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SASMIRA'S BUSINESS REVIEW 2020

TECHNOLOGY, INNOVATION AND ENTREPRENEURSHIP: RECENT TRENDS AND PRACTICES

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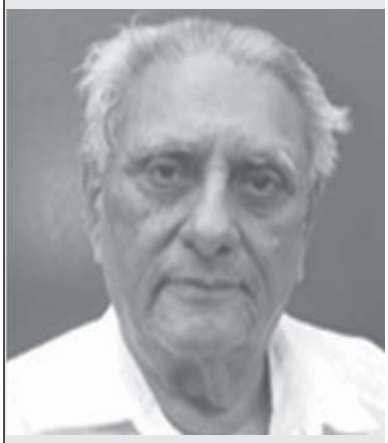

Message from President

It is my pleasure to welcome you to the National E-Conference on "Technology, Innovation and Entrepreneurship: Recent Trends and Practices". I would like to express my personal gratitude to all faculty members, research scholars, delegates and participants for their support in making this conference a huge success.

SASMIRA has always been a hallmark for entrepreneurship and excellence. I am glad that this conference is sponsored by AICTE. The theme for the conference is now more contemporary after the pandemic situation. I am overwhelmed by the response to this conference and feel delighted to see SASMIRA going to the path envisioned years ago.

Innovation is the buzzword today and today's dynamic world requires innovation and entrepreneurship to be at the focal point of inclusive growth. I am sure this publication will be delivering insights and bring into light all efforts made by the industry in this context.

Maganlal H. Doshi
President, SASMIRA.

Message from Vice-President

I feel very happy to welcome all the participants to the National E-conference on "Technology, Innovation and Entrepreneurship: Recent Trends and Practices". A conference of this size relies on the invaluable contributions of many volunteers, and we would like to acknowledge the efforts of our Organizing committee for their tireless efforts. We are also grateful to all the authors who trusted the conference with their work and submitted their research papers for this conference.

Technology, Innovation and Entrepreneurship are inter-woven and act as three pillars for any nation's economic growth and prosperity. India has always been on the global picture for its entrepreneurial spirit and innovation-related ventures. I am sure there will be many more entrepreneurs taking up the responsibility of building the economy of the nation.

I am also glad to share that AICTE has sponsored this Conference for SASMIRA which focuses on different aspects of entrepreneurship, technology and innovation. We thank all of you again for attending the conference and looking forward to your participation in our forthcoming conferences and Events.

Mihir R. Mehta
Vice- President, SASMIRA.

Message from Executive Director

On behalf of SASMIRA, I extend a very warm welcome to all the delegates and participants for the National E-conference on "Technology, Innovation and Entrepreneurship: Recent Trends and Practices". SASMIRA has borne the mantle of excellence, committed to ensure the students their own space to learn, grow and broaden their horizon of knowledge by indulging into diverse spheres of learning. This E-conference is in line with our objectives and in our endeavour to raise the standards of discourse, we continue to remain aware in order to meet with the changing needs of our stakeholders.

The theme of our conference focuses on technology, innovation coupled with entrepreneurship which is definitely an important driver of change in this current situation of crisis. I sincerely thank the entire organizing team for organizing such conference and AICTE for sponsoring the conference. I would like to thank our participants and authors for trusting us with their work and submitting their papers for the conference.

U. K. Gangopadhyay
Executive Director, SASMIRA

Message from Director

Warm and Happy greeting to all. It gives me a great sense of achievement in presenting the proceedings of the National E-conference on "Technology, Innovation and Entrepreneurship: Recent Trends and Practices" which is sponsored by AICTE.

As we move more and more towards MAKE IN INDIA and start up environment, the theme of Entrepreneurship and Innovation has been purposely selected for this conference. At SASMIRA, we encourage the environment of entrepreneurship among students through our E-cell, I would like to congratulate the entire organizing committee and AICTE for making this conference a highly participated one.

I would like to take this opportunity to thank all the Delegates, researchers and Industry professionals who have contributed to making this conference a success through paper submission and their active participation. I hope these proceedings containing the report of the seminar and the papers would prove a challenging contribution for the better promotion of the innovation and entrepreneurship as a whole.

Dr. Tandon Kamal

Director

Proceedings of AICTE Sponsored E - Conference, 2020 'TECHNOLOGY, INNOVATION AND ENTREPRENEURSHIP: RECENT TRENDS AND PRACTICES'

Conducted on Saturday, 5th December, 2020
Sponsored By

Introduction:

Today, we live in a technological 'age' and global economy where competition has become knowledge-based. In modern theories of growth and development technological innovation has taken the centre stage. Our love for novelty is based on practical and theoretical foundations. Moreover, there is growing interest in the relationship between technological innovation and entrepreneurship and how it can promote global growth and development.

Recent Trends and Practices in this field of Technology, Innovation and Entrepreneurship are the interest of all walks of life. With the recent pandemic, dependence of human race on technology and hence innovation has become more than ever. This has opened many new avenues of Entrepreneurship. Study and discussion on technology and its various aspects is not a choice today but a necessity.

Objective of the conference:

Conference on 'Technology, Innovation and Entrepreneurship: Recent Trends and Practices' and to bring together leading academic scientists, researchers and scholars to exchange and share their experiences and research results on all aspects of technical, innovation, entrepreneurship and strategic management. It also provides a premier interdisciplinary platform for researchers, practitioners and educators to present and discuss the most recent innovation, trends and concerns as well as practical challenges encountered and solutions adopted in the fields of Technology, Innovation and Entrepreneurship. It facilitated interdisciplinary exchange of ideas and findings of the researchers, academicians, practitioners and education fraternity in general. This conference is an attempt to address the major challenges faced by the practitioners and policy maker and in the process trying to find out a solution for the same

The highlight of the conference was to understand the theoretical and practical aspect of technology, innovation and Entreprenuership and the recent trends in the field.

List of Chief Guest, Keynote Speakers, Panelists who contributed to the session:

1. *Shri. Maganlal H.Doshi (President, SASMIRA)*
2. *Shri. Mihir R. Mehta (Vice President, SASMIRA)*
3. *Shri U.K. Gangopadhyay (Executive Director, SASMIRA)*
4. *Dr. Tandon Kamal (Director Education – SASMIRA)*
5. *Dr. Ravindra Kulkarni (Pro Vice Chancellor - University of Mumbai)*
6. *Ms. Anuradha Doraiswami (CEO – Anu Structurals and Galvanising Industries)*
7. *Mr. Nikhil Raibole (Co-Founder & CEO at Web Talkies Pvt Ltd)*
8. *Dr. Ritu Bhattacharya (Principal – SASMIRA's Institute of Commerce and Science)*
9. *Dr. Sanskruti Kadam (Dean – SASMIRA's Business School)*
10. *Prof. Pavan Savant (Management Consultant)*

Proceedings of the Conference:

Dr. Rupali More, the conference convener, declared the conference open with introduction to the theme and the objective of the conference. She welcomed the Chief Guest, Keynote speakers, Panellists and the paper presenters. She expressed her gratitude towards AICTE and all dignitaries and speakers who have come from all over the country. She informed the audience that this conference has surpassed all the challenges that the time of pandemic has bought to the educational system. This conference will be one of its types where augmented and virtual technology are induced and have penetrated to the basic educational and research system. She declared the conference officially open and was optimistic to believe that the conference will be able to address some of the major issues faced by the sector, in spite its tremendous growth and will be able to find some solution for the same. The address was closed by a video that showed the recent developments in innovation, technology and entrepreneurship, globally.

In his welcome address Dr. Tandon Kamal – Director Education, SASMIRA, thanked AICTE for their support. He extended his thanks to all the dignitaries for sparing their time. He elaborated on the journey of the institute and the major milestones it has achieved.

Message from the Executive Director, SASMIRA, Dr. U.K. Gangopadhyay sir read 'The theme of this conference focuses on technology, innovation coupled with entrepreneurship which is definitely an important driver of change in this current situation of crisis.'

Chief Patron, Shri Mihir Mehta sir, Vice President, SASMIRA addressed the gathering and highlighted the importance of such conferences. He elaborated that in this pandemic time there is need of discussion on this Triveni Sangam of Innovation, Technology and Entrepreneurship. He reiterated the commitment of institute towards entrepreneurship and providing future ready mangers to the world. Role of institute as a catalyst to various schemes of government and producing the job creators.

President, SASMIRA, Shri Maganlal Doshi sir through his message 'Today's dynamic world requires innovation and entrepreneurship to be at the focal point of inclusive growth. I am sure this Conference will deliver insights and bring into light all efforts made by the industry in this context.' highlighted the importance of innovation and entrepreneurship in today's dynamic world.

Innovation and Entrepreneurship are the real mantra in the age of Atmanirbhar Bharat:

Dr. Ravindra Kulkarni, Hon'ble Pro-Vice Chancellor*, University of Mumbai and the Chief Guest of the conference, explained the prominence of Innovation and Entrepreneurship in the present era of Atmanirbhar Bharat. He emphasised the importance of entrepreneurship to the younger generation and how they can use it as a tool of transformation to major issues and give an innovative solution. India has a conventionally long history of successful entrepreneurs. His explanation to the new trends in entrepreneurship and shift from traditional entrepreneurship with the example of Red Bus by Mr. Phanindra Sama,and Flipkart by Mr. Sachin Bansal gave a new outlook to the concept of innovation in entrepreneurship. He congratulated SASMIRA for their long history of entrepreneurship and that Mumbai University takes it as a matter of pride to be associated with the institute. He touched upon the contribution and commitment of Mumbai University towards developing entrepreneurs. Entrepreneurship associated with technological innovation has promising and long way to go. Technological innovation contribute to the new heights in the economical output. A dramatic change can be bought to human life style through new goods and services bought in by the technological innovations. Technological entrepreneurship is not only a vehicle for prosperity to individual but to the society and nation as a whole. Analysis of these innovations through papers and cases will prove very effective. He gave reference of Fourth Industrial Revolution and development of Artificial Intelligence and latest inventions in mobile technology, to bring in a drastic shift in the way many a human problems were solved.*

He concluded with the reference of 3D printing technology acting as a catalyst in the manufacturing sector. Manufacturing sector is the major contributor to the development of the economy. In addition to growth that we have recently seen in IT and service sector, a major emphasis is to be laid on the manufacturing sector to support the Atma nirbhar Bharat.

Entrepreneurship is about innovation and moving out of one's comport zone:

Keynote speaker, Ms. Anuradha Doraiswami opened the session with her journey of life as a professional. Moving from a promising, lucrative and fancy corporate career to being an entrepreneur, the choice was not so simple. Her holistic experience of being an entrepreneur.

She introduced the gathering to the importance of five non negotiables. The first one being the Customer Focus. With her examples from her experiences she emphasised on the importance of being customer centric. How, listening to customers and finding a solution and increasing the communication can go a long way. Moving to the next, Process and automation, she highlighted the need to develop the habit of processes. The need to find a sustainable solution can be really helpful.

Innovation is another non-negotiable that is important and needs accurate analysis.

Finding out the problem, analysing it and then proposing a solution can be real definition of innovation. Being curious, reading and applying takes it long way. She emphasised on the importance of being updated and to read about the recent trends and technological innovations. Cost consciousness is the other centre point of excellence in the road towards successful entrepreneurship. Cost consciousness not only helps to improve efficiency but also leads to application of innovation and new technologies. It has in present era become the nodal point of survival.

People management is an important and necessary negotiable to excel. To learn to have empathy and an attitude of analysis is the necessity of the time. Inclusive approach is needed and helps to understand the people aspect of organisation in a better way. She also touched upon the importance of networking, it should start right at the college level. To stay connected to people and be relevant is the basic mantra to succeed in the business world. Managing all the stakeholders makes the business more effective.

She concluded the talk with Intrapreneurship and emphasised that being an entrepreneur doesn't always means owing a business, entrepreneurship skills can be tool of excellence in whatever role one plays in their career. Wherever life takes one in their professional journey they should develop the feeling and attitude of taking onus.

With every adversity lies an opportunity:

Mr. Nikhil Raibole, the second keynote speaker, started the talk with the discussion of the present pandemic and how this has also opened up new avenues for entrepreneurs. He talked about the hurdles that one faces when he decides to be an entrepreneur. Being entrepreneur is about knowing your interest, your passion and what you enjoy doing. Being into start up essentially needs creativity. He addressed the young generation which has access to technology and the one who have grown up with the technology to follow their heart and to take risk. The first step towards entrepreneurship is to believe in yourself.

Situational analysis helps to uncover the opportunities that are otherwise overlooked. Many new avenues and ideas have found their way to success in this time that the pandemic has bought for us. More inclination towards entrepreneurship, towards doing something of your own, about taking the onus of a project is seen recently.

He explained the importance of replacing the word passion with the word purpose. Purpose is about giving your best to your passion. His journey as a content creator and how he added purpose to his passion were very motivating. He added the importance of having a team to succeed in start up. Team composition helps attract investors and retain them in the long run. Trust in the team can lead to the path of success.

He conclude the talk with the importance of keeping customer at the centre of the project. With the examples of Paper Boat, Amazon and Ghadi detergent, he explained the need to keep the customer in the centre of the business idea. The shift from product economy to service economy and now to the experience economy is the new mantra of success today. It's about keeping your customer so satisfied that they become your brand ambassador. Going for a differentiation and keeping it best all the time definitely leads to success.

Entrepreneurship is important as it has the ability to improve standards of living:

Dr. Ritu Bhattacharya, the panellist for the technical session explained that entrepreneurship is important as it has the ability to improve standards of living and create wealth, not only for the entrepreneurs, but also for related businesses. Entrepreneurs also help drive change with innovation, where new and improved products enable new markets to be developed. She elaborated that Innovation doesn't always mean to create something new: innovators often take something that already exists, improve it, change it, make it better and make it the best for their customers.

Innovation and technology are integral parts of entrepreneurship:

Dr. Sanskruti Kadam addressed the gathering by highlighting the importance of innovation and technology in Entrepreneurship. The trends that are induced in the latest pandemic and how it has become important to adopt and accept the changing technology.

She insisted that though there is a lot being done in the area but it still needs more aggressive research. And academicians and researchers should explore more in the field of research.

She congratulated all the paper presenters and the organisers for their efforts.

Research on such Themes is of vital importance for management education:

Mr. Pavan Savant, the panelist to the technical session, opened his address by congratulating all the paper presenters. He said that research on such topics is of vital importance for the development of the economy.

Details of papers presented in the conference:

1. *Women entrepreneurship in India -issues opportunities and challenges - Mrs. Lavanya P. B. and Dr. Subba Rayudu Thunga*
2. *Entrepreneurial financing: fundraising flow illustrating the case of "unacademy - Ms. Nikhita Almeida"*
3. *Study on usage of digital Agriculture Applications and further opportunities in Agriculture Sector. - Prof. Iftiqar mistry and Prof. Dr. N. Mahesh*
4. *Fostering entrepreneurial economy: role of educational institutions and national education policy. A case for study - Dr. Namrata Pancholi*
5. *Evolution of technological workplaces: 'WFH' the new normal - Ms. Rashi Narula*
6. *Role of technology in the development ofinnovativeness in indian enterprises - Dr. Jayanti Goyal*
7. *Online pharmacies - an emerging entrepreneurship avenue in India - Ms. Shraddha Bandivadekar*

Two papers:

1. *Study on usage of digital Agriculture Applications and further opportunities in Agriculture Sector. - Prof. Iftiqar mistry and Prof. Dr. N. Mahesh*
2. *Evolution of technological workplaces: 'WFH' the new normal - Ms.Rashi Narula*

Seven Presentations were conducted out of which two Papers were selected as best papers of the conference by the panelists. The Paper presenters were congratulated and felicitated with the certificate of appreciation.

The conference was concluded with the National Anthem.

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STUDY ON USAGE OF DIGITAL AGRICULTURE APPLICATIONS AND FURTHER OPPORTUNITIES IN AGRICULTURE SECTOR

Prof. Iftiqar Mistry*

Professor, NCRD's Sterling Institute of Management Studies, Navi Mumbai

Prof. Dr. N. Mahesh**

MMS Head of Department, A.C. Patil College of Engineering and Management, Navi Mumbai.

Abstract:

The Indian mobile phone market is second largest in the specified field, which compromises of about 30% among the total volume of the global phone market. A study by Boston Consulting Group, suggests that there will be jump 48 % rural users among the mobile phone users across India by 2020. The Digital India campaign launched by our Prime Minister in 2015 aims towards the empowering of rural communities and the promotion of digital literacy with the creation of digital infrastructure. Most importantly the role of Digital Agriculture needs to be considered in Digital India, as 58 % of the rural households depend on agriculture.

The use of Information and Communication Technology (ICT) to support the transmission of localized information and services working towards making farming socially, economically and environmentally sustainable, while contributing to the delivery of nutritious and economical food for all – this comprises Digital Agriculture. This has also led to the rise and development of mobile apps which are helping existing government schemes, and other agriculture-based information to reach farmers in rural India. This digital change is acting as a game-changer for Indian agricultural conditions. The research is aimed to understand the use of ICT for modern agriculture practices adopted by the farmers. There are many android apps which have been launched for the farmers, the research undertaken aims to study about the most important ten applications which are used by the farmers in Sangli district of Maharashtra state especially the farmers who are in the farming of Horticulture and allied crops.

Key Words: *Apps, Digital Agriculture, Horticulture Farmers, ICT.*

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Introduction:

Today in agribusiness India produces 11 percent of total global agriculture produce. This sector provides livelihood for about half of the Indian Population, majority of them are farmers having small land holdings, but the majority of government agricultural subsidies are being used by medium and large scale farmers. The average debt of farming household seems to be risen fivefold in a decade, the increase in farm incomes have not kept up. Looking at the complexity of Indian agriculture, no single change policy change will move the country towards the goal of rising income for the farmer having small land holding which is very essential to continue to strengthen the competitiveness of Indian agriculture. Yes, but the digital transformation in agriculture happening worldwide in fact holds the promise for progress. Farmers having large land holdings will benefit from digital innovation as well as farmers having small landholdings will be really benefitted in India.

The last few decades saw massive technological development and opportunities which have transformed the lives of people. But as far as agriculture sector is concerned these opportunities have not benefitted the agriculture sector in a significant way. Farmers and the sectors related to agriculture, like agriculture value chain need significant amount of information. ICT definitely will play key role in knowledge exchange, market integration, access to finance which will attract the youth to make agriculture a profitable venture.

Agriculture in India depends on various factors, there are shifting weather patterns such as changes in precipitation levels, increase in temperature, ground water density which can affect farmers, and to them especially who are dependent on timely rains for their crops. Leveraging the AI and cloud to predict advisories for pest control, commodity pricing, prediction of advisories for sowing are some of the major initiatives towards creating income and which will help in providing stability for the agricultural community. Insights through AI will help reduce uncertainty and risk in agriculture operations, as Indian agriculture has been traditionally been dependent on rains. Climate change has made the farmers extremely vulnerable to crop loss. Use of AI in agriculture can definitely transform the lives of millions of farmers in India, (Anil Bhansali – CVP C+E and MD, Microsoft India (R & D))

Top Ten Used Apps:

Kisan –Suvidha App

Kisan Suvidha was launched by our Prime Minister Narendra Modi in 2016, with an aim to work toeards the development of the villages and empowerment of the farmers. Kisan Suvidha is user friendly app and offers a user- friendly interface. The information provided by the app is about the current weather and the forecast for next five days., with again providing the information about market prices of commodities/Crops within the nearest town, Knowledge on seeds, machinery, fertilizers etc.. There is an option to use the app in different languages which makes it more accessible throughout India.

Iffco- Kisan Agriculture

IFFCO Kisan is subsidiary of the Indian Farmers' Fertilizers Cooperative Limited. They launched the app IFFCO Kisan Agriculture. The users using this app can access the information on variety of informative modules which includes agricultural advisory, weather, market prices, audio and video in the language selected by the user. The app offers one important feature of helpline number to get in touch with Kisan Call Centre Services.

RML Farmer – Krishi Mitr

RML farmer – Krishi Mitr is the app which most importantly provides information about usage of fertilizers and pesticides, farm related news, advisory and weather forecasts. The farmer can keep updated himself with the latest commodity and mandi prices.. Also it provides agricultural advice and news regarding the government's agricultural policies and schemes. The options available to users are they can choose from over 450 crop varieties, 1300 Mandis, and 3500 weather locations across different states .It has specific features like for example CropDoc which helps the farmers in identifying problems that affects their crops at the right time and suggests the corrective action. FarmNutri provides the recommendations about the nutrition needs for the crops which are normally presented in the form of a schedule of Fertilizer dosage.

Pusa Krishi App

Pusa Krishi app was launched by Union Agriculture Minister in 2016 which aims to help farmers the info about the technologies developed by Indian Agriculture Research Institute. The important feature of the app is it provides information related to the new varieties developed by Indian Council of Agriculture Research, resource conserving cultivation practices as well as farm machinery and its implementation will help in increasing returns to farmers.

Agri - App

Agriapp provides the complete information on Crop Protection,

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Crop Production and the relevant agriculture allied services. It has an option to chat with experts, video- based learning, and latest news, most importantly online markets for fertilizers, insecticides, and fungicides. Information about harvesting and storage procedures is also provided on the app. Farmer can get information about High value , low product category crops.

Kheti - Badi

Kheti- Badi was launched to aiming to promote and support organic farming. As a social initiative app it provides important information issues related to farmers in India. This app does help farmers to switch their chemical farming into organic farming as Agriculture today is heavily dependent on genetically modified seeds, chemical pesticides and fertilizers. Kheti- Badi is currently available in four languages viz., Hindi, English, Marathi and Gujrati.

Whatsapp - It may come off as a surprise to many, but one of the most widely used app for texting is bridging gaps between farmers. Departments of Agriculture of a few states have used this public platform to make groups called Progressive Farmers' which connects sons of the soil through their android devices. It initially started with groups of top officials with android phones and was later introduced to agricultural communities.

Krishi Gyan - The working of Krishi Gyan is similar to how whatsapp communication works, but on the contrary is considered better as it doesn't requires mobile numbers of individuals to stay connected. It provides general information on farming and also enables Indian farmers to connect with Krishi Gyan experts, wherein they can ask questions related to farming, and get answers within the application through notifications. The agriculture enthusiasts as well as farmers can share their answers with each other.

Crop Insurance - This app helps farmers to calculate insurance premium for notified crops and provides information cut-off dates and company contacts for their crop and location. It can also be further used to get the details of normal sum assured, extended sum insured, premium details and subsidy information for any notified crop in any of the notified area. Further it has been linked to its web portal which covers all stakeholders including farmers, states, banks and insurance companies.

Agri –Market - It was launched along with Crop Insurance app by the government of India . The app was developed with an aim to keep farmers informed about the crop prices and discourage the farmers to go for distress sales. The farmers get the information which are related to prices of crops in markets within 50 Km radius of their own device location using this app.

The other apps which should be mentioned are SmartCrop, Kisan Market, Mandi Traders, also serve as an online marketplace for the farmers in order to sell their produce which they can do after collecting information regarding to the market prices . There are also many state specific apps few examples are Farm-o-pedia used in Gujarat, AgriSmart for Punjab, KrushiSuchak for Karnataka. All these mobile apps are helping reduce transportation, corruption and transactional waste in agriculture and also offer a gateway for resource sharing for farmers. Thus, the apps are helping boost overall business performance and reducing negative environmental impacts of farming. Now, with a click of a button, farmers can access information regarding weather, dealers, market prices, plant protection, agro advisories, IPM practices etc. Thus, these advancements will definitely help bring significant change in the lives of farmers and the field of agriculture.

Review of Literature:

There has been lots of research done on the different forms of digitalization in agriculture e.g. internet of things, big data, augmented reality , system integrations, artificial intelligence, block chain are few to be named. But social science researchers have very recently started investigating the different aspects of digital agriculture which have been in relation to especially for farm production systems and food systems even value chains. (Alm et al., 2016; Smith, 2018; Tilson et al., 2010). The transformation due to digitalization is inevitable in everyday life applicable to productive processes in agriculture and associated supply chains and systems (Poppe et al., 2013; Smith 2018). The signs of transformation in agriculture are already visible (Di Silvestre et al., 2018 Leviakangas 2016; Rotz etal., 2019a). There have been emergence of several concepts of digitalization in the agriculture production systems, value chains and more specifically in food systems, which basically includes Smart farming (Blok and Gremmen, 2018; Wolfert et al., 2017), Precision Agriculture (Wolf and Buttel, 1996: Eastwood et al.,2017b), Decision Agriculture (Leonard etal., 2017) Agriculture 4.0(Rose and Chivers, 2018) Digital Agriculture (Keogh and Henry, 2016; Shephard etal.,2018). The main purpose of digitalization in agriculture has been to provide the technical optimization of the agriculture production systems and value chains. Nextly it has been opined to help and address the societal concerns around farming and traceability of food (Dawkins, 2017), animal welfare in livestock industries (Yeates, 2017) and the environmental impact of different farming practices (Balafoutis et al.,2017; Busse etal.,2015). Also digitalization is also expected to enhance the learning and

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knowledge exchange, using the appropriate data (Baumiller,2017; Daum et al.,2018; Eichler Inwood and Dale, 2019) and purpose is to improve monitoring of crises and controversies in agriculture sectors and chains(Stevens at al.,2016). The scientific literature literature on digital agriculture has been focused on the aspects of applying the digital technologies in order to improve the agriculture productivity and agriculture practices. Also it has laid emphasis on improving processes such as postharvest quality monitoring in the domain of logistics (Wolfert etal., 2017)

Digitalization has also been observed to be a thrust of the evolution of agricultural knowledge and innovation systems (AKIS). During this thematic cluster, which has emerged recently but is increasingly becoming established, different lines of enquiry are often discerned with either a macro, meso or micro perspective on knowledge and innovation systems. From a macro perspective, some research that uses innovation systems perspectives looks at how innovation support structures enable digitalization, but also change themselves under the influence of digitalization, e.g. by incorporating big data analysis (Kamilaris et al., 2017). Some research also looks at how AKIS for digital agriculture are shaped through a diversity of existing and new actors in these systems: high-tech firms (e.g. drones or satellite manufacturers, etc.), service industries, and multinationals producing farming equipment, like self-driving tractors and automatic milking machines (Eastwood et al., 2017b). Given the moral concerns raised in cluster 3 (section 2.3), there's an emerging literature that explores how innovation systems can apply principles of Responsible Research and Innovation (RRI) (Owen et al., 2012) to the digitalization of agricultural production systems, value chains and food Digitalization has also been observed to be a propulsion of the evolution of agricultural knowledge and innovation systems (AKIS). during this thematic cluster, which has emerged recently but is increasingly becoming established, different lines of enquiry is discerned with either a macro, meso or micro perspective on knowledge and innovation systems. From a macro perspective, some research that uses innovation systems perspectives looks at how innovation support structures enable digitalization, but also change themselves under the influence of digitalization, e.g. by incorporating big data analysis (Kamilaris et al., 2017). Some research also looks at how AKIS for digital agriculture are shaped through a diversity of existing and new actors in these systems: high-tech firms (e.g. drones or satellite manufacturers, etc.), service industries, and multinationals producing farming equipment, like self-driving tractors and automatic milking machines (Eastwood et al., 2017b). Given the moral concerns raised in cluster 3 (section 2.3), there's an emerging literature that explores how innovation systems can apply principles of Responsible Research and Innovation (RRI) (Owen et al., 2012) to the digitalization of agricultural production systems, value chains and food Digitalization has also been observed to be a propulsion of the evolution of agricultural knowledge and innovation systems (AKIS). During this thematic cluster, which has emerged recently but is increasingly becoming established, different lines of enquiry are often discerned with either a macro, meso or micro perspective on knowledge and innovation systems. From a macro perspective, some research that uses innovation systems perspectives looks at how innovation support structures enable digitalization, but also change themselves under the influence of digitalization, e.g. by incorporating big data analysis (Kamilaris et al., 2017). Some research also looks at how AKIS for digital agriculture are shaped through a diversity of existing and new actors in these systems: high-tech firms (e.g. drones or satellite manufacturers, etc.), service industries, and multinationals producing farming equipment, like self-driving tractors and automatic milking machines (Eastwood et al., 2017b). Given the moral concerns raised in cluster 3 (section 2.3), there's an emerging literature that explores how innovation systems can apply principles of Responsible Research and Innovation (RRI) (Owen et al., 2012) to the digitalization of agricultural production systems, value chains and food Digitalization has also been observed to be a actuation of the evolution of agricultural knowledge and innovation systems (AKIS).

Description of the problems:

The changing global market environment, farmer's awareness and knowledge, significant development in research and development, and role played by government has greatly affected the agrochemical industry. There are various problem associate with the agrochemical company can be summarized as follow;

1. It is necessary to increase awareness among farmers regarding agrochemicals.
2. It is necessary to highlight technology aspects of application of chemical

Description of the Research:

This research is the type of Survey research which includes Random sampling farmers. It begins with problem identification, and to arrive at a conclusion, which includes secondary data as well as information from primary data from survey.

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Sample Size:

I have chosen Random Sampling method as a part of Sampling from Sangli District. The sample surveyed is drawn from 02 talukas in Sangli district covering important cash crops grown in Sangli district. List of major cash crops grown was accomplished and then a sample from population was taken selecting only the progressive farmers for survey. Therefore, the study was undertaken on representative sample of farmers to make it more manageable. A survey of 57 farmers was carried on in Sangli district, through data collected from dealers and by telephonic conversation.

Data Analysis:

Q.1. Age Group of the Farmers.

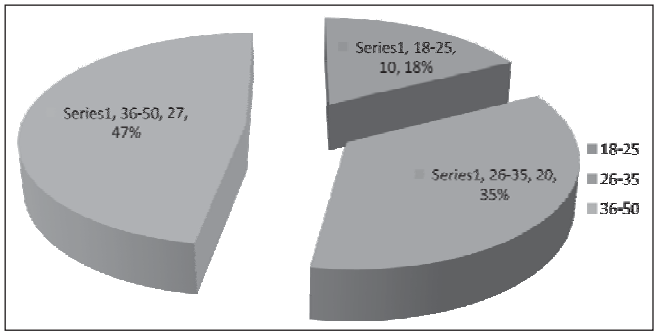

Figure 1.1 : Age Group of Farmers

The major age group for survey turned out to be farmers in between 36- 50 (57 respondents).

Q. 2. Which Crops are grown by You?

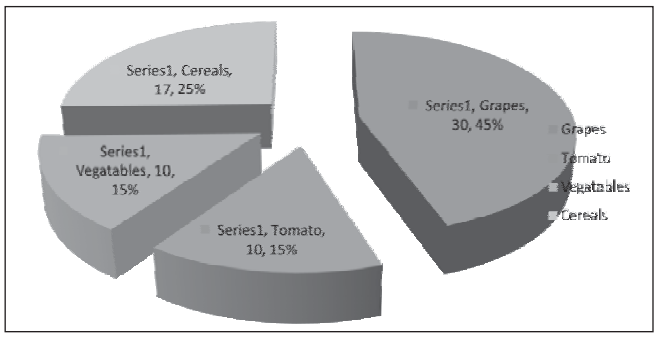

Figure 1.2 : Crops Grown By Farmers

The major crop in survey was Grapes as its an horticulture crop where the export potential is high. Even the farmers growing Jowar, Millet, Wheat were considered in the survey.

Q.3. Do you export your agriculture produce.

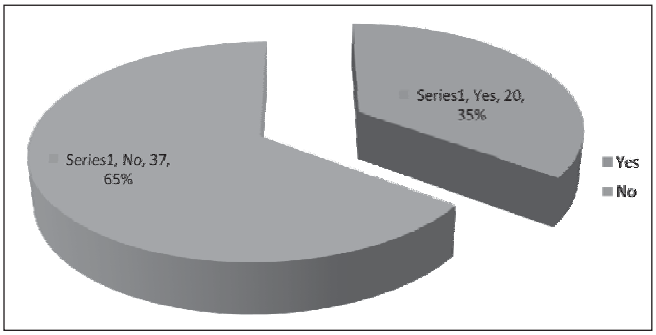

Figure 1.3 : Export of Agriculture Produce

Analysis : Twenty Farmers said they do export the agricultur produce and all the farmers having the export potential were only Grape farmers. Rest 37 Farmers do look for the local market to sell their agriculture produce.

Q.4. Do you use the Agriculture related apps to get the information on the crops you grow.

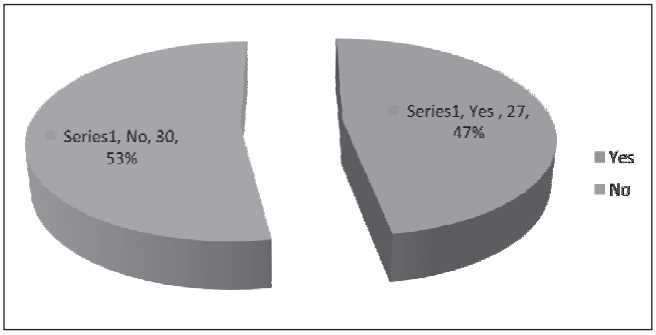

Figure 1.4 : Use of Agri. Apps.

Analysis : Only 27 Farmers are using the agriculture apps in order to get the relevant information on farming , rest more than 50 percent farmers still rely on their experience and opinion of the others on to sell or produce the agriculture produce.

Q.5. Which Apps are used by you mostly.

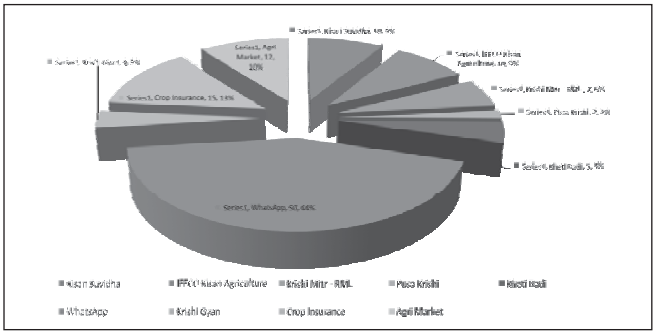

Figure 1.5 : Most Used Apps. By Farmers

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WhatsApp is the most used app amonst all the Digital App followed by Agri market , Kisan Suvidha and IFFCO Kisan Agriculture.

Q.6. Do You Use WhatsApp for Agriculture information.

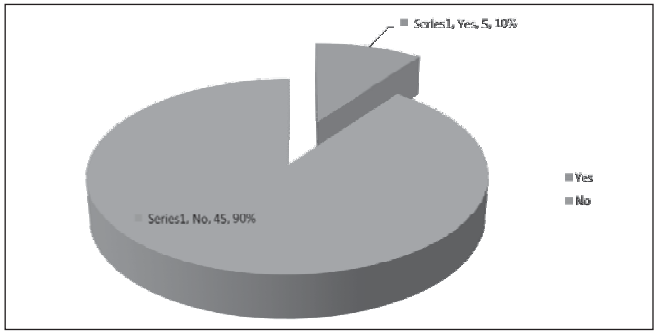

Figure 1.6 : Use of WhatsApp

Analysis :Among the fifty WhatsApp users only five users have agreed that they do use WhatsApp to get the agriculture related information, wheras majorly the app was used for other activities , rather than using for getting the information for agriculture. It was used as social connectivity App wherein they if forwarded message do come its viewed in regards to the agriculture.

Q.7 Which information you seek mostly using the apps.

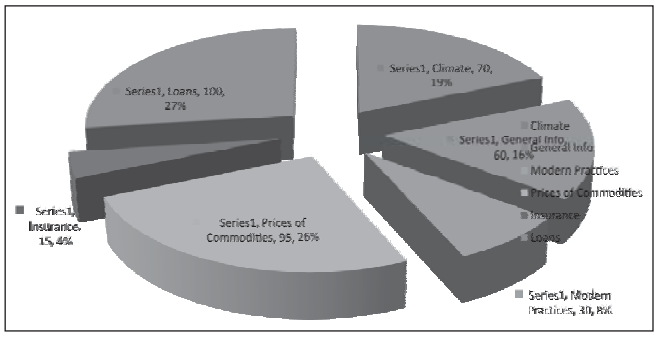

Figure 1.7 : Information Seeked Through Apps.

Analysis :The major information searched by the farmers is for loans, second most information which is seeked is about the prices of agriculture commodities followed by climate information and the general information about agricultural practices. The least information seked is about the modern agriculture practices.

Q.8. How do you come across the new launches of agrochemicals.

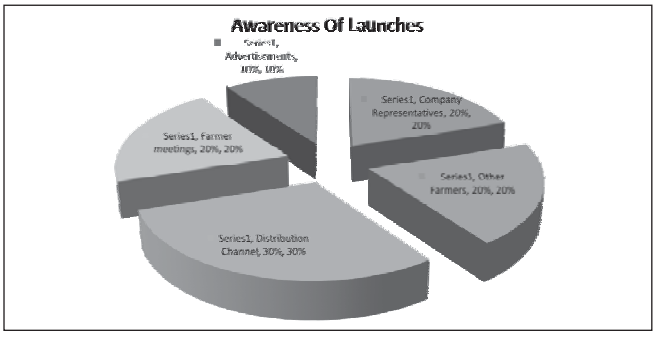

Figure 1.8 : New launches of Agrochemicals

Analysis : No news about the new launches is known to farmers through the apps , they get the information from various other channels of information.

Q.9. From where do you get the information about the use of agriproducts?

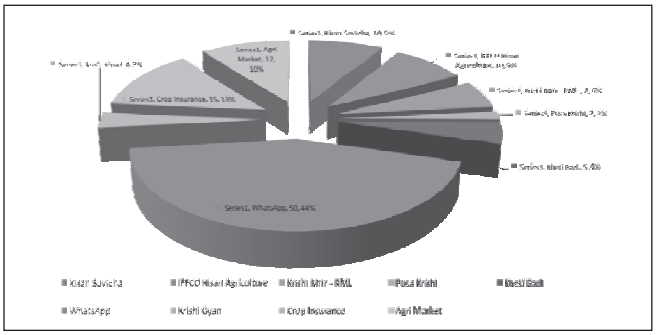

Figure 1.9 : Retailer Explanation.

Analysis : From the farmers responses it is observed that majority of retailers provides information about the various product offerings, their constituents and benefits; the accessories; and the side effects and results of using such chemicals. They also educate them on the issues of safe usage and disposal.

Q.10. Are you aware about the residues of Agrochemicals in fruits?

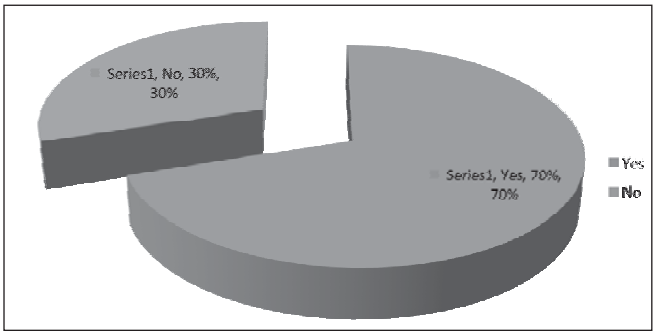

Figure 1.10 : Residual effect in Plants

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Analysis : Seventy Percent of the Farmers are aware about the agriculture residues in Fruits, rest were unawre about the residues.

Q.11. If you get all the farming related information on Mobiles, will you like the access?

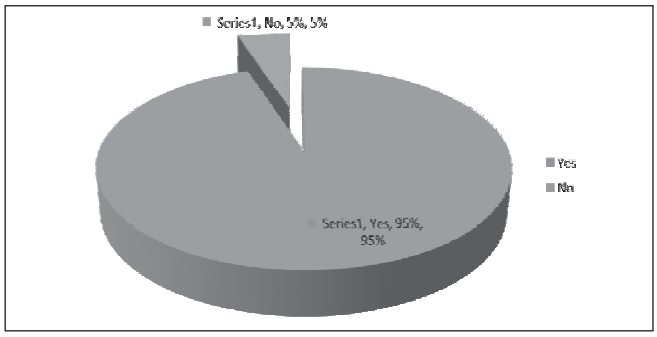

Figure 1.11 : Agri. Information on Mobiles

Analysis : Ninety Five percent of farmers agreed to the fact that if they get farming related information on mobiles they could like to access the information.

Findings and Conclusion:

The potential of export lies only with horticulture crops , this is what was primarily observed ,in the survey done Farmers growing Grape were aware and were doing the exports of their produce. Remaining farmers survyed were using the help of local markets to sell the produce. When they sell the produce in local markets they have acess to it personally so in this scenario the dependece on the IOT is less, so the motivation to be digital is quite low. Wherin they rely on their experience and opinion of other frmers in order to sell or produce the final produce.

WhatsApp is the most popular Application used by the survyed farmers , wherin the use of WhatsApp to get information regarding Agriculture is very minimal. Basically it was used as the social connectivity application, and mostly info was seeked if any forwarded message comes.

The major information searched by the farmers was for loans, second most information which was seeked was about the prices of agriculture commodities followed by climate information and the general information about agricultural practices. The least information which was searced was about the modern agriculture practices. This was the biggest drawback observed which is a major concern in Indian Agriculture system. One more thing is observed was no information about new product launches is given to the farmers through the Agri- Apps they use, if the industry thinks on this regards then it will be a benefial for both – Industry as well as the consumer.The distribution channel in Agriculture markets always has played pivotal role and will also play the same role in near future , it is the primary source of information to the farmers for product offerings, the recent scintific and allied information . They have a great impact on the farmers in regard to evry aspect from procuring the inputs to selling of outputs. This particular thing makes the farmers dependent on them , rther than opting for other medias to search and research information.Even the residual effect of chemicals used in agriculture is gaining importance and awareness is being created in farmer fraternity to some extent. Farmers definitely do want to know and access more information, if the agri based apps do provide them more scientific information and more relevant knowledge about the climatic changes, possibilities to increase the farming yield with lowering the capital costs, information regarding the residual effect of chemicals used in farming, then it will lead to digitalisation in agriculture.

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WOMEN ENTREPRENEURSHIP IN INDIA - ISSUES, OPPORTUNITIES AND CHALLENGES

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Abstract:

Women are one of the most significant untapped resources for entrepreneurship. Over the last decades, more concentration has been brought to the under-representation of women in entrepreneurship and cost-effective leadership. Women entrepreneurship has gained recognition as a significant contributor towards the economic and particularly social development of the country. They are still struggling to find their way onto the boards of large companies, and in India women entrepreneurs are still in the minority. The study is an effort to understand the key issues, opportunities and challenges of women entrepreneurship in Indian context. The study is based on primary and secondary sources i.e. observation, research studies, articles and news paper coverage's. The result indicates that family support, flexibility in work, risk taking ability, government initiatives etc. are the key opportunities for women entrepreneurship, lack of awareness on government initiatives, lack of financial autonomy, low level of financial literacy, cut-throat completion are the key challenges of women entrepreneurship. This study would be useful to the women entrepreneurs, public, as well as government for build up women entrepreneurship in nation and social development.

Key words: *Entrepreneurship, Economic and Social development, financial literacy, Women entrepreneurship.*

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Introduction:

The Indian economy has grown progressively over the last decade, and there has been a parallel surge in the number of startups and new businesses in the country. A majority of these have been found by men (Ministry of Statistics and Programme Implementation, "Highlights of the Sixth Economic Consensus," 2014). While many Indian women have ambitions towards entrepreneurship, it is often more difficult for them to succeed. in fact, India has been found to be in a group of countries where women business owners struggle with less favorable conditions, pronounced cultural biases, and a lack of business resources such as finance, capital, training, and development *(Mastercard, "Mastercard Index of Women Entrepreneurs," 2018)*.

A society in which women cannot realize their full potential loses out on the significant potential for innovation, economic growth and job creation. For instance a recent study (Purva Khera, 2018) showed that in India, measures to close the gender gap could lead to a 6.8 percent gain in Gross Domestic Product. Another study (McKinsey Global Institute, "The Power of Parity: Advancing Women's Equality in India," 2015) estimated that advancing women's equality in India could boost its GDP by $0.7 trillion in 20125 or 16 percent as compared to the "business as usual' scenario. Moreover, entrepreneurship remains critical to harness the economic potential of women and thus, achieve the sustainable development goals by 2030 *(Ellina Samantroy and J.S. Tomar, 2018)*.

Literature Review:

Female entrepreneurs represent the fastest growing category of entrepreneurship worldwide and have received, especially in recent years, the attention of many academics. According to the emerging literature, women can make a significant contribution to entrepreneurial activity (Noguera et al., 2013) and economic development (Kelley et al., 2017; Hechevarría et al., 2019) in terms of creating new jobs and increasing the gross domestic product (Bahmani-Oskooee et al., 2013; Ayogu and Agu, 2015), with positive impacts on reducing poverty and social exclusion (Langowitz and Minniti, 2007; Rae, 2015). The percentage of women who decide to pursue an entrepreneurial career is, however, lower than that of men (Elam et al., 2019), and this difference is greater as the level of development of the country increases (Coduras and Autio, 2013).

According to a study by Guzman and Kacperczyk (2019), females are 63% less likely than males to obtain external financing in terms of risk capital, and the most significant part of the gap derives from differences in gender. The social construction of the entrepreneur as an independent and stereotyped man calls into question a second theme of analysis that can be limiting for women, namely the responsibility that women seem to have on the family/ work issue (Jennings and Brush, 2013; Neneh, 2018). Boz et al. (2016) discovered that women who care most about the family have negative behaviors at work, consequently, the balance between family and work is more difficult for women entrepreneurs, which represents a fundamental obstacle to the growth of their businesses.

Other empirical evidence has shown the opposite. According to Thébaud (2015), work-family conflict can be an important factor that motivates women to start a business. For example, business creation can offer women considerable flexibility in terms of work hours (for example, work only a few hours a week or work at home) allowing them to find a balance between work and family commitments (Kirkwood and Tootell, 2008).

Men and women cannot participate in the same entrepreneurial activity due to differences in the access to diverse forms of capital. For example, Johansen (2013) points out as issues the difficulty in obtaining support (institutional, family, and financial), fear of failure, self-assessment of the gender gap, and unfavorable social perceptions. Noguera et al. (2013) highlight fear of failure and self-efficacy as important barriers that hinder the propensity of women to pursue a business career. Other authors have reached similar conclusions in recent years (Wieland et al., 2019).

Global statistics also highlight this aspect. Although over the years there has been a significant increase in the number of women who have developed or undertaken an entrepreneurial activity, it will take at least another 108 years to completely close the gender between men and women, and 202 years to achieve equality between the two genders in the workplace. This is confirmed by the Global Gender Gap Report 2018 published by the World Economic Forum (2018), which taking into account four indicators: economic opportunity, political growth, training, health, and survival, showed in 2018 a 68% gap. The wage gap is almost 51%, and in 2018 women in leadership positions were only 34%. The same is also true for 2020 (Global Gender Gap score stands at 68. 6%) (World Economic Forum, 2020).

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Objectives of the Study:

1. To understand and analyze the concept of women entrepreneurship.
2. To investigate the key issues, challenges and opportunities of women entrepreneurship.
3. To initiate suggestions for promoting women entrepreneurship in Indian economy.

Research Methodology:

The aim of this study is to study the key issues, challenges and opportunities of women entrepreneurship in India. The present study is based on primary and secondary data, primary data includes observation and secondary data was collected from various sources like journals, research articles, literature reviews, magazines and various web sources.

Findings and Recommendations:

Entrepreneurship is the new saga for the development of India and government is tapping every opportunity to build entrepreneurial zeal among young and aspiring individuals who wants to create jobs rather than seeking jobs. At present women counts for nearly fifty percent of the population in India. According to a survey by IMF, India has a total of 58.5 million entrepreneurs and 8.05 million of those of women entrepreneurs, which adds up to only 14% of total entrepreneurs and they contribute less than 17% of GDP of the nation. There are diverse reasons for women not being entrepreneurs even after having every capability of being so.

Gender based discrimination is one of the detrimental factor for women entrepreneurs in India. Traditions, culture, norms, values and experiences discriminate men and women in India and see men as supreme over women. The second major reason which impedes the growth of women entrepreneurs is lack of self confidence in business skills. Women in India are brought up with an attitude of taking household activities and to be away from financial decisions of the family. This attitude over a period of time develops women with more dependency on men for every decision and lack confidence in their business skills. The women with confidence and business skills also need to face the stereotype attitude of the people with whom they need to deal in business.

The next major concern for women entrepreneurship development in India is financial independence and opportunities for procuring funds. Women here are hardly financial independent to procure capital on their own. Even the investors also try to invest money in business operated by men than by women because of stereotype attitude that women are less risk takers and not sound financial decision makers. Adding to this, in many cases the properties are not registered under women name through which banks sanction loans. Hence, that opportunity is also lost.

One more obstacle of becoming women entrepreneur is lack of network and relationships. Entrepreneurship in India is dominated by men who do not want women to network with them and maintain strong relationships in business. Women entrepreneurs also suffer because of unintended behaviour by their counterparts in these associations and show reluctance to networking. Lack of networking and association reduces the opportunity for women entrepreneurs as they are not informed of the great deals.

Family system in India also stops women from being entrepreneurs. Women are treated to be responsible for maintaining the family and up brining children. Balancing both work and family becomes a major challenge for women. Many compromise themselves and confine to four walls of the house even after having entrepreneurial capabilities because of this reason. Even though women are willing to take up multiple responsibilities and handle them, family members discourage them to start a business. Indian tradition gives greater respect for women and makes society responsible for their safety and security, today the reality is different in work and public spaces and poses challenge for women mobility.

Literacy among women is also obstructing women from taking entrepreneurship. Literacy rate among women in India is far behind men. Lack of education stops them from broadening their thought process and outlook towards life. The innate talents of these women are submersed in their family responsibilities and never explored. Central and state governments are coming out with many initiatives for Women Entrepreneurship Development throughout the nation under various schemes and grants. Awareness about those initiatives is not reaching to the aspiring women entrepreneurs and many are leaving their dreams half way.

Recommendations:

It is true that women entrepreneurship in India is still an untapped opportunity. According to a study by McKinsey Global Institute, India's GDP is projected to raise between 16-60% by 2025 if women participated equally with men in the economy. It is possible only when following measures are taken with insistence:

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- Coming out of the stereo type mindset of looking at women as less confident, incapable and dependent.
- Immediate measures to increase literacy among girl child
- Instilling confidence and reducing gender inequalities through proper curriculum at all levels of education system
- Creating equal opportunities for education, financial independence and social status
- Strengthen work and public space safety and security for women and apply stringent punishments for the violation of the same.
- Universities and educational institutions should be made as catalysts for women entrepreneurship development
- Create more awareness about Government schemes for women entrepreneurship development
- Extend more financial incentives for Women Entrepreneurship Development
- Establishment of separate body to review and address the common issues faced by the women entrepreneurs
- Establishment of more Industrial plots and special economic zones exclusively for women entrepreneurs
- Special programmes for vocational training, business management skills and market knowledge.

Conclusion:

India is witnessing a greater change in the 21st century of how a business operates and who is operating it. Women in India started breaking the glass ceiling created by male dominated society and are exploring in the recent past. Some women entrepreneurs have laid the foundation stones and paved a way for others to follow. Slowly the mindset of people in society is also changing from looking women as an unpaid labor taking their family responsibility to a strong women contributing for the economic development. Broader perspective and attitude change can definitely create more and more women entrepreneurs. The role of universities, educational institutions, state and central governments is inseparable from making the dream a reality where men and women equally take up entrepreneurial ventures and develop the nation.

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ARTIFICIAL INTELLIGENCE IN HR: A BOON OR A CURSE?

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Thakur Global Business School

Abstract:

The world is heading towards change and is always looking out for the next big thing. Artificial Intelligence, provides a platform to integrate the competencies of humans with computers. The study analyzes whether it is a boon or a curse.

The study of Artificial Intelligence began way back in the 1950s and it has improved drastically over time with advanced statistical methods and increased computing power (whoinventedfirst.com). Artificial Intelligence is a branch of science that refers to the ability of a computer program to perform functions and reach conclusions independently.

AI is not the new technology it is very broad concept and comprises a set of powerful technologies that are emerging under it like deep learning, Reinforcement Learning and Facial Recognition and many more. AI is trending these days and yes it is the future (houseofbots.com).

Keywords:

CPM (Computerized Performance Monitoring), Emotional quotient, artificial neural networks, Talent Acquisition (TA) and Business automation.

Introduction:

Since the dawn of technology and emergence of innovation which has led to artificial intelligence (AI) making a remarkable entrance in each and every sector and industry, which has somewhat reduced the human intervention at workplace. All robotics and no humans would lead to humans being slaves of robotics and soon life wouldn't be able to survive without it.

Artificial intelligence was to reduce human stress but looks like the vision is changing and it is in fact increasing stress due to reduction in human labor which has indirectly promoted unemployment all-round the globe.

Coming to the HR sector the AI has made an entrance in the process of filtering the applicants. Which can be perceived with a negative and a positive approach as well. Before going to its depth lets understand the history of Artificial Intelligence.

Artificial intelligence (AI) refers to the stimulation of human intelligence in machines that are programmed to think like humans and mimic their actions. The term may also be applied to any machine that exhibits traits associated with a human mind such as learning and problem-solving.

Artificial intelligence was founded as an academic discipline in 1955, and in the years since has experienced several waves of

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optimism, followed by disappointment and the loss of funding (known as an "AI winter"), followed by new approaches, success and renewed funding. After Alpha Go successfully defeated a professional Go player in 2015, artificial intelligence once again attracted widespread global attention. For most of its history, AI research has been divided into sub-fields that often fail to communicate with each other. These sub-fields are based on technical considerations, such as particular goals (e.g. "robotics" or "machine learning") the use of particular tools ("logic" or artificial neural networks), or deep philosophical differences. Sub-fields have also been based on social factors (particular institutions or the work of particular researchers).

The traditional problems (or goals) of AI research include reasoning, knowledge representation, planning, learning, natural language processing, perception and the ability to move and manipulate objects. General intelligence is among the field's long-term goals. Approaches include statistical methods, computational intelligence, and traditional symbolic AI. Many tools are used in AI, including versions of search and mathematical optimization, artificial neural networks, and methods based on statistics, probability and economics. The AI field draws upon computer science, information engineering, mathematics, psychology, linguistics, philosophy, and many other fields.

The field was founded on the assumption that human intelligence "can be so precisely described that a machine can be made to simulate it". This raises philosophical arguments about the mind and the ethics of creating artificial beings endowed with human-like intelligence. These issues have been explored by myth, fiction and philosophy since antiquity. Some people also consider AI to be a danger to humanity if it progresses unabated. Others believe that AI, unlike previous technological revolutions, will create a risk of mass unemployment

In the twenty-first century, AI techniques have experienced a resurgence following concurrent advances in computer power, large amounts of data, and theoretical understanding; and AI techniques have become an essential part of the technology industry, helping to solve many challenging problems in computer science, software engineering and operations research.

In the paper titled AI in HR a real killer app it clearly shows that AI is quite used in most of the areas of management and also about the risks that will occur when it is not used properly, (Josh bersin, 2018) another paper stated that AI has been moved too fast trending that means the trend moved from big data to machine learning to AI in that 41% of CEO's are reporting that they are not prepared for using data analytic tools and only 4% are prepared for using tools (Prasanna tambe, peter cappeli and Valery Vakubovish, 2018)

Literature Review:

Rohit Chawala (2018)

The article states that the concept of AI is very debatable and the researchers are still on the pathway to conclude whether AI is a boon or a bane for Mankind.

Gradually the organizations have opened up to it. Technologies and tools like cloud computing, business analytics, e-recruitment, CPM (Computerized Performance Monitoring) have minimized the labor of HR personnel and given them considerable time to focus on other goals. If we talk specifically about Talent Acquisition (TA), then AI not only helps in inviting applications but also helps in selecting the candidates, within seconds.The technologies that are used for TA are Symphony Talent, Pomato, Piazza careers, Textio, Relode and many more. According to Artificial Intelligence Market Forecasts by Tractia, Babu Mittal, Head HR at Shopclues supported AI in HR as the 60% of the time that was spent on managing and organizing can now be invested in strategizing.

Now the question arises, that if AI is such a convenience for the HR, then what is the debate all about? Earlier this year, researchers noticed that Artificial Intelligence they had created, started making their own code words, which couldn't be deciphered by humans, without the use of AI. Hence, Scientists have switched off Facebook's robot because it reportedly programmed its own language.

Some experts are presuming it as a threat for mankind while others foresee this as a progress in the field of AI. The reason for the threat is that if the automation of business increases, it would minimize the need for human labour. It has been estimated that 5 million jobs would be replaced by AI but the underlying fact is that there are certain capabilities like human judgment, human interaction, feelings and emotions which can never be imitated by AI.

Professor Stephen Hawking warned that the creation of AI can

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either be the best or the worst thing that could ever happen to mankind, and he also stressed upon the need for further research in this field. It is an undeniable that if humans and bots work together, we can achieve tremendous development, but at the same time we need to invest more in order to utilize AI in the best possible way. The article provides a holistic view of Artificial intelligence at the same time warning its audience of the ill effects it may have.

Objectives of the Study:

- To study the impact of artificial intelligence on the HR sector.
- To understand its effects on applicants and existing employees.
- To come up with an answer as to whether AI is a boon or ban.
- To know what the future and existing employees want as their method of filtration.
- Will the increase use and emergence of AI make human touch forgotten in the future?
- Preference of employees: traditional HR practices or AI techno HR.

Research Methodology:

A descriptive research design was adopted to conduct the study. Data collection was done through primary as well as secondary sources.

Primary data was collected with the help of structured questionnaire directly from the respondents. simple random was the sampling design adopted to conduct the survey. In all 70 respondents were approached with a response rate of 100%.

Secondary data was collected with the help of research papers, articles and reports related to the topic.

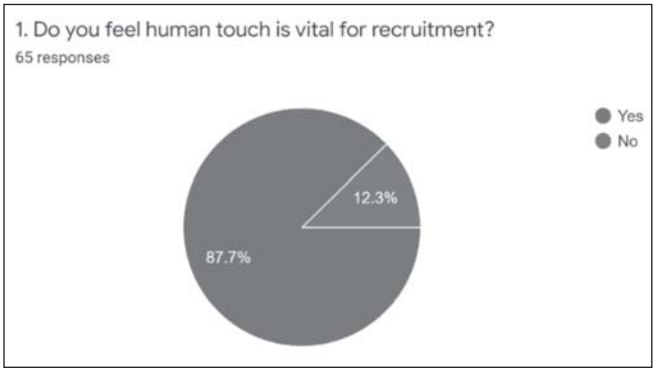
Data Analysis:

Authors conducted a research using the questionnaire methodology and have inferred the following from the data gathered.

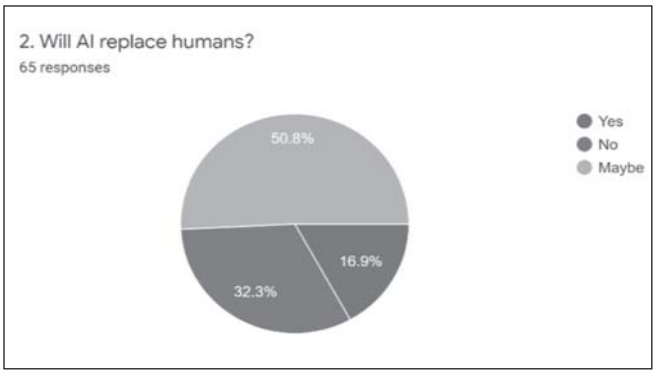
The results of the questionnaire provide insight into the minds of our participants and here's what we gathered from the same.

Variables Gender	N	%
Female	31	44.29
Male	39	55.71
Age		
18-25	47	67.1
25-35	8	11.4
35-45	5	7.1
45 & above	10	14.3

1. When asked if Human touch was vital, 87.7% answered yes while a minority favored AI over the human touch.



2. 16.1% of the survey participants feel that AI will replace humans in the future, 32.3% feel that AI will not replace humans while a majority of the participants were on the fence regarding this decision.



3. When asked about employability criteria, 56.9% of our participants are of the opinion that AI creates unemployment while 43.1% have said it is responsible for employment..

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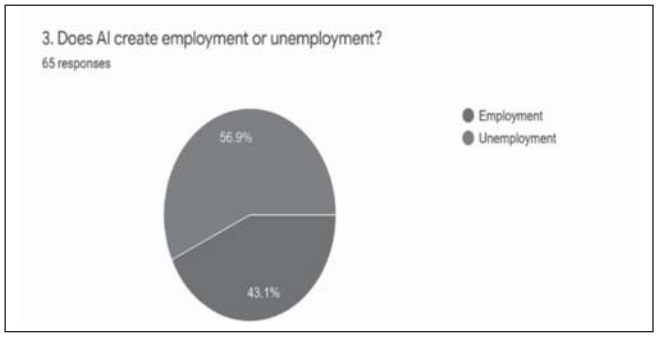
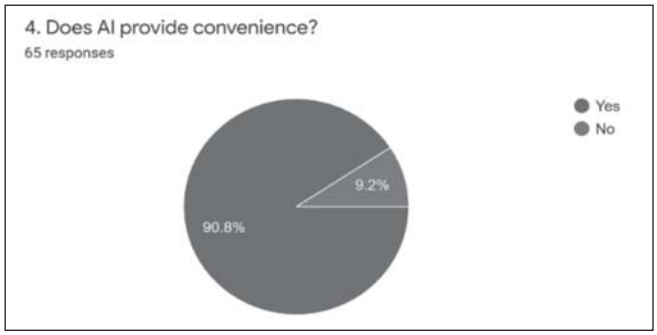
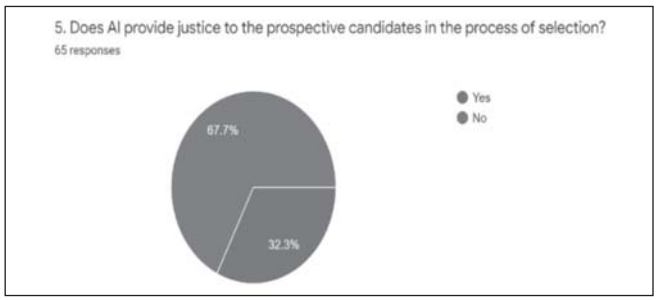


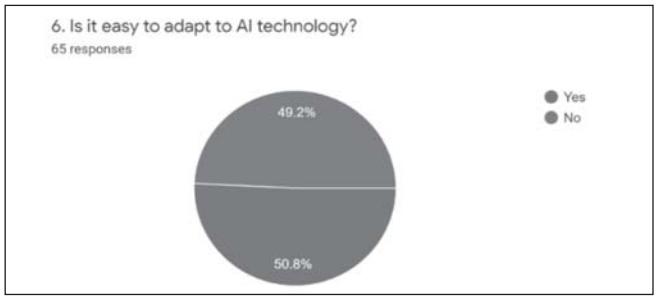
4. A vast majority of the participants (90.8% to be exact) believe that AI provides convenience.



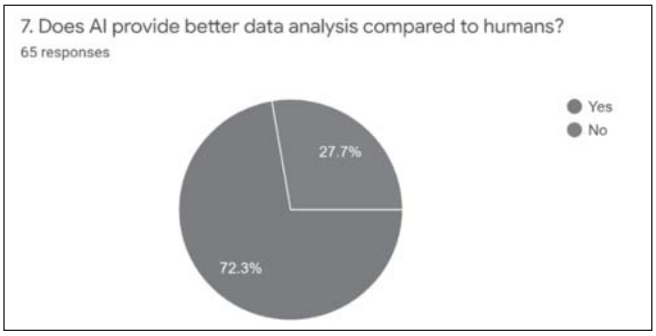
5. As per the questionnaire survey, 67.7% say that AI does not provide justice to prospective candidates.



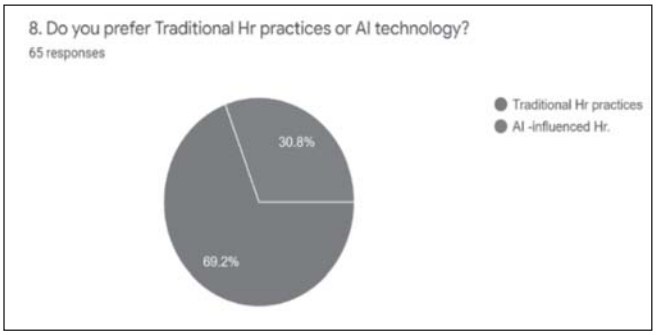
6. Adaptability to AI is a factor that varies from individual to individual and the data shows that a fair percentage of the participants find it easy to adapt to AI.



7. 72.3% of our participants say that AI is a better source for data analysis than human beings.



8. 69.2% of the participants prefer the traditional HR practices over AI-driven HR technology.



Limitations of the Study & Future Scope of the Study:

- A larger sample could have resulted in higher reliability of the data.
- Random sampling was done hence a detailed survey of individuals working in Human resource department was not provided.

With the above limitations, there remains lots of scope for further research in this area. A study stating the view points of the individuals working in human resource department shall provide better clarity on the topic.

Conclusion:

Artificial Intelligence (AI) is the future that would change the world forever, the way we life and the way we work too. With super high efficiency and intellect, it is replacing human labor force in each capturing industry and sector. With its dawn in HR industry, it may lead to loosing human touch forever if ever it replaces living humans over robotics. There are areas where

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the robotics can lack as it can't sense and feel the emotions that a human person can sense and justify on selecting an individual.

AI has yet not ventured out on the discovery to having emotional quotient invented and in-built in the robotic systems which can help it select a suitable candidate. It sticks to the data derived from the resume and information provided to it, which in turn gives it a myopic view. HR being a very crucial department which deals with humans is believed and must be headed by a human and not a robotic system. People prefer humans when dealing with HR as a department, reason being a human can only understand and analyze the employees and other prospect candidates with a holistic view and give an approximate correct decision regarding a situation.

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COMPARISON OF MARKET EFFICIENCY IN THE BANKING STOCKS LISTED UNDER BOMBAY STOCK EXCHANGE AND NEW YORK STOCK EXCHANGE

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Abstract:

The objective of this research paper is to identify the possibility of expectedness of the stock price movement and to check the market inefficiency, if any, prevailing in the banking stocks listed under Bombay Stock Exchange (BSE) and New York Stock Exchange (NYSE). The paper is also concerned to know whether the efficiency prevailing in the index is also reflected in its constituent stocks. Using the runs test, residual test serial correlation test, we found a very contradicting result of market efficiency for the both type of the stocks. The study is based on the daily closing price of thirty-five banking stocks listed in BSE and twenty-three banking stocks listed in NYSE for a period of 15 years ranging from January 2004 to December 2019. When runs test tells many of the stocks are weakly inefficient, the serial correlation says the return data do not show any auto-correlation at different time lags. Similarly, the Durbin-Watson statistical test also gives a similar result like the auto-correlation result. Hence, in our study for the same set of data we got two different results. Thus, the result from the test of the weak form of market efficiency, is subject to the tools used for the test.

Key Words:

Runs Test, Autocorrelation, Durbin-Watson Statistics, Random Walk Hypothesis, Efficient Market Hypothesis & Technical analysis.

JEL Classification: *G 11 & G 14*

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Introduction:

The researchers in the recent years are showing an increasing interest to predict the asset prices (Fama, 1991). They study the historical stock data and find out the patterns in the asset prices and employ various technical tools extensively to forecast the returns of the stocks and indices. At any point of time, there may be few stocks in any stock market, for which, the pattern can be predicted, and the investor can take position based on the predicted pattern. It may be possible to predict the pattern of a portfolio constructed from the best performing stocks which have got good performance continuity. Because of enough reliability in the selected stocks for profit opportunity, the portfolio constructed out of these stocks will out-perform the individual stock return to risk ratio (Jegadeesh & Titman, 1993). If the stock price pattern is predictable then the market for the stock has got the inefficiency. The efficiency comes when all the information in the market are absorbed by the price and there is no time lag for the price to get adjusted. The hypothesis of efficient market (EMH) says stocks prices reflect all the available information in the market. The randomness and the efficiency are two different terms in the stock market price forecasting. Efficiency means, how fast the information gets adjusted and gets reflected in the price. That is why the efficiency in the stock market means informational efficiency. Whereas the term randomness signifies that in the absence of information, still the price takes a move in any direction. Thus, for the price change, one need not to wait till a new information to arrive in the market {(Fama, 1970) and (Bodie, Kane & Marcus, 2001)}.

Fama (1970) classified the Efficient market hypothesis into three broad categories based on the classification of information sets available to the players in the stock market. These are weak-form, semi-strong-form and strong-form of market under the EMH.

The weak-form hypothesis tells that all information about market like the history of past prices, trading volume, etc, which are publicly available are fully reflected in the current stock prices. So predicting the future price by trend analysis is not of any use. As these past stock price data are already available with the public and these are almost costless to obtain because these are published in newspaper and internet, everyone can use them and thus trend calculation is meaningless. It means the public would have exploited the signals conveyed by the stock prices and the news on company and industry and the signals thus lose their value to attract the investors for decision making on investment.

The semi-strong form hypothesis states that in addition to the past price data, the company and industry fundamentals like the profit loss statement, Balance-sheet statement and the cash flow statement are also available in public. These information also include copy rights of the firm, product line and product mix, Forecasted income, accounting practices followed by the company, etc., which are the core fundamentals of the company. As these information are accessible to the public, it is also expected that these would be reflected in the stock prices.

Strong form efficiency tells that prevailing stock prices reflect completely available information. In other words, it says that not a single buyer or a single seller or a subsection of the market (a) has access to some extra information that is not made public or access to a bigger information about the stock or the industry to influence the market or (b) has the ability superior to the market like to buy or sell a significant quantity that may influence to form expectations. Thus, holding positions in the stocks or indices do not generate “abnormal” profit or "excess" profits. The stock market is said to have the strong form of inefficiency when the evidence of consistent “abnormal” profit or "excess" profits are decisive. The strong-form hypothesis is the extreme version of efficient market hypothesis which is expected to reflect the insiders’ information that is not available with public along with all other information applicable for the semi-strong form of Market. The logic behind this form of market is that some of the employees of the corporate have access to very sensitive information before they are made public. By exploiting these insiders’ information in the stock trading activities, the investors can earn huge profit. The Security Exchange Commission Act, 1934 defines insiders of any corporate may be associated as corporate officers, directors, substantial owners or their relatives who know the in & out of the corporate and are the key persons in the decision-making process for the company. Like The Security Exchange Commission Act, 1934, The Security Exchange Board of India Act, 1992 has prohibited the insiders’ trading in stock market of India too.

Review of Literature:

Fama (1970) tested the three forms of market efficiency with empirical evidence. In his study, most attention was given to the weak-form of market efficiency with relatively less focus on the two other form of market efficiency, i.e., semi-strong-form and strong-form EMH. Using the tests of serial correlation tests and technical trading rules, he found that the stock markets are with weak form of efficiency. His results were at par with the

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previous empirical studies conducted prior to 1970.

After two decades, Fama (1991) conducted a second review of the literatures on market efficiency and here, he expanded his test of weak-form EMH to test the return predictability using other variables such as the dividend–price ratio, earnings–price ratio, book-to-market ratio and various measures of the interest rates. He renamed the tests for the semi-strong-form as "event studies" and strong-form EMH as "tests for private information". Based on the information of past return, dividend yields and a few term structure variables, with a good number of evidences, he concluded that the return prediction is possible. At the same time, he argued on the possibility of return prediction and commented that his verdicts might be invalid.

Shawn et al., (2012), tested the characteristics of the return of Mongolian equity market whether fitting to normal distribution. They used Jarque-Bera Test, Liung-Box Q test, Runs test, Auto-correlation test, the Augmented Dickey-Fuller Test and the Chow-Denning Multiple Variance Ratio (MVR) Test for equity return data over a period from January 1999 to July 2012. In their empirical analysis, they found the return from the Mongolian equity market is not normally distributed for the studied period as it has a positive skewness and has excess kurtosis too. After running all these tests, with necessary adjustment for heteroscedasticity in the MVR test, they found the return of the market did not follow a random walk hypothesis

Nisar & Hanif (2012) have applied run tests and variance ratio test to check whether the weak form of efficiency is present in the stock markets of Asia-Pacifics. They analysed the monthly, weekly and daily closing values of stock indices of Nikkei N225 (Japan), Shanghai Composite (China), Kospi Composite (Korea), Hang Seng Index HIS (Hong Kong), All Ordinaries ASX (Australia), KSE-100 (Pakistan) and BSE SENEX (India) from July 1997 to June 2011. They found weak form of market efficiency in Nikkei N225, Kospi Composite, Hang Seng Index HIS and All Ordinaries ASX stock exchanges. The rest of the three from these seven indices do not follow a random walk.

Worthington & Higgs (2005) tested the weak form of market efficiency by studying the developed stock markets of Australia, Hong Kong, Japan, New Zealand and Singapore. They compared the market efficiency in the emerging stock markets of China, India, Indonesia, Korea, Malaysia, Pakistan, the Philippines, Sri Lanka, Taiwan and Thailand. The monthly closing value of these indices were taken into consideration from a period December 1987 to May 2003. Using serial correlation and runs tests, they found all the stock indices, irrespective of their status, whether developed or emerging stock exchanges, are inefficient. Using the variance ratio for testing whether the markets follow a random walk, they found not a single stock exchange in the group of emerging stock exchanges satisfies the test to tell that it follows a random walk. But only Hong Kong, New Zealand and Japan amongst the five developed stock markets, are consistent with the criteria of random walk.

Poshakwale (2002) examined the consistency with the random walk criteria of Indian stock market by studying the daily closing prices of 138 stocks in the Bombay Stock Exchange. He found that the daily stock returns in the Indian stock market do not confirm to the random walk hypothesis. He conducted a time-series test using EGARCH model and unit root test and concluded that the volatility in the daily return is persistent in nature and varying with time and it does not explain the expected returns of the stock.

Xin et. al., investigated the existence of random walk condition and the market efficiency in the Chinese Metal futures market during 1999 - 2004. Especially, they examined whether the change in daily prices of the copper and aluminium commodity futures were dependent on the change in monthly prices of the same for the said period in Shanghai's Futures Exchange of China. Using the Unit root test and Variance ratio test, they concluded that the daily price changes in the futures of copper and aluminium are independent of the changes in the monthly price changes in the two commodity futures. They found the absence of weak form of efficiency in the two metal commodity futures in Shanghai's commodity exchange.

Research Gap:

In this study, we want to bridge the gap of testing the presence of weak form of efficiency for Major stock indices, sector-specific index and the stocks of the sector.

Objectives of the study:

1. To study whether the price movements of banking sector stocks (in the categories of Public sector, private sector and foreign sector banks) are predictable or they are random. In other words, the objective is to find out whether the banking sector stocks confirm to the weak form of market efficiency?
2. To find out whether there is any similarity in the market efficiency of the bank index and the market efficiency of the constituent banking stocks. [Banking stocks listed in

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BSE and Banking stocks listed in New York Stock Exchange (NYSE)]

Research Methodology:

Type of Study:

We have followed a descriptive research with empirical analysis to know whether the banking index and stocks of both private and public-sector bank fit into weak form of efficiency and semi strong form of efficiency and then compare them with that of Banks listed in NYSE. The study is based on secondary data of 58 Banking stocks that includes 14 private sector banks, 21 public-sector banks and 23 Banks listed in NYSE. The banks selected for the study are based on convenient sampling, as for many banks the stock price data was not available prior to 2004. The stocks selected are actively traded in the stock market irrespective of their country of listing. We have taken the daily adjusted close price data of the stocks from the web portal of Bombay Stock Exchange, National Stock Exchange and NYSE for a period of 15 years i.e. from 1st January 2004 to 31st December 2019. A period of 15 years that contains 3775 data points is long enough to judge the randomness of the price movement in the stocks. Along with the banking stock prices, we have considered the BSE Bank Index and the BSE SENSEX for the comparison of stock return with the market return for the Indian banking sector stocks. Similarly, for the Banks listed in NYSE stock return comparison we took the NYSE and the NYSE Bank Index for the same period.

Tools and techniques:

The daily return of the stocks and indices were calculated through a process of natural logarithmic transformation in the original stock data. From the time series data of stock prices, a time series of continuously compounded daily returns were generated as follows:

$$r_t = \ln\left(\frac{P_t}{P_{t-1}}\right) \quad \text{... ... ... Equation (1)}$$

where 'rt' indicates stock return at time 't'

'pt' and 'pt – 1' are the stock prices or Index values at times 't' and 't – 1' respectively.

Descriptive statistics for daily returns of the banking stocks and the market indices are presented in Table 1 (A), Table 1 (B) and Table 1 (C) for the Private sector banks of India, Public sector banks of India and Banks listed in NYSE respectively.

Table 1 (A): Descriptive statistics of daily returns of the Indian Private sector banking stocks (From 1st Jan 2004 to 31st Dec 2019)

	Mean	Standard Error	Median	Mode	Standard Deviation	Sample Variance	Kurtosis	Skewness	Range	Minimum	Maximum	Sum	Count
SENSEX	0.00062	0.00024	0.000976	#N/A	0.0143	0.0002	9.6227	-0.1058	0.2780	-0.1181	0.1599	2.3072	3733
BANKEX	0.00082	0.00031	0.00105	#N/A	0.0190	0.0004	6.3123	-0.0721	0.3203	-0.1448	0.1755	3.0722	3733
Axis Bank	0.00069	0.00063	0.00014	0	0.0383	0.0015	848.5246	-19.955	1.7984	-1.6131	0.1852	2.5583	3733
City Union Bank	0.00045	0.00072	0	0	0.0442	0.0020	1812.2939	-35.451	2.4375	-2.2552	0.1823	1.6944	3733
DCB Bank	0.00051	0.0006	0	0	0.0315	0.0010	6.1372	0.2363	0.4340	-0.2228	0.2112	1.4151	2769
Dhanlaxmi Bank	0.00015	0.00052	-0.00175	0	0.0316	0.0010	9.7692	0.3842	0.5609	-0.3786	0.1823	0.5488	3733
Federal Bank	0.00006	0.00069	0	0	0.0421	0.0018	659.8978	-19.7403	1.7545	-1.5808	0.1737	0.2202	3733
HDFC Bank	0.00058	0.00054	0.000373	0	0.0326	0.0011	1581.0064	-32.0160	1.8229	-1.6039	0.2189	2.1629	3733
ICICI Bank	0.00022	0.0006	8.26E-05	0	0.0367	0.0013	975.2798	-22.2993	1.8076	-1.6005	0.2071	0.8049	3733
IDFC Bank	-0.0005	0.00089	-0.00079	0	0.0204	0.0004	3.2565	0.6456	0.1621	-0.0670	0.0951	-0.2648	531
Indusind Bank	0.00125	0.00048	0.000391	0	0.0293	0.0009	4.9428	0.0414	0.3583	-0.1999	0.1584	4.6678	3733
Jammu And Kashmir	-0.00006	0.00072	-0.00042	0	0.0441	0.0019	1770.6996	-34.8844	2.3936	-2.2361	0.1575	-0.2153	3733
Karnataka Bank	0.00025	0.00050	0	0	0.0306	0.0009	88.0708	-3.5477	0.9130	-0.7243	0.1887	0.9416	3733
Karur Vysya Bank	-0.00004	0.00060	0.000141	0	0.0368	0.0014	1061.7921	-25.9046	1.7700	-1.6149	0.1550	-0.1406	3733
Kotak Mahindra Bank	0.00048	0.00058	0.000543	0	0.0356	0.0013	193.1272	-9.2112	1.0123	-0.8314	0.1809	1.7857	3733
RBL Bank	0.00161	0.00098	0.000714	#N/A	0.0178	0.0003	1.2526	0.4689	0.1238	-0.0546	0.0692	0.5315	330

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Table 1 (B): Descriptive statistics of daily returns of the Indian Public sector banking stocks (From 1st Jan 2004 to 31st Dec 2019)

	Mean	Standard Error	Median	Mode	Standard Deviation	Sample Variance	Kurtosis	Skewness	Range	Minimum	Maximum	Sum	Count
Allahabad Bank	0.00047	0.00045	0.00000	0	0.027246	0.000742	4.46473	0.138112	0.396809	-0.19164	0.205173	1.761423	3733
Andhra	0.00027	0.00044	0.00000	0	0.02664	0.00071	4.432077	-0.03376	0.370219	-0.19648	0.173738	1.018503	3733
Bank of Baroda	0.00021	0.00063	0.00000	0	0.038634	0.001493	823.9534	-19.4972	1.890525	-1.61691	0.273612	0.767758	3733
Bank of India	0.00040	0.00050	0.00037	0	0.030826	0.00095	5.269187	0.284949	0.471175	-0.17764	0.293535	1.502018	3733
Bank of Maharastra	-0.00016	0.00040	-0.00139	0	0.023598	0.000557	9.790156	0.505826	0.378048	-0.20391	0.174136	-0.53333	3411
Canara Bank	0.00053	0.00047	0.00033	0	0.02897	0.000839	6.784459	0.400258	0.488647	-0.16619	0.322458	1.987639	3733
Central Bank of India	-0.00018	0.00052	-0.00047	0	0.026563	0.000706	7.674954	-0.18313	0.352475	-0.19098	0.161495	-0.46966	2567
Corporation Bank	-0.00030	0.00060	-0.00059	0	0.036388	0.001324	1144.023	-25.0612	1.835766	-1.65408	0.181683	-1.13258	3733
Dena Bank	0.00019	0.00047	-0.00099	0	0.028728	0.000825	5.762615	0.1859	0.450322	-0.21006	0.240261	0.693147	3733
IDBI BANK	0.00028	0.00051	0.00000	0	0.031069	0.000965	6.106536	0.180645	0.409887	-0.22695	0.182935	1.028451	3733
Indian Bank	0.00050	0.00058	-0.00052	0	0.029932	0.000896	4.608479	0.666008	0.352973	-0.1584	0.19457	1.343425	2685
Indian Overseas Bank	0.00010	0.00045	-0.00044	0	0.027704	0.000767	4.557544	0.022961	0.394494	-0.21366	0.180836	0.374282	3733
Oriental Bank of Commerce	0.00024	0.00049	0.00000	0	0.030129	0.000908	4.950687	-0.00968	0.511462	-0.27105	0.240411	0.879287	3733
PNB	0.00026	0.00062	0.00032	0	0.037755	0.001425	804.135	-19.0223	1.949553	-1.56976	0.379794	0.967891	3733
Punjab & Sind	-0.00055	0.00048	-0.00191	0	0.020173	0.000407	5.865302	1.06721	0.238671	-0.08806	0.150608	-0.95276	1736
SBI	0.00002	0.00072	0.00079	0	0.044011	0.001937	1938.804	-37.335	2.525921	-2.28232	0.243601	0.08528	3733
Syndicate Bank	0.00042	0.00046	0.00000	0	0.028361	0.000804	5.053545	-0.08219	0.433781	-0.23737	0.196412	1.58045	3733
UCO	0.00012	0.00047	-0.00129	0	0.028187	0.000794	4.772111	0.44308	0.3398	-0.15996	0.179835	0.424094	3539
Union Bank	0.00054	0.00049	0.00000	0	0.029642	0.000879	4.835576	0.311103	0.45384	-0.16065	0.293186	2.012136	3733
UBI	-0.00069	0.00053	-0.00203	0	0.0234	0.000548	6.50434	0.773588	0.282562	-0.10184	0.180725	-1.34083	1935
Vijaya Bank	0.00042	0.00045	0.00000	0	0.027233	0.000742	6.535594	0.295781	0.404895	-0.22197	0.18293	1.574927	3733
SENSEX	0.00062	0.00023	0.00098	#N/A	0.014323	0.000205	9.622716	-0.10579	0.277992	-0.11809	0.1599	2.307165	3733
BANKEX	0.00082	0.00031	0.00105	#N/A	0.01897	0.00036	6.312334	-0.07215	0.320287	-0.1448	0.175483	3.072201	3733

Table 1 (C): Descriptive statistics of daily returns of the USA banking stocks (From 1st Jan 2004 to 31st Dec 2019)

Bank Stock code Name	Mean	Standard Error	Median	Mode	Standard Deviation	Sample Variance	Kurtosis	Skewness	Range	Minimum	Maximum	Sum	Count
BAC	-0.00004	0.00050	0.00000	0.00	0.03081	0.00095	27.545	-0.370	0.644	-0.342	0.302	-0.164	3776
BBT	0.00008	0.00036	0.00000	0.00	0.02185	0.00048	19.877	-0.017	0.478	-0.266	0.212	0.296	3776
BK	0.00020	0.00038	0.00035	0.00	0.02314	0.00054	23.809	-0.130	0.538	-0.317	0.222	0.752	3776
CITI	-0.00041	0.00053	0.00000	0.00	0.03238	0.00105	43.592	-0.566	0.951	-0.495	0.456	-1.554	3776
CBSH	0.00024	0.00026	0.00027	0.00	0.01602	0.00026	12.300	0.125	0.316	-0.164	0.151	0.888	3776
CFR	0.00028	0.00029	0.00028	0.00	0.01755	0.00031	9.875	0.388	0.295	-0.132	0.163	1.063	3776
CMA	0.00018	0.00040	0.00019	0.00	0.02472	0.00061	11.344	-0.108	0.395	-0.207	0.188	0.697	3776
COF	0.00032	0.00046	0.00026	0.00	0.02839	0.00081	16.377	-0.358	0.523	-0.288	0.235	1.209	3776
FITB	-0.00017	0.00057	0.00024	0.00	0.03477	0.00121	56.480	-0.362	1.045	-0.573	0.472	-0.657	3776
HBAN	-0.00007	0.00058	0.00000	0.00	0.03551	0.00126	29.899	0.410	0.771	-0.365	0.406	-0.251	3776
JPM	0.00040	0.00039	0.00023	0.00	0.02369	0.00056	18.141	0.336	0.456	-0.232	0.224	1.494	3776
KEY	-0.00006	0.00049	0.00000	0.00	0.03016	0.00091	38.048	-0.502	0.839	-0.405	0.433	-0.220	3776
MTB	0.00020	0.00032	0.00041	0.00	0.01987	0.00039	12.364	0.138	0.361	-0.170	0.191	0.768	3776
NTRS	0.00028	0.00033	0.00051	0.00	0.02047	0.00042	18.999	0.085	0.478	-0.208	0.269	1.047	3776
PBCT	0.00033	0.00026	0.00064	0.00	0.01612	0.00026	12.795	0.014	0.334	-0.170	0.165	1.255	3776
PNC	0.00033	0.00039	0.00018	0.00	0.02406	0.00058	82.513	-1.710	0.850	-0.534	0.315	1.237	3776
RF	-0.00012	0.00055	0.00000	0.00	0.03373	0.00114	37.810	-0.555	0.924	-0.529	0.395	-0.447	3776

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Table 1 (C): Descriptive statistics of daily returns of the USA banking stocks (From 1st Jan 2004 to 31st Dec 2019) (Continued)

Bank Stock code Name	Mean	Standard Error	Median	Mode	Standard Deviation	Sample Variance	Kurtosis	Skewness	Range	Minimum	Maximum	Sum	Count
SNV	-0.00006	0.00050	0.00000	0.00	0.03099	0.00096	13.641	-0.184	0.549	-0.301	0.249	-0.220	3776
STI	0.00003	0.00046	0.00023	0.00	0.02830	0.00080	21.692	-0.424	0.584	-0.317	0.267	0.126	3776
STT	0.00024	0.00047	0.00038	0.00	0.02909	0.00085	247.435	-7.403	1.165	-0.893	0.273	0.917	3776
USB	0.00025	0.00034	0.00036	0.00	0.02070	0.00043	19.899	-0.042	0.406	-0.200	0.206	0.939	3776
WFC	0.00028	0.00034	0.00035	0.00	0.02071	0.00043	19.843	-0.043	0.406	-0.200	0.206	1.051	3776
ZION	0.00007	0.00048	0.00036	0.00	0.02980	0.00089	16.286	0.071	0.507	-0.264	0.243	0.256	3776
BKX	0.00009	0.00036	0.00016	0.00	0.02186	0.00048	19.606	-0.197	0.417	-0.233	0.183	0.355	3776
NASDAQ	0.00044	0.00021	0.00093	#N/A	0.01278	0.00016	7.092	-0.242	0.207	-0.096	0.112	1.643	3776

The descriptive statistics tables show that in case of the private sector banks in India, the daily average return has got a highest range of 0.21%, that ranges from –0 .05% to 0.16%, followed by that of the public sector banks that is 0.12% that ranges from –0.07% to 0.05%. For the same period, the USA sector banks have got the lowest range of average daily return of 0.081% which ranges from –0.041% to 0.040%. This observation is a comparison of sector performance between private, public and USA sector banks stocks' daily return. We can do a similar study to see the performance of individual banks in the various groups too which have provided a positive as well as a negative average daily return in the same period.

The statistical techniques like the Runs test, Auto-Correlation and Durbin-Watson test are used to evaluate the market efficiency in the banking sector stocks of the two countries.

Explanation of Variables:

For run test, the changes in the stock price movement measured in nominal scale is taken as the variable which is the total count of positive and negative symbols. Thus, for the test we have only one variable per bank.

But in case of the residual test the return from the stock price and the return from the Sensex and NYSE for the Banks listed in NYSE are the two variables. The later variable is common to all the banking stocks and the expected return of every stock is calculated based on the Sensex return which acts as a proxy of the market return to which the stock belongs.

Data Analysis:

In the data analysis we have used the run test which is a non-parametric test to find out the randomness of the returns. In the parametric tests, we will conduct the autocorrelation test and the Durbin Watson test to check whether the returns do exhibit a repetitive pattern.

Run test:

The stock return is believed to be random and so we have log-transformed the daily returns (log(pt/pt□1)) to test whether the returns follow a random walk. If they do follow a random walk, it means they do confirm the weak form of efficiency.

Table: 2 (A): Run test of the stocks of the BSE Listed banks from 1st Jan 2004 to 31st Dec 2019

								Lower & Upper Limit at 5% Significance Level (Where t 0.05 for n>30, is 1.64526)		*Lower & Upper Limit at 10% Significance Level (Where t 0.05 for n>30, is 1.2826)*	
Sl. No.		RUN TEST	N1	N2	DF	μ	SD	lower limit	upper limit	lower limit	upper limit
1	Allahabad Bank	**1738**	1855	1879	3733	1867.923	30.5478	1817.664	1918.182	1828.76	1907.085
2	Andhra	1846	1824	1910	3733	1867.01	30.5329	1816.775	1917.244	1827.866	1906.153
3	Bank of Baroda	1836	1856	1878	3733	1867.935	30.5480	1817.676	1918.195	1828.773	1907.098
4	Bank of India	1826	1878	1856	3733	1867.935	30.5480	1817.676	1918.195	1828.773	1907.098
5	Bank of Maharastra	**1556**	1526	2208	3733	1805.718	29.5297	1757.134	1854.302	1767.861	1843.575
6	Canara Bank	**1800**	1887	1847	3733	1867.786	30.5456	1817.53	1918.041	1828.626	1906.945
7	Central Bank of India	**1175**	1231	2503	3733	1651.344	27.0031	1606.917	1695.772	1616.726	1685.962
8	Corporation Bank	**1726**	1795	1939	3733	1865.223	30.5036	1815.037	1915.41	1826.118	1904.329

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Table: 2 (A): Run test of the stocks of the BSE Listed banks from 1st Jan 2004 to 31st Dec 2019 (Continued)

								Lower & Upper Limit at 5% Significance Level (Where t 0.05 for n>30, is 1.64526)		*Lower & Upper Limit at 10% Significance Level (Where t 0.05 for n>30, is 1.2826)*	
Sl. No.		RUN TEST	N1	N2	DF	μ	SD	lower limit	upper limit	lower limit	upper limit
9	Dena Bank	**1752**	1751	1983	3733	1860.793	30.4311	1810.726	1910.86	1821.78	1899.805
10	IDBI Bank	1832	1847	1887	3733	1867.786	30.5456	1817.53	1918.041	1828.626	1906.945
11	Indian Bank	**1259**	1302	2432	3733	1697.017	27.7506	1651.36	1742.674	1661.441	1732.593
12	Indian Overseas Bank	**1760**	1787	1947	3733	1864.572	30.4930	1814.403	1914.741	1825.48	1903.664
13	Oriental Bank Of Commerce	**1802**	1864	1870	3733	1867.995	30.5490	1817.734	1918.256	1828.831	1907.159
14	PNB	1823	1886	1848	3733	1867.807	30.5459	1817.551	1918.063	1828.647	1906.967
15	Punjab & Sind	**796**	747	2987	3733	1196.12	19.5524	1163.951	1228.289	1171.054	1221.186
16	SBI	1849	1928	1806	3733	1866.007	30.5165	1815.799	1916.215	1826.885	1905.129
17	Syndicate Bank	**1767**	1865	1869	3733	1867.998	30.5491	1817.737	1918.259	1828.834	1907.162
18	Uco	**1701**	1620	2114	3733	1835.322	30.014	1785.941	1884.704	1796.844	1873.801
19	Union Bank	**1802**	1857	1877	3733	1867.946	30.5482	1817.687	1918.206	1828.784	1907.109
20	UBI	**893**	851	2883	3733	1315.104	21.4998	1279.732	1350.477	1287.542	1342.667
21	Vijaya Bank	**1734**	1797	1937	3733	1865.375	30.5061	1815.185	1915.566	1826.267	1904.484
	Private Sector Banks										
22	Axis Bank	1817	1875	1859	3733	1867.966	30.5485	1817.705	1918.226	1828.802	1867.966
23	City Union Bank	1843	1817	1917	3733	1866.661	30.5272	1816.436	1916.886	1827.525	1866.661
24	Dhanlaxmi Bank	**1779**	1705	2029	3733	1853.943	30.3190	1804.06	1903.826	1815.074	1853.943
25	Federal Bank	**1796**	1853	1881	3733	1867.895	30.547	1817.637	1918.153	1828.733	1867.895
26	HDFC	1873	1910	1824	3733	1867.01	30.5329	1816.775	1917.244	1827.866	1867.01
27	ICICI	**1788**	1871	1863	3733	1867.991	30.549	1817.73	1918.252	1828.828	1867.991
28	Indusind Bank	1856	1890	1844	3733	1867.717	30.544	1817.463	1917.97	1828.559	1867.717
29	Jammu & Kashmir Bank	**1751**	1804	1930	3733	1865.874	30.5143	1815.67	1916.078	1826.755	1865.874
30	Karnataka Bank	**1781**	1838	1896	3733	1867.55	30.5417	1817.3	1917.799	1828.395	1867.55
31	Karur Vysya Bank	**1758**	1872	1862	3733	1867.987	30.5489	1817.726	1918.248	1828.823	1867.987
32	Kotak Mahindra Bank	1857	1913	1821	3733	1866.867	30.5305	1816.636	1917.097	1827.726	1866.867
33	DCB Bank	**1334**	1370	2364	3733	1735.697	28.3837	1688.999	1782.396	1699.309	1735.697
34	IDFC	**232**	241	3493	3733	451.8907	7.37157	439.7626	464.0189	442.4404	451.8907
35	RBL Bank	**153**	174	3560	3733	332.7836	5.42213	323.8628	341.7044	325.8324	332.7836
36	SENSEX	**1737**	2022	1712	3733	1855.132	30.3385	1805.217	1905.047	1816.238	1894.026
37	BANKEX	**1699**	1981	1753	3733	1861.039	30.4352	1810.965	1911.113	1822.021	1900.057

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Table: 2 (B): Run test of the stocks of the NYSE Listed banks from January 2004 to December 2019

		run test	N1	N2	DF	μ	S.D	lower limit @ 5%	upper Limit@ 5%	Lower Limit@ 10%	Uper Limit @ 10%
1	BAC	**1993**	1884	1891	3774	1888.49	30.7163	1837.957	1939.03	1849.115	1927.872
2	BBT	**1993**	1885	1890	3774	1888.49	30.7163	1837.96	1939.033	1849.118	1927.875
3	BK	**2012**	1910	1865	3774	1888.23	30.7120	1837.702	1938.761	1848.859	1927.605
4	CITI	1909	1857	1918	3774	1888.00	30.7084	1837.484	1938.53	1848.639	1927.375
5	CBSH	**2005**	1935	1840	3774	1887.30	30.6969	1836.8	1937.809	1847.951	1926.658
6	CFR	**1941**	1912	1863	3774	1888.18	30.7112	1837.654	1938.71	1848.81	1927.554
7	CMA	1929	1895	1880	3774	1888.4	30.7159	1837.934	1939.006	1849.092	1927.848
8	COF	**1940**	1907	1868	3774	1888.29	30.7131	1837.767	1938.83	1848.924	1927.673
9	FITB	**1979**	1894	1881	3774	1888.47	30.7160	1837.942	1939.014	1849.1	1927.856
10	HBAN	**2027**	1834	1941	3774	1886.98	30.6917	1836.488	1937.48	1847.637	1926.33
11	JPM	**2010**	1902	1873	3774	1888.38	30.7146	1837.855	1938.922	1849.012	1927.765
12	KEY	**2039**	1881	1894	3774	1888.47	30.7160	1837.942	1939.014	1849.1	1927.856
13	MTB	**2019**	1935	1840	3774	1887.30	30.6969	1836.8	1937.809	1847.951	1926.658
14	NTRS	**2011**	1945	1830	3774	1886.74	30.6879	1836.259	1937.238	1847.406	1926.09
15	PBCT	**1985**	1922	1853	3774	1887.86	30.7061	1837.35	1938.389	1848.504	1927.235
16	PNC	**2004**	1903	1872	3774	1888.37	30.7143	1837.84	1938.906	1848.997	1927.749
17	RF	**1985**	1877	1898	3774	1888.44	30.7154	1837.907	1938.977	1849.064	1927.819
18	SNV	**1967**	1873	1902	3774	1888.38	30.7146	1837.855	1938.922	1849.012	1927.765
19	STI	1925	1902	1873	3774	1888.38	30.7146	1837.855	1938.922	1849.012	1927.765
20	STT	**2023**	1923	1852	3774	1887.83	30.7055	1837.314	1938.351	1848.468	1927.197
21	USB	**1998**	1928	1847	3774	1887.63	30.7023	1837.118	1938.144	1848.271	1926.991
22	WFC	**1994**	1926	1849	3774	1887.71	30.7036	1837.199	1938.23	1848.353	1927.077
23	ZION	**1957**	1918	1857	3774	1888.00	30.7084	1837.484	1938.53	1848.639	1927.375
24	BKX (Bank Index)	**2013**	1905	1870	3774	1888.33	30.7138	1837.806	1938.87	1848.963	1927.713
25	NASDAQ	1910	2072	1703	3774	1870.46	30.4228	1820.412	1920.519	1831.463	1909.468

Source: Calculated by the researchers from the stock price data and index price data collected from BSE and NYSE Web-portal.

In the table 2 (A) and table 2 (B), we can see that 24 banking stocks out of 35 banking stocks listed in BSE and 20 banking stocks out of 23 banking stocks listed in NYSE do not satisfy the randomness in the runs test as their total runs are either higher or lower than the critical range of expected range. The BSE's Bank Index, i.e., Bankex has got an observed runs less than the critical range of runs. Similarly, the NYSE 's Banking index does not confirm weak efficiency as the observed runs is higher than the critical range. Thus, both the indices in this study, have not confirmed to the weak form of efficient market hypothesis.

AUTOCORRELATION TEST:

The auto-correlation test or the serial correlation test of the returns are calculated with a time lag of 1-Day Lag, 1-Week Lag, 1-Month Lag, 6-Months Lag & 1-Year Lag. In the public sector banks of India the serial correlation irrespective of the time-lags, shows that the returns are random and they do not follow any particular pattern. Similarly, the private sector banks also do not follow any pattern as per the serial correlation. It means it satisfies the condition of weak efficiency in the banking sector of India is present. So we can say the structure of the banks have nothing to do with the return pattern. All the 23 Banks listed in NYSE have also got the weak-form of efficiency as non-of them has got a significant correlation coefficient. This shows that the banks listed in Bombay Stock Exchange of India and the banks listed in NYSE of USA are efficient in the weak form of EMH. The result of the serial correlation is summarized in the following table - 3.

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Table: 2 (B): Run test of the stocks of the NYSE Listed banks from January 2004 to December 2019

	Bank Names	1-Day Lag	1-Week Lag	1-Month Lag	6-Month Lag	1 Year Lag
Public sector Banks of India	Allahabad bank	0.096773	-0.01453	-0.03252	-0.00716	0.011816
	Andhra Bank	0.086248	-0.02496	-0.01298	0.012925	0.025981
	BOB	0.021483	0.006961	-0.00151	-0.00508	0.001641
	Bank of India	0.076137	-0.04846	-0.02937	0.037602	0.012828
	Canara Bank	0.056623	-0.0235	-0.00623	0.002477	0.029206
	Corporation Bank	0.025109	0.00095	0.004376	0.002852	0.003376
	Dena Bank	0.083989	-0.01795	-0.00036	0.017984	0.023513
	IDBI Bank	0.072829	-0.02283	-0.02948	0.024022	0.018036
	Indian Overseas Bank	0.101914	-0.02265	0.000924	-0.0046	0.022858
	Oriental Bank of Commerce	0.086754	-0.02015	-0.01563	0.009911	0.010195
	PNB	0.023372	-0.01731	0.019672	-0.01453	0.015273
	SBI	0.01827	-0.00802	-0.01077	0.010843	0.006365
	Syndicate Bank	0.078786	0.00778	-0.03964	0.007055	0.04159
	Union bank	0.073447	-0.02263	-0.0325	0.013782	0.039738
	Vijaya bank	0.088477	-0.00169	-0.04116	0.011905	0.012667
	UCO Bank	0.066495	-0.0055	-0.01438	0.01547	0.025447
	Bank of Maharastra	0.058239	-0.00508	-0.03221	0.002339	0.00973
	Indian Bank	0.091805	-0.02746	0.003935	0.018674	-0.02265
	Central Bank of India	0.108993	0.005344	0.007591	0.004246	-0.00895
	UBI	0.105946	-0.00135	0.032208	0.051477	-0.02932
	Punjab & Sind	0.134541	0.001418	-0.04113	0.041621	0.005701
	Bank Names	1-Day Lag	1-Week Lag	1-Month Lag	6-Month Lag	1 Year Lag
Private sector Banks of India	Axis Bank	0.011704	-0.01678	-0.01494	0.022801	-0.01157
	City Union Bank	0.023675	0.008116	-0.01029	0.013703	7.51E-05
	Dhanlaxmi Bank	0.074217	0.004503	0.028624	0.016672	-0.03363
	Federal Bank	0.025205	-0.03614	-0.01289	-0.01834	-0.00299
	HDFC	-0.00556	-0.01051	-0.00115	0.024143	-0.00237
	ICICI	0.042395	-0.0214	-0.02751	0.012397	-0.01195
	Indusind Bank	0.051639	-0.01003	-0.02792	0.020468	-0.0317
	Jammu And Kashmir	0.027074	0.009447	0.001661	-0.00303	0.004704
	Karnataka Bank	0.06474	-0.00569	-0.04283	0.012529	0.007329
	Karur Vysya Bank	0.038904	0.000909	-0.00783	0.001152	0.014234
	Kotak Mahindra Bank	0.021095	-0.02842	-0.03002	-0.00378	0.016267
	DCB Bank	0.0617	-0.01263	-0.04975	0.009381	-0.00481
	IDFC	0.060261	-0.00012	-0.0164	-0.02919	-0.17019
	RBL Bank	0.10883	0.012033	-0.09047	0.132203	-0.03898
Indian Index	SENSEX	0.072816	-0.02295	-0.03979	0.011177	0.011165
	BANKEX	0.125377	-0.05074	-0.02504	0.013162	0.001242

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Table: 2 (B): Run test of the stocks of the NYSE Listed banks from January 2004 to December 2019 (Continued)

Date	Bank Names	1-Day Lag	1-Week Lag	1-Month Lag	6-Month Lag	1 Year Lag
Banks listed in NYSE	BAC	-0.00891	-0.10284	0.093652	0.013571	0.001735
	BBT	-0.1298	-0.03664	0.035623	-0.00901	0.014788
	BK	-0.15739	-0.02147	0.008123	-0.00702	0.002256
	CITI	0.063356	0.016767	0.057752	0.003674	0.010111
	CBSH	-0.11519	-0.05001	0.032192	0.014979	-0.00873
	CFR	-0.09378	-0.04183	0.002903	-0.00278	0.000733
	CMA	-0.06185	-0.05711	0.069335	0.035803	-0.01428
	COF	-0.06473	-0.07753	0.101472	-0.01057	-0.01052
	FITB	-0.00491	-0.07482	0.085687	-0.0193	-0.00939
	HBAN	-0.07023	-0.08743	0.024021	0.021842	0.003515
	JPM	-0.09238	-0.01412	0.055033	0.016001	0.001786
	KEY	-0.0611	-0.0163	0.07235	0.034574	-0.01657
	MTB	-0.10109	-0.05986	0.025831	0.000714	-0.01217
	NTRS	-0.1409	-0.03111	0.030466	0.006724	0.011879
	PBCT	-0.10216	0.008998	0.016507	-0.01525	0.010241
	PNC	-0.10031	-0.05784	0.059108	0.004296	0.026274
	RF	-0.01257	-0.04923	0.035607	0.006819	-0.02444
	SNV	-0.06774	-0.0707	0.039127	0.023867	0.034763
	STI	-0.04454	-0.06708	0.094016	-0.01295	-0.00635
	STT	-0.10929	-0.01636	0.06	0.009878	0.003176
	USB	-0.07304	-0.08559	0.083803	0.002627	-0.00338
	WFC	-0.07333	-0.0851	0.084139	0.002965	-0.00317
	ZION	-0.01779	-0.03116	0.014706	0.050498	0.011535
USA Index	BKX	-0.10239	-0.0621	0.075089	0.010871	0.000662
	NASDAQ	-0.06202	-0.02934	0.038485	0.009638	-0.01278

Findings and Summary:

From the analysis of autocorrelation, we found that all the banking stocks confirm weak form of efficiency, irrespective of the sector they come from and irrespective of the exchange they are listed under. It is because, not a single stock has got a significant level of serial correlation at 1-Day lag, 1-Week lag, 1-Month lag, and so on. According to run test, the result of randomness is contradicting to the result of autocorrelation. The run test tells, fifteen out of twenty-four public sector banks, namely, Allahabad Bank, Bank of Maharashtra, Canara Bank, Central Bank of India, Dena Bank, Corporation Bank, Indian Overseas Bank. Indian Bank, Oriental Bank of Commerce, Punjab Sind, Uco Bank, Syndicate Bank, Union Bank and Vijaya Bank, do not follow a random pattern in their return. Thus, they do not confirm to the weak form of efficiency. Similarly, in case of the private sector banks listed under BSE, we found nine out of eleven, namely, Dhanlaxmi Bank, Federal Bank, ICICI Bank, Jammu And Kashmir, Karnataka Bank, Karur Vysya Bank, DCB Bank, IDFC Bank and RBL Bank do not confirm to random walk hypothesis and thus, they do not have weak form of efficiency too.

When we verify the banks listed under NYSE , we found twenty out of twenty-three do not confirm to the random walk hypothesis. Those are Bank of America Corporation, BB&T Corporation, The Bank of New York Mellon Corporation, Commerce Bancshares Inc, Cullen/Forst Bankers, Comerica Incorporated, Capital One Financial Corporation, Fifth Third Bancorp, Huntington Bancshares Incorporated, J.P.Morgan, Key Corp, M& T Corporation, Northern Trust Corporation, People's United Finance Inc, Regions Financial Corporation, The PNC Financial Service Group, Synovus Financial Corp, State Street Corporation, U.S. Bancorp, Wells Fargo & Company and Zions Bancorporation.

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Further, the BSE Bank Index (Bankex) and the NYSE Bank Index (BKX) do not confirm to the random walk hypothesis when tested under the 'Run Test'. But the NYSE index confirms to the random walk hypothesis whereas the BSE Sensex does not. Thus, according to run test, both the group of banks, 'BSE Listed Banks' and the 'NASDAQ Listed Banks' have some banks those do not confirm to the random walk hypothesis and they may not confirm to the weak form of efficiency too.

In run test, that is one of the non-parametric tests, our result supports the findings of Hamid, et.al. (2017), Simons and Laryea., (2005) and Nisar & Hanif (2012). They got a mixed response on the presence of weak form of market efficiency in the indices of stock markets in their study. In our study, many banking stocks do not confirm to weak form of efficiency. Except the NYSE Index, the rest three, those are, BKX, Sensex and BSE Bank index are not efficient at the weak form of EMH. The results of our study through the parametric test, in specific, autocorrelation test, does not match to that of the results of the earlier studies like Worthington & Higgs (2005), Hamid, et.al. (2017), Simons and Laryea., (2005) and Shawn et al., (2012). All the banking stocks, irrespective of the exchange they are listed, found to be efficient at the weak form and follow a random walk.

The non-parametric test (Runs test) shows that both the BSE Bank index and the constituents banking stocks are not efficient at the weak-form of efficiency. A similar result we got for the NYSE Bank index and its constituent stocks. In the autocorrelation test, which is a parametric test, we found that all the stocks and the indices confirm to the weak form of efficiency. Thus, both runs test and the autocorrelation test, agree on the direct link of the constituent stock efficiency and the index's efficiency. Our result, in this case sounds to be unique, as we have not found any literature that studies the efficiency of the index and its constituent stocks at the same time.

Limitation:

The study is confined to the banking stocks listed under BSE and NYSE FOR A PERIOD OF 15 YEARS ONLY. At the same time, we have taken only four indices, NYSE , Bank Index of NYSE , BSE Sensex and BSE Bank Index. The results of this study is only limited to the above mentioned indices and stocks for the specified period.

Conclusion:

The question of efficiency is still a question as we got a mixed result in our empirical analysis. The parametric test gives an idea that the price movement in the indices and the banking stocks too are efficient, whereas using the nonparametric test, we got the market inefficiency is present in many of the stocks and the indices as well for the same set of data.

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INDIAN STARTUPS- ISSUES, CHALLENGES AND OPPORTUNITIES

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Abstract:

India is the seventh-largest country by area and the second-most populous country with over 1.32 billion people. Large population implies a large potential market in India. However, it also leads to heavy employment pressure in Indian society. In recent years the self-employment consciousness among college students are increasing and the students are less likely to rely on parents or schools or wait for opportunities. Instead, they tend to take initiative to look for new chances for themselves but the main challenge is getting funds. This research aims to investigate the challenges of financing startups in India.

This report findings show that the startup has potential and there is scope for growth and many opportunities that are available in India. This study covers the general concept of start-up along with ways to financing the same and we will also take a look at the activities undertaken by Indian government and their tie-ups with different institutions. We will take a look at the different challenges faced by start-ups on the financing front. This paper explores the main difficulties faced by startups in India, and discusses the financing resources of startups in India.

Keywords: *Start-ups, Financing, India, Challenges*

Introduction:

The Indian land is no alien to the concept of business and trade. From trading activities that erupted during the Kanishka Empire during the 1st Century to 80's where the nation took a stand on commodities like Jute, cotton, and spices. The idea of owning a 'business' runs in the veins of every Indian.

Confined to cultural, religious, and social acerbity, entrepreneurship post-independence started to transform itself into a new shape. Lack of support from political parties, not so favourable laws, rigid policies, and lack of research initiatives hindered the growth of entrepreneurship during that era.

But then it was in mid-80s when the Prime Minister Rajeev Gandhi declared 'Liberalization of Computer Industry' followed by the commencement of NASSCOM in 1988. From thereon, there was no looking back as the Indian startup's ecosystem progressed gradually.

The next few decades witnessed a significant growth in the

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entrepreneurial ventures across the economic and social sectors. The changing political and economic environment drove momentum towards entrepreneurship especially the last decade witnessed noteworthy improvement in the quality of start-ups in India. Institutions have started to take business and academic interest in start-ups. In the last few years, they have exhibited potential and proficiency, which has made the global investors to venture in the Indian start-up ecosystem.

According to a 2017 report published by NASSCOM, more than 5000 start-ups got registered in the technology sector alone. And the figures include start-ups covering distinct sectors like Healthcare, Education Inclusion, Financial Inclusion, Clean Energy and Agriculture – where technology made a larger impact.

The Startup Boom in India:

It is said, there is no wrong time to start a right thing; but then when it comes to tech start-ups, the time does matter. The time and era of a launch can significantly define or defy the success. In one of the research that Bill Gross carried out to study the success and failure of businesses, he concluded "The number one thing was timing. Timing accounted for 42% of the difference between success and failure." And if we look at the timings of Indian start-ups, they emerged just when the data packs got affordable and speedier. Most of the start-ups were tech-focused as NASSCOM reports "In 2015, every year more than 800 tech start-ups are being set up in India. By 2020, a projected 11,500 tech-start-ups are going to emerge and will employ around 250,000 people."

The dotcom era in India saw the day of light in1995. This was when VSNL started its first commercial Internet service. It was this time when Indians (though in small numbers) were exposed to phenomena called 'World Wide Web'. Then Zoho entered in 1996, started under the name of AdventNet as a Network Management company and it boosted the IT economy that was operating at a grass-root level. It stayed true to being a lean start-up and consistent even after 20 years since its inception.

The time was an asset, and so gradually the companies explored market till mid-2000. But in 2007-2008 and India witnessed two of its biggest ventures rising up. Flipkart marked its entry in 2007 as a first E-Commerce start-up and later in 2008, Zomato and Quikr came in to the picture. These start-ups are now over a decade old but still sailing on their first mover advantage. The economy was not ready back then, but the novelty of idea fetched them high revenues as they progressed.

And everything followed later on, from MakeMytrip, Ola, Paytm, to Freshdesk, etc. contributed heavily to gain traction. Looking at the contribution of start-ups in the economy, various programs were initiated by agencies and government to boost the economy.

Review of Literature:

Dr. Badra, Shailja, and Sharma, Vivek in their research paper title "Start-up India- New Opportunities for The Entrepreneur" (2016) writes "The success of Start-up India campaign hinges on initiatives like faster and easier registration of Companies, self-certification for many legal requirements, zero inspection for three years, funding for patents, and speed of patent protection. It is important to add provisions which aid the closure of dead companies within 90 days. Indian law makers could do this under the new bankruptcy bill. The central theme is that ease of starting and ending is critical in the context high rate of startup mortality.

The Government proposal do so, across Universities, innovation movements, research parks and industry parks is on similar lines. The promise of an initial capital of ten thousand crores over a period of four years from the government is capable of attracting tenfold investment by 2022. Credit guarantee for start- up lending is the booster dose required to galvanize Indian industry. Incentives in the form of tax holiday for three years are a benefit worth considering.

Report title "Start-Up India- an Overview" Prepared by Grant Thornton for ASSOCHAM India (2016) writes "Startups have been the flavor of the season over the last few years for the Indian markets. This has resulted into the emergence of a number of home grown unicorns across the country. One of the major contributors leading to this development has been the mega funding that has been ploughed into most of these unicorns between the period 2007 and 2015. This has been in line with the global trend dominating the space. Even the aspiring unicorns have had a decent run during this period, where managing to find investors is usually considered a tough task.

Andaleeb, Uruba and Singh, S.D, Dr. In their research paper title "A study of Financing Sources for Start-up Companies in India"(2016) explains that "Before the recent hysteria of

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Startups, India was mostly popular as an IT outsourcing destination that provided cheap and easy labour to the global companies for carrying on various back-end jobs. Technology startups in India date back almost three decades. On compilation of the Industry's major landmark, Microsoft Accelerator in India came up with four distinct phases of growth and maturity that have traversed so far: software services and global delivery model, the dotcom era, the rise of product startups and growth of startup ecosystem. Some of the milestones include US-based Texas Instrument 'decision to start an R&D Centre in Bangalore in 1985 which further served to be an incubator for many of the current entrepreneurs and the launch of the infamous accounting software Tally in 1986. Aiming to foster entrepreneurship and promoting innovation by providing an ecosystem that is conducive for growth of Start-ups, with an object to facilitate India become a nation of job creators instead of being a nation of job seekers, the Indian Prime Minister launched the initiative formally on January 16, 2016 from Vigyan Bhawan, New Delhi.

Objectives of the Study:

1. To study the growth of startups in India and their future prospects.
2. To study different ways of startup funding.
3. To find challenges faced by startups for raising funds.
4. To find better option for startup financing.

Research Methodology:

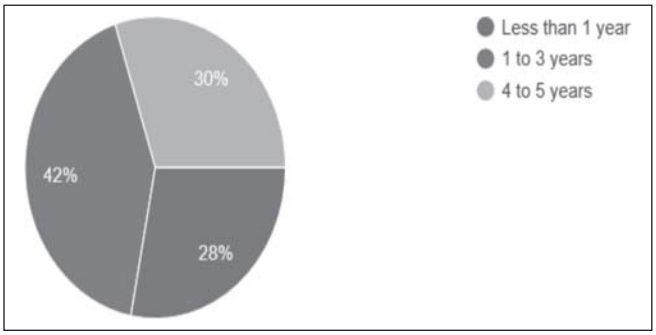
For this research paper Entrepreneurs and aspiring entrepreneurs were the respondents from Mumbai Region. For this paper both primary & secondary data was valuable sources of information. For the research the promo data was collected by means of survey through questionnaire from 100 respondents who have provided complete information through online source.

Besides following scientific methodologies the study has come across limitations. These are:

- The sample size is small as compared as requirements,
- Due to limited time country wide survey was not possible.
- The possibility of respondent being biased cannot be ruled out.

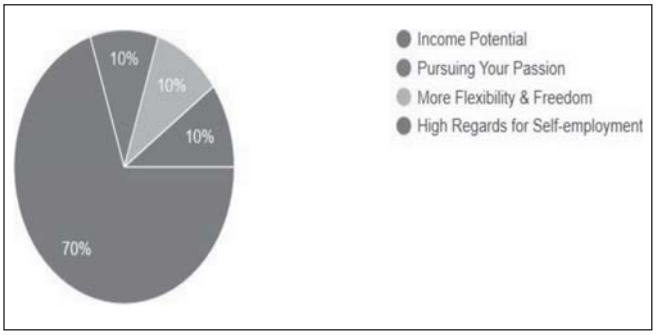
Data Analysis:

1. How long have you been setting up your start-up?



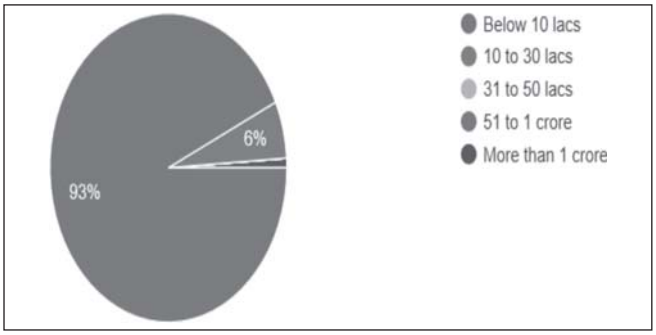
According to the above pie-chart it clearly indicates that 42% of entrepreneurs take time from 1 to 3 years, may be because of lot of Statutory requirements, Identification of location and product availability.30% entrepreneurs took 4 to 5 years for setting up their start-up and rest of the 28% entrepreneurs took less than 1 year due to availability of resources with them.

2. What are the reasons behind setting-up the start-up?



According to the above pie-chart it clearly indicates that 70% of entrepreneurs have started venture for the option of income potential because today's generation prefer starting their own start-up which will increase their income at the earliest.10% entrepreneurs started startups to follow their Passion, more flexibility and freedom and high regards for self-employment.

3. How much funds will you invest for your start-up business?



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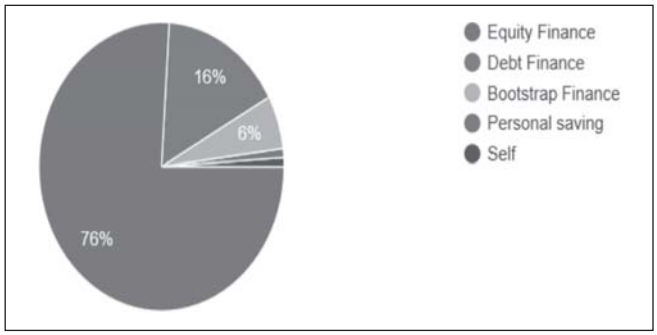
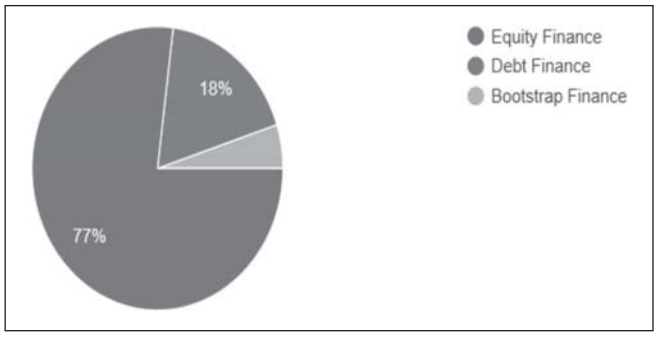
According to above pie-chart 93% of entrepreneurs invested below 10 lacs in their start-up in the initial stage because, they don't want to take high risk at initial stage. 6% entrepreneurs are ready to invest from 10 lacs to 30 lacs because of their business requirement. Remaining 1% entrepreneurs are ready to invest more than 1 crore because of their past experience or may have some entrepreneurial family background which will help them to sustain if losses incurred.

4. Through which sources did you raised funds for your start-up?



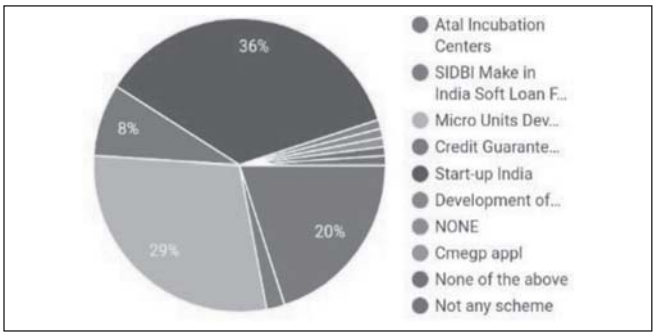
As per above pie-chart 76% entrepreneurs choose equity finance for raising start-up because they don't want to increase the liability by borrowing funds from others. 16% entrepreneurs are opting for Debt finance may be they don't want to share their equity and ready to pay interest. 6% entrepreneurs are opting for bootstrap finance because they want to start business from small scale industry. Remaining 2% entrepreneurs are going for other funds available.

5. According to you, which is least risky source of start-up funding?



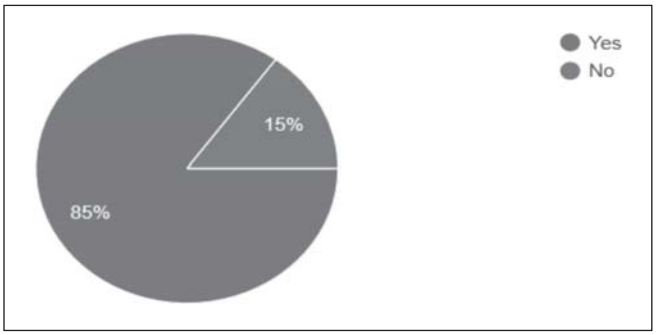
According to above pie-chart 77% entrepreneurs choose equity finance because at initial stage they want investors who can invest in their start-up rather than blocking their owned funds.18% entrepreneurs are opting for Debt finance because, may be they don't have any other options available if they wish to start business or to expand their existing business. 5% entrepreneurs are going for a bootstrap finance option.

6. Which of the given schemes did you availed for your start-up?



According to the above pie-chart 36% of them have availed start-up India schemes and 29% availed Micro Units Development Refinance Agency (MUDRA) scheme for their start-up as they were eligible for getting funds from this agencies. Others have availed finance from other sources which is very less in number.

7. Is your business benefited in any way by using schemes that you availed for your startup?



According to above pie-chart 85% entrepreneurs were benefitted from the schemes because they got the funds and support from these schemes to grow their business. 15% entrepreneurs have not been benefited by the schemes that they have availed due to lack of funds with them or lack of knowledge about the start-up.

8. As a start-up what is the impact of GST on your business?

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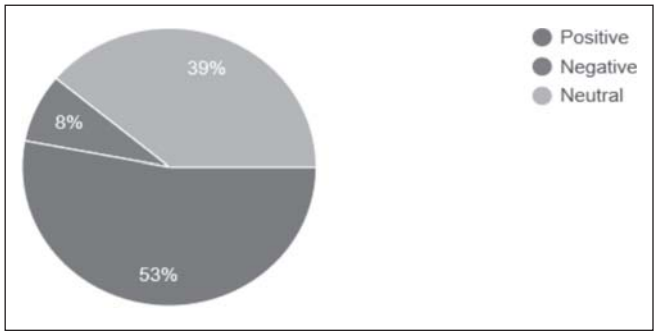
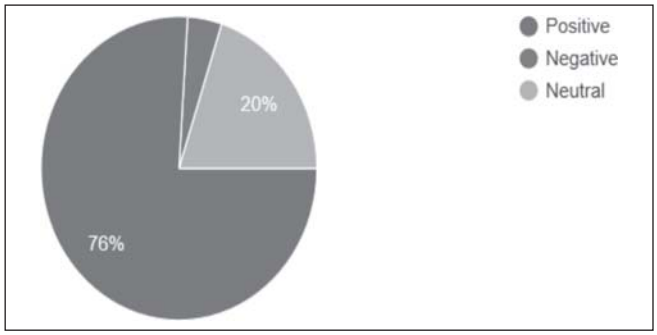


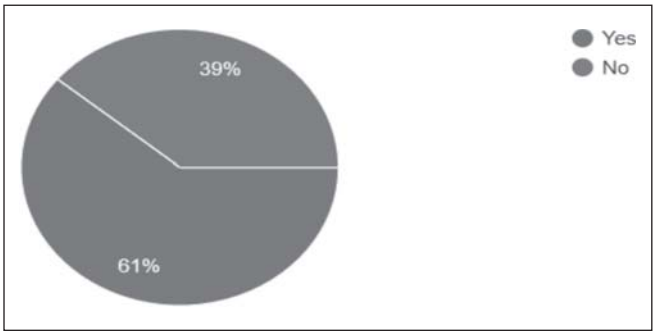
According to above information 53% entrepreneurs have positive impact on their business because they started getting subsidy in GST filling, GST certificate (entire process are online) therefore it saved their time and money. 8% is having negative impact because monthly return needs to be filled. 39% respondents don't have any impact on GST because they are not coming in the tax bracket.

9. What is the impact of financial budget on your start-up?



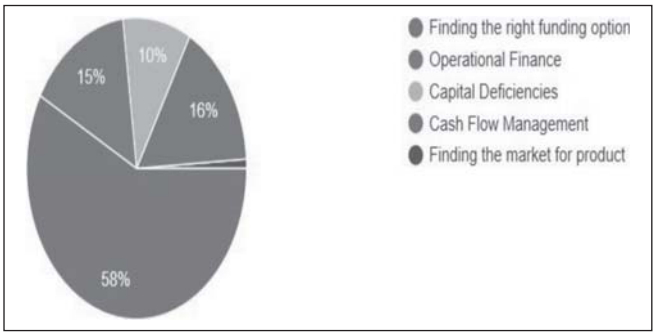
The masses are aware of the current Indian budget which was presented and also the government proposes to provide early life funding, including a seed fund to support ideation and development of early stage start-ups. These are some of the main points which have facilitated encouragement towards start-ups. There has been 76% positive response for the same which clearly states the masses are aware of this and this will definitely boost their morale. The 4% people who have polled a negative response may be because they are not really aware of the advancement and decisions made by the finance ministry of the country and hence needs to be educated about the same. The 20% neutral polls are by the people who may already have a set up or a plan in mind or may already have a well-established business. Hence advancement in the finance laws of the country may not necessarily affect them.

10. Are you getting any subsidy for your start-up?



According to above pie-chart 61% are saying yes because Government provides credit and subsidy to small scale and cottage industry because their main aim is to provide subsidy to promote start-up. NABARD and SIDBI provide credit to small-scale start-up. 39% entrepreneurs are not getting any benefit of such scheme due to the lack of adequate knowledge & awareness about the scheme.

11. What kind of financing difficulties have you faced for your start-up project?



Around 58% of the masses have said they find it difficult to find the tight funding options. Right financing information and also investment information is not easily available in our country. That is the reason why those who are willing to take risk are not aware who will be willing to part take in their business idea. As per this poll result, the masses must be made aware of Community development financial institutions, Crowd funding, Peer-to-peer or marketplace lending, government and private schemes and grants etc. Operational finance, Capital deficiency and cash flow management stand at 15%, 10% and 16% respectively. These are essential verticals of every company. Small companies do not really have a finance to hire teams of accountants, financial analysts, and a CFO's. This leaves them vulnerable to the large companies. Cash flow management is also essential from paying bills to estimating when income is likely to be received. Hence apart from finding

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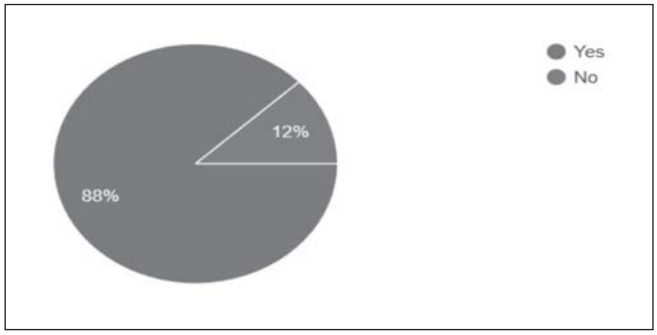
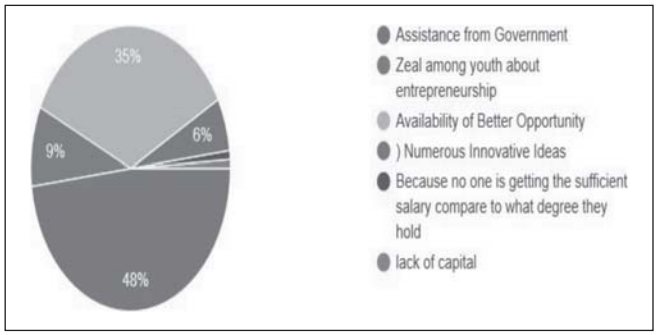
the funding for the company the above factors are also very important. The masses need to be educated about the same because as per the above pie-chart the awareness among the masses is very scarce.

12. Do you feel the threat of survival of your start-up due to cut-throat competition in the market?



88% of the respondents have said yes and 12% of the respondents have said no. This is a very interesting figure that the Startups are scared of taking risks. At the same time, it is very practical to know that yes there is a lot of risk associated with start-ups. Also increasing competition in the market always puts one at risk of losing business and going into losses. The Startup needs to be educated that yes; there is no success without the associated risk. A risk can be minimized by keeping their skills updated, making their own contingency plans, going the extra mile and putting more effort than required and so on.

13. According to you, what are the reasons behind the growth of start-ups in India



As per the poll 48% people have chosen assistance from the government, as rightly portrayed by the results the government does give loans for businesses. This means that majority of the people are aware of the schemes run by the government namely Pradhan Mantri Mudra Yojana (PMMY), MSME Loans, Stand-Up India Scheme etc. Around 35% people have said that there is available for better opportunity. This means that because the government cooperates by facilitating startups by helping with finances, which is the main milestones which needs to be crossed, there is a pool of opportunities available and the youth of today can venture out.

The zeal among the youth is only 9% and this is a very disappointing number because the youth of today are trained to be either salaried or work for the government sector. Hence there is no enthusiasm in them to have a startup and take risks. As per this the youth of today must be educated to take appropriate risks and thus the need to be encouraged towards innovation and independence. Numerous innovative ideas are only around 6%. Again, this is a very disappointing number and hence as per this poll the youth of today needs to be encouraged to think out of the box. The youth needs to be made aware that there are schemes available for them to begin startups and they should be encouraged to take risks and move towards self-development and development of the country and remaining 10% entrepreneurs are having high regards for self-employment.

Findings and Conclusions:

There is continuous growth in number of start-ups in India and according to me start-ups are going to be backbone of Indian Economy. Government is coming up with various schemes, subsidies and entrepreneurship programs which will ultimately lead to increased number of start-ups. These start-ups will also be able to solve problem of unemployment which India is facing currently. It will also lead to development of Indiaeconomy.in future. India will be one of the leading countries in global market in future due to numerous start-ups. One of the main advantages of start-up is that it creates new job. Small and medium businesses are the back bone of India's economy, employing 100 million people and contributing to a 3rd India's GDP. These numbers are likely to increase in future. Earlier India was known as agricultural country but in future it will be known as country of start-ups. Start-up provides the solution to social and economic issues. In future there will be many start-ups which will help in making India economically and socially developed country.

According to the survey; average tenure of the start-ups is 1 to 3 years. Majority of the people prefer to have their start-up due to high regards of self- employment. Most of the entrepreneurs raise funds for their start-up through equity finance. Major portion of the population size feel that equity finance is least risky way of start- up funding. Majority of the people have

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availed subsidy for their start-up. Major portion of the population size feel threat of survival due to intense market competition. From the above study we can conclude that startups have many options to pick from the list of funding methods, from local government to international banks and also equity, debt and bootstrap finance.

The criteria to select a method of funding totally depends on the comfort level of an entrepreneur or board of members. We can conclude that start-ups prefer equity financing over other ways of funding as it is least risky way of financing. Here we can see that tenure in the market also affects the decision of financing. Challenges faced by startups are mostly internal and at the initial stages which they can overcome but will be a time consuming task, with the boost from government and also with involvement of foreign players in the system, financing for startups is getting a bit easier and India being a developing nation provides a lot of opportunities to all the entrepreneurs with more positives than challenges in the startup ecosystem in India.

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AN OVERVIEW - COMPETENCIES OF WOMEN ENTREPRENEURS

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Abstract:

The purpose of this paper is to overview Competencies of Women Entrepreneurs in India. Women of 21st century are educated, knowledgeable and innovative for their complete personal, social and financial development. They are performing successful dual role as a home maker as well as entrepreneur. They possess the capacity to transform economies into thriving enterprises. Developed as well as developing countries have realized that developing women entrepreneurship is indispensible to flourish as economically dominant country in the modern high tech world. Therefore, competencies of women entrepreneurs are essential for overall success of their enterprises. In modern competitive world, Entrepreneurial Competencies are essential to foster entrepreneurship. The term 'Competencies' refers to a combination of knowledge, skills, motive, attitudes and habits. Every role or functions of women entrepreneurs need particular competencies to get success. Some of the competencies are inherited and some of them are cultivated. They have an impact on firm performance and growth. Various Studies till date have highlighted different entrepreneurial competencies in the context of different sectors, regions and countries of the world. However, there has been a lack of consensus in relation to the perceived relative importance of women core entrepreneurial competencies to get success.

Introduction:

This paper highlights importance, emergence and competencies of Women Entrepreneurs to get success in their entrepreneurial activities. Women Entrepreneurs may be defined as the - women or a group of women who initiate, organize and operate a business enterprise. They are expected to innovate, imitate or adopt an economic activity.

Government of India has defined, "Women entrepreneurs as an enterprise owned, controlled and managed by women having a minimums financial interest of 51% of the capital and giving at least 51% of employment generated in the enterprise to women."

Entrepreneurs are talented persons capable of identifying projects, systematize resources, innovating ideas, assuming risks and establishing ventures. In these days of highly uncertain business environment and highly sophisticated information technology, prospective entrepreneurs have to be inspired and motivated to take up some self-employment ventures and thereby, create employment opportunities for

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many people. In addition, the changing policies are so demanding that they make a prospective entrepreneur's task more difficult than that of a man, who, over the years, has got quite acquaint to the innumerable problems and difficulties of running a business or industry. To overcome from these problems certain competencies are essential.

The emergence of entrepreneurs in a society depends upon the economic, social, religious, cultural and psychological factors prevailing in the society. Women are no longer confined to the heart and four walls of home. The entrepreneurial capacity of women has a mark in many area and women have entered the industrial segment too. It is time to foster and harness the entrepreneurship of women in a big way. Women are now more aware and conscious about their existence, roles and rights. Women entrepreneurs are those who explore new paths of economic involvement and contribution. They have been making a significant impact in all segments of the economy in India. The areas chosen by women are manufacturing as well as in service industries.

Kinds of Competencies:

Competencies are of two kinds such as

1. Hard-skill competencies: Hard-skill competencies are those skills that are acquired through education or through work experience.
2. Soft-skill competencies: Soft-skill competencies are generally inherent in an individual or developed by him consciously. Example: Communication Skill, Initiative, Persistence, Information Seeking, Concern for High Quality of Work, Commitment, Systematic Planning, Problem Solving etc.

Both skills are necessary to perform efficiently.

Women Entrepreneur - In Indian Perspectives:

According to Pandit Jawaharlal Nehru – "When women moves forward, the family moves, the village moves, and the nation moves."

Indian women are changing and they are fast emerging as potential entrepreneurs. Role modelling of women in non-traditional business sectors to break through traditional views on men's and women's sectors. Women companies are fast-growing economies in almost all countries. The latent entrepreneurial potential of women have changed little by little by the growing awareness of the role and status of economic society. Skills, knowledge and adaptability of the economy led to a major reason for women in business. Women are coming forth to the business arena with ideas to start small and medium enterprises. They are willing to be inspired by role models- the experience of other women in the business arena.

Importance of women entrepreneurs:

In modern days, women entrepreneurs are playing a very important role in business, trade or industry. Their entry into business is of recent origin. Women have already shown their vital role in other spheres like politics, administration, medical and engineering, technical and technological, social and educational services, law, science, medical, police and military services, aeronautics and space exploration. This is true in advanced countries and now in recent years, they have been entering into these fields in our country. They have proved that they are no less them men in the efficiency, hard work, or intelligence, provided they are given proper scope.

Emergence of Women Entrepreneur:

This is a dynamic world and it is changing at a greater speed. Changes have enriched in all arena of human activity i.e personal, professional and social. Liberalisation has further accelerated the pace of changes. The results of change are tangible and apparent. It has contributed to the emergence of various classes of entrepreneurs including women whose entry was insignificant and difficult once upon a time. This is a boon for sustained economic development and social progress. Due to social transformation, spread of higher education, pro-women legislations, spurting awareness, urbanisation, family support etc., have contributed to the emergence of women entrepreneurs in large numbers.

In former days, for various reasons, the entry of women into business field was almost restricted. For women there were 3Ks- Kitchen, Kids and Knitting then came 3Ps – powder, papad and pickles. Now the scenario is completely changed. She came out of the four walls of house owing to social transformation. Now the previous 3Ks and 3Ps are completely replaced by 4Es, they are Electricity, Electronic, Energy and Engineering. Women had undergone a long way and are becoming increasingly visible and successful in all walk of economic activities. This is true in case of Indian women also.

Women are not only involved in business activities for their survival. They want to satisfy their inner urge of creativity and skill. For this purpose they have been formulating strategies and building a base. Their numbers in education, politics, self-employment, profession etc., are increasing at a greater

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speed. Women education is the reason for social transformation. This will be seen from the entry of women into areas traditionally dominate by men.

During these years women are taking more professional education to cope up with market need and are flourishing in various areas. Important among them are – fashion designing, interior decoration, exporting, publishing, garment manufacturing, beauty parlors, basket weaving, consultancies, content writing, event planning, resume writing etc.

It is perhaps for these reasons; the government, NGOs, researchers and international agencies have started showing interest in the issues related to entrepreneurship among women. This is true in India also. Indian women are fast becoming entrepreneurs and taking up varied economic activities. Women entrepreneurs explore the prospects of starting a new venture. They willing to assume risk, introduce innovations, coordinate administration and control business by their skill and knowledge. Many women succeeded in their missions and emerged as successful entrepreneurs.

What Makes a Successful Entrepreneur?

(1) Knowing Business in Depth

(2) Developing a Sound Business Plan

(3) Managing Financial Resources

(4) Understanding of Basic Financial Statements

(5) Learn to Manage People

(6) Passion for Business

The success of the business depends on constant presence and attention of the entrepreneur. This needs physical and mental health. The entrepreneur must monitor his health closely. Time is the most valuable asset. An entrepreneur must learn to manage time effectively. All these are possible only when he has passion for his business.

Conceptual framework

Entrepreneurial behaviour is the result of a motivation to achieve a goal and the competencies necessary to achieve it. This paper is focused on those competencies that characterize the entrepreneur. Table 1 presents a summary of the literature review, illustrating the 20 competencies that are considered important and influential for achieving entrepreneurship effectiveness.

Table: 1 Entrepreneurship competencies:

Sr.No.	Competencies	Meaning	References
1	Autonomy	capacity for making independent decisions based on a clear understanding of the possibilities and the responsibility that it entails.	Borjas (2003) Sarasvanthy (2001) Kirby (2004) Gibb & Hannon (2006) Vainrub (2004) Shumpeter (1934)
2	Communication	Ability to listen, ask questions, to express ideas and concepts effectively.	
3	Change	Ability to adapt to different contexts,	

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	management	situations, people and media quickly and appropriately.	Begley & Boyd (1988) Pleitner (1986) Shapero (1982)
4	Developing social networks	Ability to create and maintain a network of contacts with agents that are or will be useful in achieving the goals.	
5	Dynamism	Ability to work hard and continuously in changing situations, with many different partners.	
6	Initiative	Willingness to take action, create opportunities and improve outcomes without an external requirement.	
7	Innovation	Ability to produce an original, unexpected and appropriate (timely, useful) new work according to the needs of the context.	
8	Integrity	Ability to act in accordance with what is said or considered important.	
9	Leadership	Ability to guide the action of human groups in a certain direction by creating an atmosphere of energy and commitment, setting goals, following up these goals and giving feedback that integrates the views of others.	

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10	Negotiation	Ability to lead or control a discussion creating an environment for collaboration and making lasting commitments to strengthen the relationship.	
11	Responsibility	Ability to maintain consistency between actions, behaviours and words, taking responsibility for their own mistakes.	
12	Results orientation	Ability to promote, guide and select behaviour in order to achieve the goals.	
13	Risk assumption	Ability to tolerate ambiguity and uncertain situations and make sound decisions as per arise situation, while being able to control own emotions.	
14	Search and analysis of information	Analysis of information means ability to find and share useful business information for problem-solving using the full potential of the company.	
15	Self- confidence	Ability to address new challenges with an attitude of confidence in their own possibilities, decisions or views.	
16	Self-control	Ability to regulate themselves and know their own limitations.	
17	Social mobility	Ability to raise or lower position in the scale of economic well-being.	

18	Teamwork	Ability to actively participate in the achievement of a common goal, subordinating personal interests to team objectives.	
19	Troubleshooting	Ability to flexibly assume boundary situations and overcome them and ability to handle contradictions.	
20	Quality of work	Ability to work intensively and tenaciously to achieve the objectives, seeking continuous improvement.	

The aim of this paper is to conduct an exploratory study in order to detect the competencies that are relevant for effective entrepreneurship. We corroborate this proposed list using entrepreneurs' perceptions.

Methodology:

The Delphi method was used to collect data. In this study a random sample of 10 entrepreneurs were involved. A questionnaire was used to collect the data. The list of competencies in Table 1 was used to develop a template for data collection from entrepreneurs. The results were categorized using a Likert scale from 1 to 5 (from 1-not important to 5- essential). Hence I obtained a consensus proposal of competencies that affect entrepreneurship effectiveness.

Results:

Table 2 shows the results obtained using the Delphi methodology. As may be noted, consensus among experts has been achieved in relation to 9 of the 20 competencies considered initially. Furthermore, there is a moderate consensus in another 8 competencies.

Table 2 : Results of study

Sr No	Competencies	Mean	Mode	Media	Consensus	Affect	Min	Max	Deviation
1	Autonomy	4.4	5	4.5	1	Moderate	3	5	0.48
2	Communication	4.2	4	4	1	Moderate	3	5	0.79
3	Change management	3.8	4	4	0	Yes	2	4	0.79
4	Developing social networks	3.9	3	4	1.75	No	3	5	0.88
5	Dynamism	4.2	4	4	0.75	Yes	4	5	0.63
6	Initiative	4.7	5	5	0.75	Yes	4	5	0.48
7	Innovation								
8	Integrity	4.2	5	4.5	1	Moderate	2	5	1.03
9	Leadership	4.6	5	5	1	Moderate	4	5	0.52
10	Negotiation	4.3	4	4	1	Moderate	3	5	0.67
11	Responsibility	4.6	5	5	0.75	Yes	4	5	0.70
12	Results orientation	3.9	4	4	0	Yes	2	5	0.88

13	Risk assumption	4.7	5	5	0.75	Yes	4	5	0.48
14	Search and analysis of information	3.9	4	4	0.75	Yes	3	5	0.74
15	Self- confidence	4.4	5	4.5	1	Moderate	4	5	0.70
16	Self-control	3.9	4	4	1.5	No	2	5	0.99
17	Social mobility	3	2	3	2	No	1	5	1.25
18	Teamwork	4.6	5	5	1	Moderate	4	5	0.52
19	Troubleshooting	4	4	4	0.75	Yes	2	5	0.94
20	Quality of work	3.8	4	4	0.75	Yes	2	5	0.92

Conclusion:

As a result of this exploratory study, we obtained a consensus proposal about the competencies that affect entrepreneurship effectiveness. The set of competencies proposed by the literature was delimited by entrepreneurs. According to the literature, 20 competencies were commonly cited in relation with entrepreneurship. In this exploratory study, the experts agree that the relevant competencies for entrepreneurship are: risk assumption, initiative, responsibility, dynamism, troubleshooting, search and analysis of information, results orientation, change management and quality of work. However, no consensus has been obtained for some entrepreneur competencies that are frequently cited in the literature, social networks development, self-control and social mobility. However, in this case, the entrepreneurs have not reached consensus on the importance of building support networks and self-control.

It is noteworthy that innovation is not among the most important competencies for experts, when it is frequently cited in the literature as an important factor related to entrepreneurship. Probably this is because from the point of view of the experts it may seem not so easy to acquire and develop this competence through learning.

From these findings higher education institution could improve their education processes to enhance the development of certain specific competencies. This exploratory study points out competencies that, if they were commonly developed, would improve entrepreneurship behaviour and therefore the competitiveness of the organization or even the whole economic system. Although the information gathered provides interesting information about entrepreneurship competencies and gives a good qualitative approach to the subject, more data needs to be collected in order to have a more complete picture.

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A CASE STUDY ON THE INCEPTION AND SURVIVAL OF BONGOAN OCEAN FRESH

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Abstract:

The COVID – 19 lockdown of 2020 has seen several cases of unemployment. This has since led many to experiment with various forms of entrepreneurship in order to ensure a source of income. While many have chosen to use the pandemic lockdown as a means to invest in their entrepreneurial ventures, few may have planned for the sustainability and survival of their business post the lockdown. This case study, therefore, intends to highlight how entrepreneurs find the right opportunity to devise an idea and implement it to successful fruition while bringing to light the company has planned for its survival in the market. The case study of Bongoan Ocean Fresh can be used as a template for striving entrepreneurs to study how to convert their passion into a venture and ensure its sustainability.

Keywords: *Entrepreneurship, Pandemic, Start Up, Lock Down, COVID19, Sustainability*

A Case Study on the Inception and Survival of Bongoan Ocean Fresh:

The year 2020 saw the world slowly descend into chaos due to a virus that would later be dubbed as the COVID – 19 (or SARS-CoV-2). While originating in South East Asia as early as December 2019 (World Health Organization, 2020), the virus creeped its way to other parts of the world, fairly quickly with the first case in India being documented in Kerala on January 27, 2020 (A, B, & al, 2020). Since then, the rise in rate of infection and consequently rise in death toll, with the first death reported in Karnataka on March 12, 2020 (The Hindu, 2020), the country came to a virtual standstill and locked down on March 25, 2020 (The Hindu, 2020). Due to the sudden lockdown put into place, many businesses had to be put on hold, which in turn affected the economy. This move by the government, though with good intentions, led to declining profits, pay cuts and even job losses, with a survey (of 5779 households) finding out that 84% of the households have lost income due to the lockdown (Marianne, Kaushik, & Heather, 2020).

The pandemic essentially forced the country and the world as a whole to evolve at the drop of a hat, and adapt to the "new normal". Once the fear of the unknown began to dissipate and norms and rules were established, entrepreneurial ventures started crawling out of the woodworks and took charge of the situation. With online delivery services taking up the charge to deliver groceries and necessities (Retail4Growth, 2020), entrepreneurs started to understand the needs of the people and how online services could be an effective delivery channel and an essential moving forward.

Residing in Vashi, Navi Mumbai, Tathagata and Muriel Almeida Purkayastha, being avid seafood lovers, noticed how difficult it was for those like them, who had sea food as part of their staple diet, to get good seafood. The lack of freshness of the fish or even the sheer low quantity of the catch, meant that people

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would refrain from buying more fish and thus affecting the livelihood of the local fishermen. The fault, however, was not of the fishermen. The long duration of storage or being frozen drastically dropped the quality and taste of fish, thereby leading to a substandard product. This was further compounded by the fact that the lockdown reduced the labor workforce and had made public transport virtually non-existent (Balasubramanian, 2020).

What the Purkayasthas realized, however, was that the online delivery services were providing these same fish. Tathgata and Muriel being former employees of Wipro Ltd. And Excis Compliance Ltd., and Six Sigma certified Quality Auditors, quickly identified the level of quality of the produce being delivered. Angling being his primary hobby, Tathgata wanted to extend this into more than just a passion, and have people understand the freshness of fish straight from the sea directly to their kitchen board, without freezing and prolonged storage.

For this, the couple began practicing Ike Jime, a Japanese technique for cutting fish (Saini, 2017) on live fresh water fish, something that no one in India practices. Once they were proficient enough, and having realized that the people were looking for healthy and hygienic food, they set out with first approaching their friends and family. After taking reviewing the feedback given and tweaking their technique to match the requirements of the customers, they started marketing their product through their personal Facebook accounts so as to gain more coverage, and through their existing Whatsapp groups.

They realized that in order to be more efficient and quality centric, they would have to define their venture and set up their vision and goals. They had to identify their target market along with their preferences. The couple also had to conduct a market research to identify the forces and conditions that could potentially affect their business. On the basis of this, they developed a competitive strategy with the condition that if they could not scale their business up in three quarter, they would move on. Thus began the journey of Bongoan Ocean Fresh, on August 1, 2020, a name derived from their respective cultures of West Bengal and Goa, and an idea one year in the making that was catapulted into the market as a necessity during the lockdown.

As days went by, customers began favoring quality over brands and soon switched to Bongoan Ocean Fresh as their "go-to" seafood source. The main cause of concern for the couple was the sourcing of the right product. Even the slightest decrease in product quality within the short span of four months, would mean the decline in customer and the eventual closure of the company. However, the couple overcame this by working closely with trawler owners and ensuring that they had a steady flow of good quality produce apart from their usual commercial grade produce. This meant having to expand their network to include those at the harbor as well as trawler owners.

To ensure that they had the attention of their customers, Bongoan Ocean Fresh kept adding new products into the mix. They achieved this by consulting with chefs and restaurant owners about ready to cook and ready to eat products. This gained traction, as in the existing environment, it gave the customers a variety and kept them engaged with the company. Being well aware of the fact that this market has more potential that could be tapped by up and coming entrepreneurs, they believe that innovative products and excellent quality would be the way to survive in the market.

As things stand today, the Purkayasthas feel that the market post lock down would not negatively affect them, as their studies have shown that people have no qualms of spending money for food. In tandem with providing customers with hygienic food, the company also intends to generate new jobs for unskilled labour. They also feel that with regular feedback and efficient social media marketing, they will be able to stay ahead of and meet customers' evolving needs and provide them with a variety.

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A STUDY OF REVERSE LOGISTICS AND ITS IMPACT ON ASSET RECOVERY AND DISPOSAL

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Introduction:

Reverse Logistics exercises will extraordinarily affect undertaking activity mode, which implies that manufacturer must be liable for its product in the entire lifecycle. Hence, manufacturer needs to pick an appropriate method to manage the reclaim product from clients. Product traditionally wasdeveloped and it goes though the supply chain (for example Producer-Wholesaler-Retailer) to be offered to a client. Notwithstanding, supply chain incorporates a greater number of activities than those worried about supplyalone, such as service and product recovery and disposal.

Literature Review:

Reverse Logistics is a very important function in today's era. Sergio Rubio (2008) highlights this point in his research paper. According to him, there are different reasons why an organization should implement Reverse logistics in its core function. Direct reasons include decreasing the use of raw materials, reduction of disposal costs, creation of added value for end-of-use products and indirect reasons may include demonstration of environmentally responsible behavior, improved customer Relations. The researcher intend to bring out the significance of Reverse Logistics in the Organized retail sector.

Another paper states that in many countries (within the European Union, for example) companies are held accountable for the recovery or correct disposal of waste generated by products they produce or distribute. The researcher will study the legal laws, if any, related to Reverse logistics especially for companies dealing with industrial waste in chemical and manufacturing companies operating in India.

19. Joseph Raymond Huscroft (2012), in his research paper "The Reverse Logistics Process in the Supply Chain and Managing Its Implementation" gives out importance of Reverse Logistics from the consumer point of view. Reverse logistics does make easy and convenient to consumers and hence help in building up customer satisfaction. According to his research paper, today's customer expects and demands to be able to return a defective or unwanted product smoothly and quickly, and receive a refund or correct order as fast and inexpensively as possible. The probable penalties for not sufficiently addressing the reverse logistics requirements of the organisation could be higher transportation costs, higher inventory and warehousing costs, higher repair costs of returned goods, and lost residual value of defective products or materials due to processing delays in the reverse logistics process. There is a need to analyse and access the reverse logistics operations through the inputs of logistics practitioners which allows for a more comprehensive view of the reverse

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logistics process. The researcher is keen to determine how organized retail sector can leverage the process of reverse logistics in order to increase its brand building activity and customer satisfaction.

20. Another study on Reverse Logistics by Dhananjaya Reddy(2011) points out that Reverse logistics has a prominent role to play in almost all manufacturing industries and the management has to recognize its importance in order to survive and succeed in longer run. According to his paper, Reverse logistics has been found to play an important role in almost any manufacturing firm, regardless of size, product and geographical reach of the firm. The logic behind selecting FMCG and electronic product was because FMCGs goods are consumed very frequently which increases the importance of logistics decisions to deliver them to customers. It is further advised for these organizations that they pay more heed to the reverse logistics operations as the cost for reverse logistics operation is around 5 to 10% of the total costs for logistics which is very small percentage but also an opportunity for further improvement. And it is very important for any organisation to try to improve their processes if it has to survive in the long term in the market.

The researcher has gone through this paper and understood the process of Reverse logistics applied to FMCG Sector. The researcher too intends to work on similar lines and determine the process of Reverse Logistics for organized Retail sector. He would further want to research to find whether the model used in FMCG vertical would be workable for Retail sector or some changes are required.

The reason why Reverse Logistics is not implemented as frequently as Forward Logistics is because the challenges which accompany Reverse logistics are too plenty and it requires management skills to implement and execute Reverse logistics efficiently and effectively. Syed Abdul Rehman and Yu Zhang(2017) (in their paper "Reverse Logistics and Challenges: Supply Chain Management of Automobile Industry "describes in depth about the challenges of Reverse Logistics in Automobile Industry. According to them, Consumers are not at all willing to pay any premium prices for such products as compared to the genuine products. This is one of the most important problems that compel companies not to get involved in the reverse logistics operations. Consumers must insist that companies must clearly state that the products are remanufactured. If the remanufactured products are low priced, consumers might believe that the quality is inferior and thus only few consumers might pay for such products.

They further add that the challenges for reverse logistics in supply chain management of automobile industry remain one of the most important reasons due to which companies do not implement the system successfully. The most important challenges identified in the research are less willingness to pay, cannibalization, competition, negative perception of consumers', and lack of support from retailers, dealers and distributors. Supply chain managers must come up with appropriate strategies in order to deal with all the challenges highlighted in the research. The researcher would take some major pointers from this research paper and use as a benchmark for his research. He would also like to critically compare and analyze the challenges faced in the Automobile sector would be similar or different when applied to the organized retail sector.

Another major road block for Supply chain managers worldwide is the dilemma to combine or separate forward and reverse logistics, as sometimes both of these processes co-exist. The decision would be crucial for the overall operational efficiency of the firm. A research paper "Combining or Separating Forward and Reverse Logistics " by Herbert-Hansen, Zaza Nadja Lee; Larsen, Samuel Brüning; Nielsen, Anders; Groth, Anders; Gregersen, Nicklas Gregers; Ghosh, Amartya (2018) talks about this dilemma and how one could handle the situation of combining or separating both forward and reverse logistics. The paper explores that making the right decision in the configuration of forward and reverse logistics can create substantial value and impacts the firm's bottom-line. At least three different ways Reverse logistics can contribute to the competitiveness of a firm. First, efficient reverse logistics processes can result in lowering of total supply chain costs for the firm, thereby giving the firm a potential cost advantage which can support a strategy of cost leadership. Second, these processes can be a big factor for improving customer service by securing fast repair and return of products to the customer. This gives the firm a differentiation advantage through the ability to deliver superior service. Mollenkopf and Closs (2005) further added that reverse logistics can contribute to value creation by enabling the firm to reuse or salvage components, sub-assemblies, and products.

Research objectives:

26. The objective of this study is to analyse the adoption of reverse logistics with reference to asset recovery and disposal.

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Scope of work:

The study useful in the future because it gives information about important facts related to supply chain management & reverse logistics activities. These activities control not only the movement of raw materials and final products but it also includes the movement of unsold or goods returned from the customers to manufacture. Reverse Logistic activities also assists in improved asset utilization, increase in customer satisfaction, better control over inventory management and increase in return on investment (ROI). It also helps in sustainable production and encourages the better utilization of resources. Hence, it can be stated that reverse logistics is very helpful in increasing the efficiency and productivity of the organization by linking the supply chain management system with the resource management system and organizational functioning. The study includes important facts pertaining to the reverse logistics activities and provides in-depth learning about asset recovery& disposal associated with the reverse logistics process.

Research Methodology:

The descriptive research is used to find one or more variables to correctly and systematically describe a population and incident. Since objective and intent of the study is to describe Reverse Logistics and its impact on asset recovery & disposal, descriptive research design finds its place appropriately.

This research demands collection of relevant data via questionnaires, backed up by the idea to analyze collected data. The study was done by doing data collection by using questionnaire method for primary data collection and this was done by getting responses participants working for Indian retail sector.

The non-probability Convenience sampling technique adopted for this study as sampling methods. Convenience sampling is the most relevant sampling technique related to this study as the researcher is keen to find impact of reverse logistic on asset recovery and disposal.

This survey is conducted in various retail companies in Mumbai and Thane region. A 5 point Likert- scale questionnaire was used that measures level of understanding of various reverse logistics practices used in various retail organizations. It was assumed that these employees of these companies would have clear understanding of about various reverse logistic practices. This was supplemented by researcher two years' experience in field of retail industry in supply chain management department. 150 respondents were given questionnaire of various retailers in Mumbai and Thane region. The typical respondents to the survey had roles ranging from SCM Executive, Store Manager, Department heads, Category Managers, Warehouse Managers, VPs, and General Managers. After data collection, data was codified, & punched in IBM SPSS Statistics 20 software for further analysis. After eliminating missing value etc. the data was arranged and in all, 117 usable responses were recorded and used for further analysis.

Data Analysis:

Reduces asset recovery cost

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all	5	4.0	4.0	4.0
	Moderate extent	16	12.9	12.9	16.9
	Large extent	86	69.4	69.4	86.3
	Very large extent	17	13.7	13.7	100.0
	Total	124	100.0	100.0	

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Helps in cost containment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Small extent	20	16.1	16.1	16.1
	Moderate extent	24	19.4	19.4	35.5
	Large extent	47	37.9	37.9	73.4
	Very large extent	33	26.6	26.6	100.0
	Total	124	100.0	100.0	

Improves profitability

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Small extent	30	24.2	24.2	24.2
	Moderate extent	17	13.7	13.7	37.9
	Large extent	52	41.9	41.9	79.8
	Very large extent	25	20.2	20.2	100.0
	Total	124	100.0	100.0	

Reduces investment in inventory

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Small extent	15	12.1	12.1	12.1
	Moderate extent	25	20.2	20.2	32.3
	Large extent	57	46.0	46.0	78.2
	Very large extent	27	21.8	21.8	100.0
	Total	124	100.0	100.0	

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Improves labour productivity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Small extent	12	9.7	9.7	9.7
	Moderate extent	24	19.4	19.4	29.0
	Large extent	48	38.7	38.7	67.7
	Very large extent	40	32.3	32.3	100.0
	Total	124	100.0	100.0	

Reduces distribution cost

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all	11	8.9	8.9	8.9
	Moderate extent	23	18.5	18.5	27.4
	Large extent	62	50.0	50.0	77.4
	Very large extent	28	22.6	22.6	100.0
	Total	124	100.0	100.0	

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Reduces waste management cost

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all	4	3.2	3.2	3.2
	Small extent	15	12.1	12.1	15.3
	Moderate extent	35	28.2	28.2	43.5
	Large extent	39	31.5	31.5	75.0
	Very large extent	31	25.0	25.0	100.0
	Total	124	100.0	100.0	

Reduces product purchasing cost

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Small extent	16	12.9	12.9	12.9
	Moderate extent	12	9.7	9.7	22.6
	Large extent	69	55.6	55.6	78.2
	Very large extent	27	21.8	21.8	100.0
	Total	124	100.0	100.0	

Conclusion:

A descriptive approach was adopted to study Reverse Logistics and its impact on asset recovery & disposal. The study critically established linkages of reverse logistics with asset recovery & disposal. Based on study conducted it can be concluded that:

1) 69.4% respondents agreed that reverse logistics reduces the asset recovery cost to a large extend. Very few (4%) had opinion that the cost is not affected by the reverse logistics.
2) 37.9% and 26.6% respondents answered that reverse logistics helps in cost containment to large and very large extent respectively.
3) We can conclude from the data analysed above, that to a large extend reverse logistics improves the profitability (41.9%). But only 20.2% of respondents agreed that this affect is very large.
4) As the study shows, 46% respondents answered that reverse logistics reduces the investment in inventory. And only 21.8% and 20.2% viewed that the extent of the effect is very large and moderate in nature respectively.
5) 38.7% and 32.3% of respondents answered that the effect on improving labour productivity is to a large extent and to a very large extent respectively.
6) Half the respondents (50%) believed that reverse logistics will reduce the distribution cost as a whole.

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7) Reverse logistics reduces the waste management cost is the opinion viewed by majority of respondents. 31.5 believed that this effect is to a large extent, 28.2% believed that this affect is moderate in nature.

8) Reverse logistics reduces the product purchasing cot to a large extend as can be seen from the responses (55.6%), though only 21.8% believed that this effect is to a very large extend.

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FOSTERING ENTREPRENEURIAL ECONOMY: ROLE OF EDUCATIONAL INSTITUTIONS AND NATIONAL EDUCATION POLICY. A CASE FOR STUDY

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Abstract:

The PM's dream of making India a $5trillion economy can be realized if Indian entrepreneurs are willing to expand their business into newer sectors. Entrepreneur's confidence can be seen in their ability to innovate. New ideas and innovations should be converted into useful products and services. Entrepreneurship development is vital to stimulate economic growth and development of a nation. It is vital in providing financial stimulus, increase in per capita income, improving employment opportunities.

Educational Institutions have a very important role in preparing the human capital of nation for sustainable development. Human Resources are the nation's most important resource to bring about technological breakthrough and international competitiveness. Educational institutions can play a very important role in entrepreneurship development through training and educating young mind sets. The training on creativity and innovation should start at a very young age. National Education Policy, 2020 has given an impetus to entrepreneurial development. A recent study by the Global Entrepreneurship Monitor (GEM) revealed that entrepreneurship education in academic curriculum is an important factor in encouraging effective youth entrepreneurship. The NEP, has kept special provision to promote student entrepreneurs by bringing in industry partnership, vocational education and in alignment with the Sustainable Development Goal 4.4 (SDG). Flexible curricular structures enable creative combinations of disciplines for study, opportunities for internships with local industry/businesses-houses; actively engaging with the practical side of learning, all of which are bound give impetus to entrepreneurship. The paper discusses the role of educational institutions and national education policy in developing an India's entrepreneurial economy through conceptual and theoretical frameworks.

Key Words: *Entrepreneurship, Educational Institutions, International Competitiveness, Entrepreneurial Economy, Economic development.*

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Introduction:

Entrepreneurship development is vital to stimulate economic growth and development of a nation. It is vital in making India self-reliant by increasing employment opportunities through start-ups and small businesses. The PM's dream of making India a $5trillion economy can be realized if Indian entrepreneurs are willing to take risk by starting new ventures. This would help young Indians in self-employment and job creation. The Entrepreneurial innovation should be converted into new products and services.

Educational Institutions have a very important role in preparing the human capital of nation for sustainable development. Educational institutions can play a very important role in entrepreneurship development through training and educating young mind sets. The new age National Education Policy, 2020 has given an impetus to entrepreneurial development. The NEP has flexible curricular structures, research encouragement and opportunities for internships with local industry/businesses-houses; actively engaging with the practical side of learning, all of which are bound give impetus to entrepreneurship.

India's industrial policy has many provisions for boosting entrepreneurial economy. The dream of self-reliant India can only be realized if our young population is trained to create new business and means of livelihood. Keeping the above in mind A New Education Policy2020 was passed by the cabinet. The paper discusses about the integrated effort of government policy, academics and industry towards building a new atmanirbhar bharat.

Objectives of the Study:

- Study the role of government and various incentives schemes of government for Start up's and MSME's in India.
- To identify the Role of Educational Institutions and National Education Policy 2020 in promoting Entrepreneurship.

Entrepreneurship education in higher educational institutions: Role of NEP- A case for study.

A. The Role of government in fostering entrepreneurship.

The Role of the government is to create an environment and a platform for fostering entrepreneurship. An industrial policy which can encourage (Akiwatakar etal, 2016)

a. Innovation and Technology transfer.

b. Frame appropriate labour laws and an efficient labour management system.

c. Encourage R&D by providing infrastructure facilities.

d. Introduce policies to support and facilitate investments from Indian and foreign companies

e. Creation of incubation centres and training centres.

f. Skill development initiatives.

g. Promoting entrepreneurial growth

h. Simplified tax systems

i. Promotion of renewable energy.

B. Role of NEP:

The NEP of 2020 aims in bringing in the reforms in research and education, integrating academic learning with industry requirement. NEP proposes the organizing of the National Committee for the Integration of Vocational Education to provide a platform for vocational education, adult education, continuous training and skill enhancement.

The NEP of 2020 will prepare the young India for an entrepreneur economy. To train and inspire younger generation to think and create newer ways of doing business, serving consumers and providing innovative products. This is possible only if a holistic education is given. The education curriculum needs to be aligned with industry learning and sustainable development goal. Research needs special attention in all industry sectors. To facilitate alignment between academic research and industry requirement the National Research Foundation will facilitate the objective. Therefore, the educational institutions require well qualified and enthusiastic faculty and trainers. Faculty development and skill enhancement programmes for faculties are also be organized under Atal Faculty development programme.

The new education policy if implemented correctly can make young Indians job creators instead of job seekers. The self-reliant and Atmanirbhar Bharat can help young Indians in the endeavor to entrepreneurship.

Methodology:

The data used in this study is secondary in nature. The methodology consists of discussions on highlighting the main crux of NEP 2020 and comparing it with the current policy in operation.

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Literature of review:

It is predicted that India will be the third largest economy in the world by 2030-2032 with estimated GDP of ten trillion dollars. It is evident that the ten trillion economies will be driven by knowledge resources and not by the natural resources of the country. To boost the growth of the Indian education sector, the present government decided to revamp it by introducing a comprehensive National Education Policy 2020. This is in line with the Prime Minister's recent call on leveraging the Fourth Industrial Revolution to take India to new heights. The currently introduced National Education Policy 2020 envisions an India centred education system that contributes directly to transforming our nation sustainably into an equitable and vibrant knowledge society, by providing high quality education to all (NEP 2020) .The first national education policy after independence was announced in the year 1968 and the second national education policy which was improved version of the first was announced in the year 1986. If it is related with economies and entrepreneurship then it is found from literature that the entrepreneurial economy is defined as an economy where economic performance is related to distributed innovation and the emergence and growth of innovative ventures (Kirchhoff, 1994; Audretsch and Thurik, 2000; 2001). Silicon Valley and the Research Triangle in North Carolina, or a single country, such as the United States, but rather in most developed countries (Drucker, 1985; Baumol, 2002; Wennekers et al., 2005; Acs, 2006; Baumol et al., 2007; Audretsch, 2007b; The Economist, 2010a). Whereas the managed economy was characterized by a divergence of institutions and policy approaches to the underlying economic problem of that era results in maximizing the efficiency and productivity of large scale production while minimizing any negative externalities from a concentration of economic power, the entrepreneurial economy is characterized by a convergence of institutions and policy approaches designed to facilitate the creation and commercialization of knowledge through entrepreneurial activity.

Suggestions:

The requirement of huge Ph.D. degree holders in autonomous colleges due to changes in policies of NEP 2020, the demand for research guides is increasing. The optimum solution for solving this shortage is the utilization of services of retired professors with good research experience and multidisciplinary Institution should have a minimum of five disciplines belonging to different faculty areas. The undergraduate programme should be designed in such a way that there should be two skill based subjects focusing on employability skills and entrepreneur ability skills respectively apart from core subjects, non-core subjects, and elective subjects. The evaluation scheme for these skill based subjects should be continuous internal assessment without holding semester end exams. Such an innovative model gives confidence for the students to choose an entrepreneur career and the most important is to encourage self-dependency after 18 years of age, students should be encouraged to develop skills in their interested area and involve in some kind of economic/productive activities thereby their dependency on parents can be reduced. This is possible through vocational training and building their confidence to earn while learn programmes. The vocational training based earn while learn can be strengthened at HE level through offering additional credits to Academic Bank of Credits (ABC).

Conclusion:

Higher education is an important aspect in deciding the economy, social status, technology adoption, and healthy human behaviour in every country. Improving GER to include every citizen of the country in higher education offerings is the responsibility of the education department of the country government. National Education Policy of India 2020 is marching towards achieving such objective by making innovative policies to improve the quality, attractiveness, affordability, and increasing the supply by opening up the higher education for the private sector and at the same time with strict controls to maintain quality in every higher education institution. By encouraging merit-based admissions with free-ships& scholarships, merit & research based continuous performers as faculty members, and merit based proven leaders in regulating bodies, and strict monitoring of quality through biennial accreditation based on self-declaration of progress through technology-based monitoring, NEP-2020 is expected to fulfill its objectives by 2030. All higher education institutions with current nomenclature of affiliated colleges will expand as multi-disciplinary autonomous colleges with degree giving power in their name or becomes constituent colleges of their affiliated universities. An impartial agency National Research Foundation will fund for innovative projects in priority research areas of basic sciences, applied sciences, and social sciences & humanities. HE system will transform itself as student centric with the freedom to choose core and allied subjects within a discipline and across disciplines. Faculty members also get autonomy to choose curriculum,

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methodology, pedagogy and evaluation models within the given policy framework. These transformations will start from the academic year 2021-22 and will continue until the year 2030 where the first level of transformation is expected to visible. Hence, the Indian higher education system is moving from teacher centric to student centric, information centric to knowledge centric, marks centric to skills centric, examination centric to experimental centric, learning centric to research centric, and choice centric to competency centric.

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ENTREPRENEURIAL FINANCING: FUNDRAISING FLOW ILLUSTRATING THE CASE OF "UNACADEMY"

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Abstract:

This paper provides a basic overview of the field of entrepreneurial financing. The work is aimed primarily at the populace who has just set foot in the arena of setting up an enterprise with little knowledge about how to acquire the finance to get started and/or those who want to get a basic understanding of this subject .

This paper imparts an understanding of ways to acquire capital for developing the company before the company goes public.

Keywords: *Entrepreneurial financing; Start-up funding; Venture Capitalist; Fundraising process*

Introduction:

In literary terms, the word 'entrepreneurship' refers to the act of undertaking a new venture in the hope of earning a profit. In business terms, it refers to the establishment, development, organization, management, and expansion of a business venture. In terms of economics, an entrepreneur is an essential factor of production combined with land, labour, and capital. Thus, entrepreneurship is a vast and interdisciplinary field of study.

Although being the most important aspect of a business, acquiring capital for a new venture is not an easy task .Detailed analysis on issues related to the field of entrepreneurial finance has already been discussed in earlier pieces of literature (see Denis (2004)) but this article aims to provide an overview of options available for entrepreneurs to start their venture with and the process to go about with the same.

1.1 Need for Acquiring Finance:

Finance is the backbone of any business enterprise. Without money, no business can survive even for a single day. Entrepreneurs need capital in hand to kick start their venture and then to keep the business going in later stages. It can either be in the form of liquid cash, bank account balance, loans, share capital, etc. (i). The first and foremost requirement for finance is to buy/lease land, machinery, labour, space on the web, intellectual property rights and various other assets which will help in production and revenue generation. (ii). Once the business starts earning sufficient profits, it then needs money to pay salaries to workers, maintain land/space, machinery, and other assets, or in other words, to maintain the working capital. It can be either short term or long-term working capital which is needed to run day-to-day expenses of the business. (iii). After being appropriately established in the market based

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on regular production of goods/ rendering of services, the firm then needs money for promotion to increase their customer base, to reach a break-even point and to start earning sufficient profit margins. (iv). At this point, the enterprise now can start investing in long/short term investment ventures in the hope of earning extra profit and further expanding the business as per their plans or for dabbling in new innovative products or for research. They might also hope to retain their shareholder base by paying out dividends and reducing their debt margin by paying back creditors or early investors. Thus, the need of acquiring finance for a new venture is immense and of foremost priority.

1.2 Objectives:

To explain the reader about:

i. Types of funding sources and basis of selecting the appropriate one;

ii. Hierarchy of funding, including the scope of the venture capital and private equity industry;

iii. The funding process; and

iv. Seed, early & later stages of funding

1.2 Research Methodology:

This paper undertakes "case-based analysis" as the methodology of research on the given topic. For the sake of this research topic, a descriptive case study has been used, which explains how and from which sources a digital start- up called "Unacademy" secured funding for bootstrapping and growing into what it is today.

2. Sources of Financing:

After the entrepreneur has established the need for capital and realized for what activity the funds are needed, the next question that needs to be answered is – "from where to raise funds?" The most important step in setting up an enterprise is to ascertain the sources of acquiring capital and to make a judicious selection among the available options.

2.1. Major sources of finance:

There are various sources available at the entrepreneur's disposal depending upon the type of financing needed. There are two major sources of finance – Internal and External:

Internal source of finance – It is generated within the business at a pretty low cost and is usually considered when the amount required to be raised is minimal. No sort of collateral is required to raise it and is needed to fund minor projects in business. Some of its sources are retained earnings, provisions and reserves, extra income generated from business, money saved by optimizing working capital, etc. The limitation with this type of funding is that it is suitable for businesses that are already on the verge of the establishment rather than the ones which are yet to be set-up.

External source of finance – It is generated from outside the business and the cost of raising it is usually pretty high. It is used to fund major projects which have a huge and lasting impact on the business, like going global from a local or national enterprise. Huge amounts are raised in this case and usually need collateral to be sourced. Two major sources of financing in this case are – Equity and Debt. Hybrids are another type of externally sourced funds. This type of funding can be used for both, setting up a business from scratch and also as later-stage financing.

Some external sources are also known as Alternative sources of finance (explained in depth by Denis (2004) and can majorly be classified into:

I. Equity – It refers to money or other assets put into business as capital by investors in return for a share in residual profits after external obligations have been paid off .It is majorly done by way of dividing the total capital into shares, the holders of which are owners, and have voting rights and control on the company affairs .They do not hold the obligation to be paid off but would like to get paid by way of dividends or by the right to cash out at any time .New ventures usually opt for this type of funding as it promises a greater degree of control and the cost of acquiring it is comparatively lower. Significant sources of equity capital are – personal cash; private investors (including angel investors and private equity market); Institutional investors (including strategic and corporate venture capitalists); overseas investors (including foreign stock exchanges, banks and leasing companies); Intermediaries (including investment and merchant bankers, brokers, etc); Mergers and Acquisitions (due to legal, structural or tax issues), etc.

ii. Debt – Refers to the act of borrowing money from outsiders at a fixed or floating rate of interest to be paid off after a specified period. It is offered to those institutions which already have an established goodwill in the market, which new ventures lag in and thus making this sort of financing least preferable for them. In some cases it is also called 'leverage'. It enables the business to meet its short terms

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goals like maintaining working capital, while also helping it to attain long term goals like expansion. Significant sources of debt financing are – bank loans; trade credit; factoring; asset-based lending, etc.

iii. Hybrids – It refers to those instruments of financing which borrow features from both, equity and debt sources. They are also a preferable source of funding by entrepreneurs as they offer advantages of both the above sources with the least limitations. Some major ones are – convertible debt; preferred equity stock; convertible preferred equity stock, etc.

2.2. Factors affecting the choice of financing source by entrepreneurs:

A combination of different factors, which are specific to a firm, have to be considered while choosing between equity or debt sources of finance. There is literature which have studied these factors in the form of complex mathematical models (see - Winton and Yerramilli (2003)) but for the sake of simplicity, here is a list of some major factors affecting their choice Cost of raising capital – Every enterprise has its budget and so rationally decides upon the choice of raising funds Debt funds usually tend to be costlier but have other advantages too, so if a firm has a deep pocket it can opt for debt funds for some of its needs or can entirely go for equity financing if it faces a paucity of funds.

I. Degree of control – It depends on the firm, how much power they would like to have vested in their own hands If the owners want a greater degree of control on the operations of the business they might go with debt sources otherwise equity source would do the work

ii. Ease of acquisition – The time taken to acquire funds also has an impact on this decision making Usually equity sources tend to be easier in this regard but if debt sources are available within a short notice and with nominal paperwork and greater flexibility, they can also be considered as a choice.

iii. Willingness to pay-back – Some firms have no problem with the obligation to pay back the money in regular intervals because their trade cycle is smooth enough and so can go with debt sources, while others would want to retain capital for future expansion, so will be more comfortable with equity sources where they'll have the right to hold back dividends.

iv. Tax efficiency – Interest paid on debt sources is an expense for the business thus is deductible from profits before calculating tax. Whereas dividend payment is not a tax-deductible expense. Therefore, a firm that would like to save some money via tax would prefer to go in for the debt sources.

v. Others – Some other crucial factors to be considered while choosing to ascertain the capital structure are – return on investment, degree of risk (operating and financial), cash flow position, etc

Thus, apart from these major factors, there are several minor but significant factors to be considered while making a choice between equity or debt sources of finance (explained in detail by Bettignies and Brander (2005) . A careful selection must be made based on the company's goals, needs, and means.

2.3. Factors affecting the choice of an investment proposal by an investor

Be it a large venture capital corporation or an ultra-affluent angel investor, the amount of funds at disposal for investing in a business will always be scarce It is this scarcity that leads investors to probe deep into the business plan of a new venture so that they can make a calculated decision that their investment is relatively safe and is a promising business to park their funds in and grow it over time There is fierce competition among entrepreneurs to bag the funds from investors, but these investors have their criteria to select what they see as the most profitable venture Some considerable factors affecting their choice of proposal are:

i. Business plan – A well laid out business plan can clearly show the past, present, and future of the firm to the potential investor who can analyze how scalable the strategies of the firm are and will this be a profitable venture to invest in

ii. Stage of business – There are various stages of business where an investor is needed, ranging from seed funding stage to a major expansion or diversification stage The investor will analyze whether or not he is ready to invest in that particular stage of business that the entrepreneur is offering and make a choice accordingly

iii. Alignment with goals – If the personal goals of the investor align with that of the new venture plans, then it is likely to get funded by the investor. Thus, a firm should approach that investor who's financial or communal plans match with its own.

iv. Innovation – It is often seen that the companies offering a novel idea by way of a breakthrough innovative product or service, are usually on the radar of investors. That is why the majority of technology and software related companies

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get funds easily from investors Better the innovation, higher are the chances of getting funded.

v. Management team – The investors do a thorough examination of all the people working on the management team. Such a background check proves as a basis for determining the future performance of the firm

vi. Exit terms – Some investors may prefer to be invested in the business for a longer period, whereas others might want to cash out as soon as they reach a break-even point. Thus, if the firm provides the investor with a desirable exit offer, there is a great chance of it getting funded

3. Hierarchy of funding

This list is in no way an exhaustive list of ways to fund your business but rather covers all major methods to do so The basic assumptions of this chain are that (i) it is not mandatory for a firm to follow this very order and to go through all of these stages It has to be noted that as we go up this hierarchy the amount of capital and cost to acquire it go on increasing; and the degree of control and ease of doing business goes on decreasing Thus, careful selection has to be made by the entrepreneur by weighing the pros and cons of each method of financing The hierarchy starting from the base is as follows:

i. Bootstrapping – It is the art of operating business without external funding by optimally utilizing internally generated cash which can be done using cutting down on working capital and other current expenses and retaining as much profit as possible. It eliminates the need for debt thus establishing no obligation to payback. It is suitable for middlemen and intermediary businesses which have a fast accounts receivable policy. The advantage of this model lies in fast execution and a high degree of control with the owner; whereas disadvantage lies in the constraint on the company to grow further due to scarcity of funds for expansion.

ii. Grants – It is the money invested in a specific project or venture at some pre-determined conditions. It does not need to be paid off until the condition is being satisfied, neither does it require giving up the control of business. But it just covers one particular area or activity of business that too for a specified period. Thus, it cannot be counted as a reliable and wholesome method of funding.

iii. Personal cash and/or credit – Personal cash refers to the entrepreneur's own money which is brought in the business as funding. It is the safest and least expensive method of raising cash but cannot suffice for all activities of the business for a long time. Personal credit refers to the use of personal credit cards of the owner to meet the financial needs of the business although it offers some advantage but using a separate business card for this use is a better option.

iv. Personal loans – There are different types of loans available catering to the requirements of business according to its pay-back means and preferences. Personal loans are those which are raised from family and friends. Though it is a very inexpensive way of funding, it might lead to harming relationships due to various reasons in the future, and thus is advisable to put the terms in writing from the beginning itself.

v. Bank loans – Unsecured loans, like debentures, are offered by banks and other financial institutions without the need for collateral, based solely on the creditworthiness of the borrower. Although easy to raise, it is offered at a very high-interest rate Secured loans, offered by banks and other such financial institutions, are a type of mortgage financing and need collateral to be secured Although easy to get, it might lead to the seizure of mortgaged assets in case of default in repayment.

vi. Bonds – It is a debt instrument in which money is directly borrowed from other individuals or companies, at a pre-determined rate, to be paid back on maturity with principal amount and interest. The issuers can either be government bodies, corporate houses, or individual parties. The process of issuing bonds is extremely complicated, hence it is usually managed by investment banks, which act as an intermediary between borrower and lender Usually established businesses issue bonds.

vii. Receivables financing – It is a special type of secured lending service offered by banks in which the collateral is bills receivable of the business. The bank gets direct control of the working capital funds of business and pays the corresponding amount, after deducting a nominal commission, to the firm before actual payment is received. This method is also called 'factoring/invoice discounting' It is a speedy method of getting short term bills cleared and thus helps in the smooth functioning of the working capital As a limitation, the bank ensures that they must be paid before any other obligations of the business are met by taking over control of the firm's accounts, thus diluting the control of owners in the business.

viii. Incubators and Accelerators – Incubators help the newly-found company to get past the starting stage by providing seed money, office space at minimal cost, and other

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support services. Accelerators provide start-ups with technical expertise or in-depth knowledge and training on specific business operations. They push the business towards quick growth and expansion by providing networking opportunities with potential investors. Despite these services, this method of funding might not be appropriate because it usually calls for giving up of equity by the entrepreneur, relocating business, and might make the business too reliable to be self- sufficient. Thus, it can be usable at the time of growth, and not at the very beginning.

ix. Angel investors – Business angels are wealthy individuals who invest capital in new ventures and are mostly motivated by factors other than financial. Usually, angel investors are retired individuals who are looking forward to park their funds in seemingly profitable ventures and in some cases also wish to be involved in partial ownership of the business. Angel investors and venture capitalists are often confused with each other. Although both of them have some similar features, the major point of difference between the two lies in the stage of business they provide finance in and form of their organization. Business angels are usually individuals with a strong network of similar investors and mostly provide seed capital in the earlier stages of the venture, whereas venture capitalists are usually corporations and mostly provide capital in the later stages of business to either support innovation or expansion. The only major limitation of this sort of financing is that the angels as individuals might not have enough capital to invest as would be needed by the new venture.

x. Venture Capitalists (Vcs) – They are wealthy corporate houses which raise funds from institutional investors and then invest them in ventures which are deemed to give them a higher return. The entrepreneurs pitch their ventures in front of VCs, who then analyze the business plan and accept or reject the proposal accordingly. They are often on a lookout for innovative ideas that promise to deliver profitable results in the future VC funding happens in rounds and there is extensive negotiation involved. There are many factors that directly or indirectly influence the selection criteria of the venture by the VCs (for a detailed analysis see Gompers, 2016). Unlike business angels, VCs are primarily focussed on financial returns from the investment. They tend to avoid risk by providing capital to companies who have a proven track record and a solid and sound plan for expansion. They usually ask for a seat in the board of directors so that they can easily overview the management decisions and can thus safeguard their invested money. They generally cash-out by buyback of shares, sale of company, flotation, or high ROI using a massive capital gain. The major advantage of this type of funding is that even high-risk ventures can bag huge amounts of funds coupled with the expertise and experience of the VC house. However, the dilution of control can be a limitation for the business owner Venture capital trends have been strongly affecting businesses all over the world recently and seem to be a dominant source of financing in the global market for entrepreneurs soon.

xi. Private Equity (PE)–A Private Equity Fund, also known as Private Equity, is equity capital which comprises of investors who invest directly in private companies. This equity capital is not listed on the stock exchange and usually follows some general investment criteria of investing in varied industries or follows some industry-specific criteria Considering that holding periods for private equity funds are long, therefore, private equity capital is raised from institutional and retail investors who can afford to invest large sums of money for longer periods. This capital can further be utilized for large scale purposes like making acquisitions, expansion of working capital within an owned company, funding of new technology, to strengthen the company's balance sheet, etc the investing term for these funds can be anywhere between 10 to 13 years, after the expiry of which the fund is closed and the funds are returned to the partners. The investment ideas they work on are – VC, growth capital, leveraged buyout, turnaround situations. It is a quick source of long-term funds for private companies but dilutes ownership.

xii. Public stock offering – It refers to selling a part of the ownership of the company in the open market i e , by public listing on stock exchanges Unlike private placement, it does not offer shares only to select a group of investors, rather it is the process of going public by way of an Initial Public Offering (IPO). Many VCs and angel investors see this as a traditional way to cash out and earn a profit. This type of financing has the least degree of control and makes the process of funding pretty complex but provides a certain and regular influx of capital in the company.

4. Case Study – Unacademy:

Unacademy is a company that serves as an online education

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platform It was formed in 2015 by Gaurav Munjal (Co-founder & CEO), Roman Saini (Co-founder & Chief Educator), and Hemesh Singh (Co-founder & CTO) The company is based in Bangalore, India, and is registered under the name of "Sorting Hat Technologies" It started in 2010 as a channel run on YouTube by Gaurav Munjal but later grew into a company when Roman and Hemesh chimed in The platform offers online lessons on a vast array of topics and specialized courses to prepare for various competitive exams In 2018, the three co- founders were included in the list of India's Forbes 30 Under 30, and the company won the Digital Start-up of the Year award at the IAMAI (Internet & Mobile Association of India) Digital Summit.

For a venture like this to grow into what it is today, fund capital is required. Unacademy also started its journey with acquiring money from various investors, putting it to use for the development of the venture and further growth.

The table below summarizes the stages of funding raised by the company over some time:

Date	Stage	Fund Raised (in $)	No. of Investors	Lead Investors
May 11, 2016	Seed Round – Unacademy	500K	6	Blume Ventures
August 24, 2016	Seed Round – Unacademy	1M	14	Ashish Tulsian, Blume Ventures, Sandeep Tandon, Tracxn, WaterBridge Ventures
January 13, 2017	Series A – Unacademy	4.5M	13	Blume Ventures, Nexus Venture Partners
September 13, 2017	Series B – Unacademy	11.5M	4	SAIF Partners, Sequoia Capital India

July 16, 2018	Series C – Unacademy	21M	3	SAIF Partners, Sequoia Capital India
June 26, 2019	Series D – Unacademy	50M	8	Blume Ventures, Nexus Venture Partners, Sequoia Capital India, Steadview Capital

As is clear from the table, in 2016, the company raised "Seed Capital" of a total of $1 5M which is required to initiate and maintain initial operations of the firm. In 2017, the funding round was called "Early Stage Venture" which secured a total of $16M and was used to make a presence in the market In the further round of 2018 and 2019, called "Late Stage Venture", the company raised another $71M which strengthened their position in the market-leading the way for growth and expansion. The gross capital raised comes up to $88 5M, via a total of 6 funding rounds within 4 years. This suggests that Unacademy was able to pitch in investors by proving the worthiness of its business model.

Findings from the Case:

The funding is usually secured from a combination of Angel Investing, Venture Capital, Private Equity, Insurance companies, and Hedge funds. Raising funds from outside the company in rounds is what the process is all about Seed capital is acquired from Angel Investors, and further rounds of capital are usually acquired from Venture Capital firms in return for equity or some sort of stake in the company Seed capital is required to kick-start the operations of the business as per the plan. After operations start running, the company needs finance to develop itself and grab a share in the market, which can be fulfilled by Series A funding

Coming past the developmental stage, the company needs funds to diversify, innovate or expand the business. The requirement for such capital is fulfilled by the Series B funding round The only companies that make it to Series C round are the ones that are quite successful and have stood the tests of time and competition on the market This capital may be used for going global or for scaling new heights in the market quickly Companies that go till Series D or E are either trying to make their way before an IPO or trying to meet goals that were not met by prior rounds.

Therefore, it can be said that Unacademy is either trying to grow further by going for Series E funding before going public or might take the route of an IPO in the next step. The decision to go or to not go public depends on the plan of the management team, but observing from the trend, it can be said that the limit to acquire "start-up" capital is soon to deplete as it has already undergone Series D funding round.

Conclusion:

This paper acts as a guide for prospective entrepreneurs or the ones who have already set foot in the arena of entrepreneurship by providing insights into the world of entrepreneurial financing It covers the basic terminology and jargon related to this field, equity and debt sources of capital, alternate sources of funding the new venture, factors affecting decision making, the complete fundraising process, and a review of literature that is related to our topic of discussion. The concept is made concrete by way of a case analysis of a recent start-up named 'Unacademy'. By analyzing the financing process of this venture we get to know about the 3 major stages – seed funding, early-stage, and later-stage investing Before going public, a firm has ample opportunities to raise finance via various rounds (Series A, B, C, D) based on the stage the company is at It also highlights the importance and role of Venture Capital as an alternate source of funding that can be bagged by an innovative idea and a solid business plan. The factors that lead venture capitalists to invest in a firm are also discussed herein.

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EVOLUTION OF TECHNOLOGICAL WORKPLACES: 'WFH' THE NEW NORMAL

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Abstract:

The pandemic has provided the world a different perspective and a more flexible platform to work on. This study analyses the effects of work from home on the organizations and if it has the scope to become the new normal in the future as well.

Thanks to all the ever-evolving technologies such as Skype, Facetime, Zoom, Google Hangouts, and cloud computing—not to mention texting and email—it's no longer necessary to be in an office full-time in order to be a productive member of the team. In fact, many kinds of work can be done just as effectively, if not more so, from a home office or a remote work station (investopedia).

In the current WFH scenario, new complications have arisen including, distractions within home, space and privacy constraints, switching on and off between workplace and domestic matters, etc. Consequently, frayed tempers, reconciled matters, transactional conversations, lessened empathy and dilution of relationships are now the norm (economic times).

Introduction:

Innovations in telecommunications technology increase the possibilities of working from the home. Implications of work-at-home arrangements for the individual's quality of working life are discussed. Included are discussions of several major aspects of the work experience relevant to quality of working life, analysis of the differences along these aspects between working at home and working at a normal workplace, and speculation about the possible consequences for the individual of the transfer of jobs from employers' premises to employees' homes.

The year 2020 has brought with it many changes and has made us all adopt the living style which we never thought we'll ever adopt or will be accepted so smoothly. This year is showing us how the future of work is reshaping itself, naturally due to the current pandemic situation, where social distancing is a must and compulsory to contain the spread of virus in huge human gathering. This is where the work from home culture is a blessing for organizations to fall into great economic losses and saving their market value from further decline

Working from home is defined as people working from their home or from other location of their choice other than the

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working area by payment which is provided by the employer. Working from home is having lots of use in recent years. Since the growth of the networking from home indicates the employee can finish their work with in their own premises. Work will be done remotely. It depends on teleworking /telecommunicating arrangements where an employee does not require staying during the business hours with their employer. In today's growing world there is an urgent need for working at home. To improve the employee retention during the busy and stress filled life we require some leisure time. Through working from home you can have free access towards a specific job through fewer interruptions from fellow employees in the office and communication time is also wider.

When conducted a survey, more than 50% people preferred working from home.

More companies of more than 80% of people successfully offered the flexibility of working from home .More than 90% believed that work from home will be the future practice adopted by the companies.

Key Words:

Work life balance, Remote work, Productivity, Financial independency, Pandemic.

Literature Review:

Sue Williamson, Linda Colley and Sally Hanna Osborne (2020)

The research analyses how Australia's biggest employers – state and federal governments – approached the transitions to working from home, and back into regular workplaces and questions if it will become the new normal. The research provided an insight about the history of work from home, linking it to the present date when it has become a necessity and the resistance of managers to enable lower level employees to work from home.

In the study Interviews with almost 300 managers across four state jurisdictions found that uptake of working from home was constrained by unsupportive work cultures and attitudes, particularly managerial concerns about trust, productivity, and underperformance.

When World Health Organisation declared coronavirus to be a pandemic. Several jurisdictions adopted a soft human resource management approach that both supported employee health and wellbeing and recognised that this was not the usual working from home – rather, employees had been forced home and were trying to work amidst other constraints such as home schooling. Some jurisdictions ensured staff had enough leave.

It was concluded in the research Prior to the pandemic, there was evidence of considerable resistance to working from home from some managers who had concerns about technology, compliance with employment regulation, and employees' productivity and performance. Many of the technical barriers were swept away by the pandemic, leaving resistance based on institutional cultures and managerial attitudes.

Researchers have stated that to mitigate resistance to change, organisations should plan for the change, create a climate of trust, and encourage employee participation.

Thomas Nugent (2020)

The article states that 71% of French workers who had never previously worked at home before the pandemic say they now would. Shifts to working from home are likely to remain after coronavirus. It isn't feasible to say everyone who has an internet connection, Zoom, or a Microsoft Teams account is good to go with remote work. Jonathan Dingel—associate professor of economics at Chicago Booth School of Business explains that the transition raises big questions for organizations about how they structure their workforce, and how they cause personnel to work with one another.

The shift to remote work could be particularly resounding in the US. A National Bureau of Economic Research paper found that more than 35% of firms think that 40% or more of the current switch to remote working will be permanent. Twitter has told its employees they can continue to work from home permanently. Other big tech firms like Google and Facebook have said they will operate at around 30% of office capacity, with most workers allowed to work from home through 2020. Chicago Booth—predicted that around 37% of US jobs could be plausibly done at home.

The article concludes stating that the future of work was always heading in this direction. COVID-19 has simply accelerated the process, condensing into four short months what would have taken over a decade. It provides the readers with an insight that work from home culture could be a step towards the future as it the articles gives references of the top companies not only adopting it during the pandemic but also continuing it in the future.

Objectives of the Study:

- To have a holistic view of how people have adopted to the work from home culture and if organizations continue the

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same culture, how it would influence the work-life balance of the employees.

- To study how this culture would be help people save their time on long travel hours and expenses, and how the productivity of the employees will affect the organizations functioning.
- To study how remote employees, impact the work culture of the organization, and the organization effect without incurring the expenses of maintenance for premises and other allowances.
- To focus on productivity and efficiency of employees in their job with flexible work culture.
- To explore the pros and cons of work from home.
- To study how employees would strike a balance between personal and professional life at their comfort surroundings.

Research Methodology:

A descriptive research design was adopted to conduct the study. Data was collected through primary as well as secondary sources of data collection.

Primary data was collected with the help of structured questionnaire directly from the respondents. The sampling design adopted to collect the data was simple random. In all 60 respondents were approached with a response rate of 100%.

Secondary data was collected with the help of research articles, research papers and reports related to the topic.

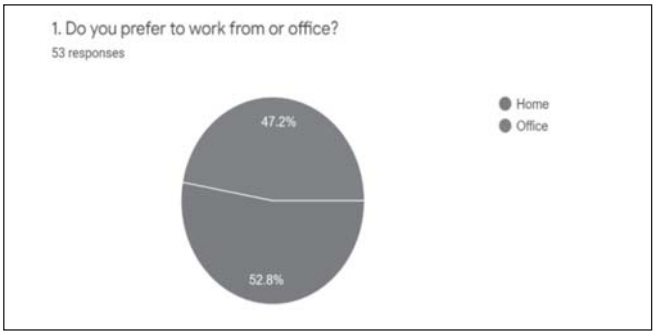
Data Analysis:

Authors conducted a research using the questionnaire methodology and we have inferred the following from the data gathered.

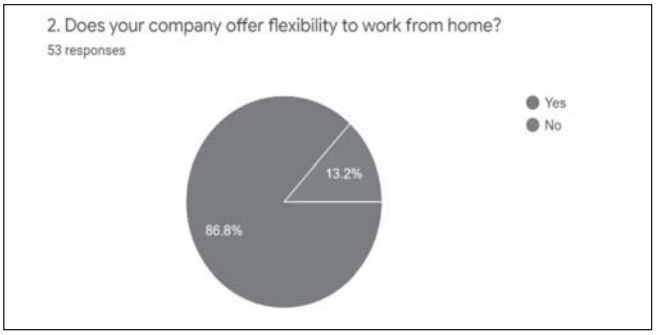
The results of the questionnaire provide insight into the minds of our participants and here's what we gathered from the same.

Variables	N	%
Gender		
Female	25	41.67
Male	35	58.33
Age		
18-25	45	76.3
25-35	4	6.8
35-45	3	3.4
45 & above	8	13.6

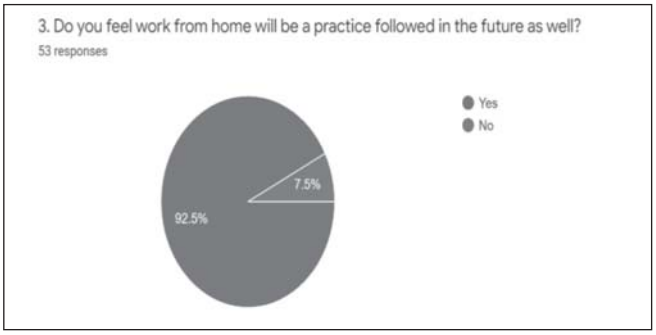
- When asked whether they would prefer to work from home or from the office, 52.9% preferred to work from home while the rest would rather work from office.



- On asking whether your company offer flexibility to work from home, 86.8% people responded positively saying yes, we are allowed to choose according to our convenience while the rest refused that they are not allowed to work from home.



- We also raised a question asking them whether they feel that work from home will be a future practice as well to which 92.5% people felt it assertive that yes work from home will also be a future practice whereas the rest of all felt that there won't be any such option as work from home in the future.



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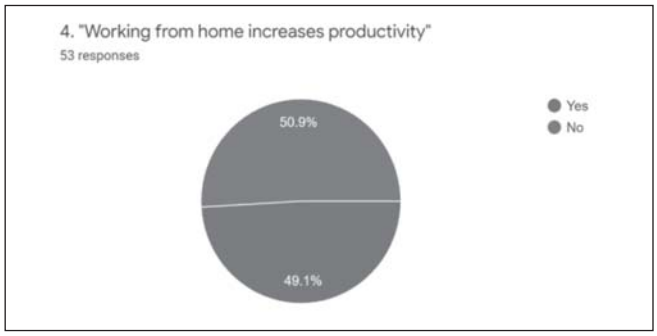
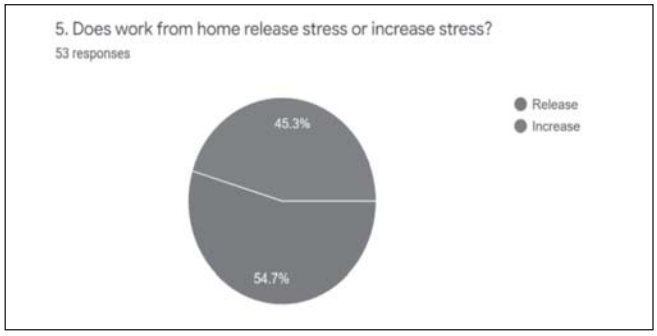
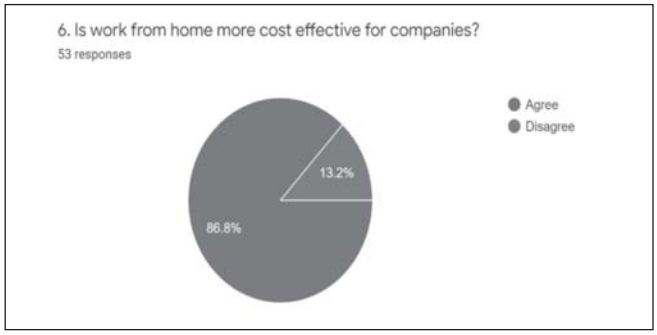
- We noticed that 50.9% people feel that working from home increases productivity and the rest 49.1% people found no changes in their productivity working from home or workplace.



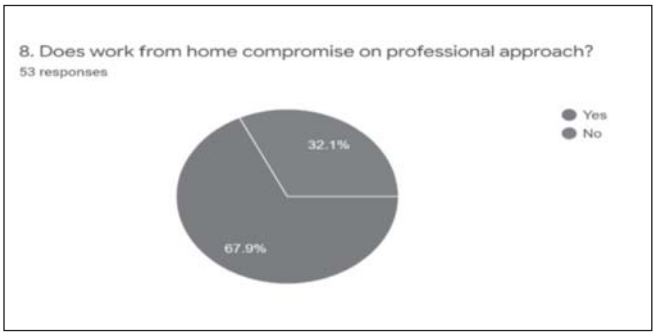
- Many people were questioned about whether work from home releases stress or increases stress, out of which 54.7% people responded that work from home releases stress where as 45.3% people felt work from home is the reason of their increasing stress.



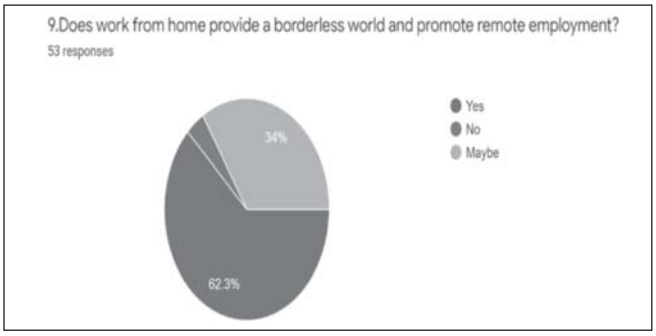
- We inferred that 86.8% people agreed that work from home is more cost effective for company



- On questioning does work from home compromise on professional approach, 67.9% people responded that they think that work from home is compromising or can say lacking professional approach.



- Our researches found out that 62.3% people agree on the fact that work from home provide a borderless world and promote remote employment.



Findings & Suggestions:

- Work from home has been the new normal since the dawn of the Covid-19 Pandemic, and has been like a median for organizations to continue their smooth flow of work schedules
- There are equal number of people who prefer and who are against work from home culture, as for some it does create stress.
- According to our findings from the survey, people are not able to maintain a healthy work-life balance as they feel they are working for extra hours which is kind of stressing.
- Work from home kind of compromises on the professionalism while working in informal surroundings.

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- Work from home proves cost effective for companies as they don't have spent a huge amount of their revenues on properties and various other facilities that they offer to the employees in a physical form of work culture.

Conclusion

Work from home is the need of the hour due to the current pandemic situation. It has turned out to be a blessing for the humans to work remotely and not let entire humanity fall under massive unemployment. To work at your comfort zone and stay protected from the virus. Yet there are people who would prefer going to their work stations as they feel their professional attitude is compromised and creates an unbalance in their work-life balance that they have maintained for years.

It has its pros and cons but it really helps those who have a lot of family responsibility and priority, but yet want to work remotely to become self-sufficient and independent financially. Organizations are promoting remote employment as they don't have to spend much on the maintenance and traditional expenses which were incurred in work from office.

There are different stresses that employees as well as employer has to go through, but in time it would definitely be the new normal and people would prefer work from home more. The shortcomings and gaps would be filled by implementing and redesigning the work from home structure.

Limitations of the Study & Future Scope of the Study

- A larger sample could have resulted in higher reliability of the data.
- Respondents may have provided a biased opinion to the topic considering the pandemic

With the above limitations, there remains lots of scope for further research in this area moreover, a survey of management of various companies can be conducted on the same topic to gain clarity on their perspective as well.

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DRIVE THRU GROCERY STORE- OPPORTUNITIES & CHALLENGES

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Abstract:

Twenty First century is bringing in new technologies and trends in retail sector. Grocery shopping which is an essential part of every individual is also growing at a faster rate. This study discusses about how a pandemic has arose the need for drive thru grocery store. It further explains about the process, technologies used, and opportunities and challenges attached with it. The study also suggests solutions for few of the challenges that may arise while implementation. The research undertaken is a conceptual type of research and secondary data has been used for the same.

Introduction:

Retail Sector is one of the fastest changing sectors. Future of retail is a combination of Emerging technologies & Changing Store formats. It's not only about selling something; retailing is about giving a whole new shopping experience to a buyer at its convenience.

A pandemic like Covid-19 can bring in lots of changes like shopping preferences, consumer buying behaviour, shopping platform, and many more. Retailers need to adapt to the changed scenario post a pandemic by keeping things in mind.

The most essential thing in one's life is Grocery. Even in the situation like pandemic people had to step out or order online their requirements. Since it's an infectious disease people would prefer a no touch shopping which would be safe and hygiene for them.

Drive thru store can be a solution to this scenario. It's a store where no product shall be touched by any other buyer and shopping can be done comfortably just by sitting inside a vehicle. A no touch shopping can be found useful post an infectious pandemic like Covid-19.

It's the future of Retail where latest technologies like Artificial Intelligence, Mixed Reality, Sensors & many more are used to give customers a great shopping experience.

Objectives of the Study:

- To analyse the opportunities & challenges of drive thru grocery store in India
- To understand the relevance of the drive thru grocery store during a current pandemic scenario.

Scope of the Study:

- This study determines the level of acceptance which is shown by the consumers towards the new technology and innovative way of entering the retail space.
- This study gives a fair idea to the retailer and researchers about the improvement areas.

Significance of the Study:

- This study will contribute to the new idea of business in the grocery retail format after the country has faced and overcome a pandemic situation like Covid-19.

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- The study will help society to maintain a healthy environment at a grocery store.
- The usage of technologies in the idea of a drive thru format will create more technical jobs in the society and will increase the standard of living of the people.

Research Methodology:

Observing crowded grocery stores and super markets, long queues for billing, many touches on each product even during the times of pandemic; has lead researchers to study the drive thru format of retailing in the grocery segment. Conceptual research design is used as this study aims at studying the concept of the new retail format in the grocery retail store space and whether the technologies used in the new drive thru retail format are welcomed by Indian customers. For the purpose of data collection researchers will use online websites, magazines, news articles and research articles.

Review of Literatures:

- Adapting customer experience in the time of coronavirus (2020).

  Rachel Diebner, Elizabeth Silliman, Kelly Ungerman, and Maxence Vancauwenberghe; published in Mckinsey & Company.

  The study explains how important is it for businesses to focus on new norms, care, capabilities and shopping experience for customers during & post pandemic situation. The authors have given a general view over things to be kept in mind by business.

  Therefore, the researchers will also further study it and discuss about the trends and opportunities that a new retail model can adapt during & post covid-19.

- Buy online collect in-store: exploring grocery click & collect using a national case study (2019).

  Alec Davies, Les Dolega, Daniel Arribas-Bel; published in International Journal of Retail & Distribution Management

  The authors have done a comparative study between the rural & urban retail store towards the Click & collect grocery store model. They have also discussed about different factors that affects the preference and experience of buyers.

  The study misses to explain about the in-depth working\ process of the model. Thus the researchers would like to take it forward and analyse the process & technologies used in the drive thru store.

- The Importance of the Service and Shopping Customer Experience in a Retail Environment (2019). Irene Roozen & Pavlos Ioannou Katidis

  The authors have researched about the how important is service and shopping experience of a customer for a retailer. They have discussed how things can affect the service & shopping experience and how it can be beneficial to a retailer.

  This study shows it's very important for a retailer to provide customers with a good shopping experience. Thus researchers could relate to this article and will further research on a new retail model which will result in enhancing the service and shopping customer experience.

- Online Grocery Business Models Click & Collect and Drive (2015).

  Retail Net Group, published in International Dairy.Deli.Bakery Association Iddba.org

  The author\s have discussed about a new retail model "Click and Collect and Drive". In this study the author\s have studied the model, its process, effect on consumer & global market and its growth opportunity.

  This model can be used for the purpose of reference model by the researchers for its study. The Click &Collect and Drive model has few gaps which can be covered in another grocery shopping model Drive thru store.

- Method and Apparatus for providing virtual touch interaction in the drive thru. (2006).

  Nils Kranhstoever, Emilio Schapira, Rajeev Sharma, and Namsoong Jung

  This paper states about the invention on virtual touch interaction technology used in drive thru. The authors have invented this technology which will make order placement an easy thing for customers.

  This technology will be used by the researchers in its study for a drive through store. It is one of the technologies used by the retailer at the new retail format for placing an order.

- The Effects of Technology-Based Self-Service on Grocery Retail - A Swedish Case (2005). By, Victoria Behumi and Camilla Holten

  The authors have discussed about the technology-based self-service, i.e. payment using payment at the checkout point without any need for human to be present there. Here the authors have conducted the research from the point of

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view of an entrepreneur and changes that he needs to make in his business to adapt this type of technology. They have concluded that to implement such a technology need to make necessary changes in its functioning & need to have a good relation with its customers.

In the above research paper, it can be seen that only self-payment at the checkout is not enough to enhance shopping experience of the customers. With the help of new technologies more technologies& facilities can be added to it.

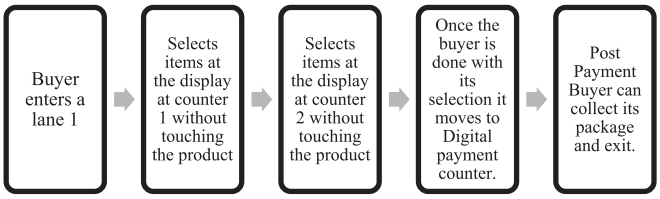
The researchers will take this as a base and would further research about this technology in a different retail format and analyse what more changes can be brought in for better shopping experience.

Drive thru Grocery Store:

Drive thru grocery store is a future of grocery shopping where a person can do whole shopping without getting down from its vehicle. Unlike click & collect concept, here the buyer gets an opportunity to take its vehicle to view and shop the items\ products of its choice. This new format of shopping is a systematic way of shopping where all the process is taken care by various technologies.

The concept of drive thru is commonly used at various food outlets around the world. This format may not be a completely new thing, the 1st of its kind was found & registered by a Russian person, and later similar format was built in US and UAE.

Process of drive thru grocery store



Technologies used by drive thru grocery store format:

- *Mixed Reality*

  This type of formats will used mixed reality to display the products to its buyers in a virtual form. With the help of mixed reality buyers will not be able to view the products virtually but can also have details about the product like manufacturing and expiry dates, content ingredients, brand name, price and more.

- *Sensors*

  To have a no touch shopping this format will need different types of sensors like motion\gesture sensor, sound sensor, and many more.

- *Management Information system*

  It will require a latest management information system for managing data at a huge stage for such a big store and keep the management updated with every change.

- *Cloud storage*

  Big Formats like this require huge space to store its data safely which will be owned and managed by the retailer.

- *RFID*

  RFID technology will help in automatically identifying tags and placing the order of items from the shelf before they are out of stock.

- *Artificial Intelligence*

  Artificial Intelligence will play a big role in this format as it will not only be able to detect its customers but also be able to save and suggest their regularly purchased items. It will also help retailer to maintain the data and have an automatic process from one counter to other

- *Internet of things*

  IOT refers to all the automations done with the help of internet. Everything inside the store can be controlled by the person sitting at the head quarter without any need for staff presence.

- *Digital Payments*

  To make the end step of the process faster i.e. billing\ Point of sale its really very important for a big format like this to use digital payments for the ease & faster shopping.

Opportunities:

- *Convenient Shopping*

  A format like drive thru store is specially designed for the convenience of the buyer where he\she can shop at any time without getting down from its vehicle, with no touch safety, variety of items available at one stop, secured digital payments.

- *Time Saving*

  Since there will be no big queues for packaging, billing and payment it will be a very fast shopping experience.

- *Easy Availability*

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As it is a grocery store it must be available for 24*7 and also it will be an easy thing for a buyer to just swipe and get the product it wants to buy.

- *Government Support*

  Since the Indian government is working towards smart cities &digital India, it's a great opportunity to launch this type of format.

- *Availability of skilled staff*

  Due to the digital India & Ministry of skill development and entrepreneurship initiatives educational institutes are teaching the latest technologies to students and preparing them for the market

- *Customer Loyalty*

  With the huge data about the customer details and their product choices this type of format can result into customer loyalty.

- *Market Leader*

  With the setup of this new format a retailer will stand out of the crowd and become a market by providing all the facilities at the convenience of the buyer.

Challenges:

- *Big Budget*

  Drive thru grocery store will be a high budget format as it will require skilled staff, various technologies, huge space, stock of products, and many other things.

- Own Vehicle

  In India majority of the population falls under Middle class category where not every family\ individual may or may not own a vehicle or use cabs and other smaller means of transport for shopping.

- *Systematic Process*

  It's a new and systematic format which will require a high level of planning and implementation by the retailer.

- *Tech Savvy*

  Not every person buying grocery be a tech savvy person, for a personal who is not friendly with the usage of technology might find it difficult.

Suggestions:

Drive thru grocery store has its own opportunities and challenges. Though there can be solution to the challenges that retailers will face. Problem of not owning a vehicle or not coming for shopping in a vehicle can be solved by providing mini vehicles like golf car\ mini car service. Since people in India may not be tech savvy, the retailer may conduct a campaign regarding the ease of using the technology at the store.

Conclusion:

Technology is changing the face of retail influencing retailers to adopt those technologies and bring in new and better retail formats for a new shopping experience. Currently most of the retailers are fighting to survive in the market. With the help of these innovative ideas it will help them to survive and stand out of the other retailers.

Pandemic Situation has brought a great opportunity to launch this type of format in India which will not only provide an exclusive shopping experience but will also be safe and secure.

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A CONCEPTUAL STUDY ON "TECHNOLOGY INNOVATION & ENTERPRENUERSHIP 2020"

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Abstract:

This paper discusses and briefly reviews the importance of technological innovation in globally and the role of the human factor. Technological innovation and entrepreneur are defined. The reasons for negativism toward innovation are reviewed. Characteristics of the technological entrepreneurs are identified. The nature of technological innovation is discussed. Finally, ways to encourage corporate entrepreneurs are suggested.

Key words: *Technology, Innovation, Entrepreneur, Human Factor*

Introduction:

Technologies are 'rules and ideas that direct the way goods and services are produced'. Technological inventions are new rules and ideas about what to produce and how to do it. Technological innovations result when new rules and ideas find practical use through being applied and/or commercialized by entrepreneurs. Technological innovation contributes to higher levels of economic output and can deliver new goods and services that change human lives and capabilities. According to Lipsey et al:

People living in the first decade of the twentieth century did not know modern dental and medical equipment, penicillin, bypass operations, safe births, control of genetically transmitted diseases, personal computers, compact discs, television sets, automobiles, opportunities for fast and cheap worldwide travel, affordable universities, central heating, air conditioning… technological change has transformed the quality of our lives especially the bitcoin revolution.

Today we live in a technological 'age' and global economy where competition has become knowledge-based. In modern theories of growth and development technological innovation has taken the centre stage. Our love for novelty and new gadgets is thus based on practical and theoretical foundations. Moreover, there is growing interest in the relationship between technological innovation (and entrepreneurship) and how it can promote global growth and development.

Objective of study:

1. Understanding the concept of innovation and technology entrepreneurship and the components of an effective innovation system
2. Having the ability to appraise different models of developing innovation for companies engaged in commercialization of products and services
3. Understanding the fundamental elements of an effective eco- system of innovation
4. Gaining an insight on implementation of a technology entrepreneurship and the essence of management of change

Existing Definitions

Six definitions of technology entrepreneurship were found in the 93 articles reviewed:

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1. Organization, management, and risk bearing of a technology-based business (Nicholas and Armstrong; 2003)
2. Solutions in search of problems (Venkataraman and Sarasvathy, 2000)
3. Establishment of a new technology venture (Jones-Evans, 1995)
4. Ways in which entrepreneurs draw on resources and structures to exploit emerging technology opportunities (Liu et al., 2005)
5. Joint efforts to interpret ambiguous data, joint understanding to sustain technology efforts, and persistent, coordinated endeavour to accomplish technological change (Jelinek, 1996)
6. An agency that is distributed across different kinds of actors, each of which becomes involved with a technology and, in the process, generates inputs that result in the transformation of an emerging technological path (Garud and Karnøe, 2003)

The definitions found in the literature suggest that technology entrepreneurship is about: i) operating small businesses owned by engineers or scientists; ii) finding problems or applications for a particular technology; iii) launching new ventures, introducing new applications, or exploiting opportunities that rely on scientific and technical knowledge; and iv) working with others to produce technology change.

Defining Technology Entrepreneurship

The field of technology entrepreneurship is in its infancy when compared to other fields such as economics, entrepreneurship, and management. However, we are at a point where we can leverage the insights contributed by previous work to create a clearer working definition of technology entrepreneurship.

This article proposes a general definition that identifies the distinctive characteristics of technology entrepreneurship and describes its links with the fields of economics, entrepreneurship, and management. The proposed formal definition of technology entrepreneurship should prove valuable in adding to our understanding of how entrepreneurship functions in a firm that invests in projects that are interdependent with advances in science and technology.

The following definition of technology entrepreneurship is proposed:

Technology entrepreneurship is an investment in a project that assembles and deploys specialized individuals and heterogeneous assets that are intricately related to advances in scientific and technological knowledge for the purpose of creating and capturing value for a firm.

The proposed definition of technology entrepreneurship is based on four elements:

1. Ultimate outcomes. Value creation and capture are identified as two outcomes of technology entrepreneurship because the sources that create value and the sources that capture value may not be the same over the long run.
2. Target of the ultimate outcomes. The firm is identified as the target organization for which value is created and captured.
3. Mechanism used to deliver the ultimate outcomes. Investment in a project is the mechanism mobilized to create and capture value. A project is a stock of resources (i.e., specialized individuals and heterogeneous assets) committed to deliver the two ultimate outcome types for a period of time.
4. Interdependence of this mechanism with scientific and technological advances. The individuals involved in a project influence and are influenced by advances in relevant scientific and technology knowledge. The project exploits or explores scientific and technology knowledge. External and internal individuals and organizations co-produce the project's outputs.

When compared to the definitions identified in the previous section, the definition proposed above:

1. Emphasizes that technology entrepreneurship is about creating and capturing value for the firm through projects that combine specialists and assets to produce and adopt technology
2. Highlights the collaborative experimentation and production of new products, new assets, and their attributes, which are intricately linked to scientific and technology advances and the firm's asset ownership rights
3. Specifies that technology entrepreneurship may entail projects that search for problems or applications for a particular technology, launch new ventures, introduce new applications, and exploit opportunities that rely on scientific and technical knowledge provided that their ultimate

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outcome is to create and capture value for the firm

4. Clarifies that technology entrepreneurship is not about the general management practices used to operate small businesses owned by engineers or scientists or just about small businesses

Differentiating Aspects

There are at least five differentiating aspects of technology entrepreneurship in the definition proposed above.

1. How technology entrepreneurship differentiates from other entrepreneurship types

The interdependence between scientific and technological change, as well as the selection and development of new products, assets, and their attributes, differentiate technological entrepreneurship from other entrepreneurship types.

Technology entrepreneurship has more to do with collaborative production based on a shared vision of future changes in technology. The existing entrepreneurship literature, however, describes an entrepreneur as: i) "an alert individual discovering an existing opportunity" (Shane, 2003; Shane and Venkataraman, 2000); ii) "an innovative individual who shakes the economy out of its previous equilibrium" (Schumpeter, 1939); iii) "an experienced individual making judgments about an unknowable future" (Foss and Klein, 2005); iv) "an individual who believes she has lower information costs than others" (Casson and Wadeson, 2007); vi) "an individual with certain personality traits" (Hood and Young, 1993); and vi) "a charismatic leader" (Witt, 1998).

A shared vision of change in technology influences why, when, and how a firm creates and captures value. Technology change can be represented in various ways. Therefore, it is important to develop a shared view of change in technology.

2. Eliminating the existing biases in the entrepreneurship literature

The proposed definition eliminates three biases of entrepreneurship research: i) concentration on new firm formation; ii) focus on individual entrepreneurs; and iii) over-attention to opportunity discovery (Foss, 2011).

Technology entrepreneurship, as defined above, applies equally well to newly formed or established firms as well as small or large firms. Established and large firms can engage in technology entrepreneurship just as well as start-ups do.

Technology entrepreneurship is about collaborative production decisions, not about a single individual making or delegating decisions. The firm's top management team jointly decides to invest in a project and a team of specialized individuals who create and capture value for the firm. The specialized individuals and assets can be held by a single entrepreneur-manager or can be distributed.

Technology entrepreneurship involves specialized human resources, tapping into their skills and ability to collaboratively explore and exploit scientific and technological change to benefit the firm. Technology entrepreneurship is best understood therefore, as a joint-production phenomenon that draws from a team of specialized individuals from multiple domains, some or all of whom become embedded in the technology path they try to shape in real time (Garud and Karnøe, 2003). Technology entrepreneurship is not about a single individual or the inventions they introduce. It is about managing joint exploration and exploitation, where each individual has roles and responsibilities in collaboratively and cooperatively moving forward toward accomplishing shared goals (Lindenberg and Foss, 2011). Technology entrepreneurship is about investing in and executing the firms' projects, not just recognizing technology or market opportunities.

3. A more theoretically rigorous and practical definition

Considering technology entrepreneurship as an investment in a project rather than a subjective opportunity allows it to be assessed in more theoretically rigorous and practical terms. It transforms the subjective view of technology or market ideas to the objective reality of project definition, financing, and execution. The proposed definition links technology entrepreneurship to an amount of money (i.e., investment in the project). Ideas are mere parlour games until money is part of a project (Rothbard, 1985).

4. Linking technology entrepreneurship to the theory of sustainable competitive advantage

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Technology entrepreneurship and the resource-based view of sustainable competitive advantage are interdependent because they are both concerned with how to create and capture value. Both pay explicit attention to how resources that embody technology and scientific advances create and capture value. While technology entrepreneurship applies to any firm with projects that rely on advances of science and technology, the resource-based view applies to those few firms that are continuously successful.

The resource-based theory of sustainable competitive advantage is the dominant view in strategic management. It links firm performance to firm resources and includes concepts such as capabilities, dynamic capabilities, and core competences. Scholars working in this field seek to clarify how a firm can create and capture more value than its competitors on a sustained basis (Peteraf and Barney, 2003).

For value-creation activities to endure over the long term, the amount customers pay the firm must be: i) greater than the firm's cost of production and ii) a function of the difference between the satisfaction customers receive from consuming the firm's goods or services and the satisfaction customers would receive from consuming the closest alternative goods or services. For the firm to capture the value it creates, "use value" (i.e., utility of consuming a good) and "exchange value" (i.e., price paid for the good) should be similar. If use value is high and exchange value is low, other agents (e.g., intermediaries, competitors) are capturing the value created for customers (Lepak et al., 2007).

5. Linking technology entrepreneurship to the theory of the firm

The technology entrepreneurship domain and the theory of the firm are interdependent through the specialized individuals and heterogeneous assets committed to a project for the purpose of creating and retaining value for the firm.

The specialized individuals and heterogeneous assets in the project's stock of resources can be considered reference points in the theory of the firm. The theory of the firm aims to explain why firms exist, what determines their boundaries, what determines their structure, and what drives their different actions and performances.

The proposed definition emphasizes the importance of technology entrepreneurship in enabling specialized individuals to develop combinations of assets and their attributes in order to create and capture value for the firm. An "asset" refers to an economic resource that is owned or controlled by the firm and is used to create and capture value for the firm. An asset represents value ownership that the firm may convert into cash. An asset can be thought of as a bundle of attributes defined by their characteristics, functions, and potential uses. The term "heterogeneous assets" refers to a set of assets that lack uniformity in composition or character.

The firm's owners and employees have no way of knowing or predicting the relevant attributes of all the assets. Asset attributes need to be discovered. Technological entrepreneurship identifies, selects, and develops new attributes for the purpose of creating and capturing value for the firm.

Technology entrepreneurship requires a firm for two reasons. First, the firm must control the assets that specialized individuals use to experiment with new combinations of assets and their attributes. Second, the requisite joint investment and production decisions cannot be purchased on the market. The reasons that technology entrepreneurship needs a firm are similar to the reasons why an entrepreneur needs a firm described by Foss, Klein, and Bylund (2011).

Literature review:

With the advent of the new economy, business models (BM) have become an increasingly popular unit of analysis to explain differences in firms' success (Cearley et al., 2012, Büyüközkan et al., 2018). However, digital business model (DBM) differs from business model on the basis that it can provide a two-way revenue model for both the customers and the sellers, so we need to lay emphasis on both sides (Bocken et al., 2014). A good digital business model should make sure that the seller as well as the buyer gets benefited (Evans et al., 2009, Yin et al., 2018).

With the evolution of technology and data, business model, it is not only the area that experienced transformation while other areas which experienced transformation are business strategy, workforce, customer interaction and business operations, and these areas are dependent on each other for their growth and success (Gawer et al., 2007, 2014, Werth et al., 2018).

According to authors A. Osterwalder and Y. Pigneur

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(Osterwalder, et al., 2002, 2004, 2005, 2010, 2011, Wu et al., 2015), in their book "Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers, Hoboken, New Jersey: John Wiley & Sons, Inc", a business model can be described by nine building blocks which further wraps the four main segments of business: customers, offer, infrastructure and financial viability (Timmers et al., 1998, Clark et al., 2012, Xu et al., 2018, Wirtz et al., 2010). To understand how the rise of platforms is transforming competition, we need to examine how platforms differ from the conventional "pipeline" businesses that have dominated industry for decades. Pipeline businesses create value by controlling a linear series of activities—the classic value-chain model (Luby et al., 2006). Inputs at one end of the chain (say, materials from suppliers) undergo a series of steps that transform them into an output that is worth more: the finished product. Apple's handset business is essentially a pipeline but combine it with the App Store, the marketplace that connects app developers and iPhone owners, it becomes a digital platform.

As Apple exhibits, partnerships need not be only a pipeline or a platform; they can be both. While sufficiently pure pipeline productions are still highly modest, when platforms enter the same marketplace, the platforms effectively continuously landslide. That is why pipeline titans such as Walmart, Nike, John Deere, and GE are all cross-country to incorporate platforms into their business models (Watanabe et al., 2018).

Furthermore, in a study on role of the business model, Chesbrough and Rosenbloom elated a more detailed definition of business model as (Chesbrough et al., 2002, Yoo et al., 2010, 2012, Sabatier et al., 2012):

The functions of a business model are to:

- articulate the value proposition, that is, the value created for users by the offering based on the technology;
- identify a market segment, that is, the users to whom the technology is useful and for what purpose;
- define the structure of the value chain within the firm required to create and distribute the offering;
- estimate the cost structure and profit potential of producing the offering, given the value proposition and value chain structure chosen;
- describe the position of the firm within the value network linking suppliers and customers, including identification of potential complements' and competitors;
- Formulate the competitive strategy by which the innovating firm will gain and hold advantage over rivals.

This definition points out the important blocks of a business model on which it should focus and suggests a proper way of interacting with them so that the business model can function efficiently which leads to a sustainable way of doing business (Azodolmolky et al., 2013, Balodi et al., 2014, Coase, 1937, de Vasconcelos Gomes et al., 2018). The priority of these attributes may vary in different businesses according to their needs and the condition of the marketplace, so there is no compulsion on treating them in a same manner in every other business as some attributes may require much more focus than other attributes in a particular business (Grewal et al., 2018, Hamari et al., 2016, Baldegger et al., 2016, Bason, 2018, Mishra & Tripathi, 2019, 2020b).

Various frameworks have been laid down by different authors which further help in development of business models as required by the business, these frameworks describe relationship of important components and also give an insight on how they can be beneficial to our business, and there is no single perfect framework defined for all business types so its choice can vary from business to business (Kurt et al., 2017, Baporikar, 2015, Benlian, 2018). These frameworks can help to utilise the business model to its maximum potential. Some of these existing frameworks are Business cycle framework, Innovation radar etc. (Li et al., (2018), Lockamy III et al., (2011, 2012), Berman et al., (2012), Antikainen, et al., (2016).

Importance of technology Innovation & Entrepreneurship:

Following is a list of reasons of why entrepreneurs should incorporate technology in their businesses:

- Communication: good communication is necessary to allow efficient flow of information in a business. Technology provides multiple channels for businesses to communicate both internally and externally. Whether it's setting up virtual workspaces where employees can interact and develop ideas, or connecting to international businesses through the use of video conferencing, technology can be used as an outlet which allows businesses to collect feedback from their customers, which can used to improve or alter a product to suit the needs of the customers better.
- Research and Development: through the use of technology, businesses can research the market through the use of secondary data. This is extremely useful as it provides businesses with in-depth knowledge about

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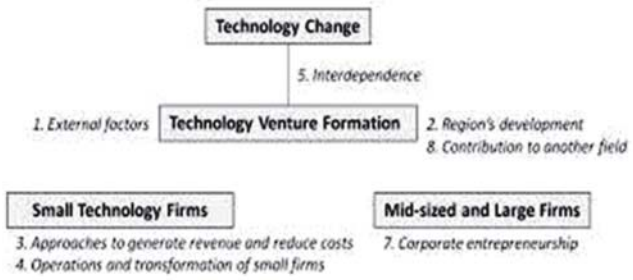
markets before penetrating them. Along with secondary research, businesses can use technology to conduct primary research in addition to using online surveys and customer feedback.

- Web Based Advertising: one the most beneficial use of technology is advertising to millions of people around the globe just at a click of a button. Web based advertising consists of websites and social media. Websites can be built using DIY tools such as WordPress or Square Space or professional web developers can be hired to create them. Unlike websites, social media accounts are very easy to build for your business and provide exposure on a wide variety of platforms such as Facebook, Twitter and YouTube.

Type of Technology:



CHARACTERISTIC(s) OF TECHNOLOGY INNOVATION & ETERPRENUER:

- Motivation. Entrepreneurs are by nature motivated. ...
- Vision. The best entrepreneurs have a vision as to what they want to achieve, how they can accomplish their objectives, and whom they need on their side to reach their goals. ...
- Passion. Passion is another characteristic of entrepreneurs. ...
- Confidence. ...
- Decision Making.

Research Methodology:

- Type of Study: Secondary
- Limitation of Study: Vast Scope, Time Factor

Conclusion:

Over the last four decades, technology entrepreneurship has become an increasingly important global phenomenon. It is perceived as necessary for growth, differentiation, and competitive advantage at the firm, regional, and national levels. Technology entrepreneurship appeals mainly to leaders and top management teams of small and large firms who use technology to create, deliver, and capture value for their stakeholders. Technology entrepreneurship also appeals to personnel of regional economic development agencies that attract investments in productive technologies and talent to a particular geography.

The primary function of technology entrepreneurship is to assemble a combination of specialized individuals and heterogeneous assets in order to create and capture value for the firm through collaborative exploration and experimentation. The combination, some of the assets, or the assets' attributes may be unique and novel. The initial combination may change over time.

In this article, the literature on technology entrepreneurship was classified into eight themes. The literature search revealed that most of the articles on technology entrepreneurship appeared in journals not considered to be in the technology innovation/entrepreneurship domain.

The article offered a definition for technology entrepreneurship. A better definition of technology entrepreneurship can help improve its performance, increase its relevance, and establish it as a legitimate domain of inquiry in its own right. This definition needs to identify and incorporate the various distinctive aspects of technology entrepreneurship and its links to the existing domains of economics, entrepreneurship, and management. The definition, including the corresponding features and links, requires particular attention from scholars and practitioners.

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ONLINE PHARMACIES - AN EMERGING ENTREPRENEURSHIP AVENUE IN INDIA

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Abstract:

Online pharmacies are companies that sell pharmaceutical preparations, including prescription-only drugs, on the Internet. Currently, online pharmacies are at a nascent stage in the Indian market, and operating in a regulatory gray area and constantly evolving. Yet, entrepreneurs are venturing into this area as it shows great promise for growth in the future. The purpose of this paper is to evaluate online pharmacies as an entrepreneurship avenue in India and explore opportunities and challenges associated with them. The paper discusses the unique challenges faced by Indian online pharmacies seeking funding and the tremendous opportunities for growth in the Indian e-healthcare market owing to the growing awareness and digitization. The paper brings to light the fact that online pharmacies in India are seeing growing consumer demand and increasing investor interest.

Keywords:

Online Pharmacies, Online sale of drugs, Digital healthcare, E-commerce, Entrepreneurship avenue, Investment.

Introduction:

Although the popularity of e-commerce services is growing, they are still very limited in spread and scope especially in rural India (Internet and Mobile Association of India, 2016). Challenges associated with the growth of e-commerce in India include lack of clarity in laws regulating e-commerce, unqualified manpower, rapidly changing business models and the low entry barriers.

Sale of medicines on the internet is growing in popularity, globally. Online pharmacies are companies that sell pharmaceutical preparations, including prescription-only drugs, on the Internet. In developed countries like the United States of America (U.S.A.), online pharmacies have been in existence since January 1999 with the opening of Soma.com -

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the first ever online pharmacy in the world. However, since 1872, sale of pharmaceuticals through mail order has been prevalent in the U.S.A. In the United Kingdom (U. K.), Internet pharmacies began operation in November 1999 with the opening of Pharmacy2u.co.uk (George, 2006).

While they offer a lot of advantages to consumers, there are various legal, ethical and safety issues associated with sale of medicines over the internet. However, despite these concerns, the popularity of the internet as a source for medicines sales is growing and this is evidenced by the growing interest of investors keen to support online pharmacy portals. Especially in India, the online pharmacy market has observed remarkable growth in the past few years. Investors are showing interest in online pharmacies as this model looks feasible (Patel and Ashok, 2016).

The primary growth drivers for entrepreneurship in the online pharmacy space are the increasing investment and funding in this field. The global e-pharmacy market is expected to grow at a CAGR of 16.5% between 2017-2025 and surpass US$ 124.5 Bn by 2025. Key players operating in the global E-Pharmacy market includes The Walgreen Company, The Kroger Co., Express Scripts Holding Company, Zur Rose Group AG, CVS Health, Giant Eagle, Inc., Walmart Stores, Inc., OptumRx Inc., 1mg, and Netmeds. The highest growth is expected from the Asia Pacific markets, mainly India and China. In India, start-ups like EasyMedico, 1mg, Myra Medicines, PharmEasy, and Netmeds have gained a significant foothold in the last few years (Coherent Market Insights, 2018).

Statement of the Problem:

Online pharmacies are a growing trend worldwide. The opportunities and challenges for online pharmacies in India are quite unique, because of the diverse demographic structure of the Indian population and the current status of the healthcare system in the country. The laws and regulations related to them are still evolving. The consumer base and investor interest in online pharmacies, however, continue to grow. With this background, the current study aims to explore online pharmacies as an entrepreneurship avenue in India.

Objectives of the study:

- To gauge the feasibility of online pharmacies in India by understanding opportunities and growth drivers
- To study emerging challenges faced by online pharmacy businesses in India
- To evaluate online pharmacy business in India as an entrepreneurship avenue

Need and scope of the study:

In India, with the regulations still evolving, the online pharmacies are still in a state to turmoil with respect to both laws and consumer adoption. Most of the research studies focus only on the advantages and disadvantages of online pharmacies to the end consumer in India with little focus on the financial and economic environment where these businesses are operating. With online pharmacy business operating in a regulatory grey area and still attracting investors, this study becomes imperative. This study aims to fill this gap by understanding the feasibility of online pharmacy businesses and evaluate them as an emerging entrepreneurship avenue in India.

Methods:

An exploratory and descriptive research design was followed for the study. The objective of the exploratory study was to get deeper insights into online pharmacies as an entrepreneurship avenue considering the unique opportunities and challenges, specifically in the Indian context. The study involves the use of secondary data including a review of national and international literature including books, research papers etc. to gain an understanding of the online pharmacies in India.

Literature review:

According to Anand et al. (2010), the large number of drugs being sold over the internet pose ethical, legal and quality challenges due to the anarchic nature of the internet, which makes it very difficult to monitor and regulate and these challenges are important from the physician, consumer and regulator's perspective. On a positive note, internet pharmacies can prove to be extremely convenient and save both time and cost for the end consumers.

According to a research report by Jaisani et al. (2015), India can benefit from the growth of online pharmacies due to the following reasons that are specific to India:

- Less access to medicines in rural areas
- Elderly population have less access due to nuclear family system
- Need to visit multiple pharmacies to buy specific brands
- Regular need for medicines in chronic conditions
- Change in lifestyle
- Rising burden of diseases
- Online pharmacies offer multiple options at varied prices

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Ayub and Mustafa (2017) described how the All-India Organisation Of Chemists & Druggists (AIOCD) is a union body of unorganized retail. The AIOCD called for an all India strike three times in two years against the online pharmacies. First strike was held on 14th October, 2016; second strike on 23rd November, 2016 and the third strike was called by union on 27th May, 2017.

Trivedi (2017), described that investments in online pharmacy sector in India showed a decline from 2016 as compared to 2015. Online pharmacies in India received total funding of US$28.45 million in 2016, compared with US$62.20 million a year ago. Also, the overall funding in health tech was also down at US$92.35 million in 2016 from US$321.85 million in 2015. This decline was been attributed to the atmosphere of regulatory uncertainties yet the companies and investors were positive about 2017, betting on the country's large market size. However, considering the benefits of online pharmacies, the government's stance remained positive.

According to a research report by Madan et al. (2019), India is leading producer of pharmaceutical preparations, however, the access to medicines in the country is highly skewed. Despite being a growing e-commerce market, the area of online pharmacies is not very well established. Online pharmacies are expected to grow at a CAGR of 18.1% and have great potential for growth in the Indian market.

Chakraborty and Satsangi (2019) described the scope and growth of online pharmacies in India and how offline pharmacies are protesting against these online players. There are around 150 start-ups operational in India as on date including companies like Netmeds, PharmEasy, Myra etc. However, there is still a need for adequate regulations in this area, especially because pharmacy retail is a sensitive area, as it pertains to the health of a community at large.

Patel and Ashok (2016) discussed the lack of clear guidelines pertaining to online pharmacies. The laws pertaining to online pharmacies include the Drugs and Cosmetics Act, 1940; Pharmacy Act, 1948, Drugs and Cosmetic rules, 1945; Indian Medical Act, 1956 and The Information Technology Act, 2000. These laws are old and were formulated before the advent of online pharmacies, and are ambiguous and inadequate to control the sale of medicines through the internet.

Results:

Feasibility of online pharmacies in the Indian scenario

The opportunities for online pharmacies in India are as follows:

1. Lack of availability and access to medication:

About one third of the world's population lacks reliable access to required medicines, as per the World Health Organization. This situation is even worse in developing countries, made even more complicated by the steadily increasing expenditure on medicines (Kotwani, 2007). In India, patients have limited funds that are often spent on overpriced medicines. This is impacting the availability and access for essential medicines.

2. Out of pocket medical expenditure and lack of health insurance penetration

Developing countries have a lack of insurance penetration and less developed healthcare systems as compared to people in industrialized countries where healthcare costs can be covered by insurance or subsidies. With over 80% medicines costs borne by patients, price is an important determinant for medicine purchase (Kotwani, 2007).

3. Growing adoption of e-commerce in India

India is one of the world's fastest growing e-commerce markets in the world because of the following factors:

- Lifestyle changes – Busy lifestyle, rise in working population especially women
- Burgeoning middle class
- Internet and mobile network penetration
- Use of smart phones and internet enabled devices
- Improved standard of living
- Changed pattern and quality of consumption

Additionally, the implementation of the Information Technology Act in the year 2000, has led to the implementation of e-commerce laws and regulations for difference sectors include healthcare and pharmaceuticals. (Kosgi, n. d.).

4. Lack of compliance by offline pharmacies:

Sometimes, physical pharmacy stores do not adhere to the laws and sell drugs without checking the prescription, do not retain a copy of the prescription which is a mandatory

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requirement while selling certain drug classes. Many pharmacies run without the presence of a registered pharmacist in the premises or on a license leased by a registered pharmacist. It is extremely difficult to inspect these physical pharmacies. But, with e-pharmacies, greater transparency can be brought in this process (Patel & Ashok, 2016).

5. Needs arising due to special circumstances:

The recent COVID-19 pandemic in the year 2020 has led to a surge in demand from online pharmacies, due to restrictions on movement resulting from strict lockdowns in most parts of the country. ("How COVID-19 has changed the online pharmacy market in India", 2020)

The challenges that can act as barriers for online pharmacies in India include:

1. Legal barriers and deficient Indian laws:

Unlike developed countries, India does not have prescribed or clearly defined policies for regulation of online pharmacy market (Mani et al. 2017). In India, medicine sales are covered under the following laws and acts (Alamelu et al. 2015):

- The Drugs and Cosmetics Act, 1940
- The Drugs and Cosmetics Act, 1945
- The Indian Pharmacy Act, 1948
- The Information Technology Act, 2000

These laws are currently obsolete and inadequate to cover the nuances of online sale of medicines like legality of e-prescriptions, need for presence of a chemist, online pharmacy registration and accreditation etc. (Alamelu et al. 2015).

2. Opposition by brick and mortar pharmacies

Online pharmacies are posing a threat to their 'brick and mortar' counterparts. The 'All India Organization of Chemists and Druggists' (AIOCD) had called for an All India strike three times in a row, twice in 2016 and once in 2017, to oppose the proliferation of online pharmacies. The brick and mortar pharmacies are strongly opposing the growth and spread of online pharmacies (Ayub and Mustafa, 2017).

3. Barriers to adoption of e-commerce in India

Adoption of e-commerce, online payments and transactions is still very limited in spread and scope, especially in rural India. It is also essential that the untapped non-users of the internet are converted and internet user base already existing is inducted into the various activities like online shopping and other services (Internet and Mobile Association of India, 2016).

4. Stronghold of the traditional 'brick and mortar' pharmacy market

Retail pharmacies – especially unorganized retail pharmacies have a stronghold in the Indian market. Consumers prefer the local pharmacy store, managed by a local owner and known pharmacists and support staff (Ayub and Mustafa, 2017).

5. Traditional role of the pharmacist and consumer mindset

In many developing countries, private pharmacies are often the first source of healthcare for patients. Private pharmacies are an inexpensive medical care solution (Basak and Sathyanarayan, 2009).

Impact of regulatory hurdles on the investments in Indian online pharmacies

In December 2018, Delhi and Madras high courts banned online pharmacies, due to deficient regulations. The Madras High court stayed the order while the Delhi high court has upheld the ban. However, this has not dampened investor interest in this sector. (Shriram, 2019; Pitchiah, 2019)

Online pharmacies like Netmeds, PharmEasy and 1mg are trying to combat the growing competition by raising funds and acquisition of smaller firms. For example, Medlife acquired Matrix Partners-backed Myra Medicines. Netmeds acquired KiViHealth, a clinic management platform which provides services like cloud-based, AI-powered tools for doctor-patient interaction. In the past, Netmeds raised funds from Singapore-based Daun Penh Cambodia Group, besides existing investors Sistema Asia Fund and Tanncam Investment and healthcare-focused investment firm OrbiMed. (Shriram, 2019).

While regulatory challenges have always posed a threat to the online pharmacy sector, the situation is changing with the

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central government working on drafting rules and guidelines for this sector. In the year 2018, the Indian online pharmacy sector attracted the highest amount of private equity (PE) and venture capital (VC) investment in six years. There were 5 deals in 2017 worth $37 million and 10 deals worth $140 million (Rs 8.8 billion) during the year 2018. (Babu, 2018, December 30). 2019 saw a funding of $321 million as compared to $140 million in 10 deals in 2018. (Babu, 2020, January 18).

There were major activities witnessed in the online pharmacy space in 2020 with Reliance Retail picking up a majority stake in Chennai-based e-pharmacy Netmeds and the e-pharmacy PharmEasy merging with Medlife. Amazon – the leading e-commerce giant has also ventured into the online pharmacy space recently. ("How COVID-19 has changed the online pharmacy market in India", 2020). These indicate the growing interest of the government in regularizing online pharmacies in India to encourage greater investments and entrepreneurship in this sector.

Discussion:

India with its high internet penetration and mobile usage has seen a surge in e-commerce in recent times. Still, the pharmaceutical industry shows low penetration online. Retail pharmacies are still the dominant channel accounting for 85% of pharmaceutical sales. The e-pharmacies face barriers like access, lack of local language support, privacy issues, trust and logistics. (Madan et al., 2019).

Physical pharmacies are important establishments and a first point of access for healthcare. E-pharmacies can also play a role in educating and empowering the end-consumer about rational use of medicines and the importance of compliance. With proper guidelines and a policy framework in place, this sector is bound to grow further and solve the problems of access and affordability across the country. (Jaisani et al., 2015).

Despite the challenges, online pharmacies were worth US$ 9.3 billion in 2019 and estimated to grow and reach US$ 18.1 billion by 2023. (Madan et al., 2019). In India, online pharmacies are slated to grow sevenfold by 2023 to US$ 2.7 billion ("How COVID-19 has changed the online pharmacy market in India", 2020). Factors that will impact on a pan India scale, however, are growing healthcare spends owing to lifestyle diseases, growing healthcare financing products and favourable government policies with respect to funding (Goyal et al., 2019).

Conclusion:

Although the Indian online pharmacy market has its unique challenges based on the healthcare scenario and demography, there is tremendous scope for growth, too. The opportunities arise due to the growing need gaps like access and affordability in the growing Indian population with rising incidence of chronic illnesses. Online pharmacies can effectively address these need gaps. The challenges faced with respect to regulatory structures are being addressed by the government with the new draft guidelines in process. Online pharmacies once established in the urban counterparts can foray into the rural and remotest parts of the country where access is at its worst. The market today is relatively small but shows tremendous promise to grow and expand with the increasing awareness, demand and penetration.

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ROLE OF TECHNOLOGY IN THE DEVELOPMENT OF INNOVATIVENESS IN INDIAN ENTERPRISES

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Abstract:

India ranks third among the foremost attractive investment destinations for technology transactions within the world. Scientific deeds to get new opportunities have always fructified within the sort of technological expansions and enhanced collective transformation. Today the vital goal of Indian enterprises is technological development. Technological requirements have also been fuelled by the growing blend of national economies with the worldwide economy driven by rooted forces of liberalization, globalisation and present technology. the govt is approaching before the Digital India scheme, which has the potential to rework the lives of citizens across the country. Digital India varies from earlier efforts because it delivers a mutual vision and a broad implementation strategy, bringing together numerous units also as current and new plans that are observed and influenced centrally by the govt. Various platforms like Social Media, Mobility, Analytics and Cloud are the bases which will move ahead and enable the Indian enterprises for technology adoption. Indian Enterprises have experienced an enormous transformation within the way things are shaping up due to technology. With the intervention of technology, small-scale enterprises are finding it difficult to match up with the technological advancements, whereas it also has brought transparency in many important aspects of a business. Indian market goes through an enormous technological transformation during this pandemic and has forced people to form their presence online for the sake of their business. this study endeavors to know various aspects of the technological role within the development of innovativeness in Indian Enterprises.

Keywords: *Technological developments, Social media, Analytics, Cloud, Digital India*

Introduction:

India ranks third among the foremost attractive investment destinations for technology transactions within the world. Dr. Harsh Vardhan, Union Minister of Department of Science and Technology, has reiterated that technology may be a strong priority area for the govt. and it aims to form people science centric. With support from the govt. considerable investment and development has incurred in several sectors like agriculture, healthcare, space research, and atomic power through research project as an example. India is gradually becoming self-reliant in nuclear technology. We live within the

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wonderful era of technology. The progress is rapid and sometimes overwhelming if you follow the media closely- the blockchain, deep learning, neural networks, robotics, shoppable AR and smart AI-assistants helping you to schedule meetings or choose a replacement pair of jeans.

Nowadays, there's a more modern, better solution available for just about any "stone age" business process. So, it is important for entrepreneurs to stay up with new technologies. Modern India has had a robust specialize in science and technology, realizing that it's a key element for economic process. India is among the topmost countries within the world within the field of research project, positioned together of the highest league within the field for space exploration. Technology permits for automation by which we will reduce costs and enables visibility of each process. Indian enterprises have always seen technology as another cost, not as a door to opportunities. This is often why Indian enterprises are still battling innovation. Technology are often utilized in some ways to support the requirements of enterprises like an outsized amount of knowledge are often stored and maintained associated with the workforce by HR systems also because the details of every employee like skillset, background, education, experience etc. are often stored and managed easily. The growing internal mobility within the organizations helps employees to seem at a bigger picture. This will improve the performance of the organization also as workforce by enabling them to collaborate with other departments to realize their mutual goals.

Innovation is extremely important for the event of Indian enterprises because it is merely innovation, which made the products and services better from the others. India features a broad and different set of individuals, and thus the wants vary consistent with the necessity of individuals. Being the second largest country, in terms of population, we would like to seem for cheaper solutions which are best suited to our geographical and environmental conditions. This will only be through with the assistance of technology. We have mostly followed the footsteps of west in terms of development and innovation without keeping in mind that our problems and wishes are different than theirs. Thus, we would like our own solutions and need our own innovations. Organizations should come up with ways in which promote innovative ideas and implement them to bring revolution. Instead of that specialize in providing services to other countries, our aim should be to use technology to create solutions on our own for our unique set of problems.

Methodology of the study:

Descriptive design has been utilized in this study because it'll be considered the most appropriate design during this study. The secondary data include information that are obtained mainly from different text books, websites, magazines, business newspapers, journals, periodicals, reports, bulletins, websites and literatures, which are relevant to the theme of the study, were gathered from various sources to enrich the survey based analysis. Further interviews, lecturers on related area were also taken into consideration for the study.

Relevance of the study:

There is an excellent increasing significance and visual impact of technology in innovativeness of Entrepreneurship, in Indian enterprises, in wealth-creation and employment-generation. We consider it critical to India's growth and development. This study has been undertaken to explore role of technology in innovativeness of Indian enterprises advanced Entrepreneurship in India.

Discussion:

Indian enterprises are considered one among the 'driving forces' of recent economies thanks to their multifaceted contributions in terms of technological innovations, employment generation, export promotion, etc. Of these, the power Indian enterprises to innovate assumes significance because innovation lends competitive edge to firms, industries and ultimately, economies. Therefore, technological innovation has the potential to spur growth of individual enterprises at the micro level and aggregate industries and economies at the macro level.

India had grown throughout the years since Independence, a progressed logical and technological framework that included i) an atomic energy area with efficient capacities, ii) an area sector that quickly moved from semi-trial status to putting together up qualities in correspondences base, and remote detecting abilities, iii) a sequence of technological research labs that secured an in depth sort of fields running from calfskin innovation to advanced biotechnology, and iv) a system of safeguard examination research facilities.

Technology plays a neighbourhood in innovation, but not within the way that a lot of people think. For the commoner, technology has no value on its own. To form a difference, it's to be appropriately applied to unravel specific problems or meet certain goals as defined by your business or your customer. To maximize the worth of that difference, it's essential to use only

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the littlest amount of technology to the areas that stand to profit from it.

Too many of us like technology for its own sake. They get trapped in fancy gadgets, spec sheets, and bullet points. They think that having technology is innovative in and of itself. this is often not true. Innovation only happens once you use technology to supply a true or perceived value to your customer.

There are two primary uses for technology in business: to satisfy the established order (web site), and to make something new that moves the business forward (innovation). In either case, the utilization of technology should be driven by the requirements of the business and therefore the customer.

Recommendations:

The government has initiated many schemes and plans to form India digital but they have monitoring. Only making policies won't solve this, timely implementation is additionally required to realize the Digital India goal. The central and state Governments have undertaken numerous initiatives to nurture a culture of innovation and entrepreneurship. India is facing a primary challenge of Job creation. Our country features a significant and distinctive demographic advantage, therefore it's enormous possibilities to innovate, raise entrepreneurs and produce jobs. Central and state governments are created a varied range of latest programmes and prospects to nurture and innovate across several sectors. Government is providing access to loans, networks, markets, and training to women entrepreneurs. In order that they will become as a neighbourhood of India's entrepreneurial ecosystem. They're Indian Enterprises have experienced an enormous transformation within the way things are shaping up due to technology to market innovation, dissemination, acquisition and up-gradation of technology within the unorganized sector enterprises:

- Constitute a focal point/apex institution for the promotion of livelihoods and improvement in productivity and competitiveness of the enterprises.
- Countrywide programs on entrepreneurship and innovation must be launched.
- Entrepreneurs should be encouraged to adopt technology as a necessary tool for his or her enterprises.
- Every engineering university and technical colleges within the country must be encouraged to interact with enterprises to adopt various technologies within the neighbourhood.
- Laws must be clear and supportive enough to market the expansion of latest businesses.
- We should use latest technologies and resources to extend the manufacturing industry capacity of our country which can boost the economy.

Conclusion:

This paper has ascertained the driving factors, dimensions, achievements, and outcomes of technological innovations administered by Indian enterprises. Though Indian Enterprises are adopting latest technologies and taking advantage of latest technical innovations they still got to go an extended thanks to match up the worldwide technological trends. Technology and innovation are both embedded features, and there's no single indicator that measures them holistically. Technological Innovation administration is popping bent be the maximum amount a business discipline as different exercises inside enterprises. Like other countries, India in its quest to realize industrialization and improve the standard of lifetime of its people, has fostered an Industrial and S&T policy since the first years of independence. Urban enterprises are quick to know and adopt technology for benefits but small enterprises, especially based in rural India, needs tons of support and motivation to urge familiar with the worldwide technological trends.

Indian government was also previously taking very least interest to support growing organizations or start-ups. There was hardly any monetary support available which also led to complexities within the growth of organizations. Lack of clear law also created tons of problems for the enterprises. Root problems are to be addresses first of enable organizations to adopt new technologies. Technology plays the foremost important role in India's financial growth. A development within the Information and Communication Technology (ICT) sector shows that demand is anticipated to develop growing organizations. If utilized in an accurate manner this will change the image of Indian organizations during a good manner.

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