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FOREWORD

We are glad to present SIMS Journal of Management and Research (SIMSJMR), Volume 4, Issue 1, 2020. The Volume is a compilation of student-research papers presented during SIMSARC'19.

First paper, **"A Trending Soul of Market Researcher –Neuromarketing"** authored by **D Karthik Raj and Ch. Manjula** discusses the important role of a Researcher. The success of any organization depends on its abilities to take corrective measures while researching and estimating future growth of the business. Before establishing any business, launching new products into market, planning for increasing brand image and planning for framing any advertisement the role of marketing researcher is very important. He also explains the tool of Neuromarketing in Market Research.

Second paper **"Government Policies to Promote Entrepreneurship"** authored by **Vaishnavi Gulhane and Abhilash Rajeshrao Deulkar** discusses the role of entrepreneurship in development of particular country, boost countries economic growth and also improve standard of living of the country. When a particular country tries to promote entrepreneurship government of that country try to focus that effective utilization of available resources should be done. So that per capita income will increase, export get promoted, creates employment opportunity etc.

Third paper **"Relationship between Personality Traits and Psychological Resilience in Working Professionals"** authored by **Shantveer Suryakant Wale** discusses about the relation between the personality traits (openness to experience, conscientiousness, extraversion, agreeableness, neuroticism) and Resilience.

Fourth paper **"A Study on Future of Indian Banking System"** authored by **Miss Vaishnavi Prakash Patre** discusses that the Indian banking sector has been playing a key role in the development of the economy from long period. By the changing times, banking sector is seen progressing at a rapid space. However, the banks are now exposed to the new challenge to match up with the advance technologies, if adopted, will cause severe changes in the economy. As our country is on the high route of development, we are seeing revolutionary changes in the economy, in the banking trends, and in the government policies on every next day. Due to this frequent change, it is becoming hard to predict the future of Indian banking system clearly.

Fifth paper **"Economic Policies and Sustainable Development"** authored by **Vanshaj Gupta** and **Anshu Gupta** discusses about Economic Sustainability and the 4 steps that would drive an economy towards sustainability namely economic diversification, reducing inequalities among groups, fiscal stabilization and improving legal, administrative and business institutions. The authors discuss economic policies that would help achieve these targets and the effect of macroeconomic shocks on the sustainability of economic policies.

Sixth paper **"Study on Retirement Benefits Investment Landscapes in India and the Trends Across the World"** authored by **Arzzan Daji** who interned at Darashaw & Co. Pvt. Ltd and discusses about the investment pattern and asset allocation of the portfolios of various retirement trusts in the country and how they differ from those across the world.

Seventh paper **"Market Analysis and Market Acceptance for B2b Product: A Strategic Approach Using Porter's Five Force Model"** authored by **Keerthana Vaidheeswaran** discusses about how The Indian auto-components industry have experienced a steady growth over the last few years and are well positioned to benefit from globalization of auto component exports. B2B industries are focused in horizontal diversification of the product and have the best chance of capturing the growth opportunity. The fundamental problem addressed in the study is identifying market opportunities for a new product launch in B2B segment. The objective of this study is to perform competitive analysis, market acceptance of new product and to propose launch strategies based on the study results.

Eighth paper **"Digitally Enabled Post Offer Candidate Engagement"** authored by **Rajarshee Tribedi** discusses how a company hires a bulk volume of candidates combining both at entry level and management level positions annually. With increase in requirement of niche skills and complex job types, the hiring volume along with the intricacies of the recruitment processes are going to multiply in the future. However, currently the process is plagued with many candidates dropping offers post selection. This dilutes the efforts of the hiring team and creates pressure on On-Time Fill Rates (OTFR) and adds to revenue leakages. There is no proper candidate engagement in place leading to bad candidate Voice of Customer (VOC) and higher Turnaround Time (TAT) to close business indents/requisitions. Therefore, there is an urgent need to develop a robust candidate engagement system to streamline process and improve the communication channel with candidates.

Ninth paper **"Role of Social Media (Twitter) in Lead Generation"** authored by **Shrikant Jena** who interned with Reliance Jio discusses about the launch of JIO in 2015 and how they increased the brand awareness reach across every corner which invariably influence the positive WOM among the target customer segment, ultimately increase the revenue from sales. Project was largely revolving around to create a Jio army of employees to run a social media campaign for generating the leads.

Tenth paper **"Combating Climate Change: A Business Approach"** authored by **Oshin Shakdwipee, Kaustav Ghosh and Chintakindi Sandhya** discusses about how human-induced climate change has led to extreme weather conditions and the occurrence of natural disasters with catastrophic effects on industry, organizations and society. Overcoming and adaptation processes are on the rise to combat them and to do the same. The paper presents a picture of adverse climatic effects on Australia's Great Barrier Reef, global forest cover and marine organisms. Band-Aid solution, the spread of seeds using drones and ocean farming are suggested as solutions to the three problems. Solutions overcome the effects and contribute to the earnings of the business.

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A TRENDING SOUL OF MARKET RESEARCHER – NEUROMARKETING

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ABSTRACT

In today's re-innovating scenario; the role of researcher is to be consider as a very important asset of the organization and the importance of marketing researcher is well knowing to the organization. The success of any organization depends on its abilities to take corrective measures while researching and estimating future growth of the business. Before establishing any business, launching new products into market, planning for increasing brand image and planning for framing any advertisement the role of marketing researcher is very important.

The main core responsibility of researcher is to analysing the behaviour and attitude of people. For knowing the attitude and behaviour of people; the tool which was been used by researcher was "neuromarketing". Neuromarketing is a researcher tool that was been stated in the early 20th century. Neuromarketing is a communication system that applies neuropsychology of the people towards marketing research. It is the field of marketing which uses medical technology towards study the brain's responses of people to marketing stimuli.

Research objective: This paper reviews all promotional activities based upon neuromarketing tool and its impact upon marketing researchers.

Research methodology: In re-innovating business scenario; the researcher plays a critical role. For increasing the efficiency and effectiveness of research field neuromarketing tool is mostly utilized. Thus; neuromarketing help's the researcher for better understanding upon behaviour and attitude of the people.

The study relies on descriptive research upon neuromarketing towards increasing market research productivity and organizational sustainability.

Further scope of study: The study can be extended towards primary source of empirical analyses for analysing the impact of marketing field towards researcher efficiency and improvisation of promotional activities.

Keywords: Neuromarketing, Neuropsychology, Marketing researcher, Researcher efficiency, Promotional activities.

INTRODUCTION

Marketing department's square measure in charge of delivering a promotional strategy with worth which will generate profits for the corporate. The department might value its promotional methods to make sure that it's applying the proper promotional strategy. The analysis might compare past methods against current or assess the effectiveness before, throughout or once the promotion, betting on the promotional space to be tested -- shopper awareness, the promotion itself or sales effect.

The goal of promoting is to face out and be detected. Sensible selling keeps drawing your customers' attention to your product and services. Your clearly outlined, well-packaged, competitively-priced product and services square measure the inspiration of your selling.

The newer you're in your market, the tougher you have got to figure to draw in and retain new customers. Several of your selling activities can concentrate on human activity to customers the options and edges of your product (i.e. compared to your competitors). Contemplate that promotional activities can best meet your selling wants.

Types of promotional activities

Item and fix advancement are the most commonplace kind of selling. Limited time exercises will include:

• **Advertising** - you'll have the option to promote your item, administration or complete in papers, radio, TV, magazines, outside amassing and on-line. Become familiar with a great deal of in regards to an approach to assemble your publicizing made.

• **Personal promoting or selling** - compelling individual marketing relies upon reasonable social and relational abilities, sublime item, and fix data and along these lines the capacity to sell item edges to imminent clients.

• **Publicity** - made by causing media discharges to print and communicate media, offering meetings to the media and talking. Get familiar with a ton of in regards to advancement.

• **Short-term advertisements** - showcase your item or administration exploitation coupons, rivalries, and challenges. set up the benefits of coupon sites.

• **Direct selling** - includes causing letters, messages, leaflets, and pamphlets to individual objective customers, as a rule pursued by close to home marketing or selling. Get familiar with a great deal of in regards to showcasing.

You can utilize any mix of those approaches to concentrate on your clients. the best possible special consolidate can help you to fulfil your clients' needs, increment deals, improve your outcomes and increment your capacity to prevail in different clients inside your objective market.

Web based selling:

Web based selling is generally productive and is transforming into continuously essential for organizations. Building up a different on-line selling orchestrate to pass judgment on your decisions and encourage execute your technique is significant inside the in vogue commercial center.

Know that your on-line selling may require diverse training to elective assortments of selling. taking a gander at the kind of business you run and your express selling methodology, you and your workers may need to review learning an approach to run or alter a web website or adequately utilize web based life, before learning an approach to convey via telephone or eye to eye.

Numerous on-line selling instruments of the past - love spring up publicizing - aren't any more extended adequate to net clients. Get familiar with a great deal about working together on-line. Promoting

Promoting/ advertising:

Promoting is that the activity of a profession open thoughtfulness regarding an arrangement, decent, or administration through paid associatenouncements by a known support.

As per Kotler –

Publicizing is any paid kind of non-individual introduction & advancement of ideas, products, or administrations by the partner known support.

As indicated by the Advertising Association of the unified kingdom –

Promoting is any correspondence, normally paid-for, explicitly intended to tell as well as impact one or a ton of people.

A more straightforward (and current) meaning of promoting might be – A paid correspondence message intended to advise people with respect to a certain something or to impact them to look for or endeavour a certain something.

Attributes of Advertising

- ❖ **Paid Form:** Advertising needs the advertiser (otherwise called a support) to pay to shape partner promoting messages, to search for publicizing media opening, and to watch publicizing endeavours.

❖ **Tool for Promotion:** Advertising is a piece of the advancement blend of a partnership.

❖ **One methodology Communication:** Advertising might be a unidirectional correspondence any place brands impart to the customers through entirely unexpected mediums.

❖ **Personal or Non-Personal:** Advertising might be non-individual as inside the instance of TV, radio, or paper ads, or amazingly close to home as inside the instance of online life and elective treat-based notices.

Kinds of Advertising

Promoting exercises might be sorted into higher than the street, underneath the street, and through the street publicizing per their degree of entrance.

- Above the street, publicizing typifies exercises that square measure generally non-focused on and have a decent reach. tests of higher than the street publicizing square measure TV, radio, & paper ads.

- Below the street publicizing typify transformation focused exercises that square measure coordinated towards a specific objective group. tests beneath the street publicizing square measure announcements, sponsorships, in-store promoting, and so forth.

- Through the street, promoting epitomizes exercises that include the use of each ATL & BTL strategies simultaneously. These square measures coordinated towards complete structure and changes and assemble utilization of focused (customized) attention strategies. tests of through the street promoting square measure treat based generally publicizing, computerized selling techniques, and so on.

Publicizing exercises additionally can be ordered into five sorts upheld the exposure medium utilized. These sorts of notices are:

- **Print Advertising:** Newspaper, magazines, & leaflet notices, and so on.

- **Broadcast Advertising:** television and radio ads.

- **Outdoor Advertising:** Hoardings, pennants, banners, wraps, and so on.

- **Digital Advertising:** Advertisements showed over the net and advanced gadgets.

- ▪ **Product/Brand Integration:** Product situations in redirection media like a TV program, YouTube video, and so forth.

Targets of Advertising

There square measure three fundamental goals of promoting. These are:

To Inform
Promotions square measure won't to increment complete mindfulness and complete introduction inside the objective market. Illuminating potential clients with respect to the total and its item is the begin towards accomplishing business objectives.

To Persuade
Convincing clients to play out a particular undertaking might be an extraordinary target of publicizing. The undertakings may include looking for or endeavouring the item and administrations offered, to cause a total picture, to build up a positive point towards the total, and so on.

To Remind
Another goal of publicizing is to reinforce the total message and to console the overarching and potential clients with respect to the total vision. Promoting encourages the total to keep up prime of mind mindfulness and to dodge contenders taking the customers. This conjointly helps inside the informal selling.

Different goals of publicizing square measure subsets of those 3 destinations. These subsets are:

- ➢ Brand Building
- ➢ Increasing Sales
- ➢ Creating Demand
- ➢ Engagement
- ➢ Expanding customer Base
- ➢ Changing Customers' mentalities, and so on.

Empirical analysis based upon understanding level of advertisements upon peoples

Research design:
This research design is entirely based upon the perception of youth upon influence of ads in their mindsets. And also understanding their level of interest on Ads.

Data collection:

This data set of collection will be taken from the post and under graduate's students for better understanding purpose. Below data will be received from over 57 students purely from business back ground students which gives a result in clear and understanding way.

Data analysis and results:

Which brands are you most prefer for purchasing?

55 responses

- local brands
- national brands
- international brands
- others
- It depends on situation
- Depending upon product
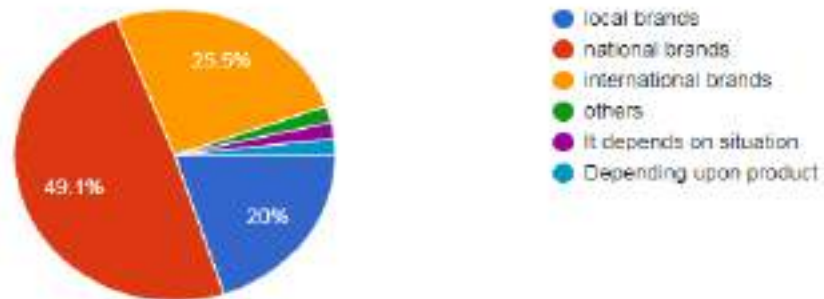
Which kind of ads mostly attractive?

57 responses

- paper ads
- TV ads
- radio ads
- others
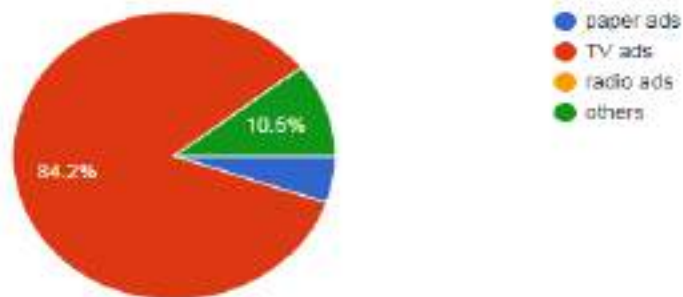
Are you watch ads regularly?

57 responses

- Yes
- No
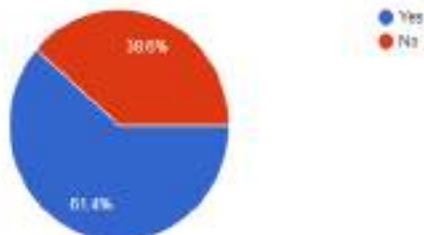
By your point of view, Is ads are really necessary ?

57 responses

- Yes
- No
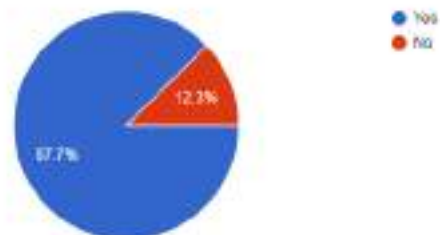
Which kind of ads mostly attract to You?

57 responses

- Normal ads
- Social service ads
- Ambassadors ads
- others
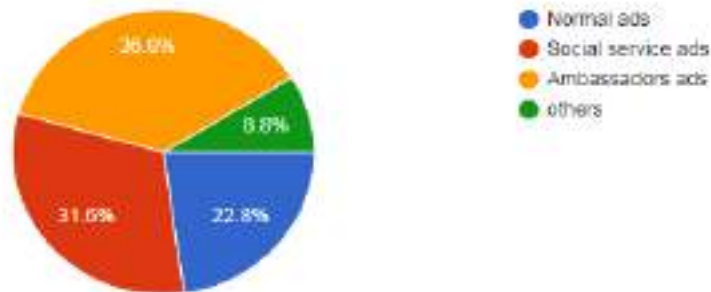
By watching the ads are you willingness to purchase the products? By watching the ads are you willingness to purchase the products?

57 responses

- Yes
- No

57 responses

- Yes
- No
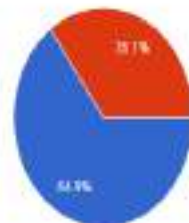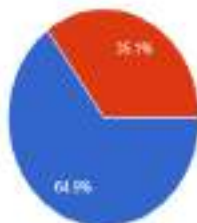
Did ads create any awareness?

57 responses

- Yes
- No

Which kind of preference did you mostly prefer for purchasing?

57 responses

- Online shopping
- Off line shopping
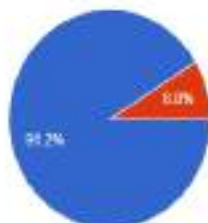
Observations:

✓ Due to make India, most of the people prefer national products compare with other brands.

✓ Most of customers attract television ads compare with other advertisement media because their spent most of their time by watching television.

✓ Due to getting more information peoples watch advertisement regular.

✓ Most of people have more attention on their favorite stars and message which was been given by them. So, their most watch ambassador advertisements.

✓ When the attention of customers turns upon those advertisements automatically there are willing to purchase those products.

Conclusion:
This result shows that how a person thinks and judge by watching advertisements. Basing on this kind of ideology, when neuro science adds to advertisement. The result will make more retention of customers to company and also attract more customers.

Detriments of Advertising

- **Increases the Costs:** Advertising is related cost to the business and is added to the estimation of the product. This worth is in the end borne by the top customer.

- **Confuses the Buyer:** Too a few commercials with comparative cases more often than not befuddle gather the customer the client in what to search for and may he purchase the product or not.

- **It is regularly Misleading:** Some ads utilize reasonable techniques to deceive customers.

- **Only huge forgiant for large Businesses:** Advertising might be a costly undertaking and exclusively enormous organizations will bear the cost of it. This makes little organizations out of rivalry with enormous organizations WHO get the chance to get delight from an imposing business model inside the market.

- **Encourages the Sale of Inferior Products:** Effective commercials even outcome in the clearance of a mediocre item that isn't reasonable for the customers.

Literature Review
According to Hamed Hakkak, in his research he mentioned that "The images of brands that public images of their names are sequentially displayed and simultaneously record brain signals are performed".

According to Pravin Raj Solomon**, "**Neuromarketing offers exciting opportunities and provides new avenues to explore in the field of marketing".

Neuro marketing
Neuromarketing is a business promoting correspondence field that applies neuropsychology to showcasing research, concentrating purchasers' sensorimotor, subjective, and full of feeling reaction to advertising upgrades. Neuromarketing tries to comprehend the justification behind how buyers settle on buying choices and their reactions to advertising boosts so as to apply those learnings in the showcasing domain. The potential advantages to advertisers incorporate increasingly proficient and viable showcasing efforts and methodologies, less item and crusade

disappointments, and eventually the control of the genuine needs and needs of individuals to suit the necessities and needs of promoting interests.

A general meaning of neuromarketing:

"A field {of selling /of promoting} that includes learning the methodology people respond to advertising procedures and changing those systems to boost deals and educate the overall population a couple of explicit items, thoughts, or battle. Neuromarketing incorporates the use of biometric sensors, social investigations, and intangible electronic correspondence. Though neuromarketing might be a similarly new strategy, it's been wide authorized lately and about each selling office and medium-enormous organization inside the world as of now use it."

Neuromarketing applying to Advertising

The conventional model of promoting adequacy expect an immediately, mindful course from review a business to making a procurement. Nonetheless, progresses in neuroscience have known the partner circuitous course that mulls over, not mindful procedures. Each course is a great deal of conceivable outcomes to achieve various conditions.

1. Direct Route to Advertising Effectiveness

2. Aberrant Route to Advertising Effectiveness

Making successful promotions with neuromarketing

Neuromarketing offers an alternate point of view on promoting examination than is found in old investigation procedures. This new viewpoint grasps new responses to what can be known as the 3 fundamental inquiries of publicizing research:

• What is that the reason for publicizing?

• How will promoting win its motivation?

• How will we will in general best live promoting adequacy?

As indicated by the ordinary read, publicizing means to direct a customer to look for an item. It will this by giving a theoretical idea which will be recollected later once the benefactor is during a store or elective looking for a situation. The strategy happens completely at the mindful degree of the customer's cerebrum and is open for later review, that the customer will precisely pass on

to an agent unequivocally in any case and why the advertisement's enticing message added to the purchaser's call to look for.

The neuromarketing point of view takes an extraordinary read. Per most neuro advertisers, publicizing intends to shape a partner enthusiastic relationship to a total, that at that point gets converted into a buy once those total associations get actuated at the motivation behind deal. a great deal of this technique occurs at a no mindful level inside the customer's cerebrum, and therefore, the supporter can't precisely report unequivocally anyway his or her buy call was affected by the promotion.

In the antiquated read, publicizing accomplishes its motivation through mindful procedures of influence and review, that square measure a perform of consideration, rationale, and express learning. Inside the neuromarketing read, promoting accomplishes its motivation basically through no mindful procedures: making positive relationship with complete, redundant learning, and understood learning.

Each perused presents an alternate way to promoting adequacy and, in this way, makes various proposals for an approach to live it. during this book, we watch out for choice these 2 techniques the immediate course and hence the circuitous course to promoting viability:

• The immediate course estimates adequacy regarding mindful consideration, intelligent influence, review, and deals.

• The aberrant course estimates adequacy as far as no mindful enthusiastic associations, preparing, certain memory, complete mentalities, and deals.

Neuromarketers don't guarantee that the aberrant course is right for all promotions and everybody things. The immediate course stays best {for new for complete hitting new for brand new} item that don't have hearty brand characters and need to be disclosed to begin catching piece of the overall industry. The immediate course is moreover reasonable for direct requesting or suggestion to take action promoting, when the advertisement means to guide the watcher to require some activity, similar to construct a gift or "call promptly" to look for the exposed item.

The immediate course: Impacting the deal legitimately

The immediate course to promoting mirrors the suppositions of the judicious customer model. Per this read, customer's square measure discerning, intelligent, and mindful call producers. In this way, the most straightforward gratitude to contacting them are to catch their eye, catch their advantage, trigger their need, related brief activity, the procurement of the broadcasted item.

• People don't generally give a great deal of consideration to publicizing.
• When people think publicizing claims, they grade to oppose them.
• People show almost no evidence of agonizing about a business once looking.
• People square measure normally incapable to review explicit parts of a business.
• Advertising for the most part has practically zero effect on deals.

These difficulties to the immediate course model don't refute it. in any case, they are doing demonstrate that it's less appropriate than analysts want to expect it was.

The backhanded course: dynamical and strengthening mentalities toward the total

The backhanded course to publicizing adequacy is a great deal of in accordance with the natural customer model. Promoting is accepted to affect deals in a roundabout way by dynamical demeanours, molding the shopper's finished memory, and initiating no mindful objectives, that at that point get fulfilled at the motivation behind buy. Promoting fabricates total value, and complete value drives buy conduct.

Molding, a partner certain learning technique that makes a positive passionate reference to the total, is fundamental to the present strategy. Because of learning works through reiteration and low-consideration process, it's important to uncover the watcher to the advertisement on various occasions while limiting the quantity of mindful consideration coordinated toward the promotion. When learning has happened, the positive passionate associations might be enacted at the reason for deal, impacting the buyer's getting conduct.

Research has demonstrated that the aberrant course works best for familiar brands, when the product is shoddy and obtained of times, related once the advertisement introduces an indicating feeling sharing account during which the total assumes a focal job.

Top neuromarketing patterns:

Humourist Steven Wright deadpanned, "the cerebrum is that the most intelligent organ inside the body, on the other hand} once more, ponder the supply." Over the previous decade, researchers have taken in a ton of with respect to the mind than whenever ever, finding that more than ninety-fifths of mind movement - our decisions, activities, feelings, and practices - square measure customized in our subliminal.

Normally, advertisers square measure quick to get a handle on why customers respond to P& G's tragedy in regards to Olympian mothers "Best Job," Dodge Ram's respectful tribute "Rancher," or any of the most astounding Super Bowl promotions with such profound, enthusiastic, human reactions.

By sound into the mind's mindful and oblivious responses, neuromarketing - conjointly alluded to as "customer neuroscience" - will encourage advertisers, imaginative organizations and distributers most likely understand the appropriate responses.

Significant brands and distributers love Coca-Cola, Campbell's and Turner have started exploitation eye pursue and facial committal to composing, intentional reverberation mental symbolism (fMRI), measurements that live heartbeat, and galvanic skin reaction (GSR) to get a handle on anyway somebody responds to visual and sound boosts. Furthermore, this previous year, bounteous signs prescribe neuromarketing is leaving its ballyhoo cycle. WHO ever notional seeing a session titled "Intellectual Marketing: the expansion of the Super Intelligent Marketer" at a martech gathering?

In the midst of the flood of customer neurobiology investigation and fantastical, synaptic-based experiences, advertisers ought to keep up an observing eye. Vaughn Bell, a neurobiologist and senior teacher at University workforce London, stated, "The flagon of neuromarketing is to anticipate that advertisements can bring about most deals before they have been free, in any case, reality might be a blend of hazardous science, bologna, and expectation."

As neuromarketing hooks its methodology through the litter one year from now, here square measure the premier promising mechanical headways and movement discoveries to pursue, and the manner in which the exchange may start buying in to advance inside the field.

Pre-testing with eye-following

Next March, at the Neuromarketing World Forum in London, Thom Noble, establishing father of neuromarketing counselling office Neurostrata, is devoting a session to talking about test-and-learn machine-driven neuro-devices that aesthetic offices will use for fast, sensible bits of knowledge.

In 2017, eye-following can win with advertisers as a predominant forerunner to vet crusades because of its portions less expensive (by huge amounts of to a huge number of dollars). Additionally, eye-following ensures less awkward equipment, versus bigger attractive reverberation imaging or chart thinks about, that worth tens to a large number of greenbacks. Krister Karjalainen, previous head of advanced at P& G Nordic, previously mentioned eye-following may "increment our ROI on computerized selling interests in certain crusades up to twenty-five %." anyway with many organizations guaranteeing eye-following abilities, complete publicists should raise depleting inquiries, looking through potential accomplices' vital and specialized methodologies.

Customizing computer game substance bolstered biometric commitment

As per Time Warner's CMO Kristen John Henry O'Hara, there is "an unrivalled opportunity to coordinate each the insights a piece of the examination and conjointly the neurobiology piece to help United States to see anyway customers square measure amazingly sharing with the VR ability."

As brands like Post logically investigate vivid marked encounters in the computer game, neuromarketing sits at the fundamental position to help advertisers to construct mission control-like capacities, progressively dynamical substance upheld shoppers' eye and biometric designs. For instance, Google's ongoing procurement of Eyefluence may change partner car organizations like BMW to powerfully adjust, in the period, the highlighted vehicles fabricate, model, shading, or elective style alternatives upheld the simple squint or movement of somebody's eye. Include associated wellness trackers and reasonable watches, and in this manner a similar circumstance may include an individual's gathered heartbeat once seeing diverse car models.

Continue with alert

In any case, advertisers can continue with alert after they extrapolate short-run neuromarketing results. In elective words, bits of knowledge from a 32-year-old person's eye pursue study on local advertisements don't basically imply that each one millennial can act and change over a consistent methodology.

One year from now, advertisers should give shut consideration to uncovered discoveries from the more drawn out term examination that has further customer understanding. for instance, a three-year neuroimaging concentrate found that mind action inside the ventral striate group of partner immature cerebrum - while focusing on new music specialists - extensively identified with the quantity of units sold-out years after the fact. As concentrates like these still start to expose what's underneath, it isn't probably not going to imagine a total like Unilever influence mind mapping to approve the viability of well-off advanced video crusades for Ax or Dove.

While neuromarketing discloses energizing new open doors for advertisers to wind up more brilliant in regards to their customers, there is still a lot of investigation to be finished. By keeping a partner receptive outlook and thought about focal point, neuromarketing will bring ground-breaking new bits of knowledge which will take brands' coordinated offering activities to a full new level.
Example:
In Morgan Spurlock's image, the best picture Ever sold-out, there's a scene any place they examine neuromarketing. Spurlock places into partner attractive reverberation imaging machines and demonstrated item pictures. The learning acquired demonstrated Intropin was free once he

looked at pictures of Coca Cola. His need for the product was really obvious on the cerebrum examine.

CONCLUSION

Neuromarketing offers energizing chances and gives new roads to investigate in promoting. Neuromarketing procedures are at an all-around beginning time and guarantees substantially more later on. There is a wide accord among neuromarketing scientists that the field needs to go far and cross a few obstacles before it can develop as a noticeable device in the field of statistical surveying. Regardless neuromarketing makes more premiums and is relied upon to assume a crucial job in the much-focused area of worldwide advertising. With the expanding accessibility of top of the line innovation and devices neuromarketing will undoubtedly acquire in the more extended run.

FUTURE SCOPE OF STUDY

As we present this paper in a way of theoretical way but we don't make any empirical way because it's based upon neuro science and scientifically proved. This paper future extended to making a practical approach.

REFERENCES:

➢ Pravin Raj Solomon, Neuromarketing: Applications, Challenges and Promises, Biomed J Sci & Tech Res 12(2)-2018.
➢ Marci CD, Minding the gap: The evolving relationships between affective neuroscience and advertising research. International Journal of Advertising 27(3): 473-475, 2008
➢ Gang DJ, Lin W, Qi Z, Yan LL, Neuromarketing: Marketing through Science. International Joint Conference 285-289, 2012
➢ Hamed Hakkak, Analyzing the impact of neuromarketing to promote brand image based on EEG signals, *http://www.alliedacademies.org/biomedical-imaging-and-bioengineering/*

Web links:
➢ https://adage.com/article/digitalnext/top-neuromarketing-trends-watch-2017/307063
➢ https://drdianehamilton.com/neuromarketing-the-future-of-advertising/
➢ https://intuitiveconsumer.com/blog/creating-effective-ads-with-neuromarketing/
➢ https://www.feedough.com/what-is-advertising-advertising-objectives-examples-importance/
➢ https://www.business.qld.gov.au/running-business/marketing-sales/marketing-promotion/marketing-basics/promotional-activities

GOVERNMENT POLICIES TO PROMOTE ENTREPRENEURSHIP

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ABSTRACT

In today's global era, entrepreneurship plays an important role in development of particular country, boost countries economic growth and also improve standard of living of the country. When a particular country tries to promote entrepreneurship government of that country try to focus that effective utilization of available resources should be done. So that per capita income will increase, export get promoted, creates employment opportunity etc. Keeping this view researchers try to examine and study various policies framed by government for promoting entrepreneurship. In this paper researchers laid down various policies and schemes frame by Government of India for promoting entrepreneurship activity. The present study also laid several suggestions for promoting entrepreneurship to examine comparative study between the various schemes. Researchers made this study on the basis of secondary data.
Keywords: - Economic Growth, Export, policies, schemes, Government

INTRODUCTION

Government policies cover the measures to promote entrepreneurship. High level initiatives such as start-up India, make in India have been launched by government to promote entrepreneurship development. Since early 1990's, India has implemented lots of structural reforms to promote private sectors development such as low-income sectors, micro business sector. Due to a huge development and investment in transport, enterprises are able to spread locally and globally.

For the development of business, they need investment, experts and support of government to reach their full potential. Government policies play crucial role to create suitable environment in which business can flourish. For that which kind of policies does modern entrepreneurship need to grow the developing enterprises?

Objectives: -

- To study the government policies which promote entrepreneurship.
- To analyse the impact of government policies which has been introduced in earlier days.
- To check the utilization of policies.
- To suggest some remedies for the development of entrepreneurship other than this government policies.

Literature Review: -

1. Van Looy, Debackere and Andries (2003), concludedthat development of entrepreneurial activity is the responsibility of the government. It is possible by framing policies and ximplementation of policies.
2. Kumar and Liu (2005), argue that entrepreneurship sector is responsible for employment generation and increase in GDP of the country which flourishes countries economy. So there is a need of liberalizing the restrictions on entrepreneurship which push them downward.
3. Pals (2006), Study reveals that for the successful implementation of policies, there is need to frame policies which are related to entrepreneurship but the power should not be in hands of administration for achieving goals.
4. Nkem Okpa Obaji, Mercy Uche Olugu, stated that in the developing countries governments are always trying to bring out the policies which will prove to be supportive for the entrepreneurial activities in different forms. As the success of entrepreneurship of any country is mostly depend on the behaviour of the government policies.
5. Wennekers Sander and Roy Thurik (2001) and De (2001), suggested that for launching new businesses people need financial support which acts as a motivation and the skills required for running the business activities. For that government can introduce financial institution, skill development institutions, etc. at country level.
6. Reynolds, Paul R., Michael Hay S. M. Camp (1999), observed that to promote entrepreneurial activity government need to be focused on the efforts for creating a valid culture and to promote entrepreneurship activity. It should develop its capacity to identify the opportunities and capture it. Their target should be to frame specific policies and programs for entrepreneurship development. New entrepreneurs, through these programs and institutions, developed their skills enough to start and run a business efficiently and effectively.

Research Methodology
- Research type: - Descriptive research.
- Research design: - Sample random sampling.
- Data collection: - From various websites.
- Primary data: - In this research primary data did not used by researchers.
- Secondary data: - This research is mainly depending on secondary data which was collected from journals, articles, etc.

Research Problem
Research would like to find out the key government policies to promote entrepreneurship, keeping this view in mind study was undertaken titled as "Government policies to promote entrepreneurship".

Scope
- Helpful to the students for their project work.
- Helpful to the entrepreneur.
- Helpful to the government for better improvement.

DATA ANALYSIS

1. MUDRA YOJANA

In India, financing is one of the main problems that act as a barrier for the sustainable development of entrepreneurship. Also, finance is one of the important parts to fight against poverty and provide opportunities. So, in accordance with those problems Governor of RBI Y. V. Reddy introduced first, the concept of financial inclusion in 2005. This inclusion helps to provide financial services to the weaker section of the society as well as the group having low income at a cheaper rate. So, Pradhan Mantri Mudra Yojana is one of the financial inclusion initiatives which is introduced for such low-income groups, small business groups and micro enterprises.

On April 8th, 2015.Pradhan Mantri Mudra Yojana (PMMY) was introduced by our honourable PM Shri. Narendra Modi along with the instruction of MUDRA bank. Pradhan Mantri Mudra Yojana (PMMY) is a flagship scheme of Government of India to fund the unfunded by bringing such enterprises to the formal financial system and extending affordable credit to them. This scheme enables to various small borrowers to take assistance from various financial institutions such as Public Sector Banks, RRB, Private Sector Banks, Foreign Bank, Co-operative Bank and so on for loans up to Rs. 10 lakhs for non-farm income generating activities.

Aim to involve this scheme to this development of entrepreneurship topic is, it is very helpful for the growth of local businesses or low-income groups which required financial support. Also, it gives loan to every person who is resident of India which can be use in developing a local business. Due to various restrictions small enterprises do not play their role in appropriate manner. One of the biggest constraints is raising finance for this sector. The main motive of this scheme is to provide a support to the small business through Micro Units Development and Refinance Agency i.e. MUDRA bank. Developing a suitable structure under the PMMY scheme for credit facility to small and micro business. This scheme provides credit to micro finance institution and agencies which provide finance to retailer, small enterprises, individuals and self-help groups. Due to lack of finance, micro unit fail to capture opportunities so this policy helps to bridges the funding gap to micro enterprises.

Eligibility

Under this scheme a person who needs finance less than Rs. 10 lakhs can get either from bank, MFI or NBFC for getting MUDRA loan. Any Indian citizen who is engage in manufacturing, processing, trading or in-service sector having an income generating business plan can get advantage of this scheme.

Sectors covered

The Pradhan Mantri Mudra Yojana gives helping hand to most of the home businesses which has small market and small finical budget. This scheme gives a platform for the small businesses which required economical support. Other than this some of the sectors are as follows which gets help because of this scheme.

- **Land Transport Sector / Activity:** –

Which will interalia support units for purchase of transport vehicles for goods and personal transport such as auto rickshaw, small goods transport vehicle, 3 wheelers, e-rickshaw, passenger cars, taxis, etc.

- **Community, Social & Personal Service Activities:** -

PMMY gives helping hand in the way of loans to social and personal businesses such as saloons, beauty parlours, gymnasium, boutiques, tailoring shops, dry cleaning, cycle and motorcycle repair shop, DTP and Photocopying Facilities, Medicine Shops, Courier Agents, etc.

- **Food Products Sector**: –

This scheme is also available for home business activities such as papad making, achaar making, jam / jelly making, agricultural produce preservation at rural level, sweet shops, small service food stalls and day to day catering / canteen services, cold chain vehicles, cold storages, ice making units, ice cream making units, biscuit, bread and bun making, etc.

- **Textile Products Sector / Activity:** -

To provide financial support for undertaking business such as handloom, power loom, chikan work, zari and zardozi work, traditional embroidery and hand work, traditional dyeing and printing, apparel design, knitting, cotton ginning, computerized embroidery, stitching and other textile non garment products such as bags, vehicle accessories, furnishing accessories, etc.

Progress made under PMMY:

Under the MUDRA scheme Government was set to allow disbursing Rs 122188 crore loans to micro businesses; it has been accomplished by March 2016. For the money related year 2016-2017 government was set focus of 180000 crore. Week after week, the accomplishment and advancement of PMMY is seen through a PMMY gateway.

Under the PMMY government sanction Rs 1.22 lakh crore advances to small scale organization under the MUDRA by March 2016. It is plan of funding the unfunded.

Below table demonstrates the progress under PMMY:

	FINANCIAL YEAR 2017-18	FINANCIAL YEAR 2016-17	FINANCIAL YEAR 2015-16
Amount Sanctioned (crore)	446.50	820.00	812.00
Amount Disbursed (crore)	369.50	787.00	616.00
No. of MFI	18	20	22

2.MAKE IN INDIA

On 25th September 2014, Make In India initiative was introduced by the Honourable Prime Minister Shri. Narendra Modi. The aim of this scheme is to make the India global manufacturing hub. This can be done by promoting production of the multinational as well as domestic companies within the Indian territory this means that they should manufacture their products in the India. In Make In India scheme it promote FDI by attracting foreign investors, intellectual property rights, new initiatives and try to develop manufacturing sectors, creates job opportunities.

The initiative hopes to increase GDP growth and tax revenue. With this above objective behind the initiative focuses on 25 sectors of the economy for job creation and skill enhancement. Some of these sectors are automobiles, chemicals, IT, pharmaceuticals, textiles, ports, aviation, leather, tourism and hospitality, wellness, railways, design manufacturing, renewable energy, mining, bio-technology, and electronics. It hopes to attract capital and technological investment in India.

3.START UP INDIA

India is a developing country and it get innovating on large scale among all the countries. In India due to large population it implies large prospective market and takes more pressure for employment in the country. In earlier years Indian youth motivates towards Self-employment

instead of depending on parents or opportunities or government. Such kind of environment creates and promoting self-employment which supports to create the start-up system in India. Startup is also defined as the temporary business organization which generated by Self-employees. Startup is a growing company which is a start on small platform and that begin to develop and grow in the first stage of operation and it is supported by individual financial or small group of individuals.

Star up India scheme was launched on 15ᵗʰAugust, 2015, by Prime Minister Narendra Modi. The moto of this scheme is to start small business. Also, it works on the tag line of "startup India, stand up India". Startup India plan has been introduced for motivating system that develop entrepreneurship and job opportunities by promoting Bank Financing for startup. For encouraging the startup India, the government union budget allocates INR 1,000 crore towards the self-employment and Talent Utilization scheme. So that it gets developed properly. In earlier days India is shifting towards start up welcome policies and creating a business-friendly environment.

For the Startup India development Prime Minister Narendra Modi announced Action Plan for encouraging start up on 16January, 2016. They are as follows:
- There is no taxation on profit.
- Entrepreneurs took 15-20 days to register a company but due to this policy it will take one day to register a company.
- Among all the students in 5lakh schools, programmes were taken to encourage students about the entrepreneurship.
- Develop android apps or portals for start-up India scheme registration.
- Special strategies for women entrepreneurs to develop it.
- Promote bio technology start-ups.
- Developing research parks.

Problems and Conclusion:
From 2010-20 India has an era of innovation. Innovation is a way for startup ecosystems and results for more industrialization. It increases the income of country. But the serious problem in Indian market is that they are not well developed and not union also. There is a lack of transparent policy motive, knowledge, communication objects and exposure. But for increment of startups it requires a supportive operational and taxation issue that affects the working of entrepreneurship environment very much. For developing an entrepreneurial environment big corporation, educational institutions should step forward to create a healthy culture for start-up India. Policy guidelines program workshops, guidelines seminars should be organized by the government and institutions. Overall aspect is that, India is developing on high scale and it has huge scope for growth of start-up environment. Now India offers the largest pie of enterprises prospect that the world is eyeing.

4. PRADHAN MANTRI YUVA YOJANA:

Under the Ministry of Skill Development and Entrepreneurship, Pradhan Mantri Yuva Yogana was introduced for educating entrepreneurs; provide training and advocacy to over 14-lakh youth to promote maximum startups.

Following are the various institutes where the different programs offered under this yojana:

- Institute of higher learning (IHT)
- Industrial Training Institute (ITIs)
- Higher Secondary (HS) school
- Entrepreneurship Development Center (EDC)
- Social Entrepreneurship

Objective:
- To know the importance of scheme provided by government for entrepreneurship development.
- To give valuable suggestion.

SUGGESTIONS
- Government should plan policies in favour of industries which leads to industrialization.
- Laws and rules related to establishing industry and business organization should be liberalizing so that firms can easily establish.
- Entrepreneurial activity should be priority to the government for effective policy making.
- Policies should satisfy the need of business.
- Foreign Direct Investment need to be increased for strengthening capital and money market.
- For small industries there should be provision for concession.
- Public sectors and private sectors should co-operate each other to maintain economic stability.
- There should be entrepreneurship literature which includes experiences of successful entrepreneurs, their activities, and detail information about facilities like incentives given by government.

CONCLUSION

By this research it is concluded that entrepreneurs are the backbone of country's economy. To develop economy there should be healthy environment for the survival of any business. For this reason, government needs to take steps to promote entrepreneurship. In the recent years government realize the importance of business and take interest in promoting entrepreneurship activity. So, to promote entrepreneurship government frames effective policies, provides concessions in various fields provide finance, gives incentives, develop institutions which work for the skill development of the entrepreneurs. These steps proved beneficial to the business organizations to get success and to survive the cut throat competition. Government has given huge contribution through various schemes and incentives to create a strong support system to grow entrepreneurs which helps them to stand firmly in the business.

REFERENCES

1. Van Looy, B., Debackere, K. and Andries, P. (2003). Policies to stimulate regional innovation capabilities via university-industry collaboration: an analysis and an assessment. R&D Management, 33(2), 209-229.
2. Wennekers, Sander and Roy Thurik (2001) 'Institutions, entrepreneurship and economic performance.' In Entrepreneurship policy for the Future. A. Lundsprom & L. Stevenson, pp. 51-87. Stockholm: Swedish Foundation for Small Business Research.
3. Reynolds, Paul R., Michael Hay S. M. Camp (1999) Global Entrepreneurship Monitor: 1999 Executive Report. Babson College, Kauffman Foundation and London Business School.
4. Pals, S., "Factors Determining Success/Failure in Business Incubators: A Literature Review of 17 Countries". 2006, Worcester Polytechnic Institute.
5. Kumar, S. And Liu, D., "Impact of Globalization on Entrepreneurial Enterprises in the World Markets". International Journal of Management and Enterprise Development, 2005. 2(1): p. 46-64.
6. Nkem Okpa Obaji, Mercy Uche Olugu, Faculty of Management, University Technology Malaysia, 81310 UTM, Skudai, Johor, Malaysia and Department of Statistics, Ibadan, National Bureau of Statistics, Nigeria.
7. Raj K Shankar and Nithyanda K V (2017), Entrepreneurship Development Institute of India, Indian Institute of Management Tiruchirappalli.
8. www.googlesir.com
9. www.vikaspedia.in
10. www.pmyua.org
11. www.startupindia.org.in
12. www.mudra.org.in
13. www.researchgate.in

RELATIONSHIP BETWEEN PERSONALITY TRAITS AND PSYCHOLOGICAL RESILIENCE IN WORKING PROFESSIONALS

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ABSTRACT

The present study designed to examine relation between the personality traits (openness to experience, conscientiousness, extraversion, agreeableness, neuroticism) and Resilience. Total 88 working professionals had filled the questionnaires who are working in BFSI domain. It is found out that there was positive and significant association between the personality traits (conscientiousness, agreeableness, and extraversion) and resilience, while neuroticism was adversely associated with resilience. However, the association between openness to experience and resilience was not statistically significant.

INTRODUCTION

In the present occupied and aggressive world individuals need to confront numerous issues in everyday life. Exceptionally in BFSI area, working professionals are the person who needs to confront numerous difficulties on the grounds that are long working hours (10 hours), work pressure, targets, innovation, continuous training, and so on. One has to be resilient to bounce back from difficulties. The aim of the current study was to discover the personality traits within resilient human beings. This can be helpful to allocate tasks to individuals as per their personality traits and their ability to bounce back from difficult situation.

Personality
Personality is dynamic organization within individual which makes them to think, feel and behave in certain pattern, outwardly or inwardly. Informal study of the personality started when human being started evolving. Even today People are unaware about facts of their personality and traits. If people became aware about personality traits and they choose career according to that. They will enjoy the work at the most.
Personality is a dynamic and composed arrangement of individual attributes that interestingly impact an individual's cognition, motivation, and behaviour in diverse situations, Ryckman (2004). "Personality is the dynamic organization within the individual of those psychological systems that determine his unique adjustments to his environment. As indicated by Allport (1937)," Personality is accepted to be endless energy of special qualities, which make individuals remarkable and perceivable from others (Guilford, 1959). This dynamic framework can reflect and impact individual conduct, thought, and adaptation to the environment. At the point when those qualities appear in different circumstances persistently, they are called Personality traits. Two key suppositions of the hypothesis of personality traits are 1) Personality traits are

persistent, and this adequacy can isolate attributes from other ephemeral properties of individuals, for instance, disposition status in a specific time length; 2) Personality traits sway individual lead authentically (Matthews et al., 2009).

Five Factors of Personality

1) Openness: Openness is portrayed as a person's excitement to endeavour new things and be accessible to encounters. Open individuals are enthusiastic on internal and outside universes. They go through the constructive and pessimistic sentiments more particularly than close individuals. 2) Conscientiousness: Features are a lot of care, exceptionally mange drive, and goal composed practices. Exceptionally circumspect people, by and large, be dealt with and mindful of nuances. They prepare, consider how their conduct influences others, and are aware of due dates. 3) Extraversion: Extraversion portrayed as excitability, sociability, assertiveness, and extreme measures of enthusiastic expressiveness. Accompanying different people urges them to feel enabled and empowered. 4) Agreeableness: alludes to the essential passionate style of an individual, who might be nice, well disposed, and lovely and contradictory to this is surly, glum, and difficult to coexist with. 4) Neuroticism: Neuroticism is a quality portrayed by sadness, moodiness, and emotional instability. Neurotic individuals experience constant mood change, anxiety, uneasiness, sadness and irritability. Those who are low on this attribute will be increasingly stable and emotionally resilient.

Resilience

Resilience refers to people stunning capacity to bounce back and even prosper regardless of certifiable life challenges. The research proposes that Resilience is a by and large common human point of confinement that various people may not understand they have until looked with damage or crisis. As Musten (2001) notes two segments are incorporated. For a judgment of Resilience to be made an individual ought to at first go up against a basic risk or peril that can convey negative outcomes. The second bit of solidarity requires the judgment of an incredible or extraordinary outcome.

Literature review
Personality Traits and working professionals

Personality traits are utilized extensively in different areas, for example, Organizations, Education institutes, health sector, Social work sectors, and so on. Personality traits are used to understand dominant factor within employees. In each domain of industry there are different task has to be performed. Personality tests are used to understand traits of employees so tasks can be assigned them according to their personality. If tasks are assigned them according to their personality traits, it is bound to happen that they will use their potential to fullest and produced work will be best with given employees that will lead to job satisfaction and career satisfaction. John W. Lounsbury, James M. Loveland, Eric D. Sundstrom, Lucy W. Gibson, Adam W. Drost, and Frances L. Hamrick, 2013 described that if personality traits are matching with given task

then there is increase in the job satisfaction and career satisfaction. Correlations with personality traits were higher for career satisfaction than job satisfaction.

Resilience and working professionals

Resilience is inseparable part of working professionals. Working professionals faces issues at work place and in personal life. Life is all about going through ups and downs. One must be ready to face all these challenges. People are born with ability to be resilient and sometimes they learn to be resilient by going through difficult situations.

Resilience had been characterized as a capacity to 'withstand, direct and adapt to progressing life challenge and prevails with regards to keeping up balance in spite of negative impacts from pressure's (Lian and Tam, 2014, p. 46), and it was additionally observed as a progression of got the hang of adapting procedures to get to access help, create mindfulness and secure oneself (Hunter and Warren, 2014). In general, talking, strength includes a lot of psychological, conduct and enthusiastic reactions to help the person in limiting the hazard when experiencing affliction (Luthar et al., 2000). Questionnaires in investigating resilience vary according to the definition used in each study.

In BFSI sector, working professionals spend almost 12 hours for work including travel times. It is important for them to be fit mentally and physically. Else poor health conditions can affect the work and their personal life. They face challenges like long hours of travelling, demanding work culture, high expectations from client, organizational change and personal life issues. Hence every individual must possess ability to bounce back from such situations and deal with it effectively. In past, Resilience was found to be positively associated with work ability and job satisfaction. (Valentina Trifoglio, 2008).

Resilience is effective strategy for responding to workplace adversity. (Debra Jackson, Angela Firtko & Michel Edenborough, 2007).

Correlation of personality and resilience among working professionals

Numerous studies are conducted on personality traits and resilience among working professionals. Study portrayed that there is positive relation between personality traits (Openness and experience, conscientiousness, extroversion, and agreeableness) and resilience among working professionals (Shannon Lamb, 2009). Resilience and personality traits are used to enhance well-being among doctors (Diann S. Eley, [1] C. Robert Cloninger,[2] Lucie Walters,[3] Caroline Laurence,[4] Robyn Synnott,[1] and David Wilkinson[5,] 2013). Meng Shi,Li Liu,Zi Yue Wang,Lie Wang conducted study in 2015, illustrated that resilience can be used as mediator in between the personality traits and anxiety symptoms.

Tables

The Distribution of Data

The normal distribution is especially important in testing significance. An accurate
P-value can be obtained only with a normal distribution. (Field, 2013). Usually,
Skew and kurtosis are used to check the normality of data distribution. Normal distribution curve
was found for all factors such as Resilience, Openness, conscientiousness, extraversion,
agreeableness, and neuroticism factors. Mean were 175.31, 26.35, 33.88, 30.42, 27.24 and 22.98
respectively.

Table No. 1: Descriptive Statistics

		Resilience	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
N	Valid	88	88	88	88	88	88
	Missing	0	0	0	0	0	0
Mean		175.31	26.35	33.88	30.42	27.24	22.98
Std. Error of Mean		3.288	.570	.648	.599	.649	.816
Median		179.50	26.00	34.00	30.50	27.00	23.50
Mode		152[a]	29	34	28	28	22[a]
Std. Deviation		30.846	5.346	6.080	5.622	6.087	7.655
Variance		951.479	28.576	36.961	31.603	37.057	58.597
Skewness		-.107	-.160	-.707	-.156	.104	-.178
Std. Error of Skewness		.257	.257	.257	.257	.257	.257
Kurtosis		-1.271	.178	1.650	1.357	.066	-.199
Std. Error of Kurtosis		.508	.508	.508	.508	.508	.508
Range		111	29	33	35	30	37
Minimum		120	9	13	11	13	3
Maximum		231	38	46	46	43	40

a. Multiple modes exist. The smallest value is shown

Table No. 2: Correlation of Resilience and Personality Traits

Correlations		Cconscientiousness	Extraversion	Agreeableness	Neuroticism	Openness
Resilience	Pearson Correlation	.425[**]	.382[**]	.272[**]	-.467[**]	.169

Sig. (1-tailed)	0	0	0.005	0	.057
N	88	88	88	88	88

**. Correlation is significant at the 0.01 level (1-tailed).

Pearson's coefficient of correlation used to establish the positive and negative relationships among the total scores of the Resilience scale for adult and the subscales of the NEO Five-Factor Inventory. All reported correlations are significant at $p < .01$. The results reveal a significant positive relationship between resilience and Conscientiousness at (.425), ($p < .01$), resilience and extraversion at (.382), ($p < .01$), and resilience and agreeableness at (.272), ($p < .01$). These results support research hypothesis 2, 3 and 4. However there was negative relation between resilience and neuroticism at (.467), ($p < .01$). This results support research hypothesis 5. The result reveals that relationship between resilience and openness is not significant at (.167), ($p < .01$). This result rejects the hypothesis 1.

DISCUSSION

The present study designed to examine relation between the personality traits and resilience of working professionals in BFSI domain.

88 Working professionals have filled these questionnaires among 58 were male and 30 were female. Age range of sample was 20 to 40 years old among 61 were graduates and 27 were post graduates in various streams.

The normal distribution is especially important in testing significance. An accurate *P-value* can be obtained only with a normal distribution. (Field, 2013). Usually, Skew and kurtosis are used to check the normality of data distribution. Normal distribution curve was found on all factors such as Resilience, Openness, conscientiousness, extraversion, agreeableness, and neuroticism. Mean of these factors were 175.31, 26.35, 33.88, 30.42, 27.24 and 22.98 respectively.

In the present study discovered that factually huge positive association between personality traits (conscientiousness, agreeableness, and extraversion) and resilience. Though, neuroticism was adversely associated with resilience. There was no significant association between openness to experience and resilience. This was very much expected as conscientiousness, agreeableness, and extraversion are traits of positive aspect of personality. Positive people are Self- disciplined, Hard-working, Assertive, Sensitive and Tactful. These positive traits of personality encourage the resilience within the personality. Negative traits of personality such as Neuroticism discourage individuals to bounce back from adverse situations. Makaya, Oshio & Kaneko 2006 had supported to these findings that there was adverse association between resilience and the neuroticism trait, and positive association with resilience and Extraversion, and Conscientiousness. Working professionals who had shown conscientiousness personality traits are continually being readied; completing tasks immediately and focusing on subtleties were

observed to be flexible demonstrating that presumably they are typically quiet in unpleasant circumstances which reinforce their natural capacity to adapt to pressure. To support this Goleman (1997) had explained that most of these behaviours are associated with being sorted out, intensive and preparing fall under the general classification of passionate insight which advance flexibility in immaturity. In like manner working professionals with Agreeable traits are sympathetic, inspired by individuals, benevolent, chivalrous and liberal were likewise observed to be strong most likely in light of the fact that they have an idealistic perspective on human instinct, they are loaded with expectation and they are positive about effective result of their activities and future. This discovering underpins the current writing that agreeable trait persons are probably going to help notwithstanding when conditions are not wonderful (Graziano, Habashi, Sheese, and Tobin 2007) and therefore agreeable individuals needn't bother for any other motivations (Penner, Fritzsche, Craiger, and Freifeld, 1995).Moreover, the extraverts in this investigation, who are cordial, who feel good around individuals, who start discussions, additionally would in general be strong. This substantiates the prior discoveries that they have unmistakable fascination for other individuals and outer occasions, (Ewen, 1998) and adventure with certainty into the obscure and they socially adjust to circumstances (Zuckerman, 1991). Neuroticism was adversely associated with resilience. This finding affirmed that neuroticism has an innate negative indication (Bradshaw 1997) which were related with adverse emotional states and sentiments, for example, uneasiness, outrage, coerce, and discouraged mind-set (Matthews and Deary 1998. Further, there was no significant association between resilience and openness to experience. The reason for not having significant association is working professional specially in BFSI domain usually perform same task hence they have limited scope to explore new things. Even they face issues they have designated people or portal where they get solution for all issues. Openness to experience trait is person's excitement to endeavour new things and be accessible to encounters. Open individuals are enthusiastic on internal and outside universes. They go through the constructive and pessimistic sentiments more particularly than close individuals.

CONCLUSION

- There was constructive association between Conscientiousness and Resilience.
- There was constructive association between Extraversion and Resilience.
- There was constructive association between Agreeableness and Resilience.
- There was negative relation between Neuroticism and Resilience.
- There was no correlation between openness and Resilience.

LIMITATIONS

- Non probability purposive sampling method is used for data collection.
- Study is only limited to Banking, Finance, Service, Insurance, work setting.
- Gender is not controlled.
- Marital Status is not controlled.

IMPLICATIONS

- To create awareness about personality and resilience among the working professionals.
- To know the traits of resilient personality.
- Study can be used for hiring purpose.
- Study can be used in Industrial setting to understand the employee's behaviour.
- Study can be used to create healthy work environment at work place.
- Study can be used to identify the potential employee and refer them to counsellor.

FURTHER DIRECTIONS

- Study can be done on larger sample.
- Study can be done on other work setting apart from Banking, Finance, Service and insurance.
- Study can be used to create a model.
- A larger Study on correlation between Personality Traits, Resilience and Stress, Job satisfaction can be done.

SUMMARY

The present study can be used to understand personality traits of resilient person. The present study illustrated that there was positive association between Personality traits (Conscientiousness, Extraversion, and Agreeableness) and Resilience, Negative association between Neuroticism and Resilience, however there is no association between openness to experience and resilience.

REFERENCES

1. Collins M.C. (1996) The Relation of Work Stress, Hardiness, And Burnout Among Full-Time Hospital Staff Nurses. Journal of Nurse Staff Development.
2. Debra Jackson, Angela Firtko & Michel Edenborough. (2007), Personal Resilience as A Strategy for Surviving And Thriving In The Face Of Workplace Adversity: A Literature Review
3. Donald J. Scandell.(1999), Development And Initial Validation Of Validity Scales For The NEO-Five Factor Inventory
4. Costa, P. T., & Mccrae, R. R. (1992). Revised NEO Personality Inventory and NEO Five Factor Inventory Professional Manual. Odessa, FL: Psychological Assessment Resources.
5. Malcolm Hill, Anne Stafford, Peter Seaman, Nicola Ross And Brigid Daniel,(2007) Parenting And Resilience

6. Meagan Parrish Meadows, Karina M. Shreffler And Stephanie N. Mullins-Sweatt, (2011), Occupational Stressors And Resilience In Critical Occupations: The Role Of Personality

7. Shannon Lamb (2009), Personality Traits And Resilience As Predictors Of Job Stress And Burnout Among Call Centre Employees

8. John W. Lounsbury, James M. Loveland, Eric D. Sundstrom , Lucy W. Gibson

9. Adam W. Drost Frances L. Hamrick, (2003), An Investigation of Personality Traits

10. In Relation To Career Satisfaction. Researchgate

11. Nayyar Raza Zaidi1*, Rana Abdul Wajid1, Farheen Batul Zaidi2, Ghazala Batul Zaidi3 And Mohammad Taqi Zaidi4, (2013), The Big Five Personality Traits And Their Relationship With Work Engagement Among Public Sector University Teachers Of Lahor. African Journal Of Business Management

12. Gholamhossein Entesar Foumani1, Javad Salehi2 And Maryam Babakhani3(2015)

13. The Relationship Between Resilience And Personality Traits In Women. Journal Of Educational And Management Studies

14. Robin Thorne, (2015), Exploring Resilience And Individual Differences

15. Courtney Ackerman, (2017), The Big Five Personality Theory: The 5 Factor Model Explained. Positive Psychology Program

16. Brittany C. Hernandez, Julia F. Vigna, And Mary L. Kelley,(2010) The Youth Coping Responses Inventory: Development And Initial Validation

17. Abbasali Mahmoudi Mowlaei1, Yarali Dousti1, Ali Asghar Abbasi Asafjir1, Marzeih Mohammadi Pashky2*(2015), Investigate The Relationship Between Personality Types And Resilience With Death Anxiety

18. Tzu-Pei, Yeh, (2015), The Relationship Between Personality And Job Stress, Burnout, Satisfaction And Resilience In Taiwanese Cancer Nurses

19. Motoyukinakaya Atsushioshio Hitoshi Kaneko, (2006), Correlations For Adolescent Resilience Scale With Big Five Personality Traits

20. Erik Søndenaa,1,2 Christian Lauvrud ,Marita Sandvik,3 Kåre Nonstad, Richard Whittington1,4, (2013) Resilience And Professional Quality Of Life In Staff Working

21. With People With Intellectual Disabilities And Offending Behavior In Community Based

22. And Institutional Settings, Health Psychology Research

23. Martina Kotzé1 Petrus Nel2 (2013) Psychometric Properties Of The Adult Resilience Indicator

24. Sarvesh Satija', Waheeda Khan", (2013), A Study Of Working Professionals' Mental Health In Relation To Personality At Workplace

A STUDY ON 'FUTURE OF INDIAN BANKING SYSTEM'

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ABSTRACT

Indian banking sector has been playing a key role in the development of the economy from long period. By the changing times, banking sector is seen progressing at a rapid space. However, the banks are now exposed to the new challenge to match up with the advance technologies, if adopted, will cause severe changes in the economy. As our country is on the high route of development, we are seeing revolutionary changes in the economy, in the banking trends, and in the government policies on every next day. Due to this frequent change, it is becoming hard to predict the future of Indian banking system clearly.

The present paper is focused on the future of Indian banking sector, itsopportunitiesand threats and how the new disruptive technologies will affect it. The data presented is collected from primary as well as secondary sources. We met many bankers from different banks of Amravati and figure out their responses on the future of banks.

The paper is an attempt to purify once again the predictions of many researchers about the future of Indian banking industry.

Keywords: Indian Banking, Advance Technologies, Revolutionary Changes, Future Opportunities, Challenges

INTRODUCTION

Indian banking sector has been seen sustaining in the world's economy sinceits gradual skillful establishment. It is one of the most looked up banking systems in the world as it has enormous potential to grow and can get a high peak in the coming years. Indian banking sector has been facing many ups and downs , it has walked on many hard pathsso it also get affected in a min or a max count, but the thing which remained still was the strength to overcome it's weakness and to strive for the upliftment of the banking system.

The journey of the Indian banking sector has started with the earliest bank in India, The Bank of Hindustan's establishment in 1770. Later on, many banks came out. Near about 600 banks were in existence until1960. After 1965, some banks get merged as per the orders received from RBI and some failed operating. In 1949, Indian government started nationalization of banks and the purpose put forward was to get more control on credit delivery. Then in the year 1991, LPG was introduced when foreign banks started playing in the Indian market and increased the competition level. Until then Indian banking sector had become the major tool for the growth of

economy. In between regional rural banks and cooperative banks were licensed for providing banking services in the unbanked regions of the country.

Now at the time, Indian public and private banks are also putting huge efforts to match up with the technology boosted up. Technology players are being seen playing. The customers of banks are also supporting to this advancement and are gracefully welcoming more time and money saving technologies. On this basis it can be said that a bright future is near to Indian banking sector

The paper is just going to have a look in the extent of development the future is coming with.

Objectives of the study

1) To study the revolutionary factors in the banking sector.

2) To study the views of bankers on future of Indian banks.

3) To study the effects of increasing NPAs on the future of banking sector.

4) To know the future of consolidations of the banks.

Scope of the study

1)Researchers will find bankers opinions on various present issues in the

banking sector.

2) Bankers will come to know the effects of consolidations, NPAs on the future

Of banking.

3) The paper will be helpful in knowing upcoming technologies in the banking

Sector in the next decade.

Reviews Of literature

1) Dr. C Balaji, ISSN (ONLINE):2454 – 6119, VOL 1, ISSUE 1,2015: -The research says, Indian banking sector has already implemented internationally followed prudential accounting norms for classification of assets, income recognition and loan loss provisioning. India has compiled with almost all the core principles for effective banking. And it says that Indian banking sector now has much needed confidence for overseas operations. Indian banks are adopting fintech. Innovation is given a distinct priority by the Indian banks. Customers are the centre while planning the strategies. The banks are facing a lot of challenges to improve its structure and providing a better kind of services.

2) LimboreNilesh V and Mane Baban S, vol 3, issue 6,2014, ISSN -2249-894X: The research finds that the Indian banking sector is fairly mature in terms of supply, product range and reach. A growing economy like India requires a right blend of risk capital and long term resources for corporate to choose an appropriate mix of debt and equity. Researchers found that different problems are increasing to banking sector because of the money market has

always down.Many things are there to quire on. Other sectors like communication, education approach banking sector for their financial requirements. Banking sector as the heart of the financial market needs to be integrated with all the new technologies entering in the market.

3) Dr.K.RatnaManikyam, vol 16, issue 2,2014, ISSN :2319 – 7668,(IOSR – JBM):- The research says that the biggest challenge for the banking industry is to serve the mass and huge market of India. Companies are becoming customer centric than product centric. In order to mitigate the challenge Indian banks must cut their cost of service. Apart from traditional banking services Indian banks must adopt some product innovation also. The future of banking sector is very tough. In order to be in the competition, Indian banks must be updated always with all the new trends in banking, innovations must be done in each part so as to exist in future and for the growth of the economy.

4) Banking on the future, vision 2020, CII – Deloitte: - Innovative technologies such as chip-based cards and SMS based OTP have helped the banks to implement security controls to mitigate traditional cyber risks. However, the technology has evolved attack vectors have also become more sophisticated. There is a need of constant vigilance and resilience in face of evolving cyber threats. In future, banks are going to face many opportunities as well as numerous challenges. As the banking sector will grow, many threats will come in front. There is the huge race of money in the global market, so to be a tough competitor is very important but staying protected from the fires is also mandatory.

5) Dr K. A. Goyal and Vijay Joshi, in IJBRM: - The research says that the biggest challenge for the banking industry is to serve the mass market of India. The pre and post liberalization periods have witnessed various environmental changes. The post liberalization period has spread new colours of growth in India but simultaneously it has also posed some challenges. The competition from global banks and technological innovation has compelled the banks to rethink its policies and strategies. The unseen technological world is the future of global financial market. Also, customers centric strategies should be formed. Both the things are to be balanced equally by the banks. A lot of challenges are there in near future. Skilled people are required to be assisted in the banks. In future, a different picture of banks will be seen. Traditional banking will be passed away as its the need of financial market.

Research Problem

The research is conducted with the focus of knowing the effects of some present issues on the future of Indian banking sector and how the banking future will look like by adopting new technologies. Keeping this in view the paper is titled as ' future of Indian banking system'.

Research Methodology

Research methodology refers to the logic of scientific investigation. The aim of research methodology is merely collection, analysis and interpretation of facts in the systematic manner.

Research Method: -

For the purpose of the research descriptive method is used. As the area of the research is large and the collection of data was hard so survey method is adopted for the study. Stratified sampling method is used to collect the data. Bank managers and customers participated in this study.

Sampling Method: -

It is not possible to survey (census) population. It may be time consuming. Sampling is the processes of selecting units. From a population of interest so that by studying the sample we may fairly generalize our results back to the population from which they were chosen.

Data Collection Techniques

Present research is carried out through primary and secondary method of data collection.

Primary Data: -

Primary data is the first hand data which do not exist in records and publication. It is original in status. The researcher has to collect fresh primary data for the purpose of research. Once the primary data is used for any other purpose it becomes secondary data. For the present study the primary data is collected from the respondents through interview, observation, and questionnaire.

Secondary Data: -

Secondary data refers to those data, which are collected from internal and external sources. It has been collected from published Books, Reports, Periodicals, Journals, Annual Reports, Research papers, Newspapers. For the present study the secondary data is collected from, Newspaper, Magazines, Periodicals, Research Journals, Articles and Publications etc., Internet, Websites.

Data Analysis Techniques

Data analysis is the process in which raw data is ordered and organised so the important information can be extracted from it. However, analysis of the data is a process of inspecting, cleaning, transforming and modelling data with the goal of highlighting useful information, suggesting conclusion and supporting decision making.

Statistical tools: -

There are different ways to analysis of data. So, for the analysis of the data statistical measures like correlation as well as percentage method is used and analyzed data is presented in from of various tables and graphs.

1. Retaining employees a challenge: -

Particular (In Rs.)	Respondents	Percentage
Yes	08	53.33%
No	04	26.67%
Not confirm	03	20%
Total	15	100 %
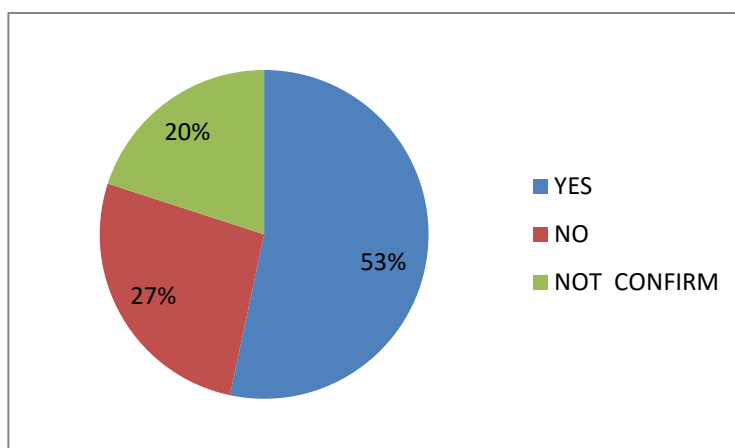
Description: - Among the total 15 respondents, 8 respondents replied in affirmative as it will be a challenge to retain employees in coming decade. From the remaining 7 respondents, 4 said that it will not be a challenge and 3 of them said that it may not come in front as a challenge in future.

2. Infrastructure usefulness in the next decade: -

Particular (In Rs.)	Respondents	Percentage
Yes	09	60%
No	02	13.33%
Less useful	04	26.67%
Total	15	100 %
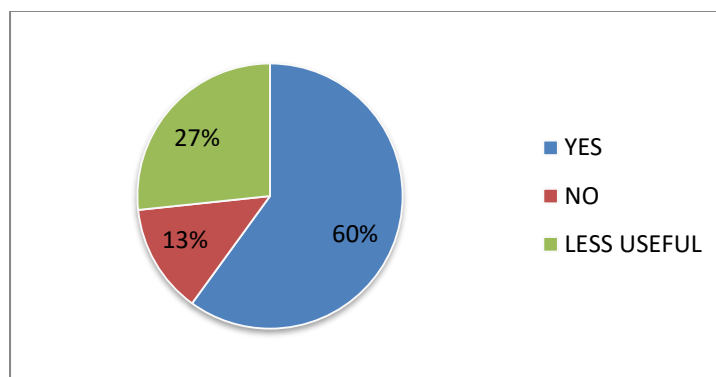
Description: -When we questioned on infrastructure usefulness in the next decade, 60% of total respondents said that infrastructure will become more useful in coming decade for providing services to the customers. 4 respondents responded that it will be less useful in coming years and 2 respondents among them said that increasing infrastructure will not be helpful in providing good services to the customers in the coming decade.

3. NPAs effects on banks: -

Particular (In Rs.)	Respondents	Percentage
Great effect	07	46.67%
No effect	03	20%
Less effect	05	33.33%
Total	15	100 %
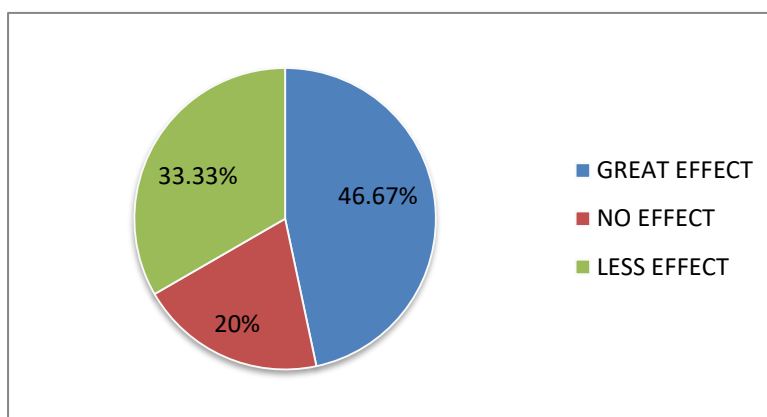
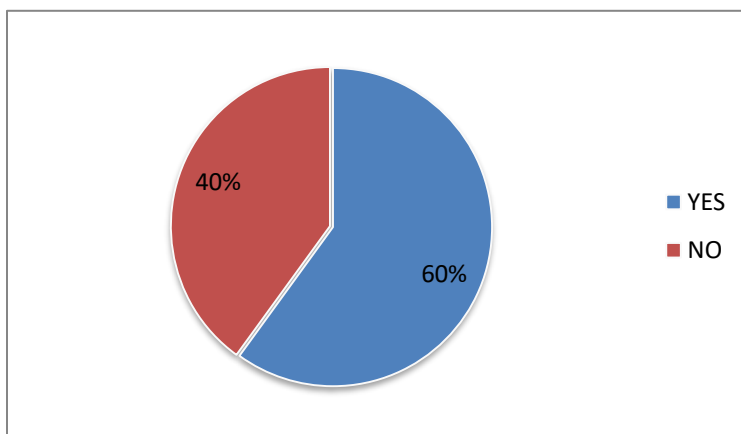**Description: -**When we questioned to the interviewees on how the banks are getting affected by the increasing NPAs, by the 7 respondents we were answered that the banks are getting greatly affected by these increasing NPAs. Some respondents said that because of government provisions for banks they are not getting affected. Some said that banks are not getting greatly affected as banks do have many sources to invest on improving technology and etc.

4. Merger as a solution for improving the functioning of banks: -

Particular (In Rs.)	Respondents	Percentage
Yes	09	60%
No	06	40%
Total	15	100 %

Description: When we intended to know the future of mergers in the banking sector and questioned on it, from the total 15 respondents 9 said that it is a very good solution to improve the efficiency of the banking system in whole and remained 6 replied that it's not a solution ,it is just a remedy to cut the of inefficient banking structure.

5. Role of Banks in future: -

Now a day's banks are becoming more focused on providing a good credit. On the other hand, many non-banking institutions have entered in the market with the same focus. So, how the banks will be identified differed was responded as below. Banks will be the only institutions playing these roles with the help of digitalized banking.

6. Upcoming Technology in Banking Sector: -

There are many technologies upcoming in the next decade and many will get major improvements soon the decade. The machines like BRM (Business Relationship Management) will be used to ease the customers of the banks. Many resources will get replaced in the next decade and all the banks will be networked together which will prevent frauds to great extent.

Limitations of The Study

1)The research has been conducted within a short period of time.

2) The Study is limited up to some major factors affecting future of banking.

3) The sample size of this research is quite short i.e. 15.

CONCLUSIONS

From the primary data collected and secondary data observed, number of mid points can be got. As our mission is to be a digitalized economy and the banking industry is one of the main tools for economic development, it will be seen having enormous efficiencies in the next decade. Whatever ups and downs the banking sector is going through is because, it is now loading the

new stocks from the world banking industry so the discomfort of people with the system and inefficiencies found in the proper settlement of various new evolved is something beyond question. It will get properly implemented when both the customers and the bankers will come to know to all the minus and plus points of adopted advance banking trends. Many things we had adopted now and then have to be left to have as possible command on new trends. In the coming years too, it is impossible that we will not face any kind of inadequacies,instead we will be have growing deeds as and as new advancement will come in front.

Indian banking sector is an important link, interlinked in the chain of nation's development. So, the initiatives and the actions taken place by any other sector connected with it will certainly have major effects on the banking sector. And so, actions must be stepped after having great thoughts and required spendings on research for proper implementation.

Indian banking sector is trying hardly to reach at possible refinements in the banking trends. The future is in wait of stepping forward on the next stair of developed banking industry.

SUGGESTIONS

1. Customers of banks should support the digitalized banking instead of being habitual with the conventional banking trends.

2. Loans provided by bank should not be issued to one person in a large amount instead, it should be issued in small amounts to 10 persons.

3. The government should think on restructuring the banking sector due to technology unawared staff.

4. The opinions of the bankers who interact with the customers should be considered while drafting banking policies.

6) While providing loans, bankers should consider every minute thing such as security, credit worthiness, purpose of the loan, etc.

7) Defaulters of the loan should be taken action against up to the extent of lessening these NPAs. Defaulters' ill minds should be strictly punished.

8) Proper guidance should be provided to the people who have been issued loans under government schemes on how the businesses should be managed. This will also help in reducing NPAs.

9) The spending on having big banking infrastructure should be lessened as the day is not far when there will be only one branch as the head office of each bank.

FINDINGS

1) Though the Indian banks are getting more focused on providing a good quality of credit and the industry is having many new establishments performing the same function, Indian banks will be identified as the custodian of the wealth of society and will be a tool for the growth of nation.

2) There are many new upcoming technologies in the sector and huge improvements will be seen in the existing technologies in the coming few years.

3) Customers' support plays a very important role in the development of the banking sector. It is found that even some of well-educated customers of the banks operate their a/cs through conventional banking practices. They are not ready to adopt new trends. It will take time but in the next decade the scenario will change certainly.

4) Vacancies will increase in the coming decade. The sector is in great need of technology awared staff as the 100s of targets are there to fulfill and the staff is less. More pressure of work on single employer reduces his efficiency So now the banking sector needs honest, responsible and managing staff.

5) In the coming decade, the banking sector will not need to bear high cost for providing advance banking services to its customer by using the resources of our own country.

6) From the whole research we found that Indian banking sector is going to flourish in future, its efficiency is going to increase through consolidations and through the huge efforts of professionals.

REFERENCES

1) https://www2.deloitte.com
2) https://www.researchgate.net
3) https://www.adb.org
4) www.legalcrystal.com
5) https://www.pwc.in
6) https://www.ey.com
7) www.idrbt.ac.in
8) www.rdmodernresearch.org
9) https://www.ibef.org - Banking
10) www.ushistory.org
11) https://www.cscjournals.org
12) https://www.pdfs.semanticscholar.org

ECONOMIC POLICIES AND SUSTAINABLE DEVELOPMENT

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ABSTRACT
Economic Sustainability and Inclusive growth refer to reframing economic policies and practices around sustainability to foster economic growth. Sustainability in today's world, is not limited to conserving environment or maintaining a constant GDP growth. It refers to aligning economic policies with other policies to support environmental and social growth in an economy.

This paper attempts to study the various economic policies that lead to sustainable and inclusive growth of an economy.

The ultimate aim of the Sustainable Development Goals formulated by UN, is to end poverty, protect the planet and ensure prosperity for everyone. As reported by UN sustainable development solutions network, Sweden tops the list of achievers of envisaged targets of sustainable development. Following closely are Denmark and Norway being 2nd and 3rd on the list.

In its next section, the paper identifies 4 steps that would drive an economy towards sustainability namely economic diversification, reducing inequalities among groups, fiscal stabilization and improving legal, administrative and business institutions. The authors discuss economic policies that would help achieve these targets.

The final section studies the effect of macroeconomic shocks on the sustainability of economic policies. A specific example of the effect of ongoing US-China trade war on the economic policies of India is used to examine the concept using regression analysis. The US China trade war scenario could prove advantageous for Indian economy if it is able to successfully postulate its policies to accommodate trade changes. If Chinese manufacturers shift to India, India would have to make certain policies modifications to fit in trade changes. Minor manipulations in monetary policies to expand financial markets will help in attracting FDI that earlier went to US. Basically, if India is able to accommodate these policy changes it would be amongst the handful that are benefitted from this trade war scenario.

INTRODUCTION

The most common and basic definition of sustainability is the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs. The concept was originally determined to utilise natural resources in sustainable way. But in today's world sustainability is a much broader concept with greater need and reach. This paper primarily focuses on sustainability in economic policies and inclusive growth in a country.

Economic growth of a country is measured as the percentage increase in the gross domestic product of the country i.e. the value of goods and services produced in the inflation adjusted economy overtime. Hence, higher will be the production in the economy, higher will be the GDP and higher the economic growth. If the country utilises all the available resources to its maximum it can maximise its production and increase its GDP. But this is not the sustainable production process for any country and could lead to greater problems in the long run.

Here comes the concept of inclusive growth which refers to maximising the production in the economy while maintaining socio-economic equality and environmental wellbeing. The production process in the economy should ensure social equality by providing equal opportunities irrespective of gender, caste, colour when it comes to assigning tasks and holding positions. All workers should be provided a fixed defined salary according to the work assigned. This would ensure economic stability in the society and eventually help in reducing income inequality in the country. Another very important point that needs to be kept in mind while producing goods and services is environmental well-being. The natural resources should be used very cautiously in order to maintain their availability in future as well. Secondly, any production process that affects the natural environment should not be employed.

All these conditions that would lead the economy on a sustainable economic growth path need to be enforced by implementing certain policies. The government should align its economic policies with other policies to support environmental and social growth in an economy.

SUSTAINABLE DEVELOPMENT GOALS BY UNDP

Sustainable development goals are a set of universal objectives formulated by UN and adopted by all member countries. The aim of these SDGs is to attain sustainable future for all. As the lead UN development agency, UNDP helps the countries and territories to implement the Goals. The most recent SDGs were formulated in 2015, with an agenda to achieve them by 2030.The ultimate aim of these 17 SDGs is to end poverty, protect the planet and ensure prosperity for everyone. The main sustainable development goals namely are:

SDG 1 NO POVERTY	SDG 2 ZERO HUNGER	SDG 3 GOOD HEALTH AND WELL BEING	SDG 4 QUALITY EDUCATION
SDG 5 GENDER EQUALITY	SDG 6 CLEAN WATER AND SANITATION:	SDG 7 AFFORDABLE AND CLEAN ENERGY	SDG 8 DECENT WORK AND ECONOMIC GROWTH

SDG 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	SDG 10 REDUCED INEQUALITIES	SDG 11 SUSTAINABLE CITIES AND COMMUNITIES:	SDG 12 RESPONSIBLE COMSUMPTION AND PRODUCTION
SDG 13 CLIMATE ACTION	SDG 14 LIFE BELOW WATER	SDG 15 LIFE ON LAND	SDG 16 PEACE, JUSTICE AND STRONG INSTITUTIONS
SDG 17 PARTNERSHIPS:			

UN sustainable development solution network conducted a survey of 149 countries to check upon the progress of formulated developments goals while taking 2015 as the baseline year. A indicator score between 0(worst) and 100(best) is assigned to each country. The score indicates how far the country has reached to achieve the envisaged goals. A score of 70, for example, signifies that the country is 70% of the way from the worst score to the best score.

Sustainable development reports over the years

Table 1.1 shows the indicative scores (2016) of some of the countries relevant for discussion.

RANK	COUNTRY	SCORE
1	SWEDEN	84.5
2	DENMARK	83.9
3	NORWAY	82.3
4	FINLAND	81.0
5	SWITZERLAND	80.9
6	GERMANY	80.5
7	AUSTRIA	79.1
8	NETHERLANDS	78.9
9	ICELAND	78.4
10	UNITED KINGDOM	78.1
110	INDIA	48.4
147	CONGO, Dem. Rep	31.3

| 148 | LIBERIA | 30.5 |
| 149 | CENTRAL AFRICAN REPUBLIC | 26.1 |

Table 1.1. Source: Sustainable development report 2016

As per the 2016 report by UN sustainable development goals solution network, Sweden tops the list with the highest score of 84.5. Following closely are Denmark and Norway on 2nd and 3rd place with high scores of 83.9 and 82.3. Clearly, the high income countries are topping the list but the credit of such high rank also goes to good governance and environmental sustainability in the country. There are several other rich countries that fall short to achieve these SDGs due to lack to social inclusion and environmental sustainability. But high income in a country is explicitly responsible to be able to achieve all other development goals as, if and only if citizens of the country are able to earn daily bread, they would pay heed to ensure social equality and environmental safety. On the same lines, the countries securing lowest ranks in the list are low income. This is also because many of SDG call to end poverty (SDG 1, SDG 2, SDG 3, SDG 4, SDG 7, SDG 8, SDG 9) which is a major challenge for poorer countries. India is ranked 110 in the list with a score of 48.4. Being a developing country, India needs to focus on eradicating poverty and then follow policies to achieve other sustainable goals. Although India is not a poor country but high levels of income inequalities hamper its policy implementations.

RANK	COUNTRY	SCORE
1	SWEDEN	85.6
2	DENMARK	84.2
3	FINLAND	84.0
4	NORWAY	83.9
5	CZECH REPUBLIC	81.9
6	GERMANY	81.7
7	AUSTRIA	81.4
8	SWITZERLAND	81.2
9	SOLVENIA	80.5
10	FRANCE	80.3
116	INDIA	58.1
155	CONGO, Dem. Rep	42.7
156	CHAD	41.5
157	CENTRAL AFRICAN REPUBLIC	36.7

Table1.2Source: Sustainable development report 2017

In 2017, the number of countries surveyed increased to 157, although the methodology to calculate indicative score remained same. Sweden still tops the list of achievers of sustainable

development goals with an improved score of 85.6. Denmark follows 2nd on list with a score of 84.2. Norway slips down to 4th as it exchanges position with Finland. Many rich countries, particularly Switzerland, the United States, and several Gulf States slip down in list due to various international spillovers. Poorer countries continue to remain bottom in the ranking list due to lack of basic adequate facilities and an infrastructure to grow. A report by UN sustainable development solutions network argue that a lot of rich countries create negative externalities for poorer countries while developing their domestic properties. This restricts the development of poorer countries. However, this is unjust on the part of rich countries and won't satisfy the agenda of world sustainability. The richer countries should design their policies in such a way that it does not affect the growth of neighbouring nations. India, instead of having an improved score goes down in the ranking list to 116th position. This fall down could be accredited to increase in the number of countries ranked in the list.

RANK	COUNTRY	SCORE
1	SWEDEN	85
2	DENMARK	84.6
3	FINLAND	83.0
4	GERMANY	82.3
5	FRANCE	81.2
6	NORWAY	81.2
7	SWITZERLAND	80.1
8	SLOVENIA	80.0
9	AUSTRIA	80.0
10	ICELAND	79.7
112	INDIA	59.1
154	CONGO, Dem. Rep	43.4
155	CHAD	42.8
156	CENTRAL AFRICAN REPUBLIC	37.7

Table1.3 Source: Sustainable development goals report 2018

The number of countries analysed in 2018 was 156 using the same methodology as earlier years. Sweden maintains its topmost position but experiences a dropped score. Other top 10 countries remain almost on same positions with little deviations. Nigeria is extensively facing the problem of poverty and accounts for more than one third of achievement gap of SDG 1 together with the Democratic Republic of Congo and India. United States, china and India lack the most in achieving SDG 12 i.e. responsible consumption and production. Being in the third implementation year, there is a constant enhancement in the scores of bottommost countries. This indicates that the poorer countries are implementing accurate policies which is resulting in their development and channelling them on the path of sustainability. India has achieved an upgraded score and rank this year. This implies that India is working in right direction to achieve

the sustainable development goals. The report points out that India lacks in SDG 2, SDG 3, SDG 5, SDG 7, SDG 9, SDG 10, SDG 11, SDG 14, SDG 16, which basically suggests that India at its current stage needs to focus on poverty eradication, gender equality and income inequality.

RANK	COUNTRY	SCORE
1	DENMARK	85.2
2	SWEDEN	85
3	FINLAND	82.8
4	FRANCE	81.5
5	AUSTRIA	81.1
6	GERMANY	81.1
7	CZECH REPUBLIC	80.7
8	NORWAY	80.7
9	NETHERLANDS	80.4
10	ESTONIA	80.2
115	INDIA	61.1
160	CONGO, Dem. Rep	44.9
161	CHAD	42.8
162	CENTRAL AFRICAN REPUBLIC	39.1

Table 1.4 Source: Sustainable Development Report

The volume of countries has increased to maximum of 162.The SDG Index and Dashboards results are not directly comparable from one year to another in light of slight adjustments made this year to the methodology and conclusions drawn from the independent statistical audit. The report points out certain things. Firstly, every country gets a red marking (need significant improvement) in at least one of the SDG. Secondly, even the top rankers are significantly far from the target of 100. Thirdly, high income countries need to take appropriate steps to ensure sustainable consumption and production and conservation of biodiversity. Fourthly, Low-income countries constantly have low scores. This is because they don't have even basic framework to reduce poverty which is the first and most important agenda of sustainable development.

HOW TO PUT ECONOMY ON A SUSTAINABLE GROWTH PATH
Economic Diversification refers to expanding the sources of revenue by an economy. In this fast pace progressive world, it is impossible for any country to grow sustainably while depending on only one source of income. Hence it is very important for a country to diversify it sources of income and invest in multiple projects and build a diversified economy - one that is not overly dependent on a single commodity. Russia, for example, recently decided to invest more of its oil

and gas revenues in infrastructure project to help small businesses grow. Investing carelessly in any area could lead to major losses in the economy. So, it very important for the policy makers to design policies in such a way to make most out of the diversification. Policy makers should pursue following:

❖ Actively seek to diversify their economic base in terms of economic output and input distributions.
❖ Enhance competitive levels by making strategic investments in various sectors and industries.
❖ Monitor and devise clear participatory and integrated diversification strategies and mechanisms by which economic volatility and spill over effects, systemic uncertainty, and perturbed business cycle transitions can be significantly mitigated.

Reduction of inequalities among groups is urgent call to action specially for developing nations. Inequality conditions among groups refers to unequal distribution of income, wealth, resources, societal status. Inequalities among groups often lead to lower long-term GDP, higher crime rates, lower literacy rate, poorer access to public facilities, poor health status and other negative outcomes. Inequalities is a major factor that stagnate the growth of a country. For instance, if income inequalities prevail in a country, then even if production increases and GDP rises, the benefits are not distributed among the poorer section of the society and the problem of poverty doesn't resolves. Another prevalent issue is of gender inequality as women are not given equal opportunities as men be it workplace, educational institutes or even households. The participation of women at managerial posts is still very less. This situation is more luminous in rural areas where women either work as labourers or remain unemployed. This restricts their growth at personal and professional levels. That is why maintaining gender equality is one of the sustainable development goals by UN.

So, it becomes all the more important for the policy makers to design policies with an objective to

● Raise taxation for wealthy people and provide tax benefit to the poor population.
● Deepen the penetration of technological progress in the system. Presence of technological access reduces access barriers and make people aware of their rights.
● Make women more visible in public life and institutions.
● Ensure all groups can raise their voices without any fear.
● Ensure that growth in the economy benefit all sections of the society and not just few individuals.

Fiscal stabilization refers to the stabilization strategies by government (central banks) that aim to maintain healthy levels of economic growth in the economy. Famous economist John theorized that when in an economy, buying power of individuals decrease, the prices fall. This could lead to significant losses to the businesses and they would start laying off employees which would lead to increased unemployment and further loss in buying power of consumers. In such cases government needs to adjust interest rates to stabilize the economy. This is important

to ensure proper functioning of markets and prepare the economy for any unforeseen circumstances. The fiscal policy should focus on:

- Effective mobilisation of funds from public and private sector. Taxation (direct and indirect taxes) is an important source of resource mobilisation in India.
- Employment Generation in the economy could be done by decreasing taxes for small business units and investing more in employment programmes, especially those in rural areas.
- Reduction in income inequality in the country would lead to sustainable growth of the country.
- Attract foreign investment to increase the flow of capital in the domestic country.
- To maintain equilibrium in Balance of Payments.

Improving legal, administrative and business institutions is very crucial to put the economy on the sustainable growth path. Strong institutions are the pillars of economy's growth as they "enable environment" for creation of goods and services. Institutions guide the countries to make informed decisions and improve their economic growth. Well-built legal institutions help to ensure peace and justice in the economy. Presence of strong and stable institutions in a country increases its credibility internationally. The policies would function well only if states improve their legal institutions, administrative capabilities, transparency and business environment. UN also includes peace, justice and strong institutions as one of the sustainable development goals. The government should make efforts to strengthen the institutions of a country to position the economy on a sustainable growth path. Establishing following courses would help the institutional framework of a nation to function well:

- Collaboration of public and private sector institutions would lead to integrated growth of the economy.
- Healthy relationship between government and businesses is very essential to ensure sustainable development in the country.
- The institutional framework in an economy should be interconnected to avoid any confusions.
- Institutions should be accountable to people so that they ensure maximum public interest.
- Building cross country alliances with foreign institutions increases the stability and prosperity of an institution.

Effect of macroeconomic shocks on the sustainability of economic policies
GDP ANALYSIS OF INDIA
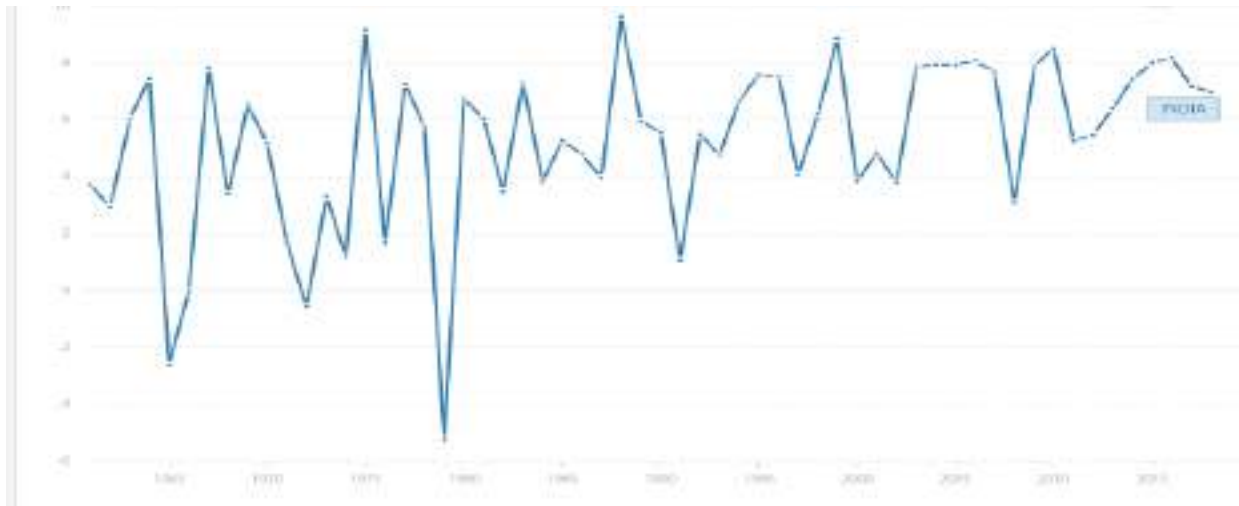
SOURCE: IMF

This graph represents the India's GDP growth in percentage terms. since last six years, India's GDP grew at very slow pace following a sharp decceleration in consumer demand and desultory investment. Data released by government shows that in the quarter of FY20 gross domestic product increased by 5 percent, which signifies that in the last fourth quarter of FY13 it was the slowest growth. GDP growth was 8% in the year-earlier quarter and 5.8% in the preceding quarter.

A measure of GDP without adjusting for inflation that is Nominal GDP growth, increased only by 8% the least in the recent series of national accounts going back to FY12, which is a indicator of deep slowdown in the economy. It could be the lowest since FY03 if we compare it across different cities.

"Government is taking steps. We should be back to the high growth path soon." chief economic adviser Krishnamurthy Subramanian said. In the past week government has announced a few measures such as liberalising FDI for select sectors, ensuring full credit to non-banks, more capital for banks and big bank consolidation.

In order to maintain the pace of GDP growth, India can take the advantage of trade war between US-China by increasing Foreign Direct Investment. Recently Reserve Bank of India has said that the slowdown is cyclical, rather than structural, which will require deeper reforms. That is India needs to make strategies which can remain in the economy for long run.

REGRESSION ANALYSIS

Source	SS	df	MS	Number of obs	=	7
				F(1, 5)	=	6.79
Model	9.5226e+24	1	9.5226e+24	Prob > F	=	0.0479
Residual	7.0120e+24	5	1.4024e+24	R-squared	=	0.5759
				Adj R-squared	=	0.4911
Total	1.6535e+25	6	2.7558e+24	Root MSE	=	1.2e+12

gdp	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
exports	7.744621	2.972057	2.61	0.048	.1047052	15.38454
_cons	-7.48e+12	7.08e+12	-1.06	0.339	-2.57e+13	1.07e+13

Table 1.5: Regression results of exports of china on GDP of china

Source	SS	df	MS	Number of obs	=	7
				F(1, 5)	=	3.81
Model	5.9019e+24	1	5.9019e+24	Prob > F	=	0.1084
Residual	7.7458e+24	5	1.5492e+24	R-squared	=	0.4324
				Adj R-squared	=	0.3189
Total	1.3648e+25	6	2.2746e+24	Root MSE	=	1.2e+12

gdpofus	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
exportsofus	9.796459	5.019035	1.95	0.108	-3.10538	22.6983
_cons	-4.50e+12	1.16e+13	-0.39	0.715	-3.44e+13	2.54e+13

Table 1.6: Regression results of exports of US on GDP of US

When we interpret the regression of China in economic terms, we see that China's GDP is not much affected by exports that is the trade war between US and china is not affecting significantly. Because exports don't have larger impact on GDP as we can see by R-square. It is moderately affecting the GDP growth. Given Regression only makes judgement till 6 months of trade war. R-square measures the reliability of the model.

In case of US, we can see that, like China, GDP of US is also not significantly affected by exports. Its R- square is lower than that of China. Value of R-square= 0.43, which mathematically implies that exports affect 43% of GDP. But this logically fallacious and this R^2 is due to less no of observations taken.

This implies that US-China trade war is not affecting both the countries significantly. They maintain their GDP growth by other measures. But here India can play a vital role in taking advantage of this trade war. Little impact on both the economies can benefit India in maintaining their growth rate. India just need to strategize itself in manner by which it can become a most

profitable   country   by   the   scenario   of   trade   war.

INDIAN POLICIES AND REFORMS

The trade war between US and China, which is costing both the countries a huge amount even that they have thrown billions of dollar worth of tariffs on each other's export. The US and Chinese market are giving big opportunity for few categories of Indian exports to make a crater.

The second largest glass manufacture India, HSIL, managing director and vice chairman also met the Indian ambassador to China, Vikram Misri and the secretary of China's Boao Forum for Asia, Li Baodong.

US China trade war gives opportunities to Indian exports for certain good and services. The size of US-India trade is one fifth of US-china trade. Indian exporters can take advantage in three sectors namely garments, information communication, and technology and to some extent in automotive components. The attire and ready-made garments sector may see some opportunities in terms of both location for facility and in order to displace exports of China.

Goods that India can take advantage of include electrical machinery and equipment and base metals and articles. US imports from China of these items at around $30.6 billion, while India exports to the US are worth only $2.4 billion. So, the fact that India's total exports of these items to the world are worth $22.2 billion.

In case of China, items on which China levied 25% duty on the US, India has the outright benefit to displace US exports to China in 47 lines as it is a strong exporter of these items. Those goods are granite, copper, ore and concentrates. Of the items on which China has imposed 10 percent duty on the US, India is strong in 29 lines among those and can displace the US. Those lines are chemicals, equipment for voice transmission in a wired network and tubes and pipes. Of the items which are imported from US on which China has imposed retaliatory tariffs of 5%, here 25 lines can be displaced by US exports, including engines, diesel, x-ray tubes and some antibiotics. Jun, who is called by some as the 'Steve jobs of china', describes India – where the company leads in smartphone sales.

For exports of agricultural produce, India should adopt a consistent policy and cut interest rate further in order to allow Indian exporters to take advantage of current US-China trade war. There is an issue that our inflation rate is low and our interest rates is life time highs which makes our goods not competitive, going around 3 percent. Then what is the need for banks to lend at 10 or 11 per cent?

The interest rates should go down by another 100 or 150 points. NDA government in its second term should make agricultural exports more competitive by having a consistent policy.

Now that trade war is going on India could step up its exports of Soyabean to China, and also because has a huge potential for agricultural produce as it is a net importer which in turn replacing to an extent US shipment. Since last year's Wuhan summit between our Prime Minister Narendra Modi and Chinese president Xi Jinping, China began importing some agricultural produce like rice and sugar. India is also trying to step up soyabean exports to China.

The Indian agricultural policy is not consistent, unfortunately. When prices take high the government bans exports. We should become large exporter of agricultural products with consistent policy. When the prices go up, the government should import instead of curtailing exports.

Major international firms that invest in china are now analysing options to spread their risk and move some of their existing and new investment to other countries. Several persons have written about the possibility of India taking benefit through more exports to the US and shift of foreign direct investment to India. However, India requires a strategic approach to convert this opportunity into extensive gain. India requires to focus on emerging as a indefatigable country which will become a global hub for exports, with a vital positive impact on competitiveness and job creation.

China's merchandise exports are almost the same as India's GDP. A 10% shift from Chinese exports to Indian exports would cause over 75 % increase in Indian exports. It is requisite for India to develop a strategy and vision for itself and the whole macrocosm to make this a reality. Its current desultory performance implies that investment from large global companies is the transformative path for India, given few key points to be kept in mind.

India is the one among the countries being viewed by major international companies as an investment destination. Indonesia, Malaysia, Mexico, Thailand, Vietnam all have relatively easier reach to large markets. Other thing is that India's domestic market is large, but the aim of most large firms with major international brands and global presence is on exports and maintaining their global.

India's urge to double its exports and create jobs depend on its success to link up effectively with global value chain. Being a seventh largest global economy and the twentieth largest goods exporter, India is not still a significant presence in global value chains.

To institute domestic capacity for export hubs and global value chain, vital presence of 'lead firms' that manage the GVC becomes important. These 'lead firms' are usually those with major global brands that can place their exports in most markets of the world.

India requires to prioritize and improve implementations of support policies, with a new forerunner programme 'India: making for the world' for competing with other nations to attract large investment away from China. Large global companies make investment decision significantly based on ease of operational conditions and stable regimes.

Also, the trade is the concept of comparative advantage — the home country, India would import products comparatively easier and in cost effective way to produce in a foreign country that is US and export those items relatively easier to produce domestically. The reverse is true for the foreign country. This implies that with the ongoing economic growth, if India makes economics and structural reforms which will allow it to produce more effectively and efficiently and the US will have to be more bigger than what it is want to engage in a tariff war. There is always a Complex Dynamics in international trade as it is not a zero-sum game.

In a recent scenario of development, it has become difficult for India to take advantage of the trade war as in June this year, US president Donald Trump announced withdrawal of benefits worth $6 billion which is given to India exporters.

Generalised system of preferences (GSP) benefits are given by the US to developing countries unilaterally so that they can polarize their trade with US.

"Withdrawal of GSP benefits could offset some or all the relative advantages India might have," said Stephen Olsan, who has experience of more than three decades in international trade and commerce.

Moreover, uncertainty and inconsistency of the coming events also hamper India's chances to use the situation to take the advantage of the situation.

Stephen Olson once said that cautions is that one of the most damaging aspects of the trade war is the unpredictability it has introduced into the trade system and business decision-making.

BIBLIOGRAPHY

Sustainable developments reports by UN

2019: https://unstats.un.org/sdgs/report/2019/

2018:
https://unstats.un.org/sdgs/files/report/2018/TheSustainableDevelopmentGoalsReport2018-EN.pdf

2017:
https://unstats.un.org/sdgs/files/report/2017/TheSustainableDevelopmentGoalsReport2017.pdf

2016:
https://unstats.un.org/sdgs/report/2016/The%20Sustainable%20Development%20Goals%20Report%202016.pdf

Other sources:
https://www.un.org/sustainabledevelopment/sustainable-development-goals/
https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=US&view=chart
https://data.worldbank.org/indicator/NE.EXP.GNFS.CD?locations=US&view=chart
https://data.worldbank.org/indicator/NE.EXP.GNFS.CD?locations=CN&view=chart
https://data.worldbank.org/
https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=CN&view=chart
https://www.thehindubusinessline.com/economy/india-among-countries-to-benefit-from-us-china-trade-war-un/article26185804.ece#
https://www.investopedia.com/terms/s/stabilization-policy.asp

STUDY ON RETIREMENT BENEFITS INVESTMENT LANDSCAPES IN INDIA AND THE TRENDS ACROSS THE WORLD

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INTRODUCTION

The main aim of the "Retirement Benefits Landscapes in India", is to understand the investment pattern and asset allocation of the portfolios of various retirement trusts in the country and how they differ from those across the world. Every pension fund is regulated by a body, separate ministry or sometimes even a bank set up the government of the country. Before understanding the asset allocation of various pension funds in India and around the world, we need to understand the 2 types of schemes i.e. Defined Benefits (DB) Scheme and Defined Contributions (DC) Scheme. These schemes determine the pension pay-out value. The employee or employer or contribute to the pension fund to meet the requirements of the scheme.

Defined Benefits (DB)–The DB Scheme is a type of pension plan in which the employer promises a specified pension payment or lump-sum on retirement of the employee. The amount is calculated based on the earning history, tenure of service and age of the employee. In this plan the benefit is defined and known in advance. The contributions under this scheme may be made by the employee, employer or both, however the liability of providing the benefits falls on the employer.

Defined Contribution (DC) – The DC Scheme is a type of pension plan in which the employee, employer or both make contributions on a regular basis. Individual accounts are set up for the participants and the benefits are credited to these accounts through the employee-employer contributions. In the Defined Contributions scheme, the future benefits fluctuate on the basis of the investment earnings. The DC scheme is the most preferred scheme by most of the Public Pensions Funds around the world and is also predominantly used in the private sector also. In this scheme the contribution is known but the benefits are unknown, while the liability of obtaining adequate returns from the contributions falls on the employee.

PENSION FUNDS AROUND THE WORLD

For the purpose of this study, top pension funds along with the pension funds of the countries which belong to various international forums as listed below have been considered.

1) **BRICS Countries**
  a. India
2) **G7 Countries**
  a. Canada
  b. United Kingdom
3) **Top Pension Fund**
  a. Norway
  b. Japan

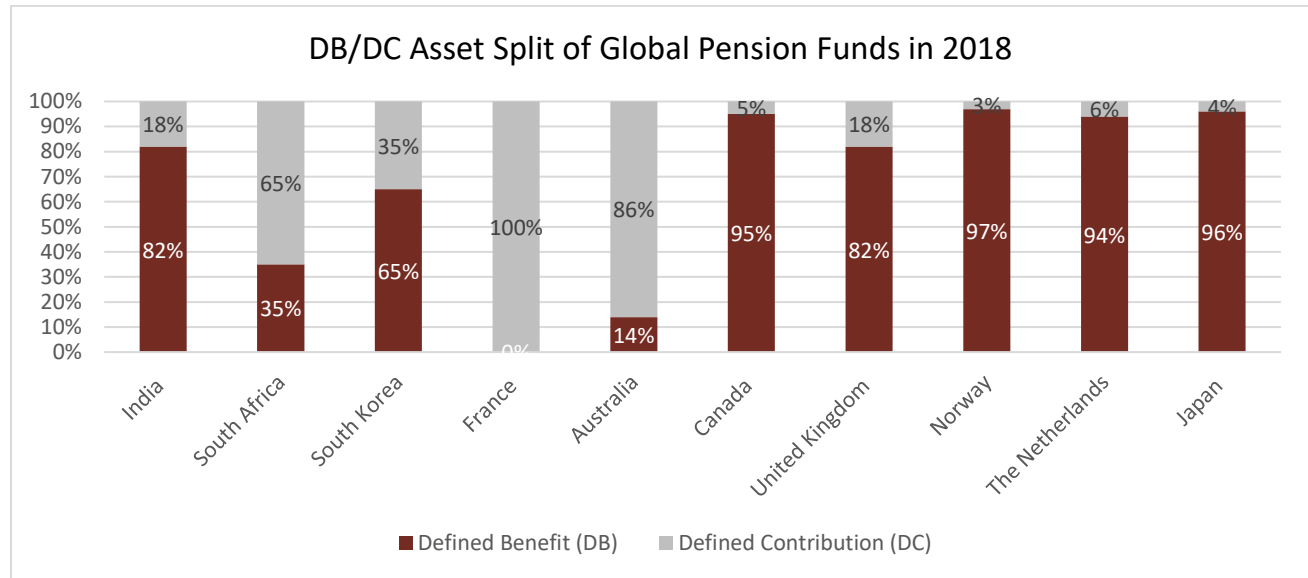The DB/DC Asset split of the global pension funds as on March 31, 2018 is shown below:

Figure 1 DB/DC Asset Split of Global Pension Funds
Source:(Organisation for Economic Co-operation and Development (OECD), 2019)

A. PENSIONSYSTEM IN INDIA

The Indian Pension system is a Defined Benefits (DB) scheme which is primarily based on service contracts and financed through participation of employees and employers. The pension system is based on the Multipillar Model of the World Bank. The various pillars of the system have been described as below:

 i. **Zero Pillar –** The non-contributory social pension for alleviating poverty and provide minimal level of protection
 ii. **First Pillar –** The mandatory DB scheme managed by the Government
 iii. **Second Pillar -** The mandatory Defined Contribution (DC) scheme managed privately
 iv. **Third Pillar –** This pillar is voluntary, discretionary and flexible (DB or DC)
 v. **Fourth Pillar –** Socialprogrammes that helpsupport the basic necessities of the elderly population

The **Zero, Third and Fourth** pillars are employed **for both organized and unorganized** sector, whereas the **first and second** pillars cater mainly to the **organized** sector. Majority of the population in the country works in the unorganised sector and most of them do not have access to a formal pension system.

The Indian pension system has been divided into four segments to cater to all segments of the society:

I. **National Social Assistance Programme (NSAP)** a form of the first pillar with a PAYGO launched for the alleviating the aged poverty-stricken population. NSAP is administered by the Ministry of Rural Development, is a Centrally Sponsored Scheme of the Indian Government that provides financial assistance to the elderly, widows and person with disabilities in the form of social pensions. The NSAP include two components:

   a. National Old Age Pension Scheme (NOAPS)– which is a non-contributory old age pension scheme which covers Indians above the age of 60 living below the poverty line.

   b. National Family Benefit Scheme (NFBS)– provides financial assistance (a lumpsum assistance of INR 40,000) to the family in every case of the death of the primary bread-winner in a household. The bread-winner should have been between 18 to 64 years of age at the time of his/her death.

II. **Employees' Provident Fund Organization (EPFO)** has the asset allocations made as per the directions given by the Ministry of Labour and Employment (MoL). The Ministry assigns the percentage of funds that can be allocated to a particular asset class. The Central Government also directs every employer in relation to an establishment exempted under clause (a) or clause (b) of sub-section (i) of Section 17 of the Employees' Provident Funds and Miscellaneous Provisions Act, 1952 to transfer the monthly provident fund contribution in respect of the establishment within 15 days of the close of every month to the Board of Trustee. The Board of trustee shall make investments every month within a period of 2 weeks from the date of receipt of the contributions from the employees. The investments are to be made in five categories as below:

   (i) Government Securities and Related Investments – **Minimum 45% up to 65%**

   (ii) Debt Instruments and Related Investments – **Minimum 35% up to 45%**

   (iii)Short-term debt Instruments and Related Investments – **Up to 5%**

   (iv)Equities and Related Instruments – **Minimum 5% up to 15%**

   (v) Asset Backed, Trust Structured and Miscellaneous Investments – **Up to 5%**

III. **Private Pension and Annuities** regulated by the Insurance Regulatory and Development Authority (IRDA), are schemes administered by the life insurance companies. The IRDA has launched a Unit-Linked Pension Plan, to provide a guaranteed return indexed to interest rates. In order to ensure transparency and proper disclosures by the insurers, the IRDA has stipulated that the insurers should provide Benefit Illustrations giving two scenarios of interest rates, 6% and 10% respectively. Furthermore, all relevant information regarding deductions towards various charges for each policy year must be communicated to the policy holders for them to take informed decisions.

IV.   **National Pension Scheme (NPS)** launched by the Government of India and is regulated by the PFRDA is a voluntary scheme extended to all Indian citizens to meet the basic necessities in old age.

The asset allocation of the National Pension Scheme as on March 31, 2017 is shown below:
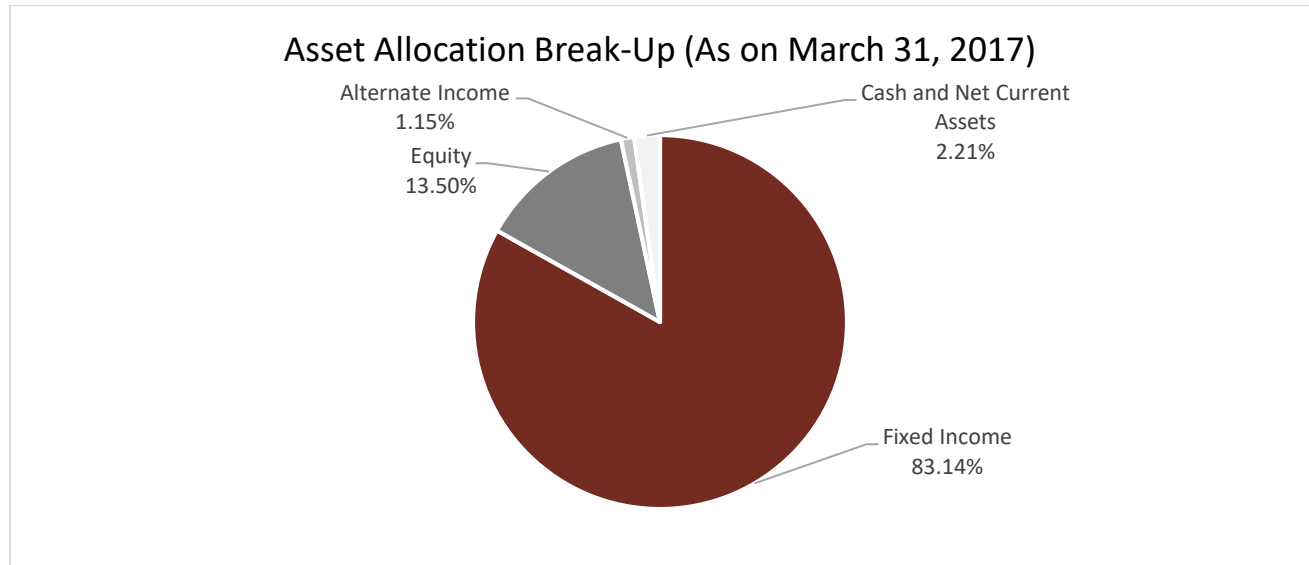

Figure 2 Asset Mix of NPS of India

Source:(Pension Fund Regulatory and Development Authority (PFRDA), 2017)

The **fixed income** investments constitute around 84% of the entire portfolio value of the fund. The G-Sec investments have decreased from 50.66% in 2016 to 47.93% in 2017. The disinvested funds have been allocated to equity. The allocation of funds to the corporate bonds has remained constant over the 1-year period. The **equity** investments have increased from 10.65% in 2016 to 13.50% in 2017. The reason for this could be because of the improved performance of the domestic indices SENSEX and NIFTY in recent times. Another reason for this could be that the fund is trying to be more aggressive in its investing options.

The **alternate income** investments are made in money market securities. The MoL has capped the exposure to this investment class at 5%. The money market investments are for the short term and have very high liquidity. **Cash and Net Current Assets** are needed to meet the obligations of liability arising out of the monthly pension pay-outs made to the participants of this system.

The Indian Pension Fund system has moving liabilities. This means that the assets under management (AUM) remain the same over a period of time, but the liabilities keep on increasing due to the monthly pay-outs the NPS and the EPFO make to the participants. This is adding further pressure on the pension assets. The pension system also gives the citizens to opt for other pension schemes, apart from the Government-sector schemes of the Central and State Governments like NPS Lite, etc. where the asset allocation can be decided by the subscriber of the scheme. The assets classes include class E (Equity), C (Corporate Debt), G (G-Secs) and A (Alternate Assets). However, there is a ceiling of 50% and 5% on Asset Class E and Assets Class A respectively.

The major pension funds in the country apart from the State Pension Funds are SBI Pension Funds Pvt. Ltd, LIC Pension Fund Ltd., UTI Retirement Solutions Ltd., etc. (Pension Fund Regulatory and Development Authority (PFRDA), 2017)
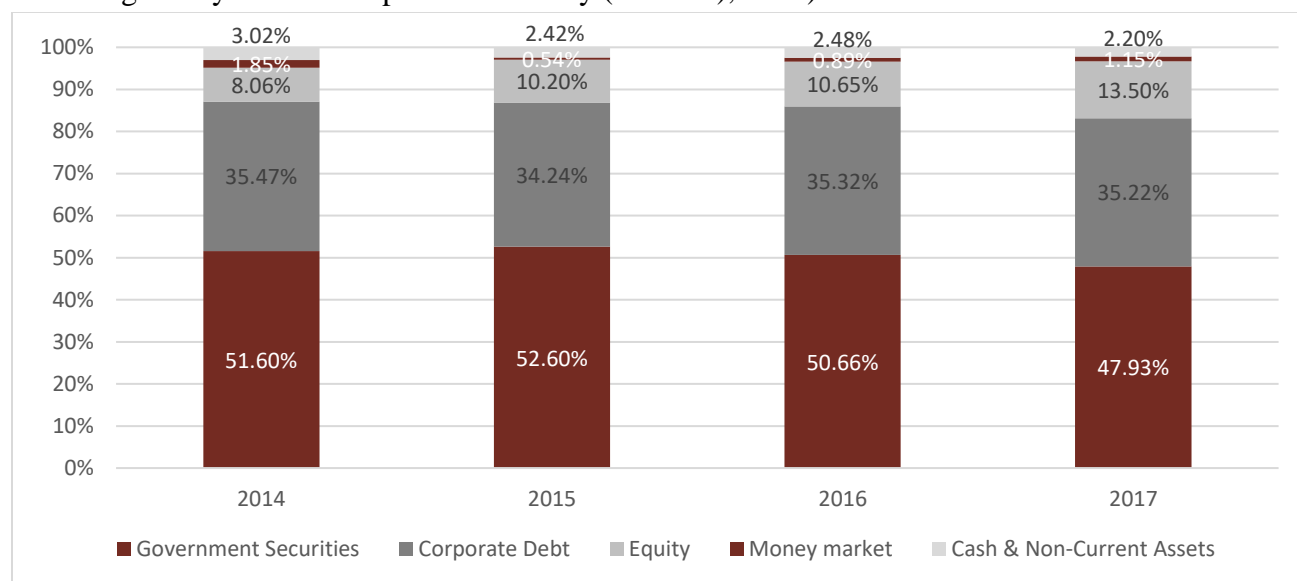

Figure 3 Investment Trends of NPS of India
Source:(Pension Fund Regulatory and Development Authority (PFRDA), 2017)

B. PENSION SYSTEM IN CANADA

The Canada Pension Plan is a defined benefits scheme, managed by the Canada Pension Plan Investment Board (CPPIB) which is a Crown Corporation created by an Act of Parliament on December 1997. The long-term goal of CPPIB is to provide financial strength to the Canada Pension Plan (CPP). Currently the investment portfolio of CPP is at USD 316.90 billion which has approximately tripled over the last decade from USD 116.60 billion in 2007. As on March 31, 2018, the portfolio has around 83.52% of the total portfolio invested in International Assets while the remaining 16.48% is invested in Canadian Assets.

In 2000, the fixed income investments like bonds, etc. formed around 95% of the investment portfolio and the balance was invested in equity. In 2006, the CPPIB took a strategic decision to move progressively away from large indexed-based investments towards more active selection of investments which have boosted their returns ever since. The current asset allocation of the CPP Fund as on March 31, 2018 is as follows:
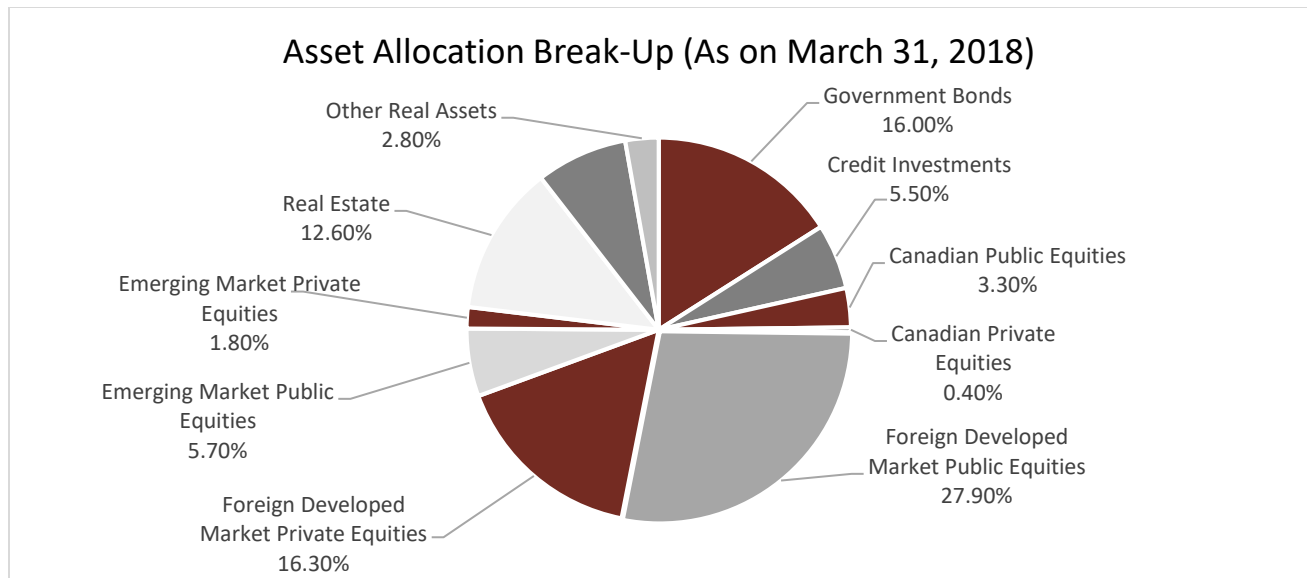
Figure 4 Asset Mix of CPP of Canada
Source:(CPP Investment Board, 2018)

The CPP investment portfolio increased by 13.54% from USD 279.10 billion in 2017 to USD 316.90 billion in 2018. The annual rate of return increased to 11.80% in 2018 from 3.4% in 2017. This significant change was mainly due to increased returns from equity investments in foreign developed markets and emerging markets.

The **fixed income** investments mainly government bonds constitute an increased proportion, increasing from 20.40% in 2017 to 25.90% in 2018 of the total portfolio values. The CPPIB invests in bonds which have a credit rating of AAA and below till a rating of CCC/D. However, the condition stated by the CPPIB is that the bonds must be rated if any investments are to be made. If the bonds are not rated, those bonds cannot be considered as an investment option. Moreover, majority of the investments in the bonds have a credit rating of AA and A. The **equity** investments make up more than 50% of the total portfolio value, with the main investments in public equities of foreign developed markets and emerging economies. The public and private equities comprise of 36.90% and 18.50% of the overall portfolio vale respectively. However, the equity investments have decreased by overall 10% in the last 10-year period from 65.00% in 2007 to 55.40% in 2018.

The **real asset** component of the portfolio consists of Real Estate, Infrastructure and Credit Investments. The Principal Credit Investments (PCI) focus on investing in sub-investment grade corporate debt through primary and secondary transactions, which helps provide debt financing across the entire capital structure. These investments include high-yield bonds, term loans and structured products. The Real Asset (RA) portfolio comprises of three components i.e. Real Estate Infrastructure and Agricultural sectors. The investments in Real Estate are mainly done in high-quality commercial properties. The Real Asset investments have grown by 21.33% from USD 60.30 billion in 2017 to USD 73.1 billion in 2018.
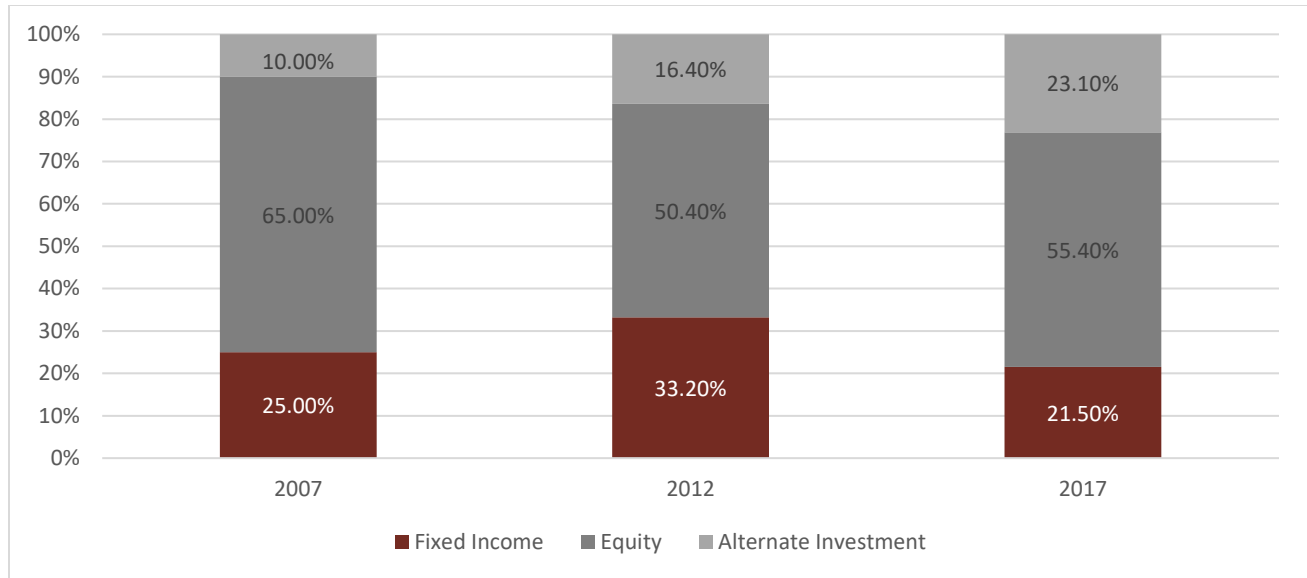
Figure 5 Investment Trends of CPP of Canada
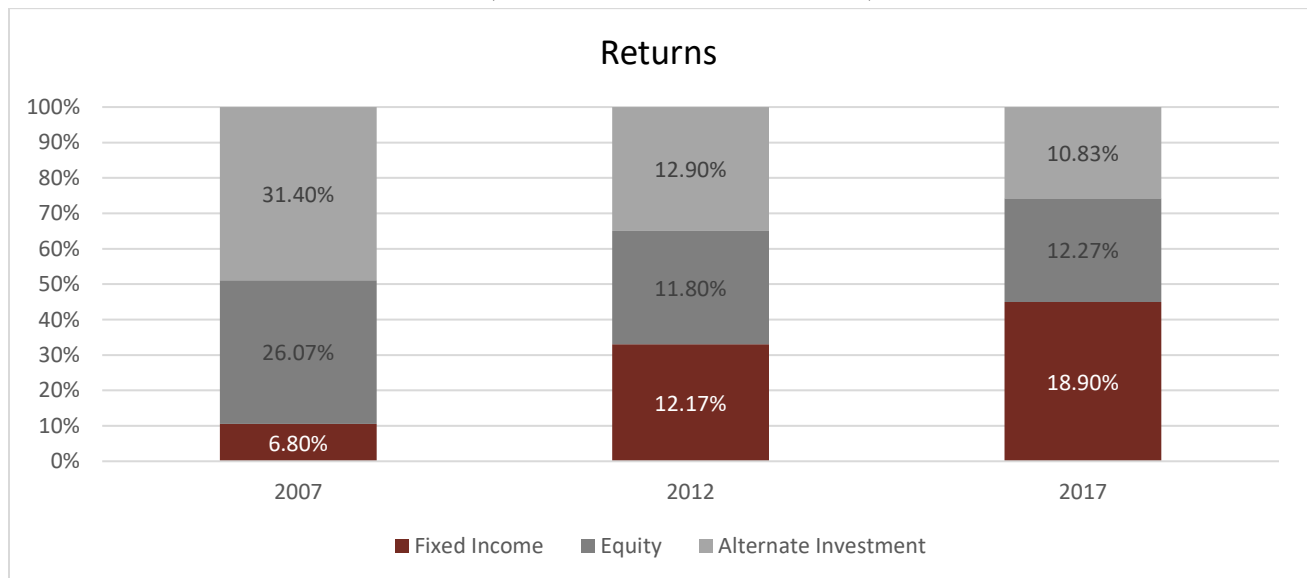Source:(CPP Investment Board, 2018)

Figure 6Returns from Investments of CPP of Canada
Source: (CPP Investment Board, 2018)

C. PENSION SYSTEM IN UNITED KINGDOM

The pension system in United Kingdom (UK) is a Defined Benefits (DB) scheme managed by the Pension Protection Fund (PPF), which is a public body established under the Pension Act 2004. The fund which came into operation on April 6, 2005 is accountable to the Parliament through the Secretary of State for Wok and Pensions. The fund pays the participants DB and hybrid occupational pension schemes where the employer has become insolvent or the funds to cover the PPF levels of compensation are insufficient.

The PPF has been aggressively changing its asset allocations but the majority of the portfolio comprises of fixed income securities. The investments made by the PPF have a range which defines the minimum and maximum percentage of allocation of funds in that particular asset class. The PPF asset portfolio at the end of 2018 was around USD 38.19 billion. The majority of the investments are made in Bonds and Cash followed by Alternate investments and the least amount of investments can be made in equities. The assets allocation of the PPF as on March 31, 2018 is as follows:
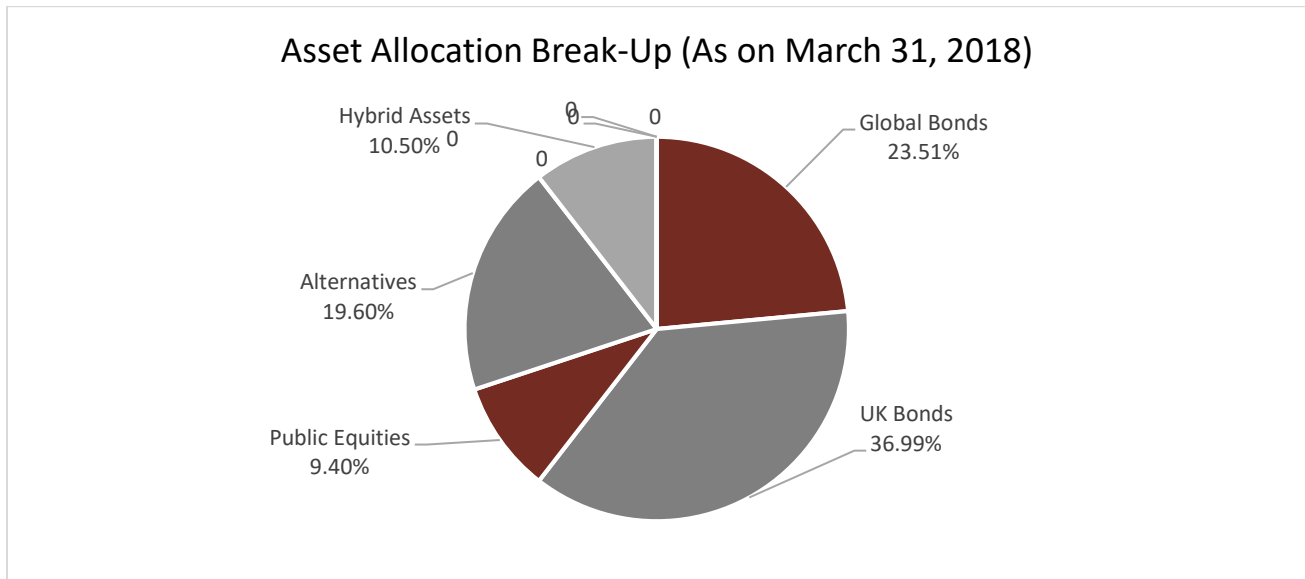
Figure 7 Asset Mix of PPF of United Kingdom
Source:(Pension Protection Fund (PPF), 2018)

The **fixed income and cash** investments are made mostly in government bonds. The investments are made in the bonds that have a credit rating of AAA and even in bonds that are rated below BBB or not even rated. A contrasting feature of the investing mandate of the PPF of the United Kingdom compared to other pension fund around the globe is that the bonds without any rating are also eligible as an investment option. Moreover, majority of the allocations are made in BBB rated bonds followed by bonds rated AA. The global bond investments are made mostly in developed market economies with a majority of the global bond investments made in the United States of America followed by investments in emerging market economies. The Pensions Act 2004 states that the maximum amount of investments to be made in the Fixed Income and Cash investments where the maximum amount of funds that can be allocated is up to 74%.

The **equity** investments on the other hand have the least amount of funds allocated to them. The maximum amount of funds that can be allocated as defined by the Act is up to 12%. This has been revised from the cap limit of 20% in 2012. The public equity investments gave maximum returns due to market volatilities. The fund's conservative approach could the reason for such less allocation of funds to equity.

The **alternate income** investments are made in Infrastructure and Investment Property Funds. Investments are also made in property as well as timberland and farmlands. There are investments also made in Global Tactical Assets Allocations are a form of hybrid funds which

focus on market movements in general rather than tracking movements of individual securities. The investments have been cut from fixed income and equities and have been allocated to alternate asset class which have increased from 7.50% in 2007 to 30.90% in 2018.
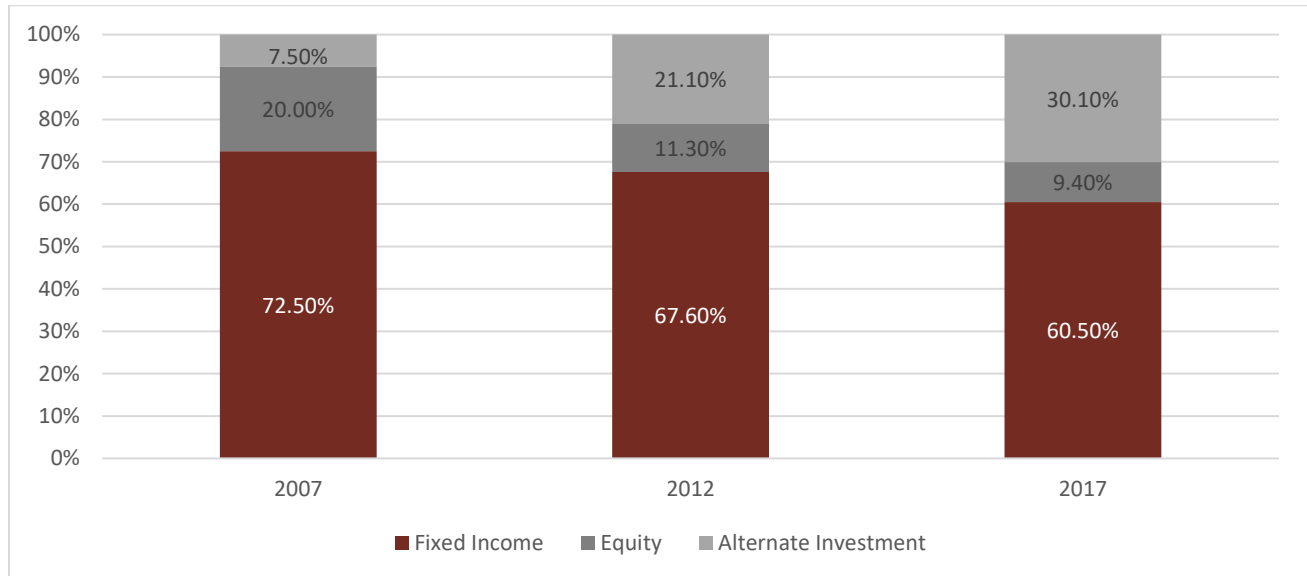

Figure 8 Investment Trends of PPF of United Kingdom
Source: (Pension Protection Fund (PPF), 2018)

D. PENSION SYSTEM IN NORWAY

The Pension Fund of Norway formally known as Government Pension Fund Global (GPFG) is managed by the Norges Bank Investment Management (NBIM). The NBIM, a unit of the Norges Bank was established in January 1998 on the lines of a new strategy established by the Ministry of Finance and approved by the Storting (Norwegian Parliament). Initially, the NIBM's results were measured relative to a benchmark portfolio defined by the Ministry of Finance. Even today, the investment strategy is devised by the Ministry of Finance in consultation with the Norges Bank Investment Management arm and the Parliament of Norway.

NBIM makes investments in capital markets and through active management tries to establish a strategic portfolio chosen by the Ministry of Finance in consultation with the Norges Bank. In 2018, the returns obtained from the GPFG stood at -6.10%. These negative returns were mainly due to volatility in the oil prices in the first quarter of 2018 as the fund holds a majority of the investments in the form bonds and equities in energy and oil related industries as the GPFG was earlier known as the Oil Fund after Norway found extensive oil reserves in 1969. As of 2018, the fund is invested in over 9158 countries with an average holding in the world's listed companies at around 1.4%. The fund has invested over 38.80% of its total portfolio value in the companies of the United States of America. The asset allocation of the GPFG as on March 31, 2018 is as follows:
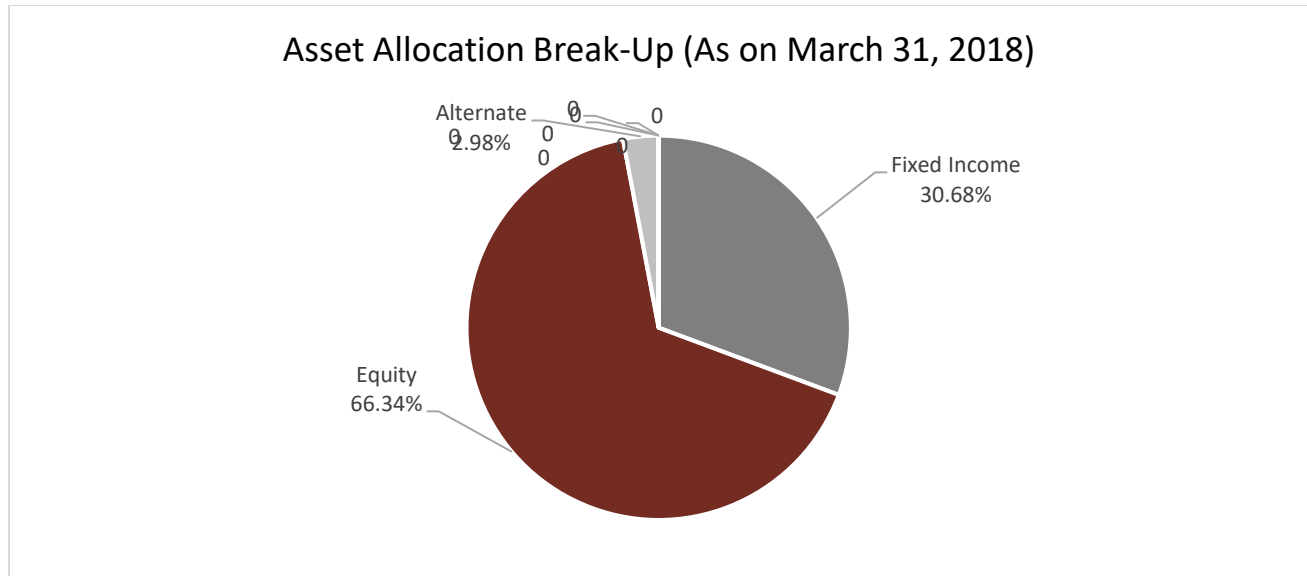
Asset Allocation Break-Up (As on March 31, 2018)

Figure 9 Asset Mix of GPFG of Norway
Source:(Norges Bank Investment Management (NBIM), 2019)

The **fixed income investments** accounted for 30.70% of the total fund value at the end of financial year 2018. The investments were made mostly in bonds and the remainder in short-term securities and bank deposits. The investments in Government funds which constitute about 56.60% of the total fixed income investments gave returns of 1.50%, while the fixed income investments in the Developed Markets returned 2.20%.

The **equity investments** accounts for 66.34% of the total portfolio value but returned -9.10%. This was mainly due to turbulent and contrasting markets developments throughout the year. The fund also decides to disinvest equity worth approximately USD 37 billion in oil and gas related companies which made up almost 6.00% of the total portfolio value. The reason behind this was cited by the NBIM that they wanted to make the Norwegian Sovereign Wealth Fund's exposure to fluctuations in crude oil price amid concerns about environmental degradation. The fund's major holdings are in stocks like Microsoft Corp., Apple Inc., Alphabet Inc., Amazon Inc., Berkshire Hathaway Inc., etc. to name a few.

The **alternate investments** which constitute about 3.00% of the entire are mainly in unlisted real estate investments which gave returns of 7.50% in 2018. Investments in listed real estate on the other hand returned -10.3% in 2018. The returns from unlisted real estate is obtained in the form of rental income, operating costs, movement in exchange rates and transaction costs for property purchases and sales. The fund holds majority of the unlisted real estate in the United States of America, while the city holding the maximum amount of unlisted real estate investments is in London. The breakup of the unlisted real estate investments comprises of Office Space (59.30%), Logistics (21.60%), Retail (18.00%) and Others (1.20%).
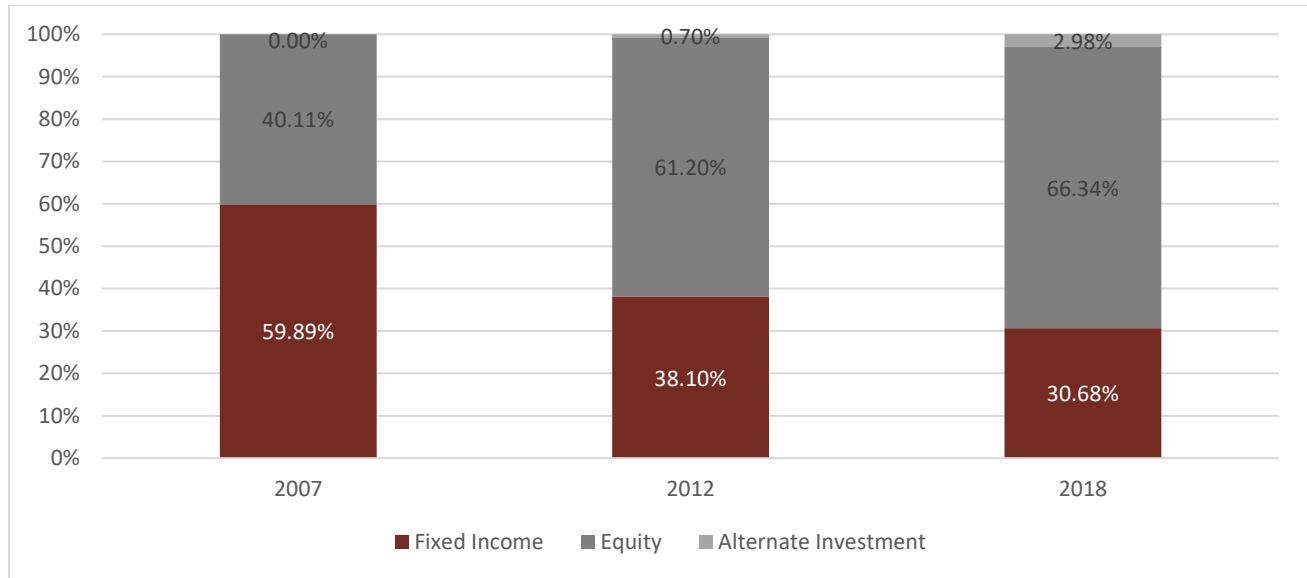
Figure 10 Investment Trends of GPFG of Norway
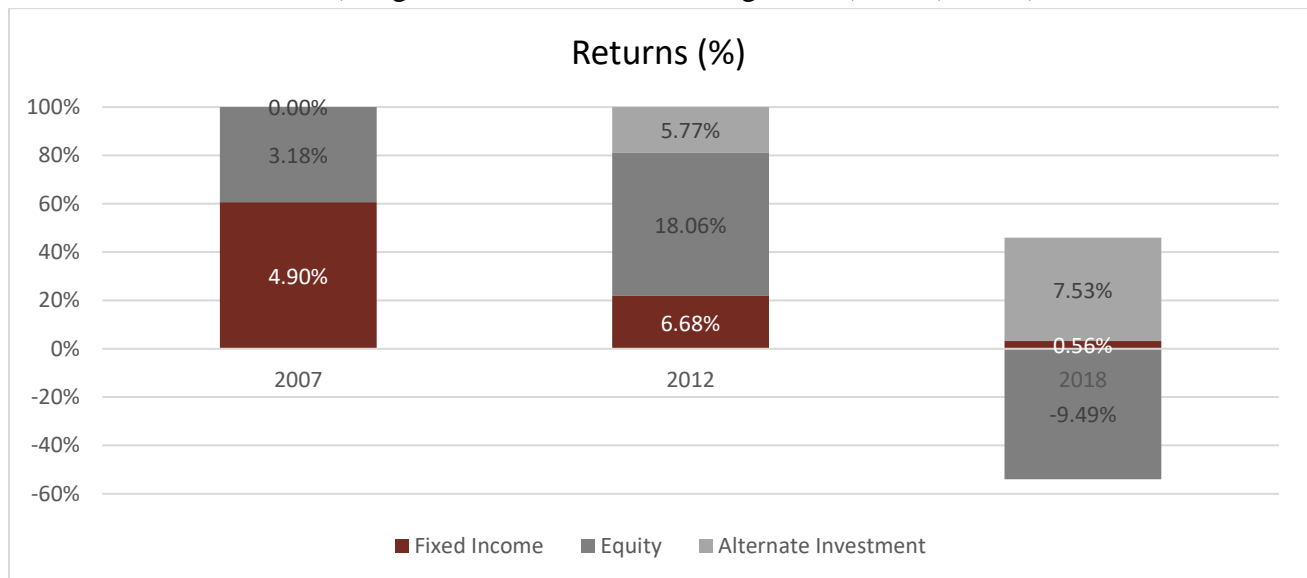Source: (Norges Bank Investment Management (NBIM), 2018)

Figure 11 Returns from Investments of GPFG of Norway
Source: (Norges Bank Investment Management (NBIM), 2018)

E. PENSION SYSTEM IN JAPAN

The state pension fund of Japan in managed by the Government Pension Investment Fund (GPIF). Founded in 2006, the GPIF has the largest pool of retirement savings in the world with assets worth around USD 1.4 trillion. The fund also contributes towards the stability of the National Pension and Employees' Pensions Insurance programs.

Majority of GPIF's assets are invested by the external money managers who are continuously monitored by the fund. The portfolio mix of the GPIF mainly involves passive investments that seek to mirror returns of market index within each asset class. The asset

allocations have been shuffled vigorously in recent years with a shift in investments from bonds to equities. The asset allocation of the GPIF as on March 31, 2018 is shown below:
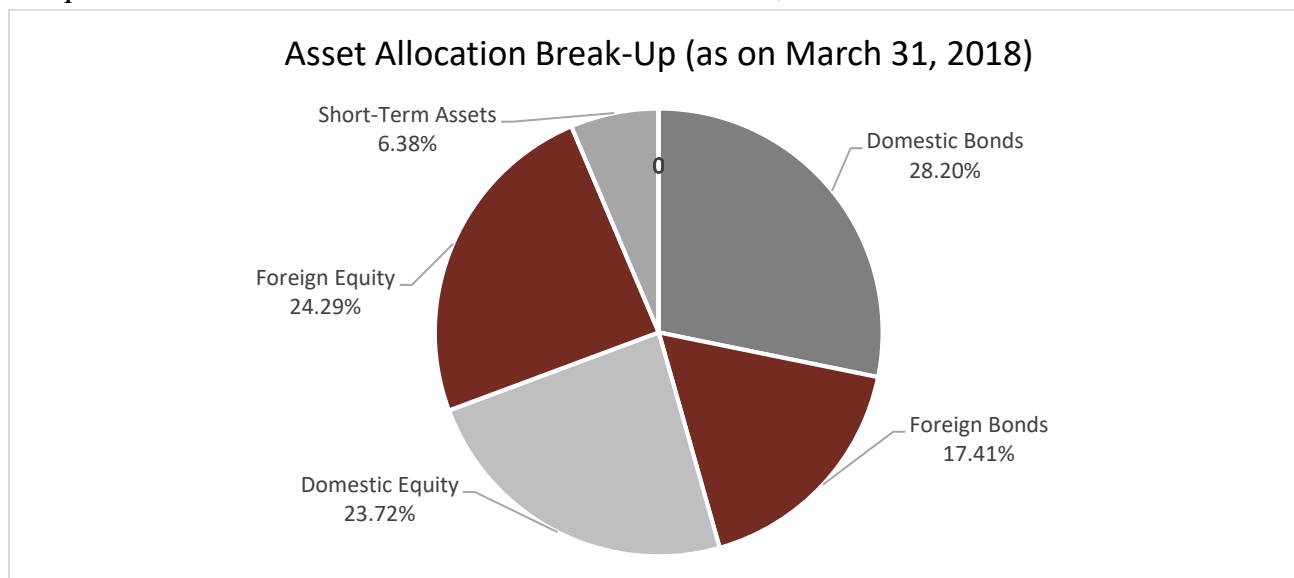

Asset Allocation Break-Up (as on March 31, 2018)

Short-Term Assets
6.38%

Domestic Bonds
28.20%

Foreign Equity
24.29%

Foreign Bonds
17.41%

Domestic Equity
23.72%

Figure 12 Asset Mix of GPIF of Japan
Source: (Government Pension Investment Fund (GPIF), 2018)

The **fixed income** investments constitute about 45.61% of the entire portfolio value. More than 60% of the investments are made in domestic bonds and the remaining are made in bonds of foreign countries especially developed and emerging market economies. The bond investments have seen a significant drop in asset allocation of around 26% between 2012 and 2018. The reason for such a drastic change was because the global stock markets were rising rapid and giving better returns as compared to the fixed income investments.

The **equity** investments on the other hand have been allocated more weightage in the asset portfolio in recent years. The equity investments are almost distributed in the same proportion between domestic and foreign equities. The domestic and foreign equities returned -11.82% and -5.08% respectively in 2018. The reason for the negative returns was turbulent macroeconomic factors coupled with fluctuating oil prices.

The **short-term assets** have also been increasingly given more weightage in the portfolio in recent years. The assets allocated to short-term investments have grown form 0.17% in 2017 to 6.38% in 2017. In the year 2018, the GPIF reported losses in the tune of USD 158 billion owning to fluctuations in the oil prices and poor performance of equities because of the on-going global trade wars.
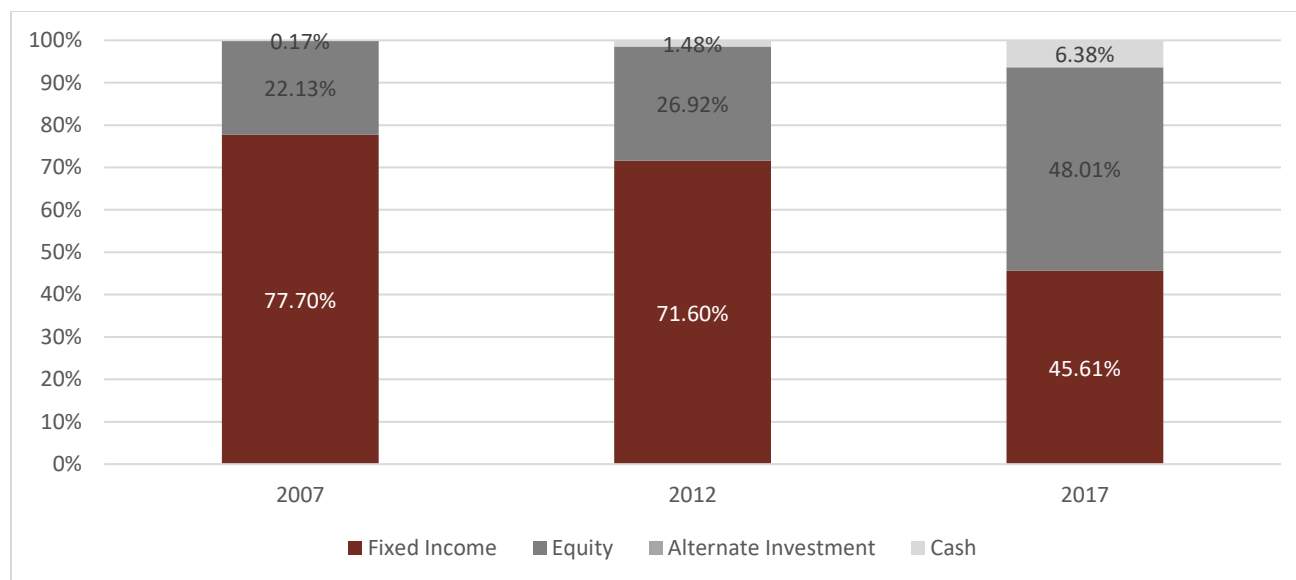
Figure 13 Investment Trends of GPIF of Japan
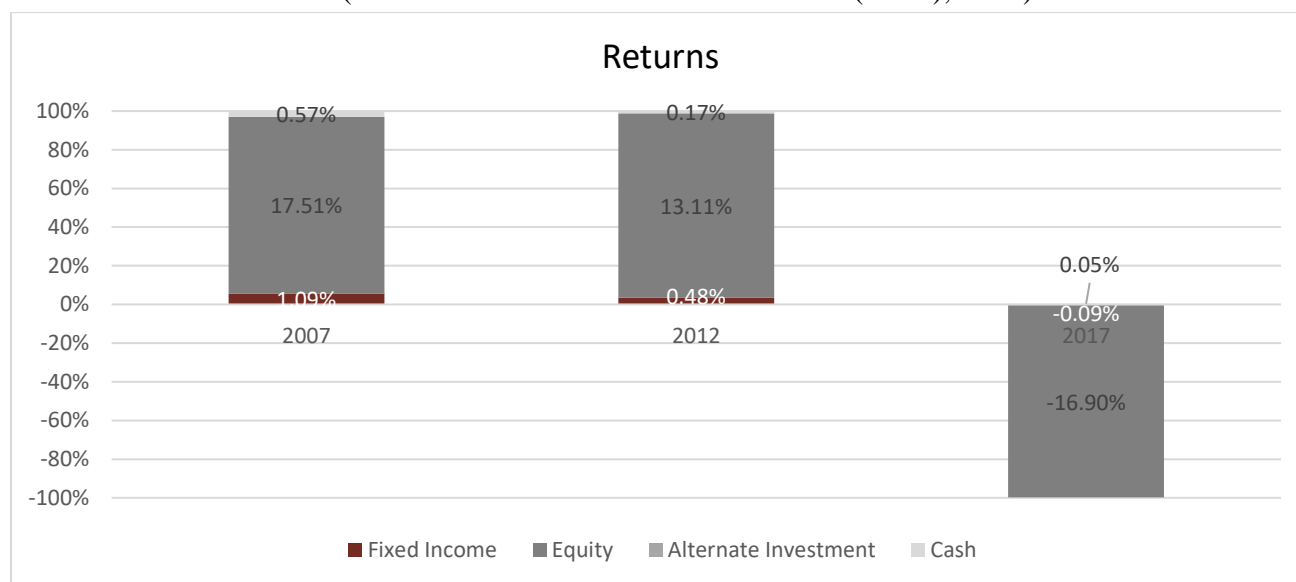Source: (Government Pension Investment Fund (GPIF), 2018)

Figure 14 Returns from Investment of GPIF of Japan
Source: (Government Pension Investment Fund (GPIF), 2018)

TRENDS OF RETURNS FROM GLOBAL PENSION FUNDS

Pension funds around the world have a defined investment pattern which helps them to increase the returns earned on the funds invested. Investment managers on behalf of the pension funds make investments in various asset classes. The investment in each asset class is made based on a mandate decided between investment managers and the pension funds.

India on the other hand still follows the DB scheme to a large extent. Over the last 10-year period, the investments made by the National Pension Scheme (NPS) of India are still focused more on the fixed income securities, with more than 80% of the entire portfolio value

invested in government bonds in India and in the bonds of other advanced countries. Thus, concluding that for an emerging economy like India, where the pension fund assets are not sufficient to support such a large aging population, the DC scheme would also help to shift the burden of sustaining the future aging population in totality from the country's pension funds and instead would provide benefits to the participants of the scheme based on the amount of contributions made by them.
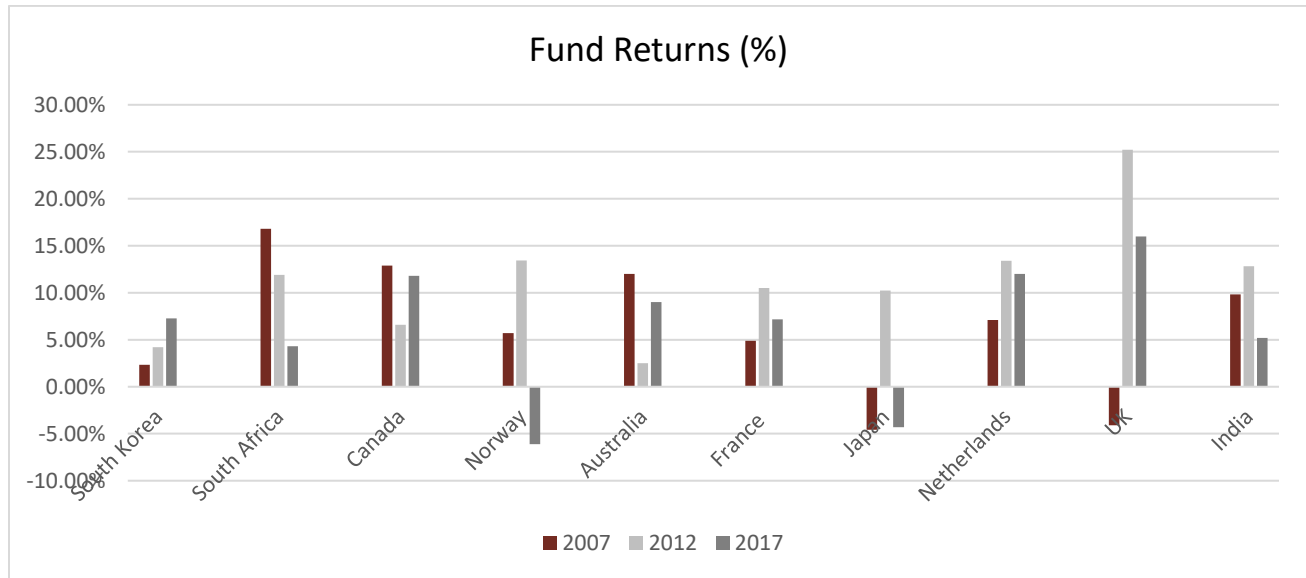

Figure 15 Return Trends of Global Pension Funds

BIBLIOGRAPHY

1. *CPP Investment Board.* (2018, May). Retrieved from CPP Investment Board: http://www.cppib.com/documents/1800/CPPIB_F2018_Annual_Report_English.pdf
2. *Government Pension Investment Fund (GPIF).* (2018, June). Retrieved from Government Pension Investment Fund (GPIF): https://www.gpif.go.jp/en/performance/pdf/2018_q3.pdf
3. *Norges Bank Investment Management (NBIM).* (2018, May). Retrieved from Norges Bank Investment Management (NBIM): https://www.nbim.no/contentassets/02bfbbef416f4014b043e74b8405fa97/annual-report-2018-government-pension-fund-global.pdf
4. *Norges Bank Investment Management (NBIM).* (2019, April). Retrieved from Norges Bank Investment Management (NBIM): https://www.nbim.no/contentassets/d3a372eb9d234e57a07caaf0f35cef67/spu_1q_19_web.pdf
5. *Organisation for Economic Co-operation and Development (OECD).* (2019, March). Retrieved from Organisation for Economic Co-operation and Development (OECD): http://www.oecd.org/daf/fin/private-pensions/globalpensionstatistics.htm

6. *Pension Fund Regulatory and Development Authority (PFRDA).* (2017, August 14). Retrieved from PFRDA: https://www.pfrda.org.in/myauth/admin/showimg.cshtml?ID=1434

7. *Pension Protection Fund (PPF).* (2018, July). Retrieved from Pension Protection Fund (PPF): https://ppf.co.uk/sites/default/files/file-2018-11/annual_report_2017-2018_0.pdf

MARKET ANALYSIS AND MARKET ACCEPTANCE FOR B2B PRODUCT: A STRATEGIC APPROACH USING PORTER'S FIVE FORCE MODEL

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ABSTRACT

The Indian auto-components industry has experienced a steady growth over the last few years and are well positioned to benefit from globalization of auto component exports. B2B industries are focused in horizontal diversification of the product and have the best chance of capturing the growth opportunity. The fundamental problem addressed in the study is identifying market opportunities for a new product launch in B2B segment. The study objectives is to perform competitive analysis, market acceptance of new product and to propose launch strategies based on the study results. The paper explains about the current players in the market and marketing stimuli factors that need to be considered before a product launch in B2B market. Descriptive research design was used to assess the factors and opinions of the customers. The study was conducted in two stages. In stage one, a focused group discussion was conducted with dealers and retailers of auto components. In stage two, based on the group discussion, a structured questionnaire was designed with open-ended and close-ended questions and auto parts electricians, truck drivers were considered as study population. The survey was conducted in Coimbatore district from the state of Tamil Nadu, also called as Manchester of south India for its large industrial market establishments. To attain the specific objective, suitable hypothesis was formulated and specific analysis tools were used. The paper proposes a model which can applied for understanding the market opportunities for any B2B product launch.

KEYWORDS: Auto components industry - B2B Market - Porter's Five Force Model- Market Acceptance - Marketing Mix - Launch Strategies

INTRODUCTION

The auto-part industry of India has extended by 18.3 percent to reach at a degree of US$ 51.2 billion in FY 2017-18 (IBEF Auto industry report 2017-2018). The auto-segments industry represents 2.3 percent of India's Gross Domestic Product (GDP) and utilizes the same number of as 1.5 million individuals legitimately. The global automotive aftermarket size was valued at USD 369.2 billion in 2018 and is anticipated to expand at a CAGR of 3.9% from 2019 to 2025. The lighting industry, part of auto-component industry consists of lighting and signalling devices mounted or integrated to the front, rear, sides. Stringent guidelines about vehicle wellbeing are fundamentally driving the worldwide LED taillights advertise. Taillights

demonstrate the nearness of the backside of the vehicle to the vehicles behind it, which enables the accompanying drivers to make remedial move so as to be careful separation between the vehicles and keep away from mishaps. Driven taillights are enduring and devours less vitality, which is a key driver of the worldwide LED tail lights advertise. The research paper focus on market analysis of tail lamp segment in automobile industry and acceptance and the expectation of truck drivers(consumers) and auto electrician (customers) in purchase of LED tail light for their trucks that is going to be launched by an industry.

PRODUCT DIVERSIFICATION IN VUCA WORLD

VUCA World, any industry that understands the cause and effect linkage will endorse multiple perspectives and seek alternate view point. Product diversification is one of the strategic elements important to survive in VUCA world. Concentrating too heavily on a single industry or product, there is a risk volatility in revenue and resources as demand rises and falls. Industries stretching across many categories, have more predictability. The market analysis and research has been conducted for a famous horn manufacturing industry. It has a created a strong value proposition for its quality and zero-defects. With help of this VUCA World concept, the industry planned to diversify their product portfolio into the lighting segment. The **lighting industry observes an enduring development because of the developing creation and expanding accentuation on vehicle wellbeing and government guidelines and road safety with respect to lighting framework. In addition, expanding discretionary cash flow of individuals bolsters the interest for tasteful searches for vehicles, which thus makes the interest for cutting edge lighting arrangements. Fluctuating costs of crude materials and high R&D cost control the market development. The Indian lighting business sector is divided dependent on lighting innovation, application, deals channel type, and vehicle type. Top impacting factors of Lighting industry are** growing emphasis towards road safety, emerging government regulations, demand for energy efficient lights and high cost of LED lights. With respect to the impacting factors, market analysis was made before new product launch and the market acceptance of LED tail lights (refer Fig 1) was studied among the customers and consumers.

Fig. 1. Four chamber LED lights used as tail lamps in trucks.

Literature Review

Studies suggest that the Five Forces framework is a "useful starting point for strategic analysis even where profit criteria may not apply" (Johnson, Scholes & Whittington, 2008, p. 60). The force 'Rivalry Among Existing Competitors' includes several forms of competition, for instance

"price discounting, new product introductions, advertising campaigns, and service improvements" (Porter, 2008, p. 32). The existence of entry barriers limit the number of companies in the industry and therefore influences the "Rivalry Among Existing Competitors'(Johnson et al., 2008)". "The height of barriers to entry has been found consistently to be the most significant predictor of industry profitability" (Rothaermel,2008, p. 215). The Bargaining Power of Suppliers can be influenced by the size of the supplier, the number of suppliers, and the availability of alternative customers (Slater & Olson, 2002). The Bargaining Power of Buyer is high if the buyers are large, they are ably to switch easily to another supplier and they are few in numbers (Slater & Olson, 2002). According to Hubbard and Beamish (2011) there are several factors that influence the Threat of Substitutes, e.g. switching costs between substitute products/services and industry product (Klemperer, 1995), or buyers' addiction to buy substitutes.

The market acceptance of a new product has been studied based on factors such as Marketing stimuli and Attitude. Product attributes are the benefits of products, and these benefits are the surface means used in advertisement and promotion offer to connect the brand with a motivation which influence brand attitude (Rossister, 1987). According to Agwu and Carter (2014), 'among the four Ps, price is the only income generator and it is the value attached to a product. Furthermore, price is the amount of money charged for a product or service. It is the sum of all the values that customers give up in order to gain the benefits of having or using a product (Kotler et al 2010). According to Kai Li & Hung Hung (2007), place is a marketing mix which describes whether the location is accessible and transport is convenient, place comes out as a heterogeneous phenomenon. Kotler, et al., (2005) claims that place involves all activities of the company to make all products available to the customers. According to Mason & Staude (2009), Place is the least changing marketing tactic. According to Gilbert (1999), sales promotional tools such as free sampling and buy-one-get-one-free or in-pack premium item were found to be inducing consumer to purchase more of the product. Chaharsoughi and Yasory (2011) found that sales promotion has positively influenced consumers' attitude to purchase. Teng and Wang (2015) acknowledged that sales promotion was positively correlated to perceived value and purchase intention. Dr. Lars Perner (2010) & defines consumer attitude simply as a composite of a consumer's beliefs, feelings, and behavioural intentions toward some object within the context of marketing. A consumer can hold negative or positive beliefs or feelings toward a product or service. According to the Model of Consumer Decision Making (Schiffman, 2008), actual purchase is an important final stage in consumer's process of purchasing a product or service. Based on various review of articles, research questions were developed to address the current research gap.

Research Questions

- How to perform competitive market study analysis for a new tail lamp product to be launched?
- What factors are considered to analyse the market acceptance of 4 Chamber LED light?
- What are the strategies proposed for the launch of 4 chamber LED lights in trucks?

Objectives of the Study

- To perform market analysis using Porter's Five Force model for 4 Chamber LED lights in trucks.
- To understand the market acceptance of Industry's 4 Chamber LED lights by customers and consumers.
- To propose launch strategies based on study results for 4 Chamber LED lights in trucks
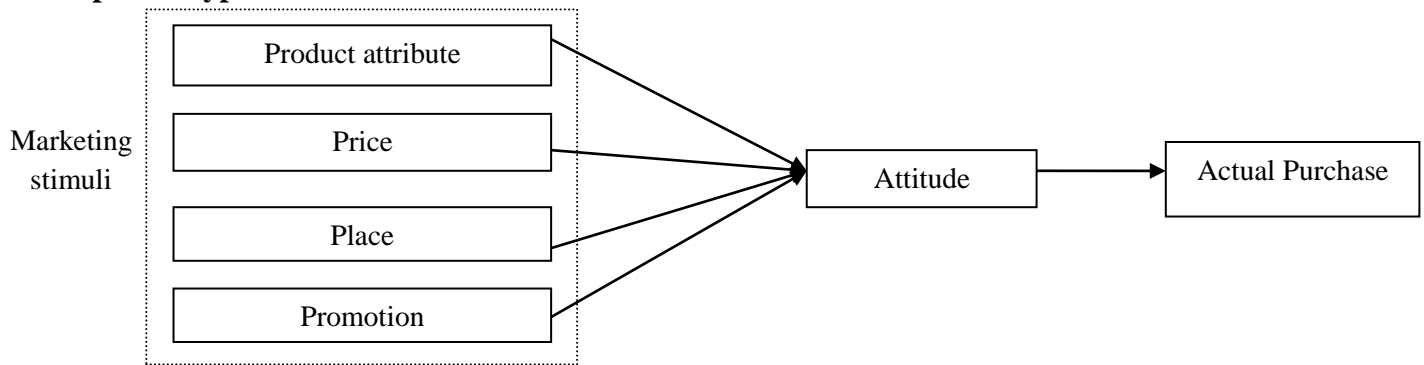
Proposed Hypothetical Model

Fig. 2. Proposed Hypothetical model for Consumer purchase decision.

Methodology for Market analysis

With respective to objective 1, to understand and analysis the lighting segment market, a focused interview was conducted to the dealers, wholesalers and retailers using a structured open-ended questionnaire.

1 Sample and data collection: Market analysis
Market analysis for 4 chamber LED lights was done utilizing the data collected from dealers, wholesalers and retailers of auto spare parts shops. A structured questionnaire was designed with open-ended questions. The survey was conducted in different regions of Coimbatore, Erode and Namakal districts of Tamil Nadu. To ensure the validity and reliability of responses, a number of validation and attention check questions were inserted into the survey. A sample size of 50 customers was obtained which was considered to be adequate understand the lighting segment market and the competitive players.

2 Survey instrument: Market analysis
The survey instrument used in this study consisted of two sections: demographic information and main questions. The demographic information section asked questions related to type of customer (wholesaler/retailer), no. of years in the industry. The main questions consisted of the items concentrating on the competitive players, their product ranges, pricing, channel of distribution, after sales service, market volume.

3 A strategic approach for market analysis: Porter's Five Force Model.

With reference to the first objective, Porter's Five Force model for 4 chamber LED lights is developed. The force 'Rivalry Among Existing Competitors' includes several forms of competition, for instance "price discounting, new product introductions, advertising campaigns, and service improvements" (Porter, 2008, p. 32). The Five Forces framework "went beyond a more simplistic focus on relative market growth rates in determining industry attractiveness" (Grundy, 2006). The analysis focus on the framework that helps analysing the level of competition within a certain industry. The goal of the Five Forces framework is not only to assess industry profitability and attractiveness but also to comprehend the "underpinnings of competition and the root causes of profitability" (Porter, 2008, p. 29).

Table 1 - Porter's Five Force Model - 4 chamber LED lights for trucks

Rivalry among existing competitors	• Current Players: Delhi based manufacturers (Vasko, Sintex, Sakura), Local manufacturers (Super), Premium segment (HELLA). • The competitive players have a wide diversification in their product mix of lighting components (Fog lights, Head lights etc). • There is a very low brand loyalty as switching cost is very less. • High price with wide variety of features such as UV resistant and good optic design with 1-year guarantee is present in HELLA.
Threat of new entrants	• Barrier to enter: Capital, technology, OEM relationship, customer service and distribution network. • Scope: Loyal customer groups, established distribution channel with added promotional strategies, Government policies with new RTO rules. • Investing more on R&D and offering a product differentiation gain more acceptance.
Threat of substitute products	• Similarity in performance among all Delhi based manufactured product with low price (Sintex, Vasko, Sakura). • Old market products [Scrap market] with high quality and less price.

	• Very low switching cost and easy for the substitute to switch.
Bargaining power of suppliers	• HELLA is a global brand leading in 4 chamber LED light market with other smaller size national brands. • Less distinctness in the characteristics and performance of national suppliers. • The industry has potential to decide upon the quality and pricing mainly among Delhi manufacturers.
Bargaining power of buyers	• Potential Market: According to 2017 survey by Website PincodeIndia.com, there are about 80,00,000 trucks in Tamil Nadu. Low customer order because of less awareness about LED lighting industry. • Highly price sensitive customers and ability to switch to substitute products with lesser price. • The deciders about the product choice is dealers and retailers and not the electricians

Fig. 3. Threat levels based on Market Analysis

Various factors are analysed using Porter's Five Force Model as shown in Table 1. The threat from existing players is high because of awareness and competitive pricing. The treat for new entrant is less for well-established brand which involves in product diversification because of well-established dealership model and distribution channel. Bargaining powers of buyers is high because of similar product attributes among all products of 4 chamber light, it would be obvious

that there will be product switching. The bargaining power of suppliers is less in case of auto components industry. There is found to be a high threat for LED lights from normal chamber lights and old scrap market components. The brief market analysis illustrated the market potential, scope and the major threats for a new product to be launched.

Methodology for Market acceptance

With respective to objective 2, to analyse the market acceptance of 4 chamber LED light, survey was conducted among auto electricians and truck drivers using a structured close ended questionnaire.

1 Sample and data collection: Market acceptance

The proposed purchase decision model was tested utilizing the data collected from customers and consumers of 4 chamber lights used in trucks. A structured questionnaire was designed with close-ended and open-ended questions. It was designed in such a manner so that it caters all the areas of study. The survey was conducted in different areas of Coimbatore, Erode and Namakal districts of Tamil Nadu. To ensure the validity and reliability of responses, a number of validation and attention check questions were inserted into the survey in order to indentify completed surveys that were randomly responded to. A sample size of 213 was obtained which was considered to be adequate for research.

2 Survey instruments: Market acceptance

The survey instrument used in this study consisted of two sections: demographic information and main questions. The demographic information section asked questions related to age, geographical location, consumer type, current tail lamp usage and preferred brand. The main questions consisted of the items to measure six constructs involved in the proposed model. The items for Product attribute (7 items) from scale (Rossister, 1987), Price (6 items) from scale (Shipley & Jobber 2001) , Place (6 items) from scale (Mason & Staude 2009) , Promotion (5 items) from scale (Shea, 1996) from , Attitude (5 items) from scale(Solomon, 2008) and Actual purchase (7 items) from scale (Fandos & Flavian, 2006) were adopted. Items that were used to assess the purchase behavior were measured using a 5-point Likert scale (1 - Least accepted; 5 - Strongly accepted).

3 Data Analysis: Market acceptance

The proposed conceptual model was tested through a two-step process. First, normality and reliability were tested on model. Second step, a structural model was tested to assess the magnitude and direction of the proposed relationships using Pearson Correlation and Regression.

Proposed Purchase Decision Model

The current study utilizes consumer decision making models. The model includes six constructs in which Product attribute, Price, Place, Promotion can be grouped together as Marketing stimuli, the framework tests the purchase decision of the customers and consumers has a relationship and impact from Marketing stimuli as well as the attitude of the purchaser towards a

particular brand. Marketing stimuli talks about the features present in tail lamp, its pricing strategies, availability and promotional activities for 4 chamber LED lights.

Product attribute is considered to be one of the most important components in purchase of 4 chamber LED lights in trucks. During a switch from normal tail lamps to 4 chamber LED lights, both customers and consumer expect certain features to be present in LED lights such as water proof, separate chamber assembly for all 4 chambers in LED tail lamps, product lifetime and unbreakable. Customers definitely accept tail lamps with good optic design, good clarity vision during night rides, high lifetime LED light assembly and features play a major role in purchase of tail lamps.
H1: There is a significant relationship between product attribute and attitude of 4 chamber LED lights.

4 chamber LED lights are costlier than normal tail lamp assembly because of its product features and its usage level. Though it has enough considerable features, end consumers give least preference for tail lamps and does not like to invest much on LED lights. Tail lamps are only replaced during FC period and not in other times of the year by lorry drivers. Therefore, they purchase tail lamps that are lower in price and does not consider about quality. But in the case of heavy vehicles, passenger vehicles, they provide importance for tail lamps and prefer LED lights for tail lamps.
H2 : There is a significant relationship between price and attitude of 4 chamber LED lights.

A highly competitive market with similar product features and pricing, Industries can make a differentiation in availability of their product. Because availability plays a major role in this case where customers purchase tail lamps that are currently available in local stores. Larger penetration of product with planned distribution network would increase the availability of the product. Most of the end consumers prefer to purchase from existing retail stores. Therefore, primary job is to identify the market scope and its geographical requirements. By identifying the demand, supply gap would increase the purchase rate among the target market.
H3: There is a significant relationship between place and Actual purchase of 4 chamber LED lights.

Based on the Industrial market, customers and consumers does not provide high importance for promotional activities for low involvement products. Even most of the customers offer less importance in the case of 4 chamber LED lights purchase. Best way of promotional activities would be to transfer knowledge update to all retailers and end consumers about the advantages in using LED lights for their trucks by Direct marketing.
H4: There is a significant relationship between promotion and attitude of 4 chamber LED lights.

Attitude of the customers towards any brand is most important component in purchase of products marketed in the name of that brand. Customers hold a positive attitude and trust towards industry products because of its Zero quality defects. Product satisfies all the product requirements of customers and maintaining a competitive pricing would increase the positive attitude helps in purchase.

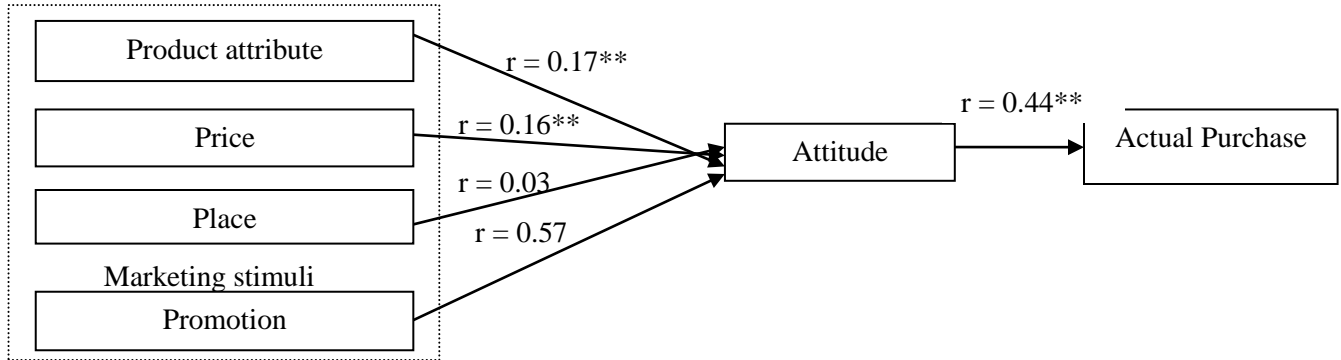H5 : There is a significant relationship between attitude and Actual purchase of 4 chamber LED lights

Fig. 4. Proposed Purchase decision model

RESULTS

1 Demographic profile of respondents

Table 2 - Demographic profile of respondents.

Items	Category	Distribution (%)
Age	20 - 30	1.87
	30 - 40	28.17
	40 - 50	61.50
	50 - 60	8.45
Geographic location	Coimbatore	46.95
	Namakal	32.39
	Erode	20.65
Type of consumers	Auto carriage	5.63
	Electrician	60.09
	Truck drivers	34.27
Current tail lamp usage	Normal Tail lamp assembly	24.41
	4 chamber LED lights	75.59
Preferred LED tail lamp brand	Vasko	20.18

Super	11.26
Sintex	13.61
HELLA	30.51
No preferred	24.41

As presented in Table 2, a large proportion of participants were Electrician (60.09%) around the age group of 40 - 50 years (61.50%) from Coimbatore (46.95%) geographic location, who use 4 chamber LED lights (75.59%) with their preferred brand as HELLA (30.51%). The sample is appropriate for this study in terms of demographic distribution.

2 Measurement model assessment

Table 3 -Measurement scale properties.

Study construct	Cronbach's alpha	No. of item
Product attribute	0.529	7
Price	0.607	6
Place	0.791	6
Promotion	0.777	5
Attitude	0.509	8
Actual purchase	0.529	7

To ensure the quality of the data analysis, normality was checked for each measurement items (Thompson, 2004). Next, the internal consistency reliability of the constructs was assessed. Results indicated that all Cronbach's Alphas (Table 3) for the constructs were almost greater than the suggested cut-off value of 0.70 (Hair, Ringle, & Sarstedt, 2011) providing evidence for strong internal consistency.

3 Acceptance assessment

Table 4 shows the acceptance level under different variable categories of 4 chamber LED lights by customers and consumers. This gives an overview of acceptance level of customers and consumers.

Table 4 -Acceptance level of customers and consumers

Constructs	Mean	Standard Deviation
Product Attribute (PA)	4.51	0.41
Price (PR)	4.69	0.21
Place (PL)	4.37	0.23
Promotion (PRO)	4.40	0.24
Attitude (AT)	4.66	0.24
Actual Purchase (AP)	4.15	0.55

Note: 1 - Least accepted and 5 - Highly accepted

The market acceptance level of customers and consumers is based on the marketing stimuli and attitude. The acceptance level of the customers is high for the pricing strategies (mean = 4.69) followed by the industry and the attitude of the customers towards industry (mean = 4.66). There is a gap in the strategies followed by the industry with respect to availability of product (mean = 4.37) and the promotional activities (mean = 4.40) that contributes for low acceptance level.

4 Impact assessment

The respondents actual purchase of 4 chamber LED lights in trucks is influenced by various factors like Marketing stimuli such as Product attribute, Price, Place, Promotion and Attitude. In order to find the extent to which each factor influences the Actual purchase of 4 chamber LED lights in trucks, multiple regression analysis has been carried out.

Actual purchase of 4 chamber LED lights = - 0.91 + 0.00 (Attitude)

Table 5 - Testing impact of actual purchase to marketing stimuli and attitude

S. No	Attitude	Unstandardized coefficients	Standardized coefficients	T	Sig
		B	BETA		
	CONSTANT	0.65		1.32	0.18
1	AT	0.75	0.44	7.13	0.00

R	0.52
R square	0.27
Adjusted r square	0.25
Sig	0.00
Dependant construct	Actual purchase

Note: PA = Product attribute; PR = Price; PL = Place; PRO = Promotion; AT = Attitude

The dependent construct is Actual purchase of 4 chamber LED lights in trucks and the independent constructs are Product attribute, Price, Place, Promotion and Attitude. The significance value from Table 5 shows that Actual purchase of 4 chamber LED lights is influenced by the constructs Product attribute and Attitude as $p = 0.00$ which is less than 0.05. The value of R square and adjusted R square showed that 25% of variation in Actual purchase is explained by the independent constructs. The alternate hypothesis that the independent variables are good enough in predicting the Actual purchase of 4 chamber LED lights in trucks is accepted and the model is fit.

Amongst the constructs of Marketing stimuli, Product attribute ($\beta = 0.00$) and Attitude ($\beta = 0.00$) seemed to influence the Actual purchase of 4 chamber LED lights in trucks. Therefore, it is inferred that Actual purchase of 4 chamber LED lights in trucks is influenced by the Product attribute and Attitude.

DISCUSSIONS AND SCOPE FOR FUTURE RESEARCH

In accordance of Porter's Five Force Model, threat levels of Market analysis were discussed. Threat level of Rivalry is high in lighting auto ancillary industry because of a lot of competitors that are roughly equal in size and power. Margins in the replacement market and exports are higher than the OEM market. New entrants in an industry bring new capacity and the desire to gain market share. The new entrants investing more on R&D and offering a product differentiation can gain more acceptance among the customer group. Loyal customer groups, established distribution channel with added promotional strategies would help to gain the market acceptance. The normal tail lamps and chamber lights from old market are the major threat in substitute product category. Most of HCV/LCV uses normal tail lamps than 4 Chamber LED lights because of less awareness level about the LED usage and its benefits. The threat from old auto components market is still higher. This is because of low price products which are easily available and most of auto electricians prefer to obtain profit by using low priced products. The bargaining power of suppliers is less because of large no. of players and its easy for the customer to make a product switch based on availability and pricing and therefore leads to high bargaining power of buyers.

Industries can concentrate on selling their 4 chamber LED lights by considering the needs of target group and offering a product that would be a solution to all their requirements. Long lasting LED lights, lower breakdown rates, offer less battery consumption are the product feature gaps which were present in usage of normal tail lamps. Apart from these, introducing tail lamps with water proof would be an added value where none of the competitors have introduced this feature and would be a product differentiation among all similar competitive players. Offering discounts, credit points, reasonable profit margin, warranty and instant claims for damaged piece from retailers' side would still motivate for bulk purchase from Industries. Maintaining a competitive pricing would definitely attract larger customers group. Increasing the availability of the products in every retail stores and following a direct marketing would simultaneously result in sales level.

From the study, it has been found that customers provide importance for Product attribute, its pricing and Attitude towards than Place or Promotion. Therefore, for a successful purchase of 4 chamber LED lights, industries can concentrate on satisfying customer requirements, where none of the competitive players have fulfilled. If customers hold a high attitude and trust among all products of industry, then the purchase level can be increased by following a competitive pricing strategy, following the practised distribution network and direct marketing along with sales man visit in a regular phase.

The future scope of the study is to gather the true information from customers about their purchasing behaviour. As the research study is limited only among the regions of Tamil Nadu, study reveals about the purchase behaviour of customers only about these regions. Extended study over all the target market regions would provide a complete competitive analysis and market acceptance of targeted customers.

Table 6 - Difference in need requirements and opinions of customers and consumers

Variable	Electrician	End consumer
Product attribute	• Requirement of less lifetime of 1 - 2 years. • Prefer LED tail lamp assembly because of easy fitment. • Require separate partition for each chamber for easy replacement.	• Requirement of longer life time. • Mostly prefer normal tail lamps for its lower price except lorry drivers for Milk van, Gas, Petroleum heavy vehicles and German based models
Price	• Accepts competitive pricing. • Require discounts on bulk purchase.	• Lesser acceptance for competitive pricing. • Require warranty of min 6 months and replacement for breakage and LED complaints
Place	• Bulk purchase directly from distributors. • Does not prefer to purchase from online sites	• Prefer to purchase from local stores or recommended by electricians. • Does not prefer to purchase from online sites.
Promotion	• Does not give high preference for promotional activities.	• Does not give high preference for promotional activities
Attitude	• Hold a positive attitude and trust towards all products from a well recognized branded industry.	• Hold a positive attitude and trust towards all products from a well recognized branded industry.
Actual purchase	• Increase the purchase rate by offering loyal points, discount during bulk purchase and does direct marketing. • Maintain a availability at almost all retail stores. • Transfer product knowledge through sales man representatives and through retailers.	• Purchase rate of end consumers can be increased by satisfying them in product attribute category by offering all features they require at competitive pricing.

CONCLUSION

According to IBEF report, the growth of global OEM sourcing from India and the increased indigenization of global OEMs is turning country into a preferred designing and manufacturing hub. The auto components industry especially in the case of lighting market is considered to have a steady growth in future. Changing technologies in industry and the new government regulations is a boon for LED market in consideration with lighting segment for heavy vehicles. Product diversification of Industries in the lighting segment have a greater scope to sustain in VUCA world. Though there are many competitive players in the normal Tail lamp segment and in 4 chamber LED lights segment, there still exist gap in product features requirement for electricians and truck drivers. Therefore, Industries by fulfilling all the requirements would satisfy the customers and therefore helps growth of the industry.

REFERENCE

1. Porter, M. E. (1979). "How competitive Forces that shape strategy?", Harvard business review 57.2: 137-145.
2. Porter, M.E. (1980). Competitive Strategy: Techniques for Analyzing Industries and Competitors, New York, Free Press
3. Porter, M.E. (1989), ''Strategy in deal-based industries'', remarks to the 1989 HBS Real Estate Symposium, December, Cambridge, MA.
4. Rajiv Lal and V. Padmanabhan (1995) Competitive Response and Equilibria. Marketing Science, Vol. 14, No. 3, Part 2 of 2: Special Issue on Empirical Generalizations in Marketing (1995), pp. G101-G108
5. Siaw, I., & Yu, A. (2004). An analysis of the impact of the internet on competition in the banking industry, using porter's five forces model. International Journal of Management, 21(4), 514-523. Retrieved from https://ezproxy.bib.hh.se/docview/233230519?accountid=11261
6. Ajzen, I. (1985). From intentions to actions: A theory of planned behaviour. In J. Kuhl & J. Beckmann (Eds.), Action Control: From Commitment to Behaviour. Heidelberg: Springer.
7. Belch, G., & Belch, A. (2012). Advertising and Promotion: An Integrated Marketing Communications Perspective. McGraw-Hill.
8. Marsh, H. W., & Hocevar, D. (1985). Application of confirmatory factor analysis to the study of self-concept: First- and higher-order factor models and their invariance across groups. Psychological Bulletin, 97(3), 562-582. http://dx.doi.org/10.1037/0033-2909.97.3.562.

DIGITALLY ENABLED POST OFFER CANDIDATE ENGAGEMENT

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ABSTRACT

Genpact, an American professional services company, hires a bulk volume of candidates combining both at entry level and management level positions annually. With increase in requirement of niche skills and complex job types, the hiring volume along with the intricacies of the recruitment processes are going to multiply in the future. However, currently the process is plagued with many candidates dropping offers post selection. This dilutes the efforts of the hiring team and creates pressure on On-Time Fill Rates (OTFR) and adds to revenue leakages. There is no proper candidate engagement in place leading to bad candidate Voice of Customer (VOC) and higher Turnaround Time (TAT) to close business indents/requisitions. Therefore, there is an urgent need to develop a robust candidate engagement system to streamline process and improve the communication channel with candidates. Since technology is driving workplaces today, it is realized that most of the activities at beginning of the recruitment funnel, which are systematic, repetitive and focused on collecting information from the candidates, can be completely automated. While robotics, predictive analytics, Artificial Intelligence (AI), chatbots using Natural Language Understanding (NLU) capabilities are changing the entire ball game in almost every function of HR, Genpact looks forward to leverage a scalable technology-driven platform to enhance candidate experience right from the first connect with the candidate. This summer internship project proposes to find plausible solutions in this area.

INTRODUCTION

On Time Fill Rate (OTFR) is a key staffing metric which offers a clear picture of the efficiency of a company's talent acquisition strategy. This parameter can be broken down into individual components (TAT) right from the time a business requisition/indent is raised until a candidate is successfully onboarded into the team by the hiring managers. The total TAT comprises of separate units from indent to source, source to select, select to offer and offer to onboard. Hiring is optimum when all these unit figures align to business needs. The Society of Human Resource Management (SHRM) reports an average time to fill of 42 days. However, this number varies across industries as per their requirements of talent. A recruiter plays a pivotal role in sourcing profiles to an indent followed by selecting a candidate, rolling out the offer, performing background check (BGC), and finally onboarding the candidate to business. This process although systematic and routinely transactional can get challenging especially when the recruiter is hard pressed to deliver numbers in bulk due to high attrition prevailing in the service sector. It is also worth mentioning that this process is controlled by many factors beyond a recruiter's

direct control. Offer drop rate/percentage* is one such factor which adversely affects time to fill and leads to revenue leakage as a business position remains vacant and subsequently non-billable to the client.

*Operational Definition: Offer Drop % = Offer Drop / (Offer Drop + Joined Candidates + Offer in Hand) * 100

Offer drop rate, synonymous to join to offer ratio, refers to the number of candidates who did not join the company even after accepting the terms and conditions of the offer letter. This rate varies across bands, roles and functions and a high offer drop rate irrespective of where it is occurring is always a major impediment to effective recruitment. The reasons for offer drops are many, some of which are beyond the teams' control as already mentioned. This summer internship project tries to closely analyse the reasons, focusing on the ones which can be targeted and tackled by technology thereby taking away some of the recruiters' woes. The scope of this analysis has primarily been focused on major hiring locations of Genpact, i.e. Delhi NCR and Hyderabad.

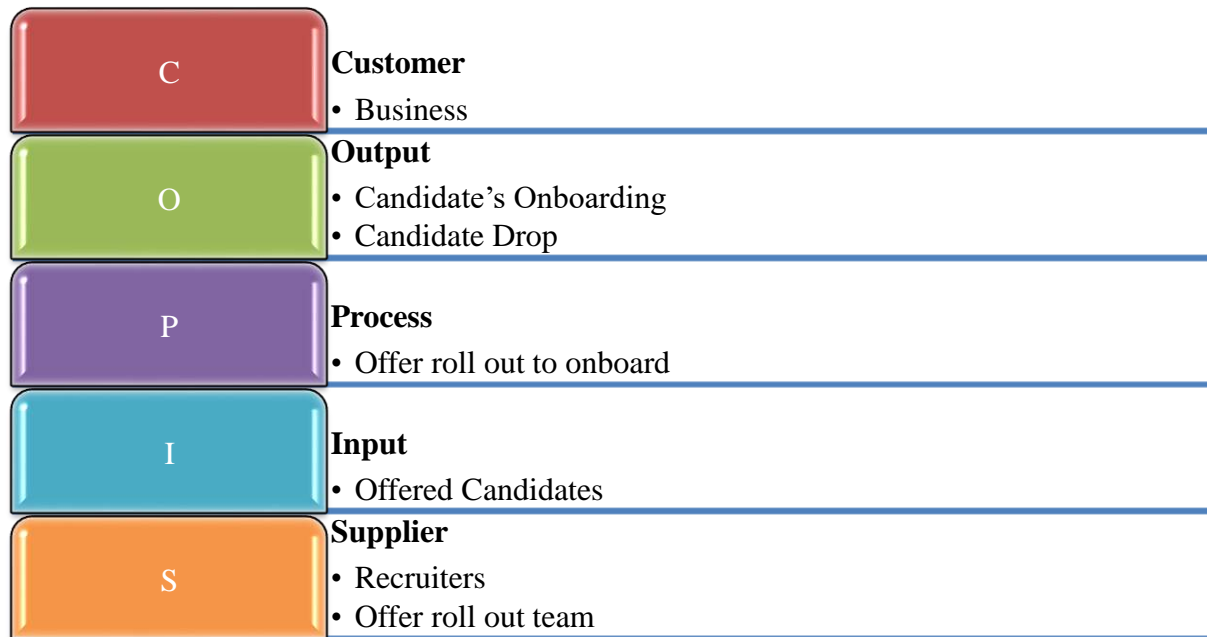| C	**Customer** • Business
O	**Output** • Candidate's Onboarding • Candidate Drop
P	**Process** • Offer roll out to onboard
I	**Input** • Offered Candidates
S	**Supplier** • Recruiters • Offer roll out team

Figure 1: Business Process Framework (COPIS)

The Business Process Framework (Fig 1) identifies the five components involved in the entire recruitment cycle. This COPIS model starts with the customer which in this case is the business and works backwards to ensure the resulting output, i.e. candidate's successful onboarding. The processes and suppliers needed to support it are required to operate with maximum efficiency to deliver the target numbers. The easing out of the process will be done by AI.

RESEARCH METHODOLOGY AND DATA ANALYSIS

External Analysis-Candidate VOC

A telephonic survey of a sample of 100 candidates showed the commonly cited reasons for a candidate dropping an offer post selection. Some of them are listed below:

- "I wasn't sure of the exact nature of my role and responsibilities."
- "Background check took a lot of time."
- "Hiring team did not revert to my queries neither did I receive any calls updating me on the status of my application"
- "I received a better salary elsewhere/I got promoted in my current organization"

Keeping these factors in mind, this project tries to find ways to enhance their overall experience right from the time they accept the offer till the time they are onboarded.

Internal Analysis

Detailed meetings and face to face discussions with various hiring teams threw some insights into the challenges they face in getting candidates onboarded. Most issues kept revolving around the following:

- Candidate not responding on time
- Candidate disinterested in the role
- Location constraints
- Transport/Shift timings
- Candidate got better opportunity elsewhere

Closer observation of data from trackers suggests that the offer drop pattern tends to a Pareto distribution wherein most drops occur due to one or two reasons related to communication loophole or recruiter bandwidth, which will predominantly be our focal point for redressal.

Cause Effect Relationship

After analysing the causes of high offer drop one can visually depict it through a typical fish bone/Ishikawa causal diagram (Fig 2). The causal categories are divided into – People, Process, Material and Environment.
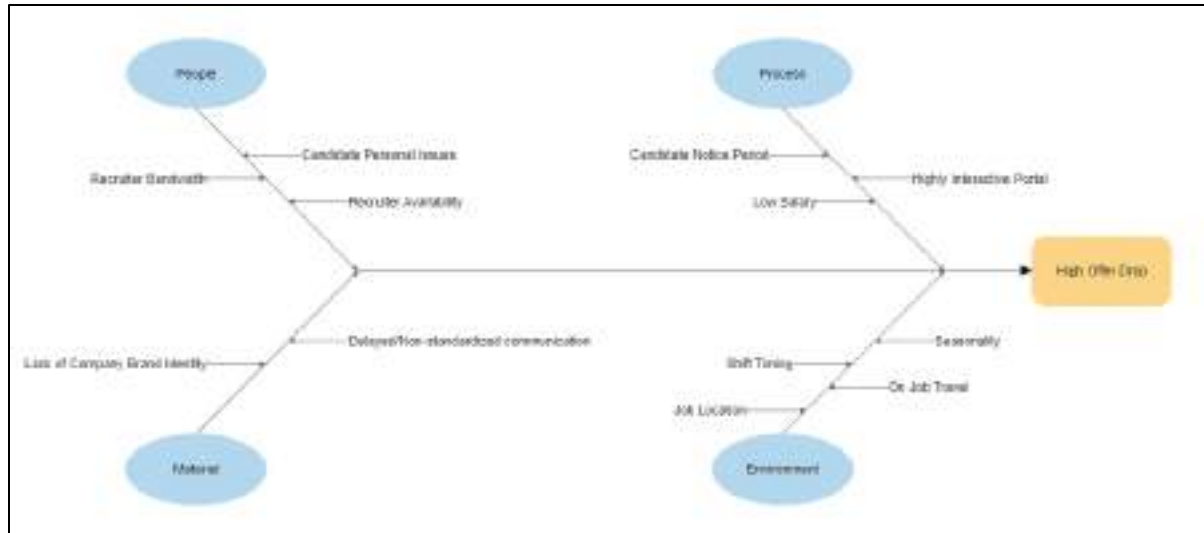
Figure 2: Fish Bone Diagram

The above analysis shows the areas that need attention. While looking to address some of them, Genpact is looking to develop a system to enhance candidate experience while saving time and man hours in terms of Full Time Equivalent (FTE).

❖ EXTERNAL BENCHMARKING OF CANDIDATE ENGAGEMENT

To better understand the best practices of candidate engagement in recruitment, three companies in the service sector viz, Infosys, IBM and HCL have been chosen for the purpose of benchmarking.

Infosys

Infosys has made many interventions in recruitment for both laterals and on campus hires which lead to a better join to offer ratio and positive feedback from the candidates. Some of the changes made are discussed below:

- Usage of advanced ATS- Infosys revamped its Applicant Tracking System (ATS) for by implementing a responsive cloud-based ATS that is mobile-enabled, focusing on user experience and mobility along with capturing traffic.

- Leveraging SMS channel for communication- Infosys initiated SMS based communication process to candidates that provided them with the details of their recruiter or Single Point of Contact (SPOC), whom they could approach regarding their queries. This this took away a significant time required in transactional query handling and resulted in reducing the Turnaround Time (TAT) to onboard.

- Initiating early background verification- Background verification of prospective candidates was initiated well ahead in time which eased the onboarding process.

Through such initiatives Infosys had a significant increase in the performance of the organization and considerable improvement in the overall candidate experience with options to apply through

multiple devices, easy upload of documents and so on (Gupta, B. 2017).It subsequently lead to positive candidate feedback.

IBM

IBM uses their in-house AI platform Watson in the entire HR lifecycle. In recruitment per se, IBM tries to create a meaningful experience that engages job seekers from the first interaction. Watson Candidate Assistant (WCA) has changed the way job seekers interact with the company. By leveraging AI, candidates can now have real-time interaction via a chatbot, resulting in a more personalized application process for the candidates.

IBM uses AI to perform:
- Talent attraction- Specialized chatbots are deployed during candidate attraction to offer candidates the opportunity to ask questions that are interpreted and responded to using natural language processing (NLP). This leads to better job matching compared to traditional approaches. Skill matching algorithms match roles to skills in candidates resume and provide recommendations accordingly.
- Hiring and Engagement-AI is used to predict how long a job requisition will take to fill based on past data, allowing recruiters to be more proactive with their decision making. It also helps recruiters write more inclusive job descriptions and minimize unconscious bias. Unstructured data from pulse surveys are analysed by AI to yield structured report which provides insights for business decisions.

HCL

HCL uses a Systems Applications and Products (SAP) based enterprise platform called SuccessFactors (SF) which is a chatbot to drive candidate experience. It provides seamless interaction to the candidate while they are chatting with a virtual HR assistant. This has made query handling simpler and enterprises work, making processes simple, intuitive, and engaging. The SuccessFactors chatbot platform helps in:
- Streamlining HR process
- Improving communication channel thereby saving time
- Facilitating real time report generation

❖ CHATBOT DRIVEN CANDIDATE ENGAGEMENT

The need of the hour is to build a round the clock (24*7) communication channel with the candidate from offer rollout to onboard via a chatbot. This will do away with human limitations of communication on two major fronts.
- Scalability: Communicating with hundreds of candidates at the same time with limited resources can be taken care of.
- Flexibility: Engaging and responding to candidates round the clock (24*7) in real time on mobile thereby doing away with recruiter bandwidth or productivity issues.

While sourcing and screening activities form the baseline of hiring, the tech-enabled millennials of today seek speedy responses to their queries. Many others on the other hand want to know more about the company and its policies before joining. Offer shopping is the new normal especially for the up and coming informed workforce. Going forward, companies will attempt to harvest the most out of technologies to survive the race. A chatbot in this case can take care of all transactional query handling while the recruiters can focus on more critical and strategic responsibilities in recruitment wherein a human intervention is deemed essential.

Market Research of HR Chatbot vendors
There are many conversational AI bot platforms providing services in HR to clients across the globe. These bots are programmed to recognize and respond to natural language phrases and questions, as well as gather information and record details for recruiters to pick up on later. Chatbots learn and improve upon answers over time. Semantic modelling and state-of-the-art NLU capabilities make the conversations more dynamic, natural and human like. This ensures that each candidate gets timely personalized responses at each stage of the recruitment lifecycle. This project studies three main vendors available in the market.

- Mya - is one of the leading virtual HR assistants currently available in the market. It uses high end NLP and machine learning capabilities to automate a host of recruitment functions at the top end of the funnel. Mya is typically suited for high volume hiring.
- Xor-aids in pre-screening, digitally scheduling interviews, re-engaging existing candidates from the ATS or driving new leads into the pipeline. It has a proven high ROI for business in terms of high candidate conversions rates and reducing time to fill.
- Olivia- boasts of impressive data driven approaches with regards to faster onboarding and reducing time to hire. In fact, Olivia is able to engage with the applicants right from the time they apply with open ended questions thereby picking up information about the candidate in the process.

There are many other bot vendors. Amber, the bot built by an Indian startup provides services in many facets of HR. Selection of vendor will be basis detailed requirement analysis vis a vis the budget of the project.

❖ THE BOT DRIVEN ENGAGEMENT MODEL
A typical 8-week TAT from offer roll out to onboard has been taken into consideration wherein a bot could be deployed for candidate engagement. The focus is to provide seamless experience to the user i.e., the candidate before he/she is about to join the company. The following are the suggested bot triggered activities taking the candidate through their onboarding journey at Genpact:

- Offer Roll-out (Day 0): Offer is rolled out through ATS along with an introductory video welcome. The bot initiates the first connect with the candidate at this stage with a congratulatory message. The welcome video along with it is going to talk about the

candidate's journey to onboard and what content they are expected to receive in the coming weeks.

- Offer Acceptance (Day 1): Right after 24 hours the bot is going to check on acceptance of the offer. The candidate will have the option to click YES/NO in his/her mobile phone as a response. This is going to ensure prompt responses as opposed to the traditional methods of replying over an email to let the recruiters know of their decision. Email responses are often delayed and lead to a lot of manual follow-ups thereby wasting time. Also, if the candidate clicks NO, denoting a rejection of the offer, the bot will be able to seek the reason for the same as well. Data points start getting captured automatically from this stage and will throw up insights to recruiters.

- Documentation/Resignation Acceptance (Day 3): If the candidate accepts the offer and moves forward in the cycle, the bot will be scheduled to ask for resignation acceptance from previous employer and follow up for any incomplete BGC documents. Collecting documents on time is another major pain area for a recruiter. Follow-ups and reminders will be completed automated.

- FAQ Connect (Day 5): At this stage there is going to be a comprehensive FAQ connect on company terms and policies which the candidate has to go through. The link to the FAQ will be shared by the bot and it will have capabilities to answer any questions related to FAQs.

- Social Media Connect/Microlearning (Week 1 & 2): The bot engages the candidate via social media platforms sharing success stories of employees, online blogs, glossary, podcasts, summits or any event organized by the company. These will tell the candidate a lot about the company and keep them abreast with all the latest news through Facebook/LinkedIn/internal platforms. The video/post views, upvotes will be tracked in this stage as an indicator to the number of candidates moving through the cycle.

- 'Day in your Life' video (Week 3): While sharing information with the candidate is a great idea for a start, there is also a need to tell him/her what he/she can expect after joining the company. The best way to go about this is through a personalized video which will talk about the company's culture through managers or senior employees.

- Leadership Connect/Gamification (Week 4-6): This stage proposes to have a leadership connect session along with aspects of gamification. The candidate gets to listen to the top leaders talk about the company's vision, mission and values. This will be followed by online quizzes and simulation-based games about the company which will have certain intangible rewards like miles/badges for top scorers. Incentive based learning is targeted to boost engagement levels of the candidates prior to joining. Game scores will again serve as a measure of candidates being engaged.

- Pre-hire orientation/Onboarding (Week 7&8): The last two weeks would include a video-based pre-hire orientation (PHO)followed by connecting the candidate to their respective HR and manager. Post this the candidate will be onboarded to the company.

Once the candidate is successfully onboarded, the bot sets off a personalized welcome along with a feedback survey which will be used for continuous improvement of the model. The rationale is to have the first line of communication with a virtual assistant all along the 8-week journey. The recruiter only gets in where an intervention is required (Fig 3).
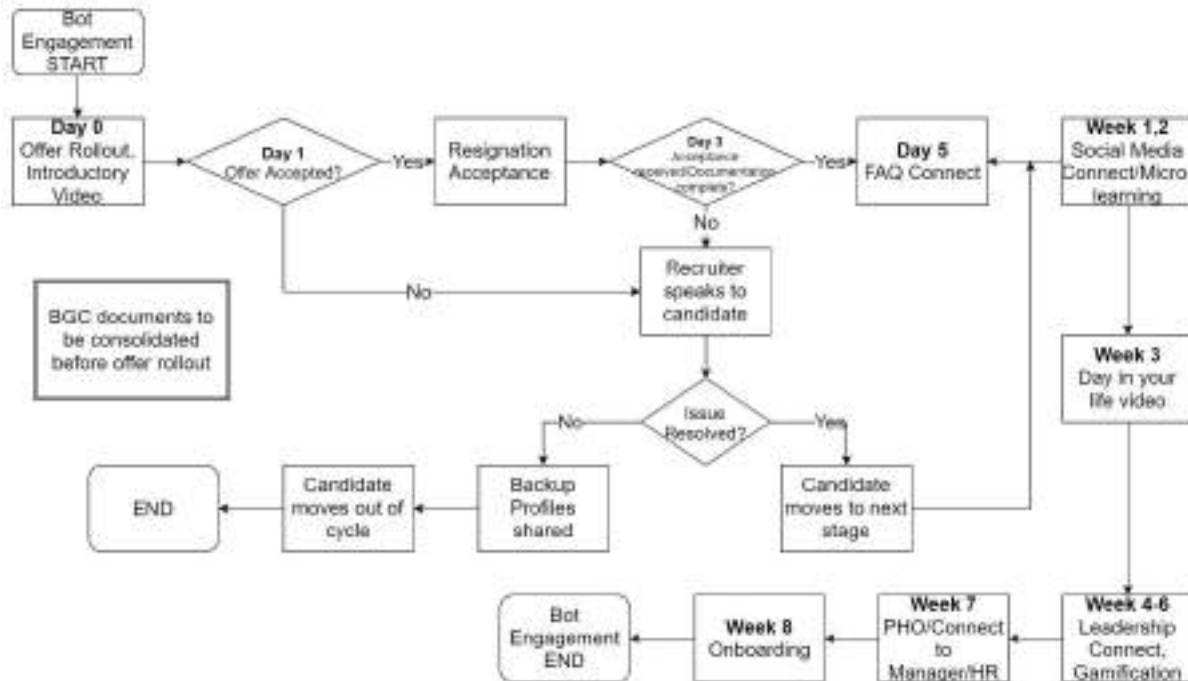

Figure 3: The Bot Engagement Flowchart

❖ OTHER INTERVENTIONS

Along with having a chatbot, the project proposes to make a few more additions to the current process as below:

- BGC documents to be consolidated before offer roll out by the concerned team- This will help avoid unnecessary delays that crop up in documentation thereby affecting the overall TAT to onboard.

- Leveraging SMS channel to provide updates- In case the candidate fails to install/use the bot enabled mobile application, an option to send updates through SMS should be put in place after a candidate is selected.

❖ EXPECTED BENEFITS

- Simplified query handling - Bot to engage the candidate from Day 0 taking care of all administrative, repetitive tasks.

- Assess real time feedback – The model will engage bulk candidates real time and throw data insights to the recruiters enabling them to be more vigilant in the case of offer drops. The recruiters can inform business well ahead in time and get backup candidate profiles thereby ensuring minimum revenue leakage due to drops at the last moment.

- Incentive based learning cum engagement-Gamification tied to intangible rewards will enhance both interactive learning and engagement during the journey.

- Better brand image- Invitation to all social media pages along with sharing success stories, blogs, podcasts, glossary, FAQs will serve as a microlearning platformer a resource guide for the candidate. Sharing of information will serve as a stimulus in enhancing the brand image of the company in the long run.

CONCLUSION

Recruiting continues to evolve into a technology driven discipline that uses a wide range of HR software to find, engage, and hire the best job applicants. There are two components to the benefits of AI in HR. Firstly, benefits in terms of hard ROI can be measured through decreases in cost per hire, and time to fill, revenue leakage. Secondly, there are many substantial non-economic benefits like increasing the amount of diversity of candidates hired, improving both the candidate and recruiter experience -something which is often overlooked.

When one combines the productivity gains with improved candidate engagement, candidate experience, and a stronger talent pipeline - it's hard not to see a strong business case for implementing conversational AI.

This project has tried to leverage on both hard and soft aspects in trying to build a digital engagement platform.

REFERENCES

- Ignatius, A. (2018). *How Tech is Transforming HR*: Harvard Business Review
- Selectsoftware Reviews-Best HR and Recruiting Chatbots
- Lobo, S. (2019). *Leveraging HR bots to revolutionize employee experience & organization productivity:* PeopleMatters
- Gupta, B. (2017). *Infosys: Redefining Candidate Experience:* PeopleMatters
- Sen, P. (2019). *Application Tracking System: What Job Applicant needs to know*:via www.rezrunner.com
- Mya via mya.com
- Xor via xor.ai
- Olivia via paradox.ai

ROLE OF SOCIAL MEDIA (TWITTER) IN LEAD GENERATION

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ABSTRACT

On September 5, 2016 the world was promised a new experience, a revolution in the Telecom Industry. Mukesh Ambani the Chairman MD of Reliance Industries officially launched Reliance Jio Infocomm Limited, an LTE network that provided coverage across the 22 circles. This change was promised because the company didn't provide better 2G or 3G service, but because it introduced voice over LTE voice service on its network changing the entire meaning of making a call. Headquartered in Navi Mumbai Jio was soft launched on 27 December 2015 (Jio, 2018) with a beta version for its partners and employees. The date was an auspicious one because it marked the eve of what would be the 83rd Birthday of the Founder Dhirubhai Ambani. As on 9th May, 2019 based on the social media survey, the social media reach of Reliance JIO is very much limited in comparison to established peer companies such as Airtel, Vodafone etc. The senior management wants to increase the brand awareness reach across every corner which invariably influence the positive WOM among the target customer segment, ultimately increase the revenue from sales. Project was largely revolving around to create a Jio army of employees to run a social media campaign for generating the leads. During the internship, the various aspects of business were work around which involved lot of market work, meeting the agencies, preparing the presentation, meeting with sales team, engaging with Youth Segment, Enterprise Segment, Residential Belt and majorly working in mass market environment. During the internship, I was placed in Jio Marketing team which took care of social media whose primary target is to generate the leads for sales team.

INTRODUCTION

The company has launched its 4G broadband services throughout India in the first quarter of 2016-2017 financial year. Mukesh Ambani, owner of Reliance Industries Limited (RIL) whose Reliance Jio is the telecom subsidiary, had unveiled details of Jio fourth-generation (4G) services on 12 June 2015 at RIL's 41st annual general meeting. It will offer data and voice services with peripheral services like instant messaging, live T.V, movies on demand, news, streaming music, and a digital payments platform.
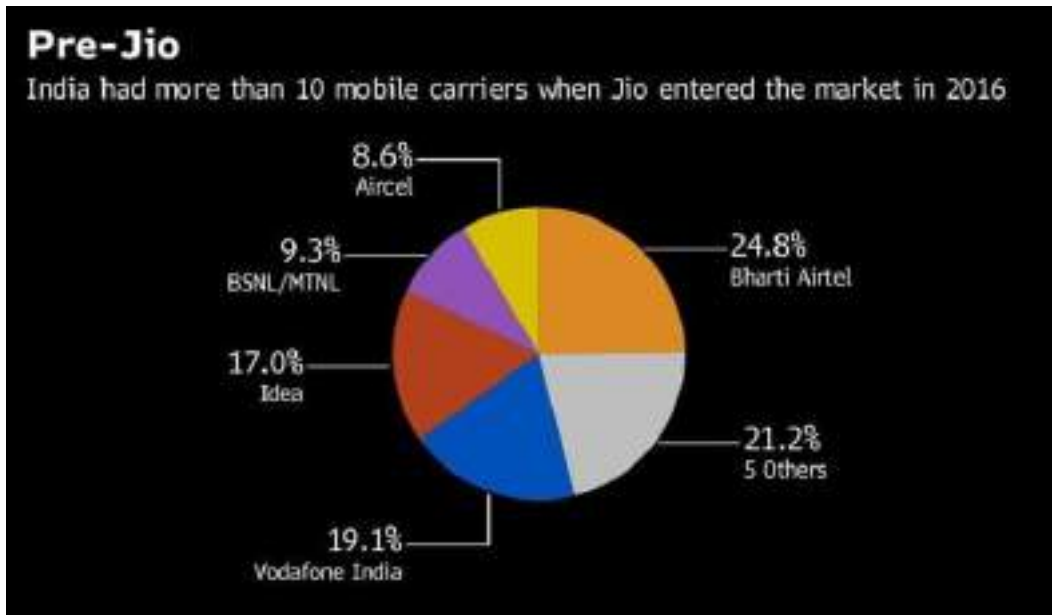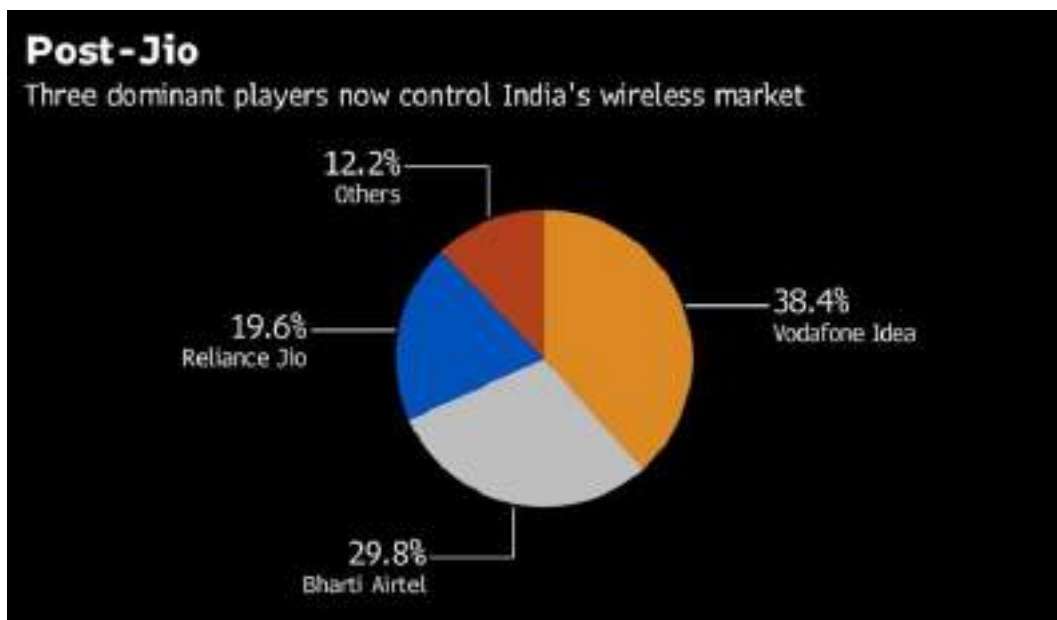
Fig 1: Pre-Jio Mobile Carriers

Fig2: Post-Jio mobile carriers
Source: - Bloomberg

1. **Project Idea of the Research**

1.1 TWITTER JIO ARMY

    1.1.1   We require workforce to make our campaign successful so we need an Army
             to defend and attack

1.1.2 Twitter Army will be used across industries to interact real-time with their customers

1.2 CAMPAIGN
1.2.1 Connecting with your customers is just one part of the equation. Twitter also allows you to listen to customer feedback and complaints they may share publicly with your competitors
1.2.2 Twitter can also be used to build a community

1.3 LEAD GENERATION
1.3.1 Businesses around the world are using Twitter to reach out to a bigger target audience
1.3.2 Time after time, Twitter has proven to be an excellent tool, especially in the sales and marketing world where revenue is the only thing people tend to see

2. Objective of the Research

2.1 TWITTER JIO ARMY
2.1.1 JIO Employees: - We have to pull them to the twitter by giving call, information and training.
2.1.2 JPM: - We have to pull them to the twitter by giving call, information and training. We have also provided the training about how the drive of campaign will take place.
2.1.3 Managers: - We have to train the Managers so that when the lead is generated then they can convert the same lead.

2.2 SOCIAL MEDIA CAMPAIGN
2.2.1 Area wise, State wise, National level
2.2.2 Medium: - Facebook, Twitter and Instagram
2.2.3 Create a buzz by tweeting, sharing, retweeting, liking a post with hashtags
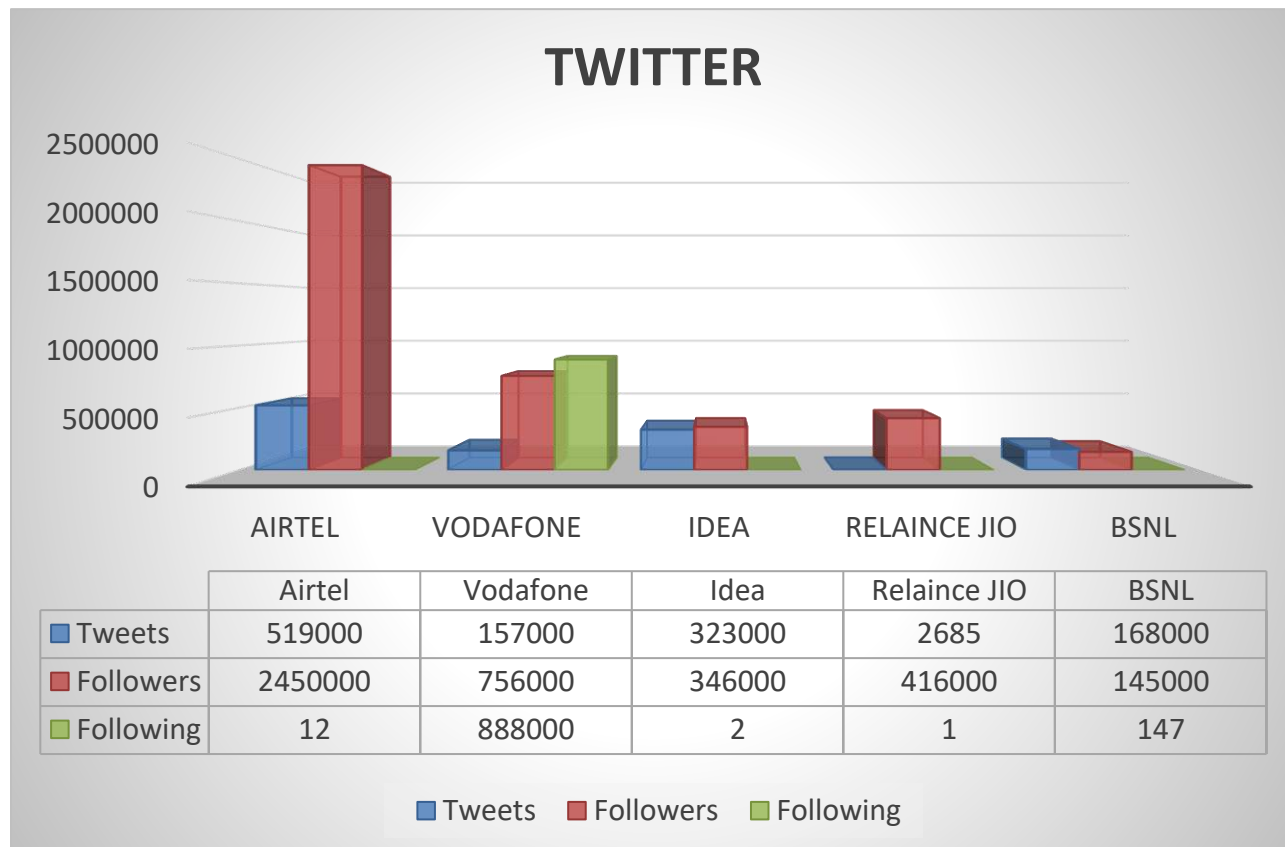
2.3 PROMOTION OF JIO
2.3.1 Memes: - We have to create the memes for promotion of JIO
2.3.2 Text: - We have to prepare the text for promoting different aspects of Jio like News, post etc.
2.3.3 Images: - We have to create different trending images which are in the news.
2.3.4 Tweets: - We have Tweet every 15 mins about different topics like Cricket World cup, Mother's Day, World Environmental Day etc.
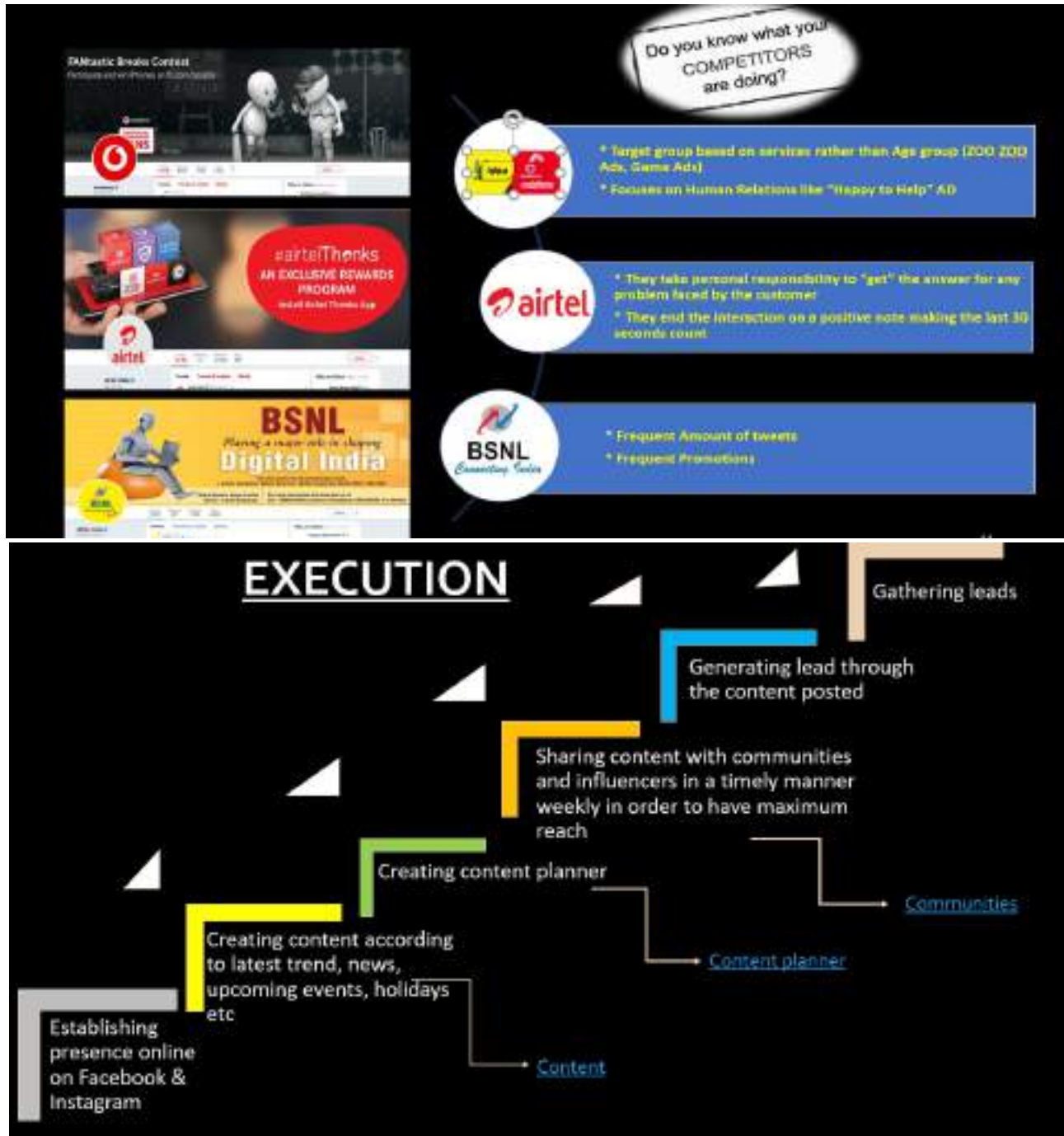
2.4 LEAD GENERATION

    2.4.1   We have to generate the leads for sales team.

    2.4.2   Creating customer base and maximising reach.

3. Competitor Analysis

TWITTER

	Airtel	Vodafone	Idea	Relaince JIO	BSNL
☐ Tweets	519000	157000	323000	2685	168000
☐ Followers	2450000	756000	346000	416000	145000
☐ Following	12	888000	2	1	147

☐ Tweets ☐ Followers ☐ Following

Reference: - Twitter Account of @VodafoneIN, @airtelIndia, @Idea, @BSNLCorporate, @reliancejio Dated on 9ᵗʰ May, 2019

4. Methodology for Lead Generation

4.1 Building a Twitter Network of Jio Employees, JPM, Influencers, followers.

4.2 Using of different API - Facebook, Twitter, Instagram API etc.

4.3 Sharing Content and Driving traffic.

4.4 Analyse the trend in the market.

4.5 Competitor analysis.

4.6 Feedback provided.

4.7 Topic Selection

4.7.1 The value of generating the lead is considered as value proposition in Jio, after this the sales team converts the leads. But before that we want to know the behaviour of the customer towards their buying behaviour of a choosing a network and this led to the idea behind the survey which was suggested by my Mentor.

4.8 Sample Size:

4.8.1 The sample comprised of 150 plus customers belonging to all over the country, the further segmentation is done on various category like Youth, Enterprise, Mass Market, and Residential. Segmentation was done in order to capture the various markets and get the better picture on the survey output.

4.9 Data Collection:

4.9.1 The primary data was used from the JIO repository, the survey required the bifurcation of the segments like youth, Enterprise, Residential and Mass market.

5.10 Feedback of the customer were captured in the google form and the central data repository was created.

5. **Mechanism of Lead Generation**

We have used Causal research, also known as explanatory research method. These studies focus on analysis of Branding of Jio and to generate the lead. For the purpose of Causal Approach of Research, we have followed the criteria of questionnaire to check the validity of various demographic factors considered for the different people using Jio. We have done a research survey, since under Strategic data collection we have used data provided by customers, to remove the biasness towards the data collected from Jio itself. Most of the questions in our questionnaire has a binomial type of scaling, indicated as Yes/No, where we aim to identify extreme ends of agreement or disagreement with our line of the idea. Some of the questions have ration scales, here, our objective is understanding the variance of choice, likability, understanding ability, relatability etc., of our respondents, and trying to find the inclination of the majority towards one end. Some of the binomial questions are followed by descriptive ones, to gain in-depth insight into the reasoning made by the respondent for choosing a binomial end. To attain a good amount of relevant data to form the variance curve, we aim to keep the sample size of our respondents to 140 approx. The mechanism will be drive in the following way:

5.1 We will be running a campaign area wise/State wise/National Level for Rural and Urban areas

5.2 If a customer wants a JIO SIM how he will approach for the SIM through this campaign: -

5.2.1 Customer can click on the given link http://bit.ly/2YaQcph

5.2.2 Customer needs to fill the information like Name, Phone Number and Pin Code

5.2.3 Customer has to click on submit

5.2.4 Once he submits the data an automatic mail will be trigger to JPM of the given PIN CODE

5.2.5   How it will work?

      5.2.5.1 A database will be created at the back end

      5.2.5.2 Database will consist of Recipient E-mail ID of the JPM for their respective Pin Code. Both E-mail ID and Pin Code will be fetched together at back end

      5.2.5.3 Once the customer submits the form at back end it will check the mail ID of the person attach with the PIN Code and once it fetches it will trigger a mail to the mail ID provided

      5.2.5.4 The JPM will call the customer to assist the queries and the sales team will convert the Lead

| Click on the below link in the Twitter http://bit.ly/2YaQcph | Customer will fill the google form | Fetching of ZIP Code with the Recipient Mail ID in the Database | Email will be trigger to the Recipient (JPM) | JPM will call the customer for the lead provided |

ARCHITECTURE FOR LEAD GENERATION

6   How Data Will Be Captured for Lead Generation

Step-1: - Decide the location where the campaign needs to be run

Step-2: - Prepare the plan for the campaign

Step-3: - Prepare the content for the campaign

Step-4: - Tweet the content for the campaign with the bit link- bit.ly/2YaQcph

Step-5: - Click on the link- bit.ly/2YaQcph and Fill the form

Step-6: - Once you submit the form a direct mail will be trigger to JPM as a lead which consist of Phone Number, Pin Code and Name. (We automated the tool by using the language Java)

7   Result of Research

As we have run the pilot project for our social media campaign in twitter, we have generated 3 leads out of it.

Fig: - 3 Questionnaire of the campaign
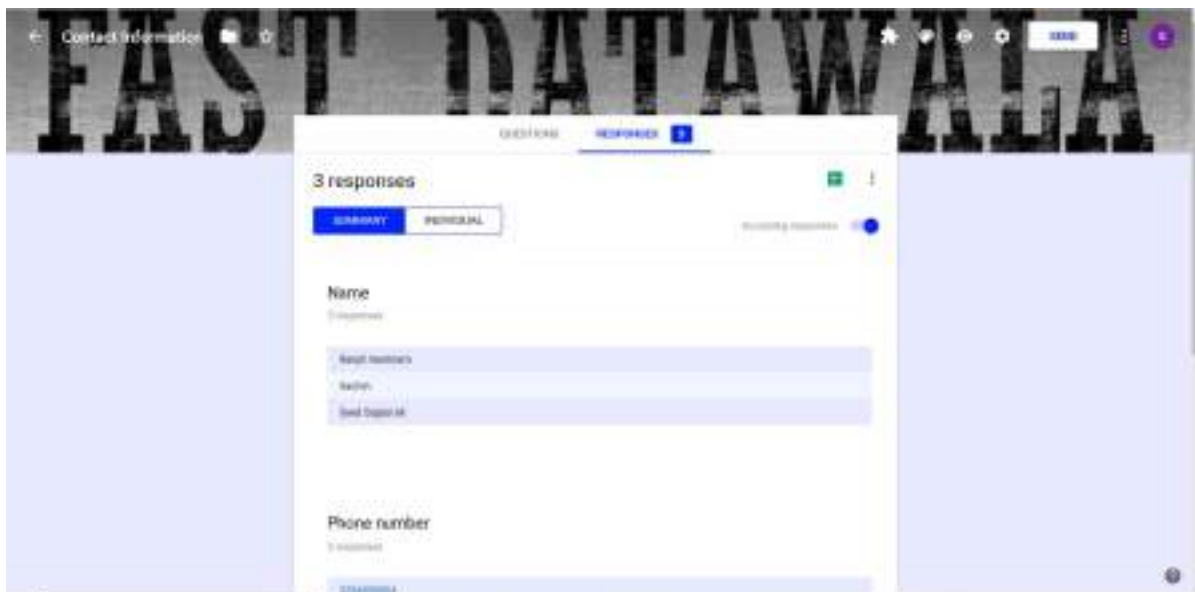
Fig: - 4 Responses of the campaign

CONCLUSION & RECOMMENDATION

Vodafone although leads the market in terms of Revenue, Jio has established itself as the biggest threat with the highest Data Consumption over a network. The data consumption over its network is almost 3 times of others which shows promise from Jio to take lead in the revenue department as well. A lot of potential in the Mass Market & Enterprise has been in terms of scope to increase Jio presence in these Market which is currently being led by other operators. Speaking of Penetration into the market the customer across various category feel that the price range of 300-500 is the most appropriate. Plans can be made to fulfil this demand there by increasing consumption of current users & capturing new ones.

Effective Data plans & Cost effectiveness is the key to the future. He only way a Telecom company can continue is by focusing on these two things. Jio which has designed its plan from start in this direction needs to focus converting its less than 1 GB user into big capacity users as they are potential to grow the company's revenue. Also, another point that could be considered is strengthening the network.

COMBATING CLIMATE CHANGE: A BUSINESS APPROACH

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ABSTRACT

Human induced climate change has led to extreme weather conditions and occurrences of natural disasters bringing in catastrophic effects on industries, organisations and society. Overcoming and adaptation processes are on the rise to combat them and eke business of it. The paper encloses a picture of the adverse climatic effects on Australia's Great Barrier Reef, global forest cover and marine organisms. Band-Aid solution, spreading of seeds using drones and ocean farming are suggested as solutions of the three problems respectively. The solutions overcome the effects as well as contribute towards earning business. The methods have loop holes in their implementation which are met with proposed suggestions so that maximum utility can be obtained out of the innovations.

KEYWORDS: Climate change, adaptation, Great Barrier Reef, forest, deforestation, Band-Aid solution, drones, ocean farming

INTRODUCTION

Climate change isn't just an environmental problem. Climate is inextricably linked to nearly everything we do as a society and is shaking everything from individual's health to global finance. Climate change is transforming the world at a rapid pace and to keep up with this rate of changes business enterprises should undergo transformation to avoid getting extinct.

The UN's Intergovernmental Panel on Climate Change (IPCC) has said that at the present rate, global warming of 1.5°C is probable between years 2030 and 2052. This extent of warming will result in irreversible damage and lead to more climate-related risks pertaining to health, food security, livelihood, water supply, economic growth and human security (IPCC, 2018).

Droughts, rising sea levels, threats to supply chains and severe weather announces that climate change is here, and businesses should necessarily compete with a plethora of uncertainty. With 16 storms resulting in more than damages of $1 billion in 2017 alone, insurance companies are reconsidering their risk models; banks are remodelling their lending methods; and business continuity professionals are getting ready for vital legal, physical and reputational risks (Schiano A. & Balaouras, 2018).

2. A Fast-pacing World of Opportunities and Risks

Some of the effects on business are indirect, for example, changes in the way insurance firms estimates natural disaster risks. Others effects are direct like Coca-Cola's fear pertaining to water scarcity and IKEA's fear related to deforestation (Schiano, 2018). The more immediate physical effects are making companies to invest in new technologies and processes to overcome risks.

In 2011, historic floods in Thailand massively disrupted supply chains for cars and hard drives across the world. In January 2013, high temperatures insisted Australia's meteorologists to add two new colours to weather maps to deal with temperatures presently ranging up to 129 degrees Fahrenheit (Winston, 2014). No city, country or business can evade this new reality of expensive resources and extreme weather.

There have been several innovative products/services that have come up in the face of adverse climatic conditions to combat such effects and maintain the flow of business; some of the products/services managed to serve its purpose while some are doing their best to reach their objective.

3. Climate changes and its adverse effects on business

Australia's tourism industry: The Great Barrier Reef in Australia is one of the hot spots of tourism activities with approximately 3 million people visiting it across the year. Unfortunately, 50 % of the Barrier Reef has been bleached to death due to warm ocean water destroying its colourful algae leaving the corals to starve to death. The cause for the increase in the temperature is the absorption of the excess heat from the greenhouse gas emissions by the ocean water. The loss of coral reefs may lead to loss of 175,000 potential visitors resulting in loss of AUD 1 billion in revenue in recent future (Haines, 2017).

Global forest cover: Deforestation has led to 15% of Greenhouse gases emissions which has affected businesses manifold. 24% of the companies directly depend on forest for their revenue which in turn puts US $906 billion at risk. Hence, protecting the world's forests will assist ensuring economic development for years to come of people across the world (systemiq.earth, 2018). It will help safeguard those companies depending on the commodities that contribute majorly to deforestation – palm oil, cattle products, timber products and soy– have access to robust and sustainable supply chains in the future.

Marine population: Fishing is a million-dollar industry. Everyday thousands of fishermen equipped with their ships go into deeper waters to meet the global demands of seafood. However, because of global warming there is a rise in the ocean water temperature and due to havoc increase in ocean water pollution the pH level of water has increased (wwf.panda.org, 2019). Fishes population is reducing making it tough for fishermen to survive. The entire marine

ecosystem is getting disturbed and hence the productivity and distribution of marine-organisms is changing.

Overfishing in particular areas are a matter of concern as well. Economic effects that results from climate change and overfishing have led businessmen to re-design their way of business. Traditional aquaculture is failing to meet weather disasters like hurricanes. Overfishing has taken away jobs of many fishermen. It has endangered lives of many marine species and have caused uneven distribution of marine organisms in the form of marine food hence leading to economic imbalance.

The present population needs more food apart from land agriculture hence there is requirement of sea foods to meet the needs of such a huge population. It is known that 71% of the earth surface is covered with oceans hence it is tried that the productive part of the ocean where the nutrients for farming are available like near the sea shores can be harnessed for sea-food production using 3D ocean farms (Gauss, 2019)

4. Bridging the un-bridged

Band-Aid: A proposed solution to pump in cold water on to the Great Barrier Reef's to stop the bleaching and save tourism from degrading. The entire activity will incur 9 million USD and will prevent the loss of 175,000 tourists saving the tourism industry from a potential loss of AUD 1 billion (Haines, 2017).

Planting seeds using Drones: BioCarbon Engineering, a company based in the United Kingdom aspires to plant 500 billion trees by 2060 using drones. The steps involved in it are selecting operational areas from satellite imagery, mapping of the area by drone, determining ground topography, biodiversity and obstruction using on-board sensors, choosing an optimised planting pattern that avoids obstructions and spreading of seed pods equipped with germinated seeds, nutrients and other essential components by drone. The operation involves a very low cost of planting seeds. These are followed by post-planting monitoring of the restored ecosystem. It has huge scopes of earning money and many start-ups are looking to venture into this area. It has till now implemented nine projects in UK, Myanmar, Australia, South Africa, New Zealand and Morocco as of 2017 (du Besse, 2019).

Ocean farming: GreenWave, an organization which is working on ocean farming has developed a new idea of 3D farming which uses the entire column of water to vertically grow different restorative species, providing local food for the local communities and creating job opportunities for many people. Ocean farming helps in soaking up the carbon and nitrogen and rebuilding ocean life by virtue of growing 3-4 organisms in a single column. This organization focuses on creating marine life rather than hunting hence contributing to the marine ecosystem and leading to many positive impacts on the environment. By using warm water in this method can help grow these species in shorter period of time. This method has become very popular all over the world; Japan and Australia along with US are presently using this method for the production of

marine organisms like certain types of fishes, edible plants known as seaweeds and coral reefs (Gertz, 2017).

5. Loop holes in the solutions:

Band-Aid: The Band-Aid solution is a proposed solution with no concrete implementation.

Planting seeds using Drones: The drones can shoot seed pods comprising germinated seeds, nutrients and other components on the ground. However not all seeds fit inside the pods and there is the problem of the pod not getting properly planted in the ground. During extreme weather conditions like rain and wind, it is difficult to operate. In case of mangroves, the problem is of pods getting washed away by tides. Manual labour is still required in planting of seeds by drones.

Ocean farming: Growing fish in a closed proximity increases the chances of diseases. If a single fish gets affected with contagious virus, it gets easily transferred to the other fish.

6. Suggested solutions to overcome the loop holes

Pumping cool water on the coral reefs: In the face of mitigating the problem of coral bleaching due to warm ocean water, different proposed solutions have come up. Some of the notable ones are: artificially growing corals on trees anchored to the sea floors (Bruno, 2018). Artificially growing super corals capable of withstanding warm sea waters followed by selective breeding to enhance thermal tolerance of the new generation of corals (Bruno, 2018). The solutions suffer from the issue of scaling. It is practically infeasible at present to implement them on a large scale. Creating artificial clouds by spraying aerosol to mask sunrays are used to create a cooling effect on the ocean waters hence reduce water getting warmer beyond tolerance level. The method cannot be implemented as aerosol is harmful for the environment (Quick, 2018).

Keeping feasibility and environmental friendliness in consideration, a solution that can help combat the issue of coral bleaching is pumping cool water from the bottom layers of the ocean using a pump to the upper layers of the ocean, where corals and algae survive. The heating of ocean water comes from the sun beams at the upper layers of the ocean. The bottom layers of the ocean have cool water and this is the phenomenon that will be harnessed in order to materialise the solution.

The model (figure 1) requires a pipe of a material that does not corrode - a fibre-reinforced polymer pipe will help the purpose. It will be easier to install, transport and build. Wave energy converter, a renewable source of energy, will power the pumps (Cimons, 2017). The pumps can be attached to ships in order to facilitate mobility. The suction of the water can pump in marine organisms along with it hence a net to catch them so that they can be put back in the ocean, will be used at the pumping end of the pipe.
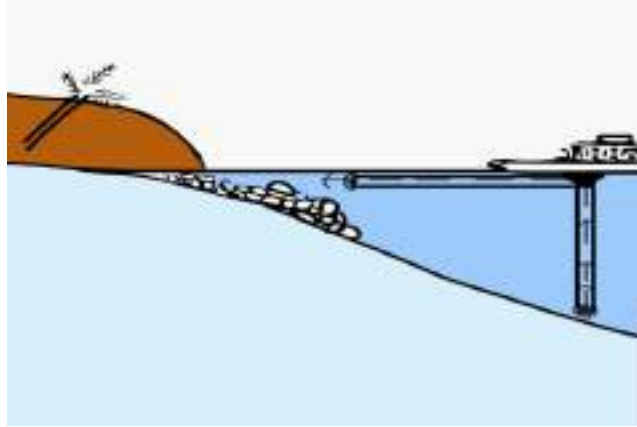
Figure 1: Proposed model of pumping cool water from the bottom of the ocean on to the coral reefs

Seed Missiles operated from varied heights: Planting of seeds by drones have shown tremendous results (Shvedsky, 2019). It has managed to plant mangrove seeds on deforested lands and in mangroves. However, the method of planting seed pods suffered from drawbacks.

Drones are unable to distribute seeds in extreme climates or rainy season. In windy areas the seeds get carried away by the wind before reaching the destined location. In the mangrove areas they get washed away by waves.

In order to overcome the difficulties, the drones can be used from a shorter height to ensure maximum penetration of seeds. Lowering the height of the drone will lead to maximum and focussed dispersion of seeds and overcome the forces of wind or wave. Hence lower the height greater is the force of penetration. The method can be applied on mangrove areas that are prone to waves.
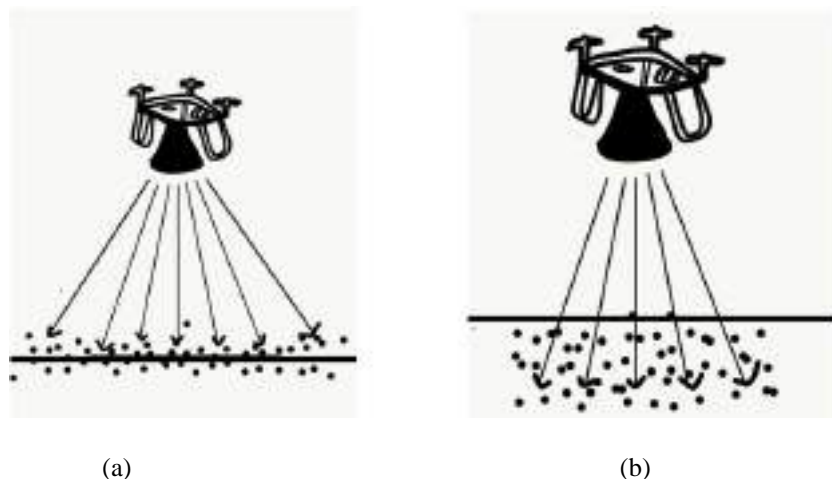

(a)   (b)

Figure 2: Comparison of drones spreading seeds (level of penetration)

(a) More height less penetration (b) Less height more penetration

The drones can be operated from heights higher than its usual height of operation. Higher the height of the drone more the area it covers. This increases the area across which the seeds can be spread. It increases the probability of the more seeds getting spread and penetrated into the deforested area. However, this method can be implemented when the weather situation is calm and more seeds need to be spread in less time. The illustration of how heights will affect seed penetration is given in the figure below.

(a)   (b)
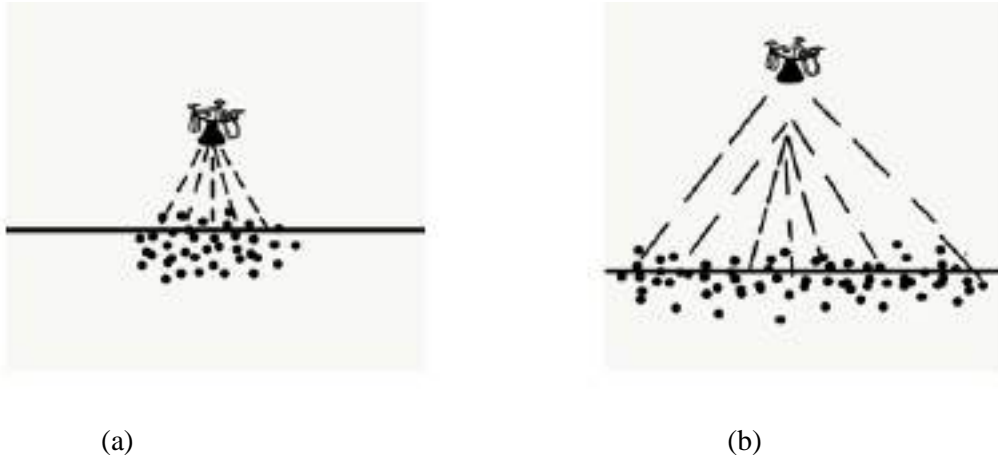
Figure 3: Comparison of drones spreading seeds (level of area coverage)

(a) Less height less area coverage (b) More height more area coverage

Ocean farming with control on spread of infections: 3D ocean farming is a system which grows a mix of different fishes and seaweed crops. Infectious diseases pose one of the most significant threats to successful ocean farming. No efficient treatment or vaccines exist for these diseases and their control is thus by prevention of introduction of wild fishes hence eradicating by stamping-out in case of diseases outbreak.

Due to close contact with surrounding water the inter-dependence between wild and farmed fish and between individual fish farms, the epidemiology in ocean farming is challenging (Emily, 2017) These diseases can have many negative impacts like reducing growth rate, making the production unmarketable and leading to economic loss (Crystal, 2016). Simple changes in ocean farming practices will help us in preventing the introduction and spreading of diseases.

- Producing only the limited quantity of fish because concentrated fish can mean concentrated waste. Combined with uneaten food pellets, fish waste can impact the local environment by leading to contagious diseases.
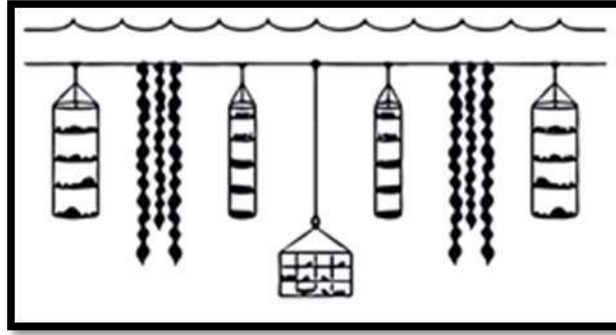
Figure 4: Nourishing fish using ocean farming

- Control the entry of wild fish into the ocean farming by using filters and screens like thick tiny holed net. Wild fish may be prone to disease and preventing its entry into these columns will save the hybrid fish. These filters will also help in preventing the escapee of the fish produced.

- If a disease breaks out in the farm, remove dead or dying fish as quickly as possible. Different breeds of fishes are prone to different diseases and removing or identifying the diseased ones are easy if produce different breeds of fish are produced in different columns (Andrew, 2007).

- *Keeping the fishes in good condition and thereby* controlling the stocking density is another solution. Trying to place different sizes or sexes separately in different columns if necessary to control fighting. *Though not aimed at preventing the spread of diseases, this method helps in controlling the loss in number of fishes by means of preventing in-fighting amongst the fishes.*

7. Conclusion

Climate change has made an impact on the daily chores of life and leading to tremendous loss in business. However, science and technology have stood up in the face of it. The paper has highlighted three examples with proposed implementations plans that can combat climate change as well as proliferate business. Innovations are on the rise with the only limitation that they won't be good enough to reverse the climate change.

Artificial intelligence possesses capability to conduct climate informatics, show simulated effects of extreme weather in order to facilitate taking proactive steps and carbon tracking to know the source of carbon in the atmosphere and penalise that source. These can help deal climate change effects along with great prospects of start-ups.

Besides the above-mentioned possible innovations, discovery of materials like solar fuels to reduce harmful gas emissions, making buildings with materials that can adjust heating, ventilation, cooling and lighting requirements based on weather forecasts, improved crop

rotation suited to changed climatic conditions and others are on the rise. It is expected that such technology will lead to better tomorrow and help make earth a better place to live in.

References:

Andrew G. (2007, December) Disease Prevention on Fish Farms [Retrieved from: agrilifecdn.tamu.edu/fisheries/files/2013/09/SRAC-Publication-No.-4703-Disease-Prevention-on-Fish-Farms.pdf]

Bruno J. (2018, Jan 9). How to save the "tropical rainforests" of the ocean [Retrieved from: washingtonpost.com/news/theworldpost/wp/2018/01/09/coral-reefs/?noredirect=on]

Cimons M. (2017, July 25). This engineer has a wild plan to save coral reefs from climate change [Retrieved from: popsci.com/coral-bleaching-water-pipeline/]

Crystal **A**. (2016, Aug 3) Pros and Cons of Aquaculture [Retrieved from: greengarageblog.org/9-pros-and-cons-of-aquaculture]

duBesse A. (2019, May 7) Drones Planting Trees: An interview with BioCarbon Engineering [Retrieved from: impakter.com/biocarbon-engineering/]

Emily G. (2017, July 26) Vertical ocean farms that can feed us and help our seas [Retrieved from: ideas.ted.com/vertical-ocean-farms-that-can-feed-us-and-help-our-seas/]

Gauss A. (2019) Ocean Farming: A Solution for Jobs and Sustainability. [Retrieved from: https://www.classy.org/blog/ocean-farming-solution-jobs-sustainability]

Gertz E. (2017, July 26). Vertical ocean farms that can feed us and help our seas [Retrieved from: ideas.ted.com/vertical-ocean-farms-that-can-feed-us-and-help-our-seas/]

Haines G. (2017, Feb 21). Great Barrier Reef could lose one million visitors annually if coral bleaching continues. [Retrieved from: www.telegraph.co.uk/travel/destinations/oceania/australia/articles/coral-bleaching-could-cost-australian-tourist-industry-616-million-annually/]

IPCC (2018). Summary for Policymakers. In: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P. R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.)]. (2018) World Meteorological Organization, Geneva, Switzerland, 32pp

Knaus C. (2017, April 6) Plan to pump cold water on to Barrier Reef to stop bleaching labelled 'Band-Aid'. [Retrieved from: www.theguardian.com/environment/2017/apr/07/plan-cold-water-barrier-reef-stop-bleaching]

Korstad J. (2019, Aug 3) Ocean Farming [Retrieved from: www.encyclopedia.com/environment/encyclopedias-almanacs-transcripts-and-maps/ocean-farming]

Peters A. (2019, Apr. 4). These tree-planting drones are firing seed missiles to restore the world's forests. [Retrieved from: www.fastcompany.com/90386816/the-kitten-lady-hannah-shaws-creative-approach-to-making-you-care-about-saving-kitties]

Quick D. (2018, Apr 18). Coral reefs put up "cloud umbrellas" to keep cool (Apr 18, 2018) [Retrieved from: newatlas.com/coral-reef-aerosol-cooling/54253/]

Schiano A. & Balaouras S. (2018, July 26). Climate Change: As A Business Risk [Retrieved from: go.forrester.com/what-it-means/ep75-climate-change-business-risk/]

Schiano S. (2018, Oct 11) Climate Change Is Transforming Business. [Retrieved from: https://www.forbes.com/sites/forrester/2018/10/11/climate-change-is-transforming-business/#5c677a6b2f47]

Shvedsky L. (2019, April 4). These tree-planting drones are firing 'seed missiles' into the ground. Less than a year later, they're already 20 inches tall. [Retrieved from: https://www.good.is/articles/drones-planting-trees]

systemiq.earth (2018). BioCarbon Engineering Receives US $2.5 million in seed investment to advance drone technology for replanting ecosystems [Retrieved from: www.systemiq.earth/news-1/2018/4/17/biocarbon-engineering-receives-us25-million-in-seed-investment-to-advance-drone-technology-for-replanting-ecosystems]

Winston, A. (2014). *The big pivot: Radically practical strategies for a hotter, scarcer, and more open world*. Harvard Business Review Press

wwf.panda.org (2019) [Retrieved from: wwf.panda.org/our_work/oceans/problems/climate_change/]

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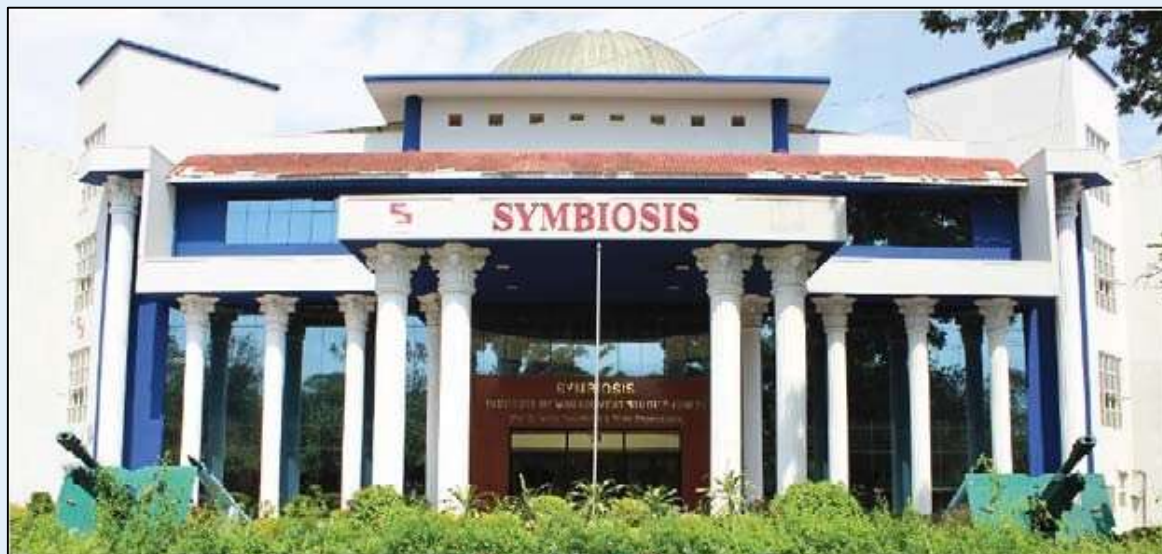
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