the incurring expenses can be used by other entities, also from other sectors. Blocking the dissemination of basic research results is not only difficult but also not optimal from the social point of view due to the loss of positive externalities. This causes the private sector to be reluctant to get involved without public support. That is why the public sector is the main founder of fundamental research in developed countries. This does not mean, however, that only the wealthiest economies should engage in conducting fundamental research. On the contrary. Public expenditures for fundamental research induce companies to incur additional own expenditures on innovations, because only in this way is guaranteed a better use of available external knowledge. Companies will be more willing to invest in research, the better external research facilities will be offered to them. In addition to new knowledge, the outlays for fundamental research bring significant benefits to companies in the form of highly qualified R&D staff, scientific infrastructure for rent, as well as more easily accessible networks of scientific institutions and teams with appropriate methodological preparation. The resources created for basic research can be used in the next stages of innovation. This means that entrepreneurs located in a medium developed country will be more willing to invest in innovation, the better the university facilities will have at their disposal, so the more the government invests in basic research and university education from public funds.

Applied research:

Applied research is conducted to acquire new knowledge that has specific practical application. The private sector has a greater share in the financing of this type of research, but still high uncertainty of results, financial constraints and the presence of positive externalities means that without public intervention this area would be underfunded compared to the social optimum, which would also mean wasting the potential of knowledge gained in during basic research, and therefore also public funds. At the same time, however, at this stage should be clear justification for the research activity - a willingness to use the results by the private sector or public institutions. The effective model of public support in this case is the co-financing of research from various sources interested in their implementation, i.e. creating, supported by public funding, platforms for cooperation between scientific institutions and business. Additional incentives can provide tax relief for expenditure on business R & D,

particularly effective in the case of larger companies have their own research departments and able to fully benefit from tax because already earned income. This solution does not require public administration to make decisions about granting aid, leaving companies to decide on involvement in the most promising projects from their perspective

Product development and demonstration innovation:

Implementation of new ideas during the development and demonstration of innovation are not always the result of research conducted in the company. A significant part of the new solutions comes from ideas created as part of running a regular business or is born in the minds of creative employees or entrepreneurs. Rationality, type and scope of public support at this stage arise from the novelty of the project and the possibility of obtaining financing from other sources. In the case of the most innovative projects, high-risk and requiring costly demonstration, it may still be required non-refundable aid. This is particularly important for small entities, including startups. They can also be provided with help in the form of basic infrastructure useful in the incubation phase of the company and support in obtaining a patent. In the case of lower risk projects, where the main problem is the inadequacy of the financial market or positive externalities, more appropriate forms of intervention will be repayable assistance or tax breaks.

Diffusion:

Diffusion of innovation is the last stage of the process of creating and implementing innovations, based on their taking over by other enterprises. Diffusion can concern new solutions for both the company as well as for the domestic market. It can also be an innovative foreign solution. In any case, as a result of diffusion of innovation, the productivity of the entire economy increases. While the previously listed stages were associated with a high risk, and only a small participation of the company in benefits brought by innovation, for the diffusion of innovation these problems are insignificant. Motivations for public intervention may be in this case, only imperfection of the financial market, which limits investment opportunities for small and medium-sized enterprises, and not recognizing the business benefits of implementing modern solutions. At the stage of diffusion, an important form of public pro-innovation policy may be support for the construction of necessary human resources - both in the science sector and for entrepreneurs.

Barriers of innovation indicated by Polish entrepreneurs:

The above-mentioned ways of overcoming financial barriers to the development of innovation (in addition to the diffusion stage) can be included in the push policy, focused on stimulating the supply of new solutions. They are complemented by a pull policy that creates demand for innovation. They may take the form of the previously indicated support for diffusion of new solutions in the private sector, as well as imposing their introduction through regulations and standards (in particular, environmental and health issues) and direct demand by the state through public procurement of innovative solutions or the establishment of awards and a guarantee of purchase of an innovative good in the event of solving a specific problem (eg development of a vaccine). A positive aspect of pull policies is that they create markets for innovators and attract private investors without selecting the winners in advance.

From the point of view of Polish companies, the biggest barriers limiting innovation are:

- Lack or insufficient equipment of research units,
- Access to financing sources,
- Conflict of interests between an entrepreneur and scientific units,
- Lack of highly educated staff.

Equipment of R&D units:

This problem should be considered in the context of changes that have occurred in Poland over the last several decades. At the beginning of the nineties Poland, after the collapse of the Soviet Union, entered the path of democratic change by opening itself to the world. The first contact with the realities of the capitalist market caused the collapse or sale of the largest Polish companies. Many people lost their jobs and unemployment began to rise. Instead of large companies, micro and small companies started to emerge. They noticed their chance on the market by producing products that were missing on the market or were much cheaper than imported products. High unemployment guaranteed cheap labor, resulting in low production costs. This was the first stage of the development of the Polish economy. The next stage took place when the market saturated with the manufactured products. To maintain their position on the market, companies had to provide modern products. The production costs in Poland were still low due to the persistent unemployment, which is why it was enough to copy

modern solution from world markets. It was a period of imitation of innovative. In both the first and the second development period, there was no need to invest in modern research and development facilities. Such investments are very costly and researches are risky. The guarantee of low production costs as a result of high unemployment allowed Poland to develop well.

Currently, Poland has entered the third phase of economic development. Poorly paid workers started to look for work abroad. A huge wave of economic emigration caused the outflow of well-educated employees. Unemployment has dropped significantly and employers have problems finding employees. To find a good employee the entrepreneur must provide him with better working conditions and a higher salary. Production costs are rising and can no longer compete on price by offering the same products. It is necessary to change the development strategy towards innovation. Unfortunately, Polish companies, mainly small and medium ones, have not invested in research and development before. That's why they are not prepared to run such an activity despite having a lot of ideas.

In developing economies, which is Poland, public research and development units should support these companies. Unfortunately, there is another barrier here, because over the years also the development of these units has not been taken care of. However, there is a chance to eliminate this barrier. As a small country, Poland has not experienced a global crisis, and is constantly growing. GDP is growing and the government is devoting more and more resources to the development of research and development units. In the recently published Innovation Ranking of the Global Innovation Index 2017, Poland is a leader in the dynamics of growth of expenditures on research and development works by companies in the years 2008-2015. During this time, an increase of 212 percent was recorded.

Access to sources of financing for innovation:

Polish companies can use many programs supporting innovative activities. You can obtain financing for innovations from both domestic and foreign sources. However, the surveyed enterprises pointed not to the lack but to the difficulty in accessing these funds. Own financial contribution is often a big problem. Small and medium-sized companies do not have such large financial resources. Although it is the ability to take advantage of the credit, but it is very risky. Another reason for not using funding under EU programs is big bureaucracy. Detailed elaboration of all application documents and then a large number of documents to be prepared during the implementation of the

project requires a lot of work. It requires the employment of additional people, or delegation of own employees to this task. The additional costs of the enterprise are mainly borne by small companies.

Conflict of interests between enterprises and the scientific unit:

As mentioned in point 3.1, academic centers and scientific units should support the development of innovative ideas. In Poland, scientific units are mainly based on state subsidies. The size of these subsidies is granted on the basis of scientific achievements measured by the number of publications, the number of citations and promoted scientists. The surveyed enterprises pointed to the problem of cooperation with scientists who were interested in obtaining data and information allowing to publish as many articles as possible. The conflict consists in the fact that the entrepreneur wanted to receive a ready-made practical solution, and the scientific units to demonstrate the conduct of research and the number of publications. The enterprises often did not receive the ready solution or received a solution that could not be implemented.

Highly qualified staff:

This is another problem of the Polish education system. In order to raise the level of education of the society, activities for the development of universities have been launched. Polish universities receive funding depending on the number of students. Universities began to receive more students. With the increase in the number of students, the quality of their education has dropped. In Poland, there were also many private schools focused mainly on profit, which did not support the quality of education. Numerous people with higher education have increased, but their preparation to practice is insufficient. An entrepreneur in Poland have to spend many months for preparing a graduate to work. Better graduates, talented and ambitious graduates found employment in large companies abroad Polish.

Summary:

In recent years Poland is trying to catch up with the developed countries and it should be said that it does it rationally. The lack of involvement in innovations, which are costly and risky, has so far been a sensible activity. A large development of the economy was achieved using traditional methods of gaining a competitive advantage. Low production costs guaranteed demand for Polish goods, providing stable economic growth. Customers at home and abroad eagerly bought Polish goods because they were cheap and of good quality. Such a policy of economic growth also allowed to save the

Polish economy from the global crisis in opposite to highly developed countries, which invested in high-risk innovations and suffered the negative effects of the crisis (Fig. 3)



Fig. 3. GDP, Annual growth rate (%), 1993 – 2016 in Poland and Germany.

Source: data.oecd.org

The period of using simple market tools to achieve success has already passed and the level of development achieved has forced Poland to invest in innovation. The barriers that are the result of the previous policy should now be effectively removed. In order to encourage state institutions and enterprises to develop through innovation, a number of changes in legal regulations have been introduced. It should be mentioned above all the allocation of large financial resources for research and development for enterprises under the condition of cooperation with scientific institutions and amending the law on higher education, which changes the funding of universities and scientific institutions depending on the number of innovative solutions implemented to the industry. This law also limited the number of students going towards raising the quality of education, and promotes the practical training and higher schools with professional profiles. The undertaken actions give hope that Poland will start to be higher and higher in the ranking of innovative countries.

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OPPORTUNITIES AND CHALLENGES IN ECONOMIC TRANSFORMATION AND MEDICAL AFFAIRS: POLAND-INDIA PERSPECTIVE

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Abstract:

In a pace of changing global scenario entire system of a nation is changing. Governments are convinced towards economic transformation and bringing new policies to assist foreign investors in order to increase inflows of foreign direct investment (FDI). In past years, world experienced FDI among developed to developed economies or developed to developing economies, but new trend has emerged where FDI flow goes between emerging to emerging economies.

When global FDI inflows falls by 2 percent, trade between developed to emerging economies are increasing by 5 per cent. Many emerging economies find their areas of cooperation and increase trade relations. Similar trend has been emerged between India and Poland. Both emerging economies are constantly improving trade relations by identifying many new sectors such as mining, education, medical, pharmaceuticals, electronics, films, etc. Among many sectors, medical sector may play a wider role for both the countries for establishment of a new trade interest based on supply and demand model of cooperation.

Poland is know for well established educational institutions and medical treatment. Well equipped machinery, qualified doctors and insurance policies are the life savers for millions. But other side India with 1.3 billion population lacking number of doctors and technologies for proper treatment- hundreds of patients are loosing their life and thousand are hoping to receive better treatment. Therefore access and treatment choices will ultimately require a solid understanding and convincing demonstration of medical and economic value. FDI in medical sector should be recognised as most demanded sector for cooperation between India and Poland. Potential cooperation will protect thousands of life in India by producing hundreds of Indian doctors in Poland

through well known Polish medical universities or through FDI in Medical sectors in India to produce Indian doctors in India. High technology exports may also create an opportunity to increase trade flow by medical equipment's exports and imports.

Keywords: India, Poland, Economy, Medicine, Opportunity

Introduction:

Historically, Poland as well as India has been a challenging destination for foreign investors, the interest has begun 25 years ago once Poland brings massive economic and political transformations, and India adopted open economic policy- by giving space for foreign investors. Very Painful reforms from state control economy to privatised and market-based economy towards accession to the European Union in 2004 confirmed the growth path of Poland's efforts towards most advanced economies in the European Union. Today Poland is the eight-largest economy in the European Union. Poland is identified as one of the most favourable destination for FDI among European member states in Central-Eastern Europe as well as market for dynamic exports, internal demand, high productivity, and stable banking system.

Comparing India, with Prime Minister- Narendra Modi's political reforms and development policies are unifying Indian market through new tax reform (GST), encouraging investment, promoting exports and strengthening banking and telecom sectors. India, with 1.3 billion people, is globally the fastest-growing G-20 economy. In the fiscal year 2016/17, its economic growth rate reached 7.1 percent, which is high compared to the global economy, which grew by around 3.0 percent. India is the world's fourth-largest economy, has globally the largest and youngest working-age population¹, and is expected to achieve a high growth rate of 7.3 percent in 2017/18 and of 7.7 percent in 2018/19².

In such scenario- India and Poland is well connected with historical facts since centuries, but in the recent years both entities are shown their interest to develop not only cultural and diplomatic relations but devoted to strengthen economic ties. Last year, in 2016 bilateral trade between India and Poland has grown by 25%. In Central Eastern Europe, Poland become India's largest trade partner and export destination by crossing US\$ 2.7 billion (Indian exports- US\$ 2.1 billion; Indian imports- 0.66 billion).

¹Around half of India's population is under 25 years old.

²https://www.s-ge.com/sites/default/files/cserver/publication/free/economic-report_-india-eda-2017-

Indian exports presently account for 1% of global Polish imports. And both countries have, in June 2015, set a target to double their bilateral trade by the year 2018³.

Comparing growth, changing regulations and need of both the economies author has identified a potential area of cooperation where India and Poland can develop a new partnership in the area of Medical cooperation. Thus, this research papers is identifying the availability of resources, demands and possible area of cooperation in medical sector. Author is presenting possible solutions in the interest of both the countries- how to improve trade flows and assist large number of people from both societies by fulfilling their demands.

Foreign Direct Investment Inflows in General:

It has been noticed that the trend of global Foreign Direct Investment (FDI) is changing and recorded by 2 per cent low in 2016. Many developing economies as well as developed european economies recorded very low inflows, in contrast to the highest growth (up to 5 per cent) to several American, African, South- East Asian, and north-west European countries.

In 2016, developing economies attracted one third of global FDI inflows. This share had been over 50 per cent in 2014 but has shrunk over the last two years. In 2016, one quarter of global FDI was directed to developing economies in Asia and Oceania and less than 10 per cent to developing economies in Africa and America, each. Looking at the origins of global FDI, around 70 per cent were initiated by investors from developed economies. Out of these, 35 per cent originated from Europe and 25 per cent from Northern America.

Foreign Direct Investment inflows from 2010-2016- a comparison

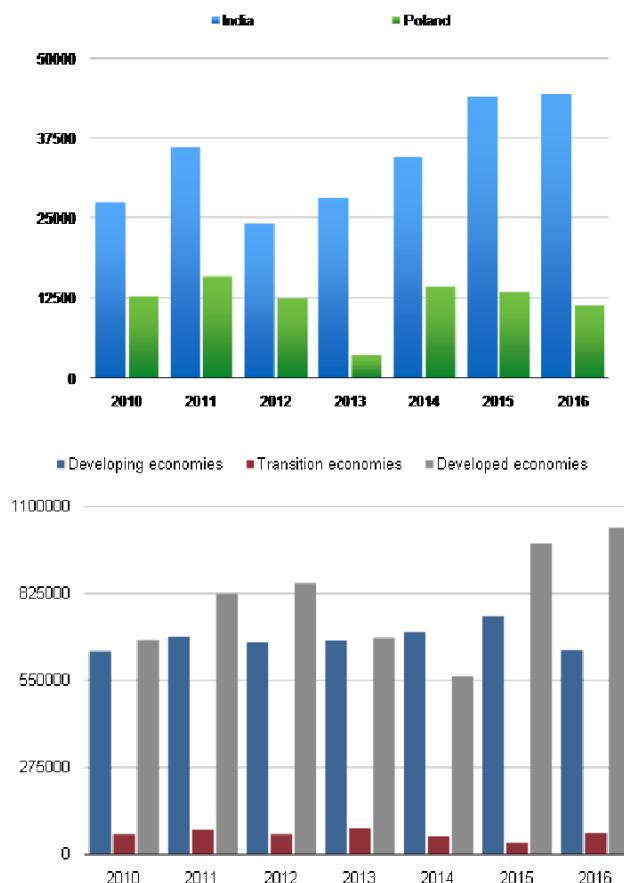
graph⁴ Inflows to India and Poland⁵

Above mentioned graph shows that the confidence among foreign investors for India has been increased. Thus, inflows to India is increasing constantly from 2013 to 2016.

³http://www.indianembassywarsaw.in/eoi.php?id=Pol_relatt

⁴<http://unctadstat.unctad.org/wds/TableView/tableView.aspx>

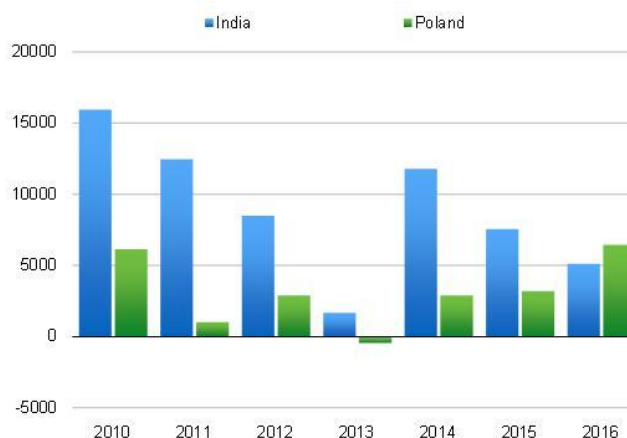
⁵<http://unctadstat.unctad.org/wds/TableView/tableView.aspx>



But comparing with Poland the scenario is bit different - it is fluctuating, which means country needs to boost confidence among foreign investors and bring many new regulations in order to increase FDI inflows.

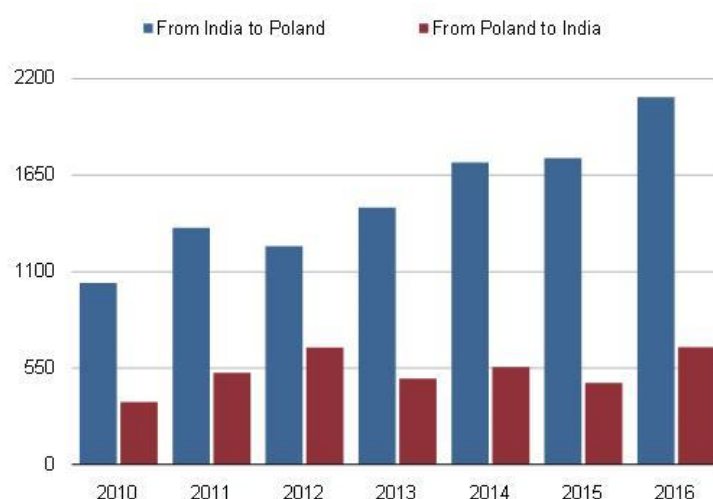
Out Flows from India and Poland:

Graph below shows that outflow from India after 2014 has been decreased but comparing with Poland, outflow from Poland has been increased and it is growing subsequently.



Trade between India and Poland⁶ (2010-2016)⁷

Trade between India and Poland has been increased in 2016 and it is expected to increase in consequent years. Both countries are increasing trade flows by identifying the sectors. In this regards Medical Sector might be an important area of cooperation for both the entities not only for social term of cooperation but also in economic dimensions.



Indian Healthcare Sector:

Healthcare sector is one of the fastest growing sector in India which is growing at a rate of 15% and expected to touch \$250 billion by 2020. In current political scenarios- Central govt. of India had launched many social sector support and transformed medical regulations in order to make easier access of medical services to the people of India. With interference of public investment \$60 billion, it became one of the high priority sector for the development.

Medical Sector in India mainly based on following factors:

FACTORS	Reasons to support factors
Population Growth	Population growth also increased life expectancies- need for maternity and child health care
Non Communicable Disease	Changing lifestyle also increased different types of diseases such as cardiac diseases, cancer and diabetes

⁶http://www.indianembassywarsaw.in/eoi.php?id=Pol_relatt

⁷Central Statistical office of Poland (GUS) (In US\$ Million)

FACTORS	Reasons to support factors
Income growth	Indian middle class is growing. the growth of their income also increased expectations for better health care services. e.g insurance, hospitals, technology etc.
Awareness	Increasing awareness about better life style make patients more preventive.
Foreign Patients	medical tourism is increasing every year. Currently serving more than 850,000 foreign patients every year in areas like cardiology, joint replacement, orthopaedic surgery, transplants and urology.
Privatisation in health care	private health care centres and private hospitals

Keeping in view the reforms undertaken by the Indian government in the recent past, India has been ranked 39 among the 138 countries in the Global Competitiveness Index (GCI) 2016-17⁸ released by the World Economic Forum (WEF), jumping 32 positions in two years from its rank of 71 in 2014. And today's the Indian Healthcare industry is a preferred sector for strategic and financial investments. Private investment in medical sector has been appreciated since early 2000's and recent government investment in the sector make the one of the largest industry in terms of revenue and employment generator.

Space for Cooperation:

Recent changes in regulations, applied to the healthcare sector make it more attractive but many challenges still remain to be solved. The pace of population growth with 1.3 billion population, creates the shortage of hospitals, doctors, and specialists. Indian education sectors are not up-to-date in order to produce qualified number of required doctors, specialists with today's technology based treatment. Lack of medical universities with limited numbers of places are decreasing number of doctors.

⁸<https://www.weforum.org/reports/the-global-competitiveness-report-2016-2017-1>

Considering such challenges, Indian government is doubling its expenditure on healthcare to 2.5% of GDP and investing heavily in public healthcare infrastructure⁹. The private sector is also boosting its investments in healthcare delivery and is currently responsible for 80% of the new bed capacity. Every major private hospital chain has plans for expansion in the near future. Many private medical universities and Deemed universities are coming in existence to accommodate increasing number of Indian students for medical studies. As India and Indian government moves towards achieving its goals in health infrastructure expansion, there are numerous opportunities for Polish universities to provide medical education for Indian students either in Poland or in India as well as for Polish companies for hospital design, engineering and equipments.

Medical Universities and capacities for providing education:

India with 1.3 billion population needs thousand of doctors in order to serve Indian societies but it is surprising that total number of Indian *Medical Universities/ Colleges teaching medical courses (MBBS)*¹⁰ are 479 with capacity to accommodate total students 60845. Thousand of talented students are not able to continue their medical studies even they are well qualified academically as well as financially. Students in India for medical studies try several times to be admitted in any medical colleges but it's very difficult to get in, not because they are not talented but due to limited places and less number of medical colleges and hospitals in the country.

Poland

Total Number of *Medical Universities*¹¹ are 11 with capacity to accommodate total students 127318.

Name and Place of the University	Number of students
Medical University of Białystok	5000 https://www.umb.edu.pl/en/o_uczelni
Nicolaus Copernicus University Ludwik Rydygier Collegium	25000 http://www.umk.pl/en/university/university/

⁹<https://www.rvo.nl/sites/default/files/2017/08/Healthcare-Market-in-India.pdf>

¹⁰<https://www.mciindia.org/ActivitiWebClient/informationdesk/listofCollegesTeachingMBBS>

¹¹<http://www.nauka.gov.pl/en/higher-education-institutions/medical-universities.html>

Name and Place of the University	Number of students
Medicum in Bydgoszcz	
Medical University of Gdańsk	6000 https://mug.edu.pl/19439.html
Medical University of Silesia in Katowice	9000 http://sum.edu.pl/en
Jagiellonian University medical College in Kraków	43405 http://www.en.uj.edu.pl/en_US/about-university/facts-and-figures
Medical University of Lublin	6700 http://www.umlub.pl/gfx/umlub/userfiles/olamarcinko/um_informator_eng_final_2.pdf
Medical University of Łódź	8500 http://en.umed.pl
Poznań University of Medical Sciences	8000 http://www.ump.edu.pl/en
Pomeranian Medical University in Szczecin	600 https://www.pum.edu.pl/english/about-pmu
Medical University of Warsaw	9413 http://www.wum.edu.pl/uczelnia/o-uczelni
Wrocław Medical University	5700 https://www.ed.umed.wroc.pl/medicine-general-introduction

Poland a country with 36.5 million population with 11 medical universities offering 1 27 318 places for medical studies. Many universities from Poland are approved by Medical council of India. Most of those universities are offering English study programs and their degrees are valid around the world.

6. Conclusion

As trends are changing in global scenarios broader are becoming smaller. Every country is seeking international cooperation and foreign capital. In case of India and Poland for the economic ties it's very important to understand one-another's need and accordingly make regulations to assist each other. Here as FDI is increasing between India and Poland in both ways- inwards and outwards, identified area of cooperation in health sector may play a very wider role to increase the capital flow between them. By providing medical education to Indian students in Poland, Polish Medical universities will be receiving millions of euros as tuition fees from Indian students which will contribute in the development of the Polish economy, and by their returns to India, India will be receiving well qualified doctors. In other way- Polish companies or investors may come to India in medical/ health care sector which is one of the fastest growing industry in India and make win win situations for both the countries as well as industries.

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IOT WILL BE THE BACKBONE OF FUTURE

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Abstract:

This research paper tell us how IOT influence our daily life, it's existence, its impact on technology and barriers of it. Internet of Things links smart objects to the internet. Internet of Things transfer the data which was never access before and bring user information with RFID. It is vital as object can represent itself digitally and it is more then by itself. In simple words it is a computing concept that describes a trend where daily real-world objects will be connected to the network and be able to identify to other devices. It is the third wave emerging in growth of network. Wireless sensor network enable universal sensing that cut sensor across many areas of modern day living. This in turn offers the ability to measure environmental dedicators from natural resource, ecologies to urban environment the increasing growth of these devices in a communicating environment led to growth of Internet of Things. The IOT overcome from the all recent technologies from wireless to sensor and it is the next revolutionary technology in transforming the internet into fully integrated future internet. IOT is applied to all business aspect, supply chain, consumer goods etc. As a whole IOT is very broad area. Basically IOT is the apparent network of real-world objects that includes communication between objects and IP address for internet. Besides traditional devices like PC, tablets, smart phones Internet of Things extends internet connectivity to a wide range of devices and everyday things. According to estimate there are 12 billion devices that can currently connect to internet and till 2020 there will be 26 times more connected things than people.

Keywords: *universal, smart objects, environmental dedicators, RFID, Wireless Sensor, traditionally devices*

Introduction:

The internet has played a major role in our lives. Since first internet ARPANET existence influence U.S. Army life from then, till now and in future internet is growing. It allows connecting numerous of devices for communication. In 1990 first internet allowed 1 billion people to connect to PCs then in 2000 it allows smart phones to

connect and the population raise to 2 billion and by 2020 it allows all things to connect to network. Until now communication through internet is common. Now next trend of things range from wearable to automatic doors, refrigerators, remote control cars etc still there are devices left which are not connected to internet and human interaction. For a small home to be smart we can connect internet to things. It secures our home also. With the help of CCTV camera near our house irrespective of our location we can easily tract our location. The IOT changes our daily lives. Besides this it attach people, machines and things to enable bi-directional flow of information and also enable real-time decisions. The IOT allows us to connect all objects around us to internet; RFID (Radio Frequency Identification) will meet this challenge to connect all things around us to internet. Cloud computing and utility computing provide virtual infrastructure to the IOT. The Internet of Things is the network of physical objects that includes devices, buildings etc which transfer data without human interaction. It allows objects to be suspect and controlled remotely across existing network infrastructure. The IOT solution is SAP which provides everything we need to generate data driven understanding from connected things to people and devices. To change our work into electronically we should attach our work with the next generation of internet-enabled devices in the cloud. The cases for IOT are Connected Wind farms, connected retail, Connected Construction, Connected Telco, Connected Health etc. SAP played a major role in Internet of Things. The network of things v.i.z. cars, coffee makers, jet engines, oil drills, wearable devices etc called Internet of Things. All the above mention things communicate to each other, collect streaming data and insights and told people how to make best use of IOT in real world. Machine-to-Machine technology behind IOT brings upper visibility to every industry. All types of business with IOT are almost manifold.



Figure1: Machine-to-Machine internet

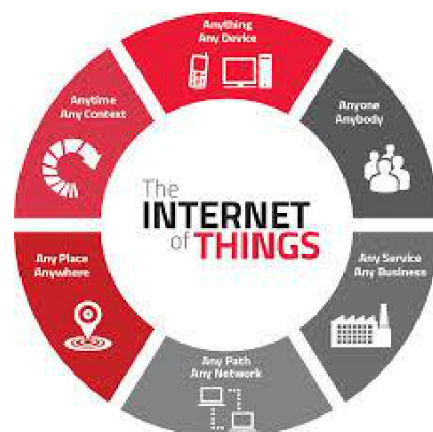


Figure2: Internet everywhere

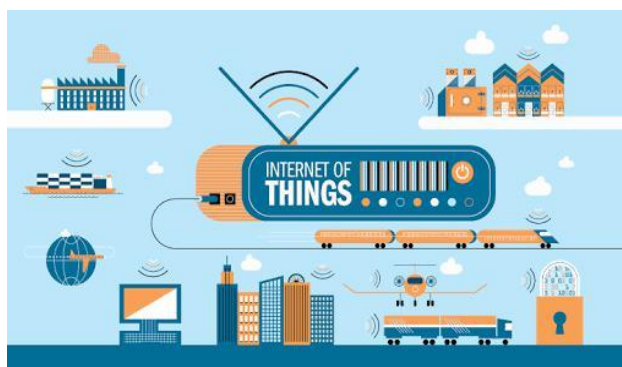


Figure 3: Internet around the world

History of IOT:

The first internet was ARPANET developed for U.S. army, Tim Berners-Lee coined the term. Later on several advancements took place. To integrate and automate everything from home appliances to factories Reza Raji in 1994 described the concept in IEEE for moving small packets of data to a large number of nodes. John Ramkey and Simon Hackout created the world's first connected device-toaster. In 1999 Kevin coined the term internet of things and machine-to-machine protocol for connected devices was introduced by Allen Nipper of Arcom. The first connected refrigerator was introduced in 2000 by L.G. It will sense items using barcode. The first IOT conference took place in Zurich in 2008. Later IPSO Alliance is formed to promote IP connections across network of "smart objects". Bluetooth Low Energy and self-driving vehicles by Google introduced in 2010 and after three years Google raised the glass controlled through voice recognition. The main work of IOT given by Ashton is to emphasize the power of connecting Radio-Frequency Identification tags used in supply chain for the tracking and counting the number of goods without human interaction. The contemporary innovation of IOT was given by 21st century computer and also by academic venues.

Still things are left to be connected to internet:

Although there are numerous things which are connected to internet v.i.z. automatic refrigerators, remote control cars etc. Still some things left to connect to internet they are as follows-

- 1) **Sensor Fan-** Sensor fans are best to increase or decrease the temperature of a room by sensing the humidity of a room. In today's fashion it will be the newest advancement and also everyone wants to make their dwelling place luxurious.

- 2) **Sensor Spring-** Instead of watering the plants by a gardener or anyone else in such a hot sunny day is difficult. Sensor spring should be launch which will water the plants according to their requirements.
- 3) **Sensor taps in public bathrooms-** Although there are sensor taps available in big malls but it should be there in public bathrooms to avoid wastage of water.
- 4) **Sensor Heating System-** In winters in homes, colleges etc Sensor heating system be introduced which will maintain the temperature of a room avoiding under cooling and excessive heating. Traditional methods of heating in homes should be replaces by sensor heating to avoid air pollution and avoiding carbon monoxide which is dangerous for life.
- 5) **Sensor Air Conditioning-** Similar to sensor heating System sensor air condition also is there in world of IT. In electric house sensor air conditioning be must by Government as to avoid excessive heating. Excessive heating in circuit house is a big problem which can take life of people also.
- 6) **Sensor Escalators-** In multinational companies, big malls etc we see escalators but they are sensor less just wasting electricity. Once we step in escalator starts moving by sensing our toe and once we step out of it, it stops.
- 7) **Sensor water fountain-** This is the 21st century and everywhere IT, IT. So all things be advance where there is water fountain it should work with sensor to male place luxurious one.
- 8) **Sensor heart palpitation machine-** Nowadays heart patients are increasing. If there are sensor heart machine more relief can be given to people and people lives can be secure. By recognize the heart beat of a patient it pump it according to its requirements.
- 9) **Sensor Calorie burnt counter-** To reduce many supplements are in market but no one knows which is best for them. But a sensor calorie burnt is a best one which can reduce the calories by sensing the calories of a human body.
- 10) **Sensor Curtain-** Curtain is there in everyplace. But if it opens on the clap of our hands what a beautiful sight is!
- 11) **Sensor Light based on timer-** Multinational companies time duration is fixed from morning to evening so there lights be on/off based on timer.

Implementation of Technology:

- 1) **Cloud Computing-** Cloud computing pretends a major change in how we store information and runs application. Instead of running programs and data on

individual desktop computer everything is hosted in the cloud- a misty cluster of computers and servers accessed via the internet. Cloud computing allow us to access all our applications and documents from everywhere in the world and making it easier for group members to collaborate. With normal desktop computing we run copies of software program on each computer we own. The documents we create are stored on the computer on which they were created. Although documents can be acquire from other computers on the network they can't be acquire by computers outside the network. While cloud computing the software program we use aren't run from our PC but are rather stored on servers accessed by the network. If our computer crashes the software is available for others to use. Same goes for document we create, they are stored on a collection of servers acquire by the internet. Anyone with permission cannot access only documents but also edit and collaborate on those documents in real time. Unlike main computing the cloud computing isn't be centric, its document centric. In accordance with IOT cloud computing helps to do survey at any time.



Figure4: IOT and Cloud Computing

i) **Existing Literature-** Cloud is a hope for internet. Hardware and Software provide service on network. With the help of cloud survey can be done at anytime from anywhere. Cloud computing behaves as a model for on demand network access to a shared part of service.

ii) **FEATURES:**

On Demand-self service
Broad Network access
Resource pooling Rapid
elasticity

iii) MODELS: Following are models of cloud:

Public Cloud: A public cloud is basically the internet service provider. Use the internet to make resources v.i.z. applications and storage available to the public.

Private Cloud: Private Cloud is data centers .Architecture are owned by a single company. Private cloud is expensive depending upon the company infrastructure.

Hybrid cloud: With the help of hybrid cloud companies can maintain their internal working while contact to public when it needs.

- 2) **Hadoop-** Hadoop is free programming framework that is java-based which supports large processing of data in a distributed environment. It is possible with Hadoop only to run application on systems with thousands of nodes. The failure also less even significant number of nodes becomes irrespective. Hadoop was created by Doug Cutting after his child's stuffed toy. Google, Yahoo, IBM, Google etc use Hadoop. The Hadoop can work on different Operating System v.i.z. Windows, Linux, BSD, OSX. Hadoop provide as the data platform for the IOT.

Apache Hadoop is the major platform for doing all the activities v.i.z. managing, storing, processing of data

- i) **Existing Literature-** the HDFS consists of interconnected clusters of nodes. An HDFS contain one main node called Name Node that manages cluster meta data and the remaining nodes are knows as data nodes.
- ii) **Data Organization-** The important goal of HDFS is to support large files. The HDFS block size is 64Mb. Every HDFS includes 1 or more 64 blocks. The HDFS place each separate block on separate node.

- 3) **Big Data-** Big Data is a new rising term that describes any voluminous amount of semi-structured, structured and unorganized data that has the likely for information to be mined. Big data can be distinguish by the following 3Vs-

- ❖ Large volume of data
- ❖ Wide variety of types of data
- ❖ Velocity at which data is to be handling.

Big Data and Internet of Things can be treated as a same side of coin. IOT includes data, connectivity and devices. Data whether big or small is in front and center is in the IOT. Big companies have bulk of data then the question arises how to maintain that data? The data centers are build to maintain that data.



Figure5a: IOT and Big Data

i) **Existing Literature-** In today's scenario a big amount of data have become available on hand to decision makers. Big Data is a term for data sets that are so large and complicated that traditional data processing are insufficient to deal with them. Data processing speed is improved by distributing data across multiple servers. This architecture put data into parallel DBMS which implements Hadoop and Map Reduce. By using only Front-end application server this type of framework make the processing power crystal to end user.

a) **The Ecosystem of Big Data in report of 2011:**

Display of data, graphics, charts with the help of analyzing the image.

Big data technique like cloud computing, Database.

IOT Goes Beyond Machine-to-Machine:-

IOT goes beyond from machine-to-machine, things connected to computer. The basic difference between machine-to-machine and IOT are as follows-

- Things- It includes machines, devices, sensors, vehicles etc.
- Systems- It includes business applications, inventory and control systems.
- People- It includes workers, consumers, partners, employees etc.



Figure5b

Conclusion:

This research paper explains how IOT came into existence and how things connect to internet. From small handheld devices to escalators, cars can be a sensor based to make a luxurious home. IOT plays a major role in cloud computing, Hadoop, Big Data. Cloud Computing is basically a illusion. We save our all photos, useful documents into Google Drive which is basically nothing other than cloud. Big Data is about data, plain, devices and connecting. There is a close relationship between Big Data and IOT. IOT goes beyond machine-to-machine. The survey can be done any time with help of cloud. Hadoop provides as the data platform for IOT. Big companies can handle their data by the data centers. Big Data acts as a front-end while center is in IOT.

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A Study on Consumer Perception Towards General Insurance

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Abstract:

The Indian Insurance industry is at the verge of growth at a rapid scale. Previously there were less number of players in the market who were capturing the entire market potential and a larger population size. But as per today's scenario, it can be seen that there are many market players in the market who are giving tough competition to other players and at the same time attracting the customers because of their attractive offers. These players are also giving tough competition to government held service providers and attracting their customers. In this paper we are mainly concerned with General Insurance sector and at the same time we are determining the customer's perception towards General Insurance i.e. is the general public aware about the term General Insurance or not. Since there are two major sectors of General Insurance provider in India so we are determining the customer's inclination towards which sector i.e. the government sector or the private sector and at the same time we are finding out the service gap between the services provided by the company i.e. expected service from the company and the perceived services from the company by the customers associated with the company. For this we are targeting the general public of Pune city and that too we are limited to Pimpri-Chinchwad area of Pune city.

Introduction:

The insurance industry in India has seen an array of changes in the past one decade. The economic scenario which emerged after globalization, privatization and liberalization has thrown a new challenge before the insurance sector. Now it has to be more competitive in order to meet the needs and demands of its customers. The reforms contributed to increase the awareness of the insuring public about the wider range of choice of insurance products and the price offered by

the competing insurers in the market. The customers know well about their rights and remedies, availability of various grievance redressal mechanisms, progressive decontrol and detarrification of pricing of insurance products, particularly in the non- life insurance segments. The technical know-how, expertise and wide experience of multinationals that have joined with the Indian companies have revolutionized almost all aspects of insurance industry in India. The insurance industry also provides crucial financial intermediation services, transferring funds from the insured to capital investment, which is critical for continued economic expansion and growth, simultaneously generating long-term funds for infrastructure development. Development of the insurance sector is necessary to support the structural changes in the economy. Today India is one of the fastest growing economies of the world. It is now Asia's third largest economy and has made inroads into the global top 10 in terms of Gross Domestic Product (GDP). The service sector has contributed significantly in India's growth story in the recent years. GDP originating from the service sector recorded a growth rate of 11 per cent in 2006-07 (Annual Report of IRDA, 2007). The contours of insurance business have been changing across the globe and the rippling effect of the same can be observed in the Indian market as well. Insurance Industry is a growth-oriented industry. In India too, the industry has started to reveal the potential after liberalization and privatization of the sector. India is geographically large and has the world's second largest population but it also has one of the lowest penetration rates for general insurance in Asia in terms of premium as a percentage of GDP. This situation reflects the fact that India's insurance market is still in its infancy, meaning good growth potential. Strong economic growth of India in the last decade combined with a population of over a billion makes it one of the potentially largest insurance markets in the future. The insurance industry in India is divided into 2 basic sectors – Life Insurance and Non-life Insurance (also called General Insurance and even called Property and Casualty or P&C). Both these sectors are governed by Insurance Regulatory and Development Authority (IRDA) of India which is a government body which frames the rules for the entire industry and all insurance companies have to abide by them. IRDA is the policy maker for the entire insurance industry in India and also serves as the custodian of consumers rights. As the name suggests life insurance companies cover the risks associated with the life of a person and non-life insurance companies cover other

risks associated with our daily living like health, our vehicles, travel and home insurance to name a few.

Non-life insurance sector also covers a lot of other risks in the corporate world – from simple office insurance to insuring entire factories and industrial equipment. Over a period of time life insurance policies have started incorporating an investment component along with the basic insurance cover so that your money grows while it remains invested with the insurance companies – details about these types of policies will be taken up in detail in the forthcoming posts in this series. But non-life insurance companies have so far been restricted to pure risk cover itself.

Objective of the Study:

1. To study customer awareness towards General Insurance.
2. To determine the customer perception towards Government owned General Insurance company and Private Owned General Insurance Company.

To study the service quality of Government & Non-Government General Insurance companies

Review of Literature:

The data has been collected from various sources like journals, websites and reports to generate an idea which formed the basis of study. Meanwhile having an interaction with different people at different places helped the researcher a lot to collect the data and to carry out the work.

1. Dr. Mehul P. Desai; Ms. Nikita Kahar on the topic “Customer Satisfaction Towards The Services Provided By General Insurance Companies Within Surat City With Respect To Vehicle Insurance” concluded from the study that public insurance companies have to provide some extra facilities to insured people. The private players have to introduce new skim like Aam Admi Bima Yojna. Micro insurance products must be promoted to provide the benefit of insurance to poor people of the society. In order to compete both private and public players have to focus on specific needs of insured. As the insurance sector is totally depends on insured, general insurance companies have to try fulfilling the expectations of policy holders.

2. T. Chandrashekhara; Dr. K. S. Sarala, in their study on “AN EVALUATION OF PERFORMANCE OF SELECTED GENERAL INSURANCE COMPANIES IN INDIA” observes the performance of general insurance company in terms of premium better. But, still public general insurance companies need to gear up by adopting new strategies. The regulatory body (IRDA) has to understand the need, role and power of the both the regulator and insurance companies as one of the main objectives of the insurance regulators is to safeguard the interest of the policyholders as well as insurance companies of both public and private sector. Development of general insurance business in India, what has been done and achieved till now is only the good beginning. The regulatory body too needs to gear up its administration and regulatory machinery to have in place more structured, systematic and effective approach to successfully find solution to more and more challenges and issues related to innovations

Dr. Aashish S.Jani in his paper on “A Study Of Consumer Perception About Service Quality Of Indian Non-Life Insurance Companies: Comparative Analysis between Governments Owned Non-Life Insurance and Privately Owned Non-Life Insurance” concluded that both Non-life Insurances are appearing to provide attention towards changing customer expectation with ever changing LPG Climate. Key areas of Strengths, observed in case of Public sector Non-life Insurance are; Better branch office location; Good reputation in market; Sound financial strength; Regular correspondence with agents by meetings; Accurate presentation of product line. The area of significant improvement possible, applies to the following areas: Technical advancement of insurance; Employee’s neat and clean appearances; Convenience in premium payment; Customer awareness programmes; Commitment and ethical behavior. On the other hand key areas of Strengths, in case of Private sector Non-life Insurance are: Better physical layout for business purposes; Error free information; Quick service; Availability of employees on time; Settlement of claims on time; Individual attention to customers; Effective investment advice and guidance. The area where improvements are required with reference to; Safety and security of investments; branch location; accurate information through media; diversified product line suitable to specific customers. Besides Health insurance, there is a big market available in different fields for Non-life insurance companies. In the changed LPG climate, Government is also providing incentives to grow insurance sector by increasing FDI limit; thus immense opportunities are waiting for all Non-life insurance companies, whether it is Public sector or Private sector. The need is to identify and fulfill customer’s expectation in this changed scenario and the present study helps in understanding customer’s perception towards better and improved service quality, which will also bring high returns to Non-insurance companies.

The need is to identify and fulfill customer's expectation in this changed scenario and the present study helps in understanding customer's perception towards better and improved service quality, which will also bring high returns to Non-insurance companies

1. *Indian Credit Rating Agency (ICRA) 2013, in its Paper titled —Indian General Insurance Industry- Industry Outlook and Performance Review* has reviewed the performance of General Insurance Industry of India.

Research Methodology:

The study has been conducted mainly by using the primary data and generating the idea about how to conduct the research was developed by reading the above journals and books. The primary data was mainly obtained by conducting a survey through the means of a structured questionnaire which was provided to the respondents directly and through online means. The target population was the general public with whom the researcher met and basically asked the public about having knowledge. The research carried out was descriptive in nature and the researcher was trying to find out the customer perception towards general insurance, customer's inclination towards government sector or private sector and to determine the service gap between the customer's expectation towards the service and customer's perception about the received service. Questionnaire was distributed among 320 respondents in Pimpri- Chinchwad area of Pune and the received responses formed the basis of primary data required for the study. The data was collected completely and was tabulated to carry out the analysis part.

Data Analysis & Interpretation:

1. GENDER:

S.No.	Particulars	No. of Respondents	Percentage of Respondents
1	Male	172	54%
2	Female	148	46%
Total		320	100%

Interpretation: Out of the total respondents of 320, it was found out that 54% of the respondents are male while 46% of the respondents are female.

2. OCCUPATION:

S.No	Particulars	Total Population	Percent of Respondents
1	Government Job	158	49%
2	Private Job	78	24%
3	Business	60	19%
4	Home-Maker	25	8%
Total		320	100%

Interpretation: From the data given above it is clear that 49% of the total respondents are having government jobs and thus this may lead to have a higher income of these groups and so they prefer to have a general insurance for their asset's safety.

The second highest respondents were the private job people who have a source of income but not in a definite way which leaves them with less priority towards General Insurance. The least are the people with business or the home-makers who are least interested.

3. KNOWLEDGE TOWARDS GENERAL INSURANCE

S.No	Particulars	No. of Respondents	Percentage of Respondents
1	Yes	279	87%
2	No	41	13%
Total		320	100%

Interpretation: The data above indicates that out of 320, 87% of the respondents have knowledge towards General Insurance while the remaining 13% do not have knowledge regarding General Insurance. There is a high awareness ratio as compared to the non-awareness ratio as from the data it has been found out from the survey that some of the public are illiterate or they do not have any idea about it as they mainly focus on the Life Insurance only which could be the main reason.

4. CORRECT MEANING OF GENERAL INSURANCE

S.No	Particulars	Total Respondents	Percent of Respondents
1	Covering all risks and Liabilities	150	47%
2	Life Cover	53	16%
3	Health Cover	99	31%
4	None	18	6%
Total		320	100%

Interpretation: From the data it can be concluded that 47% of the of the respondents know the term General Insurance correctly while the rest do not have complete knowledge about General Insurance. This could be because there might be lack of knowledge among the respondents and for this the company has to take several measures so as to clear the doubt that is occurring in the mind of respondents.

5. SECTOR PREFERENCE:

S.No	Particulars	No. of Respondents	Percentage of Respondents
1	Government Owned	220	69%
2	Private Owned	100	31%
Total		320	100%

Interpretation: The data above shows that a majority of the population i.e. 69% prefers Government sector for insurance be it any kind of insurance while 31% of them prefer private general insurance companies. There might be the reason that in the above interpretation it has been found out that maximum public is in government sector and so they will surely prefer Government sector and will less prefer private sector because of the trust issues.

6. GENERAL INSURANCE IS FOR:

S.No	Particulars	Total Respondents	Percent of Respondents
1	Vehicle	114	36%
2	Home	71	22%
3	Health	109	34%
4	Office	26	8%
Total		320	100%

Interpretation: From the data it can be concluded that majority of people prefer General Insurance for Vehicle as there might be the issue of knowledge that all the insurances related to non-living things come under the term General Insurance. But there are several terminologies that are now used which separate different things so people might get confused over it.

7. CHANNEL TO PURCHASE POLICY:

S.No	Particulars	Total Respondents	Percent of Respondents
1	Online	112	38%
2	Branch Walk-ins	47	15%
3	Bank Assurance	82	26%
4	Agents	69	21%
Total		320	100%

Interpretation: From the data it can be concluded that out of 320 respondents, 38% of the population go for online mode of taking policy as this is trending in now-a-days while 26% of them population go through Bank Assurance to take policy as these might be the public who are in Government sector. 21% of the respondents take policy through agents and least go through branch walk-ins.

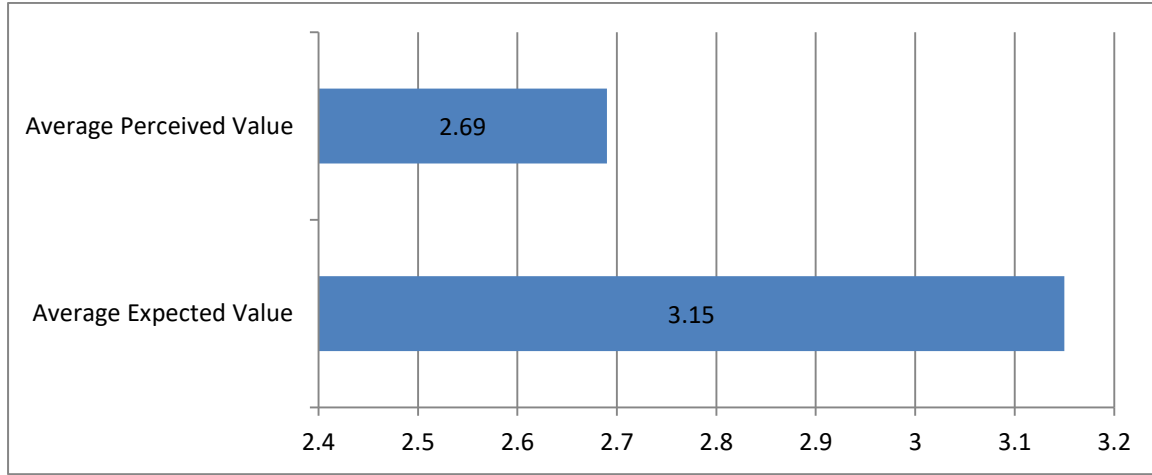
Determining the Service Gap:

The Service Gap analysis is also conducted through questionnaire provided to the respondents during the time of survey. This questionnaire includes the statements to analyze the service gap between the expected service and the perceived service which were designed on the (Reliability, Assurance, Tangibility, Empathy, Responsiveness) parameters of SERVQUAL Model. The scaling method was done on Likert Scale ranging from 1 to 5 where 1 means Strongly Disagree and 5 means Strongly Agree.

1: Strongly Disagree;	2: Disagree;	3: Neutral;	4: Agree;	5: Strongly Disagree
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1. Analysis on Reliability Basis:

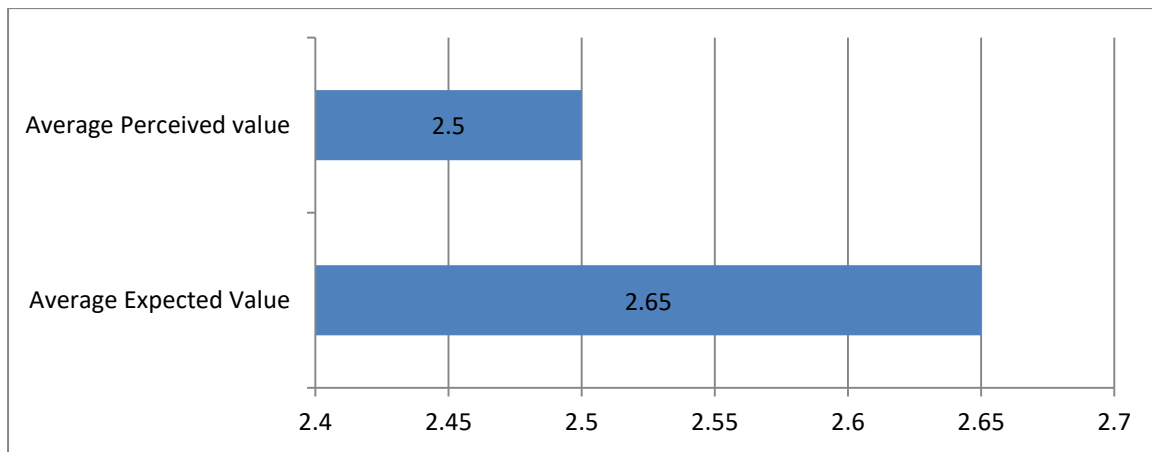
Total Respondents	320
Average Reliability Value(Expectation)	3.15
Average Reliability Value(Perception)	2.69



Interpretation: The average value of expectations and the average value of perception in terms of Reliability show that the expected value for reliability is higher as compared to that of the perceived value of reliability. This shows that the customer is not able to trust over the company depending upon the perceived value.

2. Analysis on Assurance Basis:

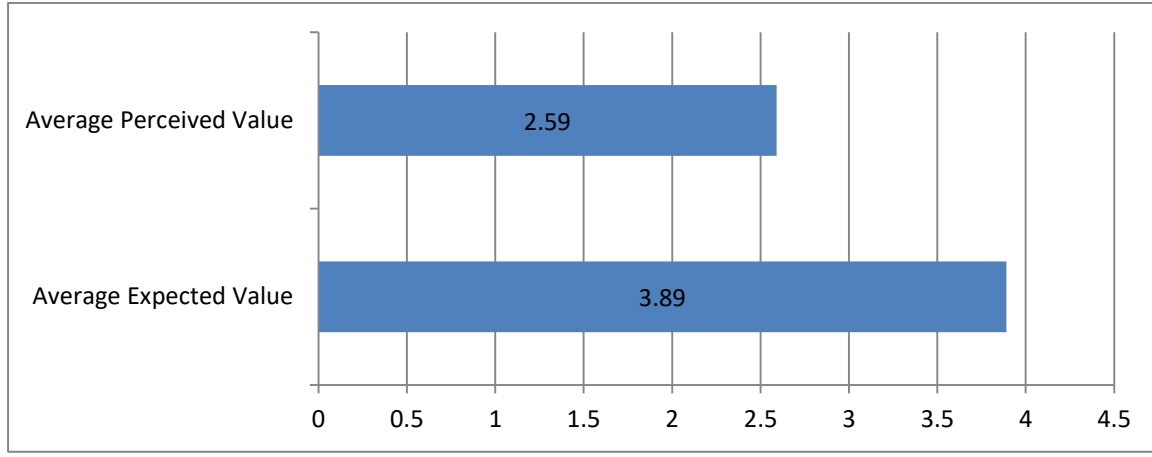
Total Respondents	320
Average Assurance Value(Expectation)	2.65
Average Assurance Value(Perception)	2.55



Interpretation: The average Assurance value for expectation is higher than that of the average assurance value of perception. This clearly shows that the company is not fulfilling its assurance responsibilities in some aspects be it the politeness of the employees of the company towards the customers coming to the company, customers doing transaction with the employees, or in terms of support by the company to the employees or employees support to the customers.

3. Analysis on Tangibility Basis:

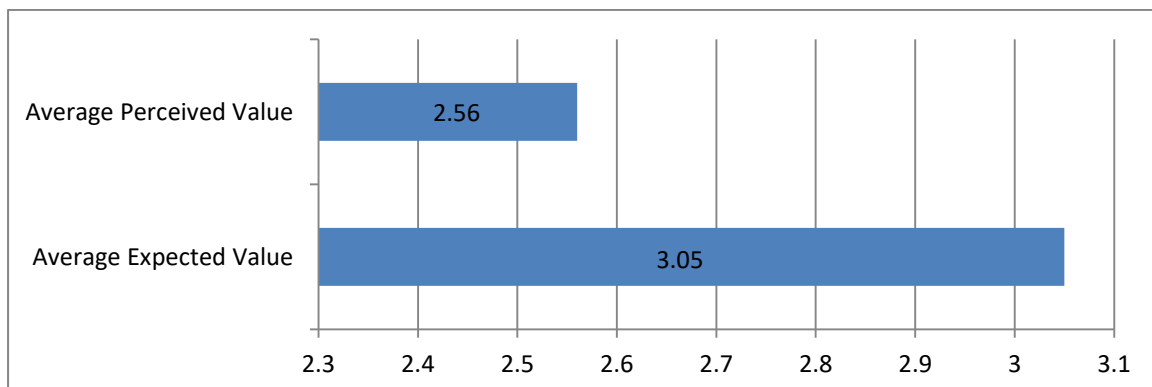
Total Respondents	320
Average Tangibles Value(Expectation)	3.89
Average Tangibles Value(Perception)	2.59



Interpretation: The average expected value in terms of Tangibility is higher and the perceived value is lower or near about to neutral. This may be because the company is not updated or is not using the modern technologies or in terms of appearance. Since the response is neutral, then it can be said that consumers cannot rely on the company in terms of tangibility as the facilities might not be appealing or up to the mark.

4. Analysis on Empathy Basis:

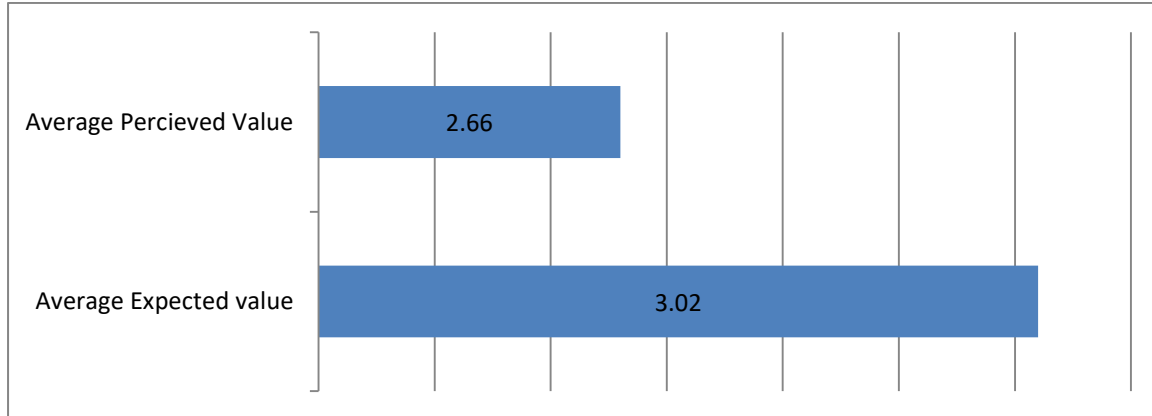
Total Respondents	320
Average Empathy Value(Expectation)	3.05
Average Empathy Value(Perception)	2.56



Interpretation: As per the values obtained of the empathy parameter, the expectation value is high as compared to that of the perceived value i.e. it can be said that the customers in not or least enjoying the services provided by their company or it can be said that the employees and the company is not giving proper attention to its customers. Also the company does not or might not know the needs of its employees.

5. Analysis on Responsiveness Basis:

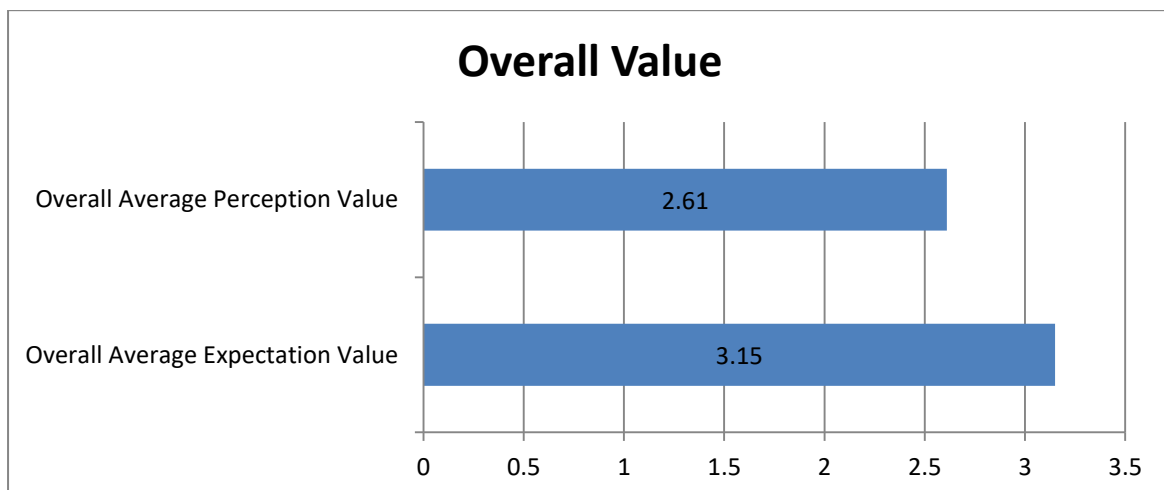
Total Respondents	320
Average Responsiveness Value(Expectation)	3.02
Average Responsiveness Value(Perception)	2.66



Interpretation: The average value of responsiveness for expectation is high as compared to that of the perception. This simply shows that the company is lacking somewhere in terms of response delivery to the customers i.e. they are failing or lacking in terms of service and related promise to be performed. Also there can be trust issues between the customer and the employees of the company in some or the other aspects.

6. Overall Analysis:

Total Respondents	320
Overall Average Expectation Value	3.15
Overall Average Perception Value	2.61



Interpretation: The average value of Expectation is high and the average value of Perception is low which shows that the customers who are associated with the General Insurance products of a company are not at all happy with the services provided by the company due to several reasons like trust issues or the promises made.

The reason for this perception value is that the company is not concerned about the customers associated with the company.

Findings:

1. The researcher has tried to determine the consumer perception towards General Insurance and it has been found out that the respondents have knowledge towards general Insurance.
2. It has been determined that most of the respondents prefer Government owned General Insurance companies (69%) instead of private owned General Insurance Companies (31%) just because of the name Government owned or might be due to their government jobs.
3. Upon studying the service gap, it has been determined that the average expected value is high for each of the service while the average perceived value is low.
4. The customer when goes to a company then he has many expectations from the company but at the same time no company is able to full fill all the needs and requirements of the customers to 100%. This might be the reason for this gap between the expectations and perceptions.

Suggestions:

1. The Private owned companies should focus more towards the customers to attract the customers and as their main competitors are the government sector companies and most people prefer for governmental policies rather than going for private policies just because of safety.
2. Normal public has a higher trust level on Government sector as compared to private sector companies and thus private companies should build trust among the customers.
3. The private companies should make the public aware that they are also backed by IRDA to protect the rights of the customers as they might not have idea about it that to protect their money and to refund their money IRDA is there always.
4. The data obtained while analyzing the service gap shows higher difference between the expected value and the perceived value. So it can be suggested that both the sectors (the Government and the private ones) should focus on how to fill this gap as it is the responsibility of the company to fill this gap and make a positive mindset among the customers.

Conclusion:

Here the researcher has tried to determine the consumer perception towards general insurance and from the study it has been determined that a majority of respondents have knowledge

about General Insurance and also they have knowledge about its terms and conditions. The respondents were mainly the Government sector employees (69%) and hence it was found out that they were inclined towards Government owned policies while those who were from private sector jobs were inclined to both the sectors. It has also been determined that the maximum source through which the general public purchases the policy is the online means as it is trending now-a-days and least are purchasing through branch walk-ins. The main thing which the policy holder prefers before taking a policy from a company is its claim settlement ratio and hence this is the main factor considered.

The researcher has done analysis to determine the service gap between the services of both the sectors using the SERVQUAL Model and it has been found out that there are larger differences between the expected services of the customers from the company and the perceived services of the customer from the company.

References:

1. *Dr. Mehul P. Desai; Ms. Nikita Kahar on the topic "Customer Satisfaction Towards The Services Provided By General Insurance Companies Within Surat City With Respect To Vehicle Insurance".*
2. *T. Chandrashekhara; Dr. K. S. Sarala, in their study on "AN EVALUATION OF PERFORMANCE OF SELECTED GENERAL INSURANCE COMPANIES IN INDIA"*
3. *Dr. Aashish S.Jani in his paper on "A Study Of Consumer Perception About Service Quality Of Indian Non-Life Insurance Companies: Comparative Analysis between Governments Owned Non-Life Insurance and Privately Owned Non-Life Insurance"*
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How LYF branded Smartphone acts as a catalyst in the growth of Reliance JIO Telecom services?- A case study.

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Abstract:

Reliance JIO was yet another telecom service provider in the highly saturated Indian Telecom industry. While other established players are struggling to retain their market share in the fierce competition and price war, Reliance industries have decided to launch their telecom services in the Indian Market. Gaining a market share in the saturated market was mammoth task. When RIL Telecom service department was busy in launching their services in Indian market, Reliance Retail, RIL's subsidiary launched its first set of 4G enabled Smartphones under the brand name LYF, in January 2016. LYF has registered an exponential growth and became 5th largest Smartphone marketer within first two quarter (May 2016). LYF continued its dominance in third quarter of 2016 and remained at 5th position in the Smartphone marketers' leader board. However after commercial launch of Reliance JIO, LYF's market share in Smartphone category was dramatically slipped down to 6th position in fourth quarter of 2016 and then to 8th position in the first quarter of 2017 with market share of just 2.7%.

In this article researcher has discussed one of the reasons for dramatic success as well as dramatic failure of LYF Smartphones in Indian market. Researcher has also explored various strategies adopted by parent organisation Reliance group of companies and their impact (positive as well as negative) on the sales of LYF Smartphone.

Key terms: *LTE, VoLTE, RIL*

Introduction:

When launched Reliance JIO was laggards in the highly saturated Indian telecom industry. Other established telecom service providers include, Bharti Airtel, Idea, Vidaphone, BSNL companies are combating with each other to gain market share in the industry. Many small players such as Aircel, Uninor, Tata indicom, Tata Docomo etc. were unable to survive in the fierce battle between the giants and their price war. It seems that it is almost impossible to enter into the market, to survive in the highly competitive environment and gain significant market share. Another major challenge in front of Reliance JIO was that, their telecom

services was based on relatively newer 4G technology 'VoLTE', very few models of mobile handsets sold in Indian market that time were VoLTE enabled and can support 4G services offered by Reliance JIO. This constraint makes the entry of Reliance JIO more difficult and compels Reliance JIO to adopt different strategies to create an eco system for its entry into Indian telecom sector. With the objective to create an eco system that is supportive for Reliance JIO, Reliance Retail had decided to launch LYF branded smartphones. LYF the subsidiary of Reliance Retail headquartered at Mumbai was established in the year 2015 as Indian mobile handset company. It was aimed to operate with parent company's flagship venture in the telecom industry under the brand name Reliance JIO. First set of LYF branded 4G-enabled Smartphones was launched in January 2016. They released four series of Smartphones and are named after four out of five elements Earth, Flame, Water and Wind. The main objective of launching LYF handsets into Indian market was to create an eco-system for their upcoming 4G enabled telecom services that are based on VoLTE (Voice over Long Term Evolution) technology.

During the first quarter since inception, LYF gained considerable market share in the Indian Smartphone industry. Till the end of the May 2016 LYF became 5th largest player in the Indian Smartphone industry in terms of volume of units of Smartphones shipped to Indian Market. 'Counterpoint Research', an international market tracker revealed that LYF had shipped around 1.7 million Smartphones in the first quarter of 2016^[1]. During this period LYF overtook giants such as Micromax and Lenovo and became the second LTE phone supplier after 'Samsung'.

According to the report by Cyber Media Research and Services Ltd, LYF became third largest selling mobile phone brand with 12.6% market share after Samsung and Lenovo amongst 42 brands that are shipping mobile handsets (Feature phone and Smartphones) to Indian market^[2].

In September 2016, Reliance industries limited launched their long awaited telecom service called Reliance JIO. Reliance JIO offers only 4G services and uses voice over LTE (VoLTE) to provide voice and data service on its network unlike other telecom operators in India who offers 2G and 3G services. Low cost voice and data services offered by Reliance JIO triggered the demand for LYF branded Smartphones and it saw a sharp rise in demand after launch of Reliance JIO services through its preview offer. Thus Reliance JIO and LYF helped each other to grow and capture the market share in the respected industry as most of the Smartphones available in the market were not able to support Reliance JIO services as they

were not VoLTE enabled and those who were VoLTE enabled were high-cost Smartphones this triggered the demand for low cost 4G VoLTE enabled LYF smartphones. On the other hand low-cost (below Rs. 10000/-) smart phones with VoLTE support offered by LYF created an eco-system which was necessary for Reliance JIO to succeed. This strategy of Reliance Industries Limited mutually benefited both the brands Reliance JIO and LYF handsets and Reliance LYF saw a sharp increase in demand after commercial launch of Reliance JIO services^[3].

In spite of this growth, LYF failed to show its presence in the low cost feature phone industry. Reliance JIO also felt the need of VoLTE enabled feature phones to tap this large segment of telecom users. To tap this huge market, Reliance JIO and LYF launched a feature phone bundled with a new offer called JIO phone wherein subscribers can avail unlimited incoming and outgoing voice call facility in just Rs. 49/- per month and also can avail limited data services (500Mb later increased to 1Gb per month). This move proved to be a grand opening for LYF in the feature phone market, during the first few months after its launch LYF gained considerable market share and challenged Samsung the market leader in this segment.

According to CMR's India Monthly Mobile Handset Market Review Report for January 2018, 72% of the mobile handset shipments are feature phones and only 28% are Smartphones. During this period feature phone shipments saw a growth of 116%. Reliance Retail's mobile handset brand LYF is the major gainer and by the end of January 2018 LYF became the leader with 27% market share followed by Samsung with 12% and Intel at third position with market share of only 8%^[4].

On one hand LYF is gaining significant share in the feature phone market and topped the leader board in the segment, but on the other hand after gaining fifth position on the leader board of Smartphone market the sales of LYF brand phone had shown a sharp decline. From an all-time high of 22 lakh devices sold in the second quarter of 2016-17, the number eroded to about 7.4 lakh in the fourth quarter of 2016-17^[5]. This decline in the sale of LYF brand mobile handsets has erased the name of LYF from the list of top mobile handset marketers in India. To get more insights about the reasons behind exponential growth of Reliance JIO and LYF and the decline of LYF smartphones, the researcher decided to take up this topic for further research.

Methodology Adopted:**Objectives:**

1. To understand how RIL used LYF brand to push their ambitious telecom services.
2. To understand the reasons for launch of LYF.
3. To study the launch, growth and decline in the market share of LYF Smartphones.
4. To understand the strategies adopted by RIL to promote Reliance JIO in reference to LYF phones.

Research Methodology Used: Case study method.

Data Used: Secondary data

Discussion:**Why LYF gained substantial market share in its initial phase?**

Before launching of its operations commercially, Reliance JIO Info-com, the telecom subsidiary of Reliance Industries Ltd (RIL), has captured substantial market share through the sale of its LYF phone devices in six months. During this period RIL has offered JIO 4G preview offer wherein subscribers can avail unlimited voice call and data services at no cost, and LYF branded 4G LTE Smartphones were the only gateway to avail this offer. This was one of the promising reasons why LYF phones witnessed major sales during first two quarters after its launch in Indian market. This move of RIL served two purposes, firstly it has created an eco-system that was necessary for Reliance JIO and secondly the sales of LYF branded smartphones generated huge revenues and take away the financial burden from RIL to provide free voice and data services to its customers.

Distribution of LYF phones also played an important role in the grand success. They are sold through the company's Reliance Digital, Digital Express stores and the phone's official website mylyf.com^[2]. LYF phones were sold through 3245 stores of parent company that includes 1,748 stores under Reliance Digital, Digital Express and Digital Express Mini brands. Apart from this they had 1200 distribution partners, more than 115000 retail points of sales and backed with more than 1000 service centres^[2].

According to Mr. Sunil Dutt, president, devices, Reliance JIO cited another reason for grand success of LYF mobiles; LYF was the first company which is committed its entire range of products for voice over long term evolution (VoLTE). LYF has launched 4 series of Smartphones within the price band of Rs. 5999/- to 19999/-. These Smartphones cater the need of various segments of the customers.

Following table represents the top 5 Smartphone marketers and their market share in Indian market:

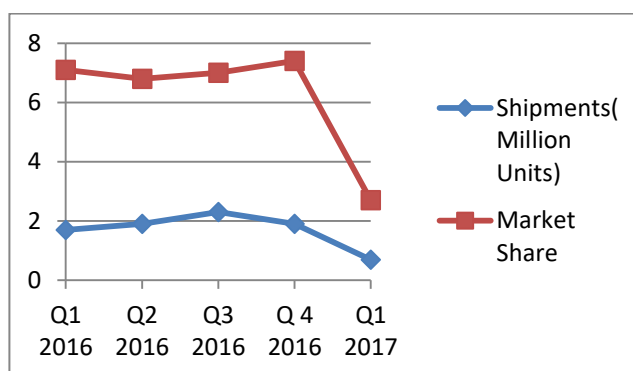
Table: 1
(Top 5 Smartphone Brands –April 2015- March2016)

Q2, 2015		Q3, 2015		Q4, 2015		Q1, 2016	
Brand	Market Share	Brand	Market Share	Brand	Market Share	Brand	Market Share
Samsung	23	Samsung	24	Samsung	26.8	Samsung	26.6
Micromax	17	Micromax	16.7	Micromax	14.1	Micromax	12.6
Intex	11	Intex	10.8	Lenovo	11.6	Intex	9.2
Lava	7	Lenovo	9.5	Intex	9.4	Lenovo	8.2
Lenovo	6	Lava	4.7	Lava	7	Reliance JIO (LYF)	7.1

Source:<https://www.statista.com/statistics/269487/top-5-india-Smartphone-vendors/>

LYF was launched in the year 2015 and has launched its first set of 4G enables Smartphones in January 2016. From the table 1 above it can be seen that, LYF has shown its strong presence in Indian Smartphone market since its inception. In the first quarter itself since LYF started its operations, it has gained a significant share and climbed to fifth position in the top 5 marketers in terms of number of units sold. This leap of LYF Smartphone surprised other marketers and experts in the field and many of them claimed that LYF will dethrone Samsung as the market leader in near future. LYF retained number 5 slot for another two quarters but failed to maintain the pace of gaining market share in order to climb the ladder further amongst top 5 marketers. During these two quarters the market share of LYF Smartphones was reduced to 6.8% and 7% respectively ^[6]. It was reduced further in the subsequent quarters and LYF lost its presence in the list of top 5 marketers in Indian market. Data from the research reports of IDC and CMR revealed that LYF was able to hold its 5th position in the Indian Smartphone industry from January 2016 to the September 2016 with a maximum of 2.3 millions of units sold during the quarter ended in September 2016. However they slipped dramatically to 6th position in the 4th quarter of 2016 and 8th in the first quarter of 2017 with market share as low as 2.7% ^[6].

Period	Shipments(Million Units)	Market Share (%)
Q1 2016	1.7	7.1
Q2 2016	1.9	6.8
Q3 2016	2.3	7
Q 4 2016	1.9	7.4
Q1 2017	0.7	2.7



Source: IDC India

What went wrong for LYF?

After the commercial launch of Reliance JIO services (5th September 2016), anyone with a 4G handset can get a JIO SIM and enjoy JIO's Welcome Offer that entitles a range of freebies to the subscriber. Reliance JIO has developed an application through which a person with 4G enabled handset can make a voice calls even if the device is not VoLTE enabled. Thus virtually RIL allowed every 4G compatible Smartphone to be eligible for their free telecom services. In addition to this, stiff competition from Chinese brands also have hit market share of LYF phones.

JIO's preview offer was exclusively available with LYF handsets this gave LYF a major push during mid-2016. When JIO partnered with other Smartphone brands, price was the only key differentiator that makes LYF more attractive over the other brands. In response to the aggressive pricing strategy adopted by LYF, Home-grown Smartphone marketers such as Micromax, Intex, Lava also launched new models to cater the needs of this segment. Meanwhile, Xiaomi successfully changed the perception of Indian customers about quality of Chinese brands. Indians now accepted that cheap does not always mean low quality; in fact they accepted that Xiaomi is selling Smartphones that are not only cheaper but are much higher quality in comparison to the local brands. Xiaomi tapped this opportunity and launched many Smartphones like Redmi 3, Redmi 3s, Redmi Mi4, Redmi 4, 4a, Redmi note 4 etc. aiming to tap market segment of Smartphone ranging from Rs 6000/- to Rs. 11000/-.

The entry of other Chinese Smartphone makers such as VIVO & Oppo in mid-range Smartphone category challenged the sales of LYF's midrange Smartphones Earth-1 and

Earth-2. Prior launch of these phones in low-range (Rs. 6000/- to Rs. 10000/-) and midrange categories (Rs.11000/- to less than 19000/-), price was the only differentiator of LYF handsets and the same was challenged by Xiaomi and other Smartphone manufacturers. Their aggressive promotional strategy and attractively priced devices make it difficult for LYF to generate sale without a unique offering. While talking to Business Line, Mr. Jaipal Singh, Market analyst at IDC shared another reason for declining sales of LYF handsets. According to him when entire ecosystem has moved to VoLTE, it makes little sense for Reliance to focus on building ecosystem for their offering so they diverted their focus from this category. Instead they decided to focus VoLTE enabled feature phone market as Two-third of Indian users was using feature phones.

Following tables show the top 5 brands and their market shares during last 11 quarters starting from first quarter of 2016:

Table: 2
(Top 5 Smartphone Brands –January2016- December 2016)

Q1, 2016		Q2, 2016		Q3, 2016		Q4, 2016	
Brand	Market Share	Brand	Market Share	Brand	Market Share	Brand	Market Share
Samsung	26.6	Samsung	25.1	Samsung	23	Samsung	25.2
Micromax	12.6	Micromax	12.9	Lenovo	9.8	Xiomi	10.7
Intex	9.2	Lenovo	7.7	Micromax	7.5	Lenovo	9.9
Lenovo	8.2	Intex	7.1	Intex	7.4	Oppo	8.6
Reliance JIO (LYF)	7.1	Reliance JIO (LYF)	6.8	Reliance JIO (LYF)	7	Vivo	7.6

Source: Counterpoint Research

From table 2 above it can be observed that Q4 of 2016 was volatile and dynamic in terms of market share. During this quarter only one brand Samsung was able to retain its position as market leader and amongst the other four in the list of top 5 brands, only Lenove managed to be in the list of top 5 Smartphones. Lenovo slipped to number 3 from number 2 position. The positions among top 5 Smartphone brands of three Indian manufacturers, Micromax, Intel and LYF were replaced by Xiaomi, Oppo and Vivo. These five brands continue to rule in Indian Smartphone industry till the end of the year 2017(See table 3 below). During this period, ‘Samsung’ was dethroned and pushed to second position by Xiaomi by claiming 26.8 % market share against 24.2 % market share of Samsung.

Table: 3**(Top 5 Smartphone Brands –January2017- December 2017)**

Q1, 2017		Q2, 2017		Q3, 2017		Q4, 2017	
Brand	Market Share	Brand	Market Share	Brand	Market Share	Brand	Market Share
Samsung	28.1	Samsung	24	Samsung	23.5	Xiaomi	26.8
Xiaomi	14.2	Xiaomi	17	Xiaomi	23.5	Samsung	24.2
Vivo	10.5	Vivo	13	Lenovo	9	Vivo	6.5
Lenovo	9.5	Oppo	8	Vivo	8.5	Lenovo	5.6
Oppo	9.3	Lenovo	7	Oppo	7.9	Oppo	4.9

Source: Counterpoint Research

Indian Smartphone industry was rattled in the year 2018 due to entry of many new brands. Lenovo who was amongst top 5 most preferred brand for longer time could not retained it position and the same was captured by Huawei, another Chinese giant. During the third quarter of 2018 the home-grown marketer, 'Micromax', bounced back and claimed 4th position by capturing 9 % market share.

Table: 4**(Top 5 Smartphone Brands –January2018- September 2018)**

Q1, 2018		Q2, 2018		Q3, 2018	
Brand	Market Share	Brand	Market Share	Brand	Market Share
Xiomi	30.3	Xiomi	28	Xiomi	27
Samsung	25.1	Samsung	28	Samsung	23
Oppo	7.4	Vivo	12	Vivo	10
Vivo	6.7	Oppo	9	Micromax	9
Huawei	3	Huawei	3	Oppo	8

Source: Counterpoint Research

From tables 2, 3 and 4 it can be inferred that the Indian Smartphone market has experienced sea changes from beginning of 2016 till 3rd quarter of 2018. It can also be seen from the above tables that while other companies are struggling to retain its market share and to win new customers, LYF has failed to retain its market share and its presence in the top 5 marketers in Indian Smartphone industry after 3rd quarter of 2016. It can also be noted from above statistics that introduction of Chinese brands like Xiomi, Oppo, Vivo, Huawei etc. were major gainers during 4th quarter 2016 till 3rd quarter 2018. During above mentioned

period, LYF not only lost its position in the top 5 Smartphone marketers but also lost the attention of various market research firms. Most of the market research firms are not considering LYF as major company but they include the market share of LYF among other minor marketers in the segment.

Was intense competition, the only reason for declining demand for LYF handsets? Unfortunately the answer to this question is ‘no’. The reason for declining demand of LYF brand in Smartphone category also lies in the strategies adopted by Reliance Retail and Reliance JIO. On one hand other Smartphone manufacturers are launching new model almost every day in order to sustain in the competition, to retain its market share and to cater the changing taste of Indian customers, LYF has not launched any model after December 2016^[7]. Following table shows the series-wise launch dates of latest LYF Smartphones:

Table: 5
(Launch dates of Latest LYF Smartphone models)

Series	Category	Name of Latest Model under the series	Date of Launch
Earth	Premium	Earth 2	5 July 2016
Water	Mid-range	Water 11 Water F1s	September 2106 26 December 2016
Wind	Mid- range	Wind 7i	November 2016
Flame	Low-end	Flame 8	9 August 2016

Source: <https://www.91mobiles.com/lyf-mobile-price-list-in-india>

Table 5 above elucidates that LYF has launched their last Smartphone Water F1S in midrange category on 26th December 2016. LYF has 40 Smartphone models in their portfolio and all of them were launched before 26th December 2016, on the other hand other Smartphone marketer has many models in their portfolio across all segments to cater rapidly changing need of the customers^[8]. Following table shows key Smartphone manufacturers and the number of models they have in their portfolio:

Table: 6
(Top 5 Smartphone Brands –January2018- September 2018)

Mobile handset manufacturer	Number of models in portfolio	Mobile handset manufacturer	Number of models in portfolio
Samsung	222	Oppo	83
Intex	227	Vivo	79
Lava	157	Nokia	77
LG	123	Motorola	75
Xiomi	111	Honor	63
Lenovo	100	LYF	40
Panasonic	95	Apple	36
Asus	84		

Source: <https://www.gizbot.com/mobile-brands-in-india/>

From the statistics presented in table 5 and table 6, it can be concluded that the management of LYF has neither adopted any aggressive strategy to win the attention of prospectus, nor they put sincere efforts to retain their existing market share. Although LYF reduced prices of some of its low-cost phones and make them more affordable to target feature phone users who are looking for upgrade. This was the only response from LYF to the volatile market of Smartphones and unfortunately this move won't work for LYF.

Another most prominent reason behind declining sells of LYF lies in the shift of focus of Reliance JIO. On 21st July 2017 Reliance JIO launched JIO phone in collaboration with LYF. JIO phone is a 4G VoLTE enabled feature phone and is offered virtually free to its customers wherein customers has to pay Rs. 1500/- as security deposit for the handset and they can avail limited 4G data and unlimited voice call and SMS services by paying only Rs. 49/- per month. The primary objective of launching this scheme was to add new set of customer who can use basic 4G data services of Reliance JIO on low-cost feature phones. This move opened the doors of Indian feature phone market to Reliance Retail and LYF. This combo offer triggered the sales of JIO phone and LYF feature phones. They together became the main driver of 4G feature phone segment. According to the Counterpoint Research Market Monitor, Reliance JIO LYF topped the leader board of feature phone segment with a market share of 35.8% in the first quarter of 2018. LYF continued to be a leader in the segment in the second quarter of 2018 as well with market share of 47%. After launch of JIO phone,

Reliance JIO added customers into their subscriber base at record rate. According to Press Release No. 98/2018, of TRAI dated 18th September 2018, Reliance JIO added 11.8 million subscribers in the month of July 2018 and displaced Vodafone India and Idea Cellular to emerge as the second largest telecom operator^[9]. Before July 2018 Vodafone and Idea stood at 2nd and 3rd position after Bharti Airtel and they were pushed down to 3rd and 4th position respectively by Reliance JIO by the end of July 2018. However, after merger of Vodafone and Idea, their combined subscriber base made them the largest telecom operator in the country and Reliance JIO the third largest after Bharti Airtel. According to the article published in the Financial Express Bureau on 19 September 2018, almost 50% of new subscriber additions on JIO's network are coming from JIO phone^[10].

Telecom service providers across all circles in India, their subscriber base and their market share on 31st July 2018 are presented in the following table.

Table: 7
(Telecom subscribers and their market share as on 31st July 2018)

Group	Number of Subscribers	% Share
Bharti Airtel	344877404	29.81
Reliance JIO	227052331	19.62
Vodafone	223342054	19.30
Idea	220604152	19.07
BSNL	113341748	9.80
Tata	24265937	2.10
MTNL	3515341	0.30
RCom	45541	0.00
Total	1157044508	100.00

Source: TRAI Report

From the table 7 it can be concluded that Reliance JIO has gained substantial market share and moved to 2nd rank in the month of July 2018.

Conclusion: Reliance group of industries is aggressively promoting their telecom services in Indian market by adopting various strategies. On the other hand they have given little or no focus on the growth of LYF as an individual entity. Before commercial launch of its

operations, Reliance industries limited (RIL) has offered JIO 4G preview offer which can be availed only with 4G VoLTE enabled phones marketed and manufactured by LYF, one of the subsidiaries of RIL. This was the necessary move taken by RIL to create an eco-system for 4G VoLTE services before launching JIO services commercially. Reliance JIO offered 4G services through VoLTE technology and very few devices were available in the market that can be used to avail Reliance JIO telecom services hence to create an eco-system suitable for JIO telecom services, initially through its preview offer RIL offered data, voice call and SMS services for free exclusively to those who are having LYF device. During JIO's preview offer, RIL as a whole generated substantial revenue through sells of LYF devices. After commercial launch of Reliance JIO services, Reliance partnered with other Smartphone brands and allowed subscribers to use JIO services through 4G VoLTE enabled devices of other brands. Entry of Chinese brands such as Xioami, Vivo, Oppo etc. and growing demand for Reliance JIO leads to the transformation of ecosystem from LTE to VoLTE. To grow further Reliance JIO has decided to focus on feature phone market and to tap subscribers of telecom services who do not use Smartphone for various reasons. In line with this policy Reliance JIO launched JIO phone and subsequently JIO phone 2 in association with LYF under smart feature phone category and launched unique monthly tariff plan of Rs. 49/- exclusively for JIO phone subscribers. The launch of JIO phone served two purposes for Reliance group as a whole, firstly they successfully gained significant market share in the category of subscribers using feature phone and secondly they generated huge revenue through security deposits of Rs. 1500/- charged for each JIO phone.

From the above discussion it can be concluded that, RIL launched preview offer and JIO phone offer exclusively for the subscribers using LYF Smartphone and LYF feature phones. Through preview offer Reliance JIO offered free data, voice call and SMS services to attract more and more customers and to develop ecosystem that support VoLTE technology. Through JIO phone offer Reliance JIO offered limited data and unlimited voice call services at minimal monthly cost as low as Rs. 49/- per month. During these offers RIL's revenue generation was largely depend on the sells of LYF devices. Reliance Industries was successful to maximize the profit of group of companies as a whole while gaining substantial subscriber base for Reliance JIO by giving telecom services for free or at minimal cost. In spite of this RIL has given little attention to LYF in order to retain the market share of LYF brand in the Indian Smartphone market.

Researcher opined that 'Launching of LYF brand in Indian market was B-plan of Reliance industries', and above discussion supports to the opinion of the researcher.

Limitations of Study:

1. Since this is case study approach, findings of this research is applicable to the Reliance Industries Limited.
2. This study is confined to the strategies adopted by RIL for promotion of Reliance JIO services in reference to LYF phones.
3. Discussion period is January 2016 onwards.

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