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तदेव लग्नं सुदिनं तदेव

ताराबलं चन्द्रबलं तदेव ।

विद्याबलं दैवबलं तदेव

लक्ष्मीपते तेऽङ्घ्रियुगं स्मरामि ॥ ॥

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That alone is the best time, that only is the best day,

that time only has the strength bestowed by stars, moon,

knowledge and Gods, when we think of the feet of

Lord Vishnu who is the spouse of Goddess Lakshmi

SAIBALAJI INTERNATIONAL JOURNAL OF MANAGEMENT SCIENCES

Industry 4.0 as a Value Creation Accelerator - A Primer

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Abstract :

Business entities are facing increasing challenges in terms of changing landscapes while the demands of stakeholders are increasing. The paper provides starting points that will allow practically any organisation to benefit from two new trends - one in the form of a reporting framework which can also be used as a tool for value creation and the other – a technological revolution that promises to be an enabler for value creation initiatives. An attempt is made to discuss these side by side to show that positive business transformation can be achieved if first a value creation mindset is developed and then a brave and open minded attitude towards technology adoption is taken. Finally, some starting points are presented, which arguably might be based on common sense, are often ignored.

Key words - Value creation – Integrated Reporting – Industry 4.0 – Internet of Things – Strategy – Business reporting – business transformation - Six Capitals - Simulation – Augmented Reality –Big Data

1.0 Introduction

In the world of business reporting, a revolution is taking place as an increasing number of companies are adopting the Integrated Reporting Framework (IRF) when preparing their Annual Reports for consumption of shareholders and stakeholders. In India, a joint study was carried out by the Bombay Chamber of Commerce and Industry and PwC in May 2018 which covered respondents from various functional areas of finance, corporate communications and investor relations of top Indian companies. The survey showed that most people believed that the framework would improve understanding of how companies create value and such a reporting framework would strengthen relationships with external stakeholders while inculcating a culture of sustainability within the organisation(PwC;BCCI, 2018).This is a framework that, in essence, allows companies to view their business in a more wholesome and integrated manner - including information about strategic, environmental, risk and human factors.

Then, in the world of technology, we are amazed by how Industry 4.0 (IR4.0) initiatives are creating new value for business each day, as we discover new methods to apply the new disruptive technologies to automate, learn and analyse business data at amazing speeds and increase revenues while reducing costs. Industry 4.0, a term coined by Bosch of Germany is now understood to be the name for cyber-physical systems, Internet of Things, cloud and cognitive computing (definition adapted from Forbes).The Boston Consulting group has identified nine pillars of Industry 4.0 for manufacturing. At the heart of the pillars, the engine to drive value is often seen as IoT – the Internet of things. Dr. Tom Bradicich, GM & VP, Servers & IoT Systems of Hewlett Packard Enterprise presented "The 7 Principles of the Industrial IoT" at Bosch Connected World Chicago 2016. These principles are in fact relevant to IR4.0 generally and are used as a basis for discussion in this paper.

The starting point of these disruptive technologies is the ability to capture and analyse large volumes of data. This paper suggests that the Integrated Reporting Framework (IRF) could become the canvas for determing what data needs to be captured, analysed and used to power the cyber-physical systems of IR 4.0. It also shows that although much of the technological revolution is has been developed around manufacturing processes, we have only started

scratching the surface of how these new technologies can be applied to non manufacturing businesses and organisations.

1.1 Profits to Value Creation

Ask any business owner, especially a SME (small medium sized enterprise) owner about their objective of being in business and they will quite likely say something like "to make money". This is of course to suggest that every business is inexistence primarily to generate surplus income or "profit". However, a closer study profit will yield many different definitions -most of them suggesting that profit is the historic result of business activities over a period of time. Although it has been used as one of the main yardsticks of business performance (for Annual Reports of business entities), it only provides information that is static – i.e. without any indication of future potential of the business entity to repeat the performance or better it (Welsch, Hilton, & Gordon, 1988).

One way to overcome this traditionally has been to analyse the information in the annual reports using ratio analysis. In this regard, profitability ratios have been used to give a sense of business sustainability. For example, the common ones are Asset Utilisation (rate of generating revenues per dollar of assets invested in the business); Margins which express profits in terms of Sales and the ROA, the return on Assets which defines the rate of profits generated for every dollar invested in the business assets. If one was to include such ratios in the annual report (as they often are) this would represent an improvement in the quality of the information being shared. However, it does not still give an indication of the business's potential to continue generating income, and as a result profits (surplus income), in the future.

In the current business climate around the world, the level of uncertainty and competitiveness has increased multi-fold. To ensure business sustainability, business will need more in-depth information at a faster rate. This has become both feasible and desirable as the fourth industrial revolution (IR 4.0) is providing businesses involved in manufacturing and

other industries amazing opportunities to transform the business for profitability and sustainability.

1.2 Pillars of Industry 4.0

At the current phase of discussions, IR4.0 is being discussed and implemented in terms of pillars.[1] The Boston Consulting Group's IR 4.0 pillars or enablers (modified a little for our discussion here)include:

- Big Data and Analytics (e.g. Hadoop software)
- Simulation and Augmented Reality
- Vertical and Horizontal Integration with end to end digitisation
- The Internet of Things
- Cybersecurity
- Artificial Intelligence
- Machine Learning to enhance existing Robotics

The BCG classification focuses on manufacturing, but at the time of writing of this paper, all of these pillars are being applied aggressively to non-manufacturing environments as well. Digitising the service driven organisations (from airlines to hospitals) with Industry 4.0 tools may be referred to broadly as Digital Servitization. This would be an extension of the existing definition of the word "Servitization" which in current literature refers to adding the service element to manufacturing to enhance value (Coreynen, Matthyssens, & Bockhaven, 2016).

In this paperwe suggest that business entities must first adopt an Integrated Reporting Framework for Value Creation (IRF-VC) in order to optimise decisions on technology adoption, especially game changing initiatives such as IR4.0.A conceptual framework is presented which will:

1. Allow business owners to understand the benefits of adopting the value creation framework based on Integrated Reporting

1 In Malaysia for example, some regulators have suggested the use of eleven pillars, others just five. Our reference is to the Boston Consulting Group's (BCG) seven pillars for analysis as they are balanced and yet comprehensive enough to provide a roadmap for implementation of new information technologies. That said, The BCG model is focused purely on manufacturing environment whereas this paper has a broader perspective.

2. Describe the enabling principles of IR4.0 and integrate them into the Value Creation model
3. Provide starting points for business adopt these new technologies of reporting and value capture.

2.0The Integrated Reporting Frame work leads to Value Creation

The Integrated Reporting Framework (IRF) is more than just a reporting tool. It is in fact a generic roadmap for business entities to design their strategies so that they will create value not just for the shareholders but in fact for a broader group of stakeholders. Financial reporting istherefore now moving from a phase of reporting the past (which is done mainly to serve compliance needs of Corporate Governance) to a phase where stakeholders would require, and indeed demand, forward looking information that would allow them to make intelligent decisions.As an example,a university should start reporting the intellectual capital as part of its annual accounting report (Córcoles, Peñalver, & Ponce, 2011). It need not stop there – it could show how it is a centre of learning that celebrates human development, creates collaborations with society and industry and cares for the environment. If this sounds a little idealistic, the good news is that leading companies around the world have already started doing this.

To this end, the Integrated reporting framework is a good starting point. It emphasises on conciseness, strategic focus and future orientation and the connectivity of information.The six "capitals" identified in the model show the ability of an organization to create value not only in the short term, but also in the medium and long term.

2.1 A closer look at the Six Capitals Value Creation Framework

A popular way to show the six capitals,as adapted from the IIRC Council's Reporting Framework (IIRC Council, December 2013) is to analyse and show how value is created in the areas of:

1. Financial capital – which is the long term money required to sustain the business
2. Manufactured capital – which essentially relates to choices the business makes in the acquisition and use of its physical assets

3. Intellectual Capital - whichmay be referred to as the decision making skills that the management has acquired over time resulting in better decisions based on well structured internal reports. This is an area where Big Data methodology and tools will bring about great improvements and cost savings. It is also a precursor to implementation of IR4.0 tools.
4. Human Capital – for which the definitions are many, but for our purpose may be taken to mean staff competencies which comprise the three well known elements of a positive attitude, a strong skill set and broad knowledge of the tasks that they are supposed to perform. With implementation of IR4.0 discussed in the next part , a robust training program would need to be implemented such as the one being promoted by International Telecommunications Union(ITU)[2]. In Malaysia for example, the Malaysia University of Science and Technology has been designated as one of the Centres of Expertise for IoT and IPV6 (Internet protocol v.6). Staff will need to re-skill and re-tool themselves to prepare for the future.
5. Social and Relationship Capital – is of course the value of a company's networking and established business relationships. Social and relationship capital when discussed from the inside out will shows a company's culture as an explanation of it's philosophy of how it deals with partners, collaborators, customers and pretty much everyone in the external environment. It captures the sentiment of Peter Drucker who declared "Culture eats strategy for breakfast". This will now become an essential component of the connectivity that will enhance value through the IR4.0 universe.
6. Natural capital – is the description of the natural ecosystem within which an organisation operates. Interestingly, business and other entities may even benefit from natural capital without actually having ownership of some parts of it. For example, a company may own the plantation, but it does not own the fresh air and environment that will help the plantation to flourish. But once again, using Artificial Intelligence (AI) tools, several farm equipment can link into GPS and other weather monitoring systems and assist in better management of the plantation.Natural capital links directly to sustainability. In fact it has been shown that the seventeen SDG (Sustainable Development Goals) can be linked back to this Framework seamlessly. Monitoring

2 ITU is based in Geneva, Switzerland and is a member of the United Nations Development Group, promoting connectivity around the world through its 12 centres around the world.

and reporting these six capital makes the organisation ready to adopt the game changing impact of Industry 4.0 in general and IoT specifically. In this paper, we integrate seven principles of IoT that can be superimposed on this model to create incredible value on all six fronts.

3.0Industry 4.0 and The Internet of Things (IoT)

Perhaps it may be instructive to understand what we mean by "Things". A thing here is any physical object that can measure or be measured, has a unique identification and is interactive with cyber physical systems (software driven hardwares).

The driving principles of IoT, which are generally applicable to all IR4.0 intitiatives(as adapted from the Bosch Connected World Conference 2016) may be summarised as follows:

1. For IoT to work, we must have capacity to capture and process Big Data. This may relate to value creation as follows:
    a. For financial capital, we will need data related to cash inflows and outflows and analytical capacity to work out margins and other performance data for individual products or profit centres.
    b. Both the Six capitals value creation model and IoTwould need data relating to the business environment, risk factors, strategies and the value chain.
    c. Businesses must get used to managing terrabytes of data. If this task is left to the Chief Information Officer (CIO) without input from other functional managers, the IoT output will not be optimised.
2. We must aslo ensure perpetual connectivity (through internet or other means). This will put us in constant touchwith information related to our products, processes, costs and even customers so that we can monitor the results to either maintain a status quo or monitize a potential opportunity. This will enhance value creation in the area of Social and Relationship capital of the firm.
3. Implementation of IR4.0 intiatives will allow you to work in "real time" meaning the feedback loop is instantaneous. This can be achieved with end to end digitisation of your business processes.For example the steps below describe how it may actually work with IoT being the driver:

a. "Things"- whichare the primary sources of analog data could be data from devices, machines, people, households, business units, cars, animals, items of apparel, agricultural products, commodities, environment, business assets and so on. These can relate to one or more of the six capitals to show value creation through a positive change in the status of the capital.
b. Sensors and actuators can count or measure changes in these things. The sensors could in fact be wired or work in a wireless mode. Companies like Festo[3]are working in focus groups to standardise communication protocols.
c. The datawill be acquired and analysed , then transmitted through Internet gateways and other access portals that can be used for data aggregation, measurement and control.
d. At this phase, some systems will create a digital version of the things and or the environment so that digital visualisation can be achieved. This is essentially Simulation based on Artificial Intelligence where a duplicate scenario or "thing" can be created in the digital realm
e. This allows your digital system to conduct analytics, create profiles and scenarios and effectively feedback decisions and actions. The hardware to be used would have to be an integrated connectivity hardware such as HMS[4].
f. All of this information may be stored in a data centre or "the cloud" for a better data recovery plan.

4. In order to get valuable insights (the spectrum of value), you will need multidisciplinary teams. IT professionals working in isolation will not be able to provide you the solutions you want. These insights may be
    a. business insights - what is the optimal mix of marketing channels to get the right push factor for our product or service or optimal scheduling of

3 Festo is a German company supplies drive control technology but we include it here for its active role in discussions of IR4.0 focus groups and its contributions to standardising connectivity

4 HMS has become one of the leading vendors specialising in IoT connectivity. Of course, the big players such as Microsoft and Siemens will also be there. However, open source systems can often give these systems a fair challenge providing the business has strong in-house IT talent, as we explain later.

business activities. These may cover service industries from airlines to hospitals, centres of learning and F&B, retailing, banking and many more.

b. Engineering or Technical insights which include insights for optimising product deliveries, machine configuration and such insights which will allow real time decisions.

5. As with other information models, there will be a trade-off between "Time to insight" vs "Depth of Insight". The greater the achievement rate of insights, better will be the quality of the Integrated Report resulting in decisions that create true value across the six capitals.
6. As we progress along the development of IoT competency, visibility of processing Big Data will become more important. Traditionally back end functions will become front line
7. We are seeing integration of the hardware used for IR4.0, just like the mobile phone is an integration of many different devices. When a business is considering implementation of IR4.0 they would be well advised to work with firms doing work as systems integrators so that they they optimise their ROI and streamline the technology with the busines strategy.

4.0 Bringing it together

As recorded above, we have put together the value creation parameters of the IR Framework and the technology enablers of IR 4.0 to provide a starting guide to how practically any business entity or indeed any organisation that intends to create value will need to consider. Here we propose a checklist of how value creation intiatives may be undertaken using the best of what IR4.0 has to offer;

4.1Getting the strategy right

The starting point for value creation has to be a clear strategic focus with strong buy-in support from the senior management of the business organisation. This will help the implementing teams to focus on reliable starting points and next steps.

4.2 Shifting the culture

As suggested earlier, there will be a need to get an organsation wide shift in culture to embrace a value creation culture – an understanding that value is created in not only financial terms but also in terms of innovation, people and nature. There must also be a general acceptance that the way forward is to adopt the new technologies. This would obviously involve re-skilling and re-tooling which will be a continuous process rather than a one-off initiative. In fact, by the time this paper is presented, there will already be some new things to learn – but the core principles that should drive the culture are stable enough.

4.3 Government Support

It is seen that areas where the government is providing real support beyond lip service are progressing faster. Much needs to be done though to bring about an understanding of value identification, value capture and value creation and the IR Framework provides a ctrong starting point.

4.4 Committment

As with most things, some organisations may experience a slow start due to a host of factors. Genuine commitment will be required to ensure that the business transformation exercise is a success. To blend a strategy of sustainable value creation with enablers of new disruptive technologies will need change mangement skills to avoid or at least reduce the roadblocks along the way so that a fairly seamless transition is achieved.

4.5 Intelligence is everything

The importance of market and business intelligence cannot be overemphasised. While business managers would be doing their own research and groundwork, it would be wise to talk to consultants in business transformation and plan the knowledge route along side the technology route.

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How to thrive in the future of Industrial 4.0 – A guide for universities and students

Stephen Manallack,

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Most students and many universities do not know what employers of today are looking for – which means they will not be ready for the fast-changing world of "Industrial Revolution 4.0" which has begun and will be in full swing by the time most graduate.

The biggest ever global survey of employers and students was released this year – the QS Global Employer Survey 2018 – and revealed a deep chasm between employers and students. This survey covered more than 11,000 employers and over 16,000 students.

The skills students thought were the most important included Creativity, Organisation and Leadership. But employers said they really want graduates who are good at Problem solving, Teamwork, Communication and Adaptability.

From an employer point of view, the ability of students to work in teams to solve problems, communicate well, learn and adapt are far more important than the creativity or leadership that they may have already developed, the report stated.

What kind of world are students entering?

The Economist Intelligence Unit 2017 report showed younger generations face a significantly different world in their future working and personal lives. This is being driven by globalisation, with greater integration between economies across the globe, and digital technology. Developments such as machine learning and automation promise further disruption, particularly in the workplace, and many established jobs are likely to vanish as a result.

Rapidly evolving technologies, including digitisation, automation and machine learning, are going to disrupt the workplace in untold and dramatic ways. Whole employment sectors are likely to disappear, with others hopefully created. Students, workers and entire economies will compete across global borders for the best education, jobs and growth; all three will need to be nimble, flexible and dynamic, ready to recognise and respond to emerging trends swiftly.

The world is at the beginning of a revolution (4.0) where there are huge advances in genomics, artificial intelligence, robotics, materials and manufacturing technologies – with convergence bringing massive rates of change.

The first three industrial revolutions were steam and water-power driving mechanisation in the late 1700's, electricity from 1870 creating mass production and the electronics and IT revolution of the 1960's onward. Each "revolution" was led by one change or one sector. Industrial 4.0 could not be more different with at least 10 major innovations converging to create across the board revolutionary change.

The megashiftsof Industrial 4.0 include Digitisation, Mobilisation, Screenification, Disintermediation, Transformation, Intelligisation, Automation, Virtualisation, Anticipation and Robotisation.

The changing world of work

As with previous industrial revolutions, new technologies will create new jobs and simultaneously destroy many old ones. The rise of machines, from robots to smart software, threatens to impact not just low-skilled factory and construction workers, but everyone including managers, software engineers, stock traders and taxi drivers.

An Oxford study estimates that 47% of the jobs in the US, 69% of the jobs in India and 77% of the jobs in China will not exist in 25 years. This is already happening - China's factories are adding robots faster than they are hiring people. India's information technology sector is already witnessing jobless growth and total employment may have peaked.

"Humanity will change more in the next 20 years than in the previous 300 years" – Gerd Leonhard "Technology vs Humanity" (Fast Future Publishing 2016).

Good news - India could shape Industrial 4.0

As the world's largest democracy and the country with one of the highest number of scientists and engineers, India is a key political, social and economic player that could shape the course of the Fourth Industrial Revolution

It is exciting that the Geneva based World Economic Forum has announced the creation of a Centre for the Fourth Industrial Revolution in India - announced by Prime Minister Narendra Modi on 23 January 2018 at the World Economic Forum Annual Meeting.

WEF is an international organisation for public-private cooperation. NITI Aayog will coordinate the partnership on behalf of the government and the work of the centre among multiple ministries.

The WEF has also entered into partnerships with the Maharashtra and Andhra Pradesh governments for the new initiative and more states could follow.

"The Fourth Industrial Revolution will change how we produce, how we consume, how we communicate and even how we live," WEF Founder and Executive Chairman Klaus Schwab said.

"India is becoming a big technological global force and that is why I am especially proud to announce the Centre for the Fourth Industrial Revolution India," he said.

The challenge for universities and students is to enter a world of constant change – where jobs you are being trained for might not be there any more, where you might have to create your own

job, or become an entrepreneur while at university, or team up with friends to create an enterprise.

The 7 ways graduates can thrive in Industrial 4.0

1. Show you can continue to learn

We know employers' value this very highly – their focus is not on what you know through your degree - but is more on what you can learn in future. Prepare for this by being curious, reading and listening widely, entering discussion groups and being able to summarise what you have learned outside of university or since your degree.

2. Demonstrate wisdom and common sense

For employers, further than what you know is how you think, and the value of wisdom and common sense. The best way to describe the difference between knowledge and wisdom is through the humble tomato – knowledge tells you a tomato is a fruit (not a vegetable) – but

wisdom prevents you adding the tomato to a fruit salad. One fast track to wisdom is via mentors and guides, those who can share experience with students.

3. Gain good collaboration and friendship skills

Industrial 4.0 will make collaboration easy and instant with anyone, anywhere and anytime– and the change will benefit those who have the skills to reach out, make friends, work across the globe and build collaboration. Future corporations and employers will be looking for people who can build collaboration.

4. Gain cross-border understanding and skills

Already our lives in one country are intersecting with lives of other countries, and Industrial 4.0 will make the globe an even smaller place. Those who have travelled, who have acquired both knowledge and experience of other cultures will be in high demand, simply because almost every job will have global aspects.

5. Become an outstanding communicator

Traditional "soft skills" training will not prepare students for the fast future – outstanding communication skills for Industrial 4.0 will include rapid pitching, ability to support points in a way which moves others, skills to relate directly and closely with those above and below you – any student sitting back quietly as a "newbie" will get left behind. Old notions of being silent in front of elders or superiors will not apply. Respectful and strong communication skills will rule.

6. Be a team-based problem solver

More work will be team-based and some of those who succeed will actually present to future employers as a team. Problem solving as a team while at university should lead students to then approach employers as teams – a good standout in the race to gain attention.

7. Build self-reliance and resilience

With the demise of "study hard, get the degree which entitles you to a job for life" model, students will need skills in self reliance and resilience. As jobs come and go, individuals will need to be able to bounce back and start again, maybe many times in their careers. Where no jobs are forthcoming, graduates will need to create their own or join teams that provide solutions.

The Future

The central challenge of Industrial 4.0 is for universities, students and their families to come together to create an energetic learning culture, one that ensures the graduate can thrive in the constant change and excitement that is ahead.

Stephen Manallack is the author of four books including "Soft Skills for a Flat World" (Tata McGraw-Hill India 2010). He led a Pilot Study on Improving the Employability of Indian Graduates in his home city of Melbourne, where he has also been President of the Australia India Business Council. A passionate advocate of closer relations with India, his blog is at IntoIndia.blog

GLOBAL FIN-TECH

CA .Tarun Kehair
Consultant and Freelance Faculty

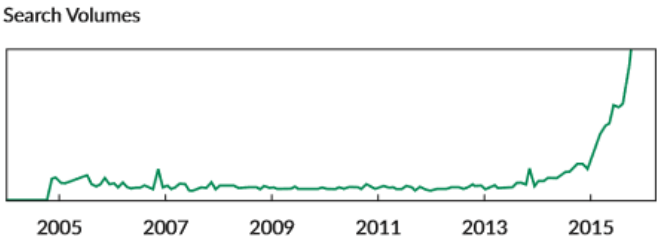
A Context

Financial Technology or Fin-tech refers to the use of technology to enable, facilitate and deliver financial solutions.

The evolution has marked slow but steady progress. We take a flash back to the era where transatlantic telegraph cables were laid down to the era where the global telecom network was established which stamps authority over the nexus between technology and finance. Zoom now to an era where we have seen businesses flourishing over this platform, take for example e-commerce, a virtual world breaking all barriers and boundaries. Another milestone, net banking, an amazingly positive step towards fruitful amalgamation of finance and technology.

A decade ago, the industry witnessed the Global Financial Crisis. Ever-since, we have seen a journey of progress exhibiting culmination unparalleled of the two diverse yet so well inter-connected and conducive to growth, "finance" and "technology". A rampant resurgence of start-ups intertwined with unimaginable technological developments coming to the fore and IT firms providing financial services have marked the era and the latest phase of "Fin-tech". It is now at that stage of maturity where leave alone e-commerce, even social media companies and platforms have begun to sell financial products and services, through their robust online network and platforms.

The graph below will tell you the enormous importance and significance, the term and the underlying business model has gained over the recent past:



Source: Google Trends.

The graph tells you the upsurge in the search volumes on Google for the term "fintech".

Given the context above, this research paper now deliberates upon the following:

a) The evolution

There has been a comprehensive turnaround, if we were to talk about the evolution of Fin Tech globally. Starting from primitive stages of electronic payment systems, automated clearance systems to the advent of SWIFT mechanisms followed by the BASEL Norms shortly after causing mammoth projects to make Banks Basel Compliant. The Global Financial Crisis which somewhat triggered phenomenal changes within this space to now where we have fintech start-ups and e-commerce calling the shots causing organisations to revisit their business models.

FinTech is not a new concept though. Its legacy can be traced back a few decades to the early '90's and slowly but gradually started attracting the interests and attention of Investors, Regulators, Industry Participants and Consumers.

Finance and Technologically have gone hand in hand and have had a long history of mutual dependence. In the late 19th Century, a major milestone was the laying of transatlantic telegraph cable, which was followed up by a mammoth development having over-arching and positive effects, the development of the global telex network. The beauty of this invention was the provision and enablement of a platform upon which the future FinTech would unfold, big time.

The developments above were followed up by rapid advancements and enhancements in the electronic payment systems. The development and establishment of automated clearing services reflected the need of linking the domestic payment systems, and this triggered the establishment of the Society of Worldwide Interbank Financial Telecommunications (SWIFT), in 1973. The SWIFT today forms the backbone network that banks and other financial institutions use for transferring information securely. Most major financial institutions use SWIFT, as it is considered the gold standard for reliable and secure financial messaging. Behind most international money and security transfers is the SWIFT system, a vast messaging network used by banks and other financial institutions to quickly, accurately, and securely send and receive information, such as money transfer instructions. Every day, nearly 10,000 SWIFT member institutions send approximately 24 million messages on the network. It is imperative to note that prior to SWIFT, Telex was the only available means of message confirmation for international funds transfer. However, Telex was crippled with its own set of challenges, it was hampered by low speed, and most importantly subject to and prone to security concerns and hazards, being a free message format--in other words, Telex did not have a unified system of codes like SWIFT to name banks and describe transactions. Telex senders had to describe every transaction in sentences which were then interpreted and executed by the receiver. This led to many human errors. Human intervention is prone to errors and frauds and that led to the development of secure messaging systems, SWIFT, a benchmark revolution in the history of FinTech. To circumvent these problems, the SWIFT system was formed in 1974, vide which seven major international banks formed a taskforce of sorts to operate a global network that would transfer financial messages in a secure and timely manner.

Then came the famous 1974 collapse of the Herstatt Bank, an event that served to be an eye-opener and highlighted the serious hazards of increasing international financial links. It served as a catalyst and propelled the major regulation reform, another benchmark and a huge milestone in the evolution of FinTech, rather Banking Reforms at large, the establishment of the Basel Committee in 1975, to oversee and provide regulated

governance to investor protection in the form of capital adequacy and supervision of international settlements.

Essentially, we are referring to that phase of the evolution process wherein e-banking presented a whole new suite of risks for the regulators to dwell upon and thereby soliciting increasing regulatory intervention, governance, oversight and enablement of platforms which provide a "controlled" mechanism to combat these risks, and that led to the most effective marriage of Finance and Technology (FinTech), that exhibits a secure framework for transactions allowing minimal human intervention.

In the aftermath of frauds that crippled the financial sector, the brand image of banks was severely compromised, rather impaired. Individuals, Business houses and Corporates trusted Technology Firms far more than Banks to handle their money, as reflected in the surveys conducted in 2015. The Global Financial Crisis, eroded bank profitability driving them out of competition, and ensuing regulations spiked the compliance costs to add to their misery. It is said that it is the timing of the 2008 Global Financial Crisis that played a critical and role in the upsurge of FinTech. Now, we zoom to the phase where FinTech required high levels of smartphone penetration and effectively efficient levels of sophistication vis-à-vis application programming interfaces (API's). These developments were imperative to provide not only the customer interfaces but also the interoperability between services and the applications, that have underpinned the last phase of the growth and evolution in the FinTech space.

b) Disruptive Innovation

FinTech was and is a driver of disruption in the market. The rewired investors today and the "app" world which calls for a suite of services, leave alone at the door-step, rather on the palms has caused a phenomenal transformation in the modus of communication and financial transactions and Fin-tech has fit the bill too well. They create an ecosystem which solicits the collation of data from varied sources and also fosters relationships based on trust. This has only caused a spike in banks and financial institutions to partner with the Fin-tech vendors.

Financial Institutions are likely to lose revenues to innovators, such is the humungous impact of FinTech on business in India. The market participants have been receptive and equally responsive to the fact that such is the disruptive nature of FinTech, vis-à-vis innovation that a recent survey exhibited that about 82% of the North American participants believe that business is at risk.

The good news is that the Financial Institutions are now embracing the disruptive innovation that FinTech carries along with it, and this is one aspect which is already one of the top items on the agenda for the strategy meets of the leadership teams across. To be able to provide a new digital experience, and to create a wow factor for their clients, the financial institutions are focusing on integration of the legacy systems with data analytics platforms / engines and mobile technologies. Artificial Intelligence, Blockchain, Cloud computing are all off shoots of the radical thinking that is emanating in terms of advancement technologically that surely gives Organisations an edge in terms of efficient service delivery towards its clients, leave alone the security, the safety and the accuracy of the data that comes along with it. Agile processes, reduced costs and efficiency are the unique selling propositions of this comprehensive efficient suite / platform hosting an array of functionalities, certainly a delight for the Organizations and its customers.

c) Block-chain

The increased familiarity with Blockchain and its adoption would have a visible and magnanimous effect on the payment's infrastructure and post trade settlements, the most effective and appropriate use cases of the technology that stamps its endorsement on the most efficient partnership between finance and technology.

As defined by William Mougayar, blockchain is a distributed decentralized ledger that transfers authority to a decentralized virtual network. It enables its "nodes" to continuously record transactions on a public "block" creating a unique "chain": the blockchain. Each next block contains a "hash" of the previous code; therefore, cryptography (via hash codes) is used to secure the authentication of the transaction source and removes the need for a central intermediary.

Every new block added to the blockchain contains "a hash" of the previous block. When the block is validated, the node updates its local copy of the database. Hence, you can't take the block out of the chain without destroying the whole system. Such structure provides an indestructible digital record of actions. The elements protect each other ensuring an incredibly high level of security**.** This is apparently the greatest benefit of blockchain technology.

Other benefits include, eliminating the need for a higher authority, empowering the users, reducing operation costs, faster transactions and unprecedented transparency.

In terms of mentioning some use cases of Blockchain's relevance and application vis-à-vis FinTech, let us talk about Cryptocurrencies which occupy a magnanimous share of the fintech market. Bitcoin was the first such blockchain-based currency to win the consumers' trust. Thus, it can be considered the first most successful use case of blockchain technology.

Ethereum is another apt example of apparently the most prominent blockchain-based project after Bitcoin. It was started in 2013 by Vitalik Buterin, a 19-year old cryptocurrency programmer. The launch of the platform took place in 2015. Ethereum is a public blockchain platform that works on smart contract functionality. Its decentralized virtual machine, the Ethereum Virtual Machine (EVM), can execute peer-to-peer contracts using ether cryptocurrency. It's worth noting that V. Buterin was the first to observe that the "distributed consensus" could go far beyond currency and the financial sphere. The creators of Ethereum realized that the technology is in itself a global computer that cannot be turned off because it doesn't operate from a single localized server.

Founded in 2014, Blockstream is one use case that deserves a mention. It provides a range of software and hardware solutions to companies using blockchain-based networks. Blockstream Elements, the company's core software platform, is a part of an open source project. Therefore, it provides plenty of resources and a mature protocol for blockchain developers.The company also develops the sidechains technology which extends the capabilities of Bitcoin's blockchain. Sidechains allow moving digital assets from one

blockchain to another. Also, you can use the technology to link different markets together and provide liquidity through a shared protocol.

d) **Fin-tech footprints** in the developed and developing nations, namely the scope and the penetration of the products in China, Africa and Asia, and of-course Europe and the US.

To talk about the magnanimity and the far-reaching impacts, FinTech has had, the most recent development has been the Berkshire Hathaway's Investment in to Paytm, valued at about Rs 2500 Crores, stamping Warren Buffet's first footprints within nation India.

The Indian FinTech market is forecasted to double from a current USD 1.2 Billion to USD 2.4 Billion, per NASSCOM.

The upsurge in the new-age technologies, such as 4G, machine learning algorithms, digital payment gateways, e-wallets, have led to a paradigm shift, which exhibits a transformation unparalleled in the financial sector. The new-era buzzwords, like Google Pay, Paytm, eKYC, eAadhaar, eSign are all under the larger umbrella of FinTech.

Another aspect which needs reiteration is the mobile platforms, something that has provided FinTech's a clear and proven advantage over the banks with legacy systems, which are slowly but gradually becoming redundant. The encroachment of the mobile banking and digital platforms' dominance has been bizarre, to state the least, in terms of the scale and the growth witnessed over the last decade.

As stated by Mr. Shivashish Chatterjee, cofounder of the DMI Group, "400 million smartphones, coupled with a tech-savvy millennial population, are bringing large numbers of the hitherto unserved, or under served, in to the mainstream of finance and building distribution funnels at a speed not seen earlier. This is truly a disruptive moment for the Banks and traditional NBFC's as these borrowers demand a completely different paradigm for the engagement and fulfilment experiences than the older generation of borrowers".

e) **The impact of regulations** which tell the reader how regulations should not be viewed as barriers, rather as enablers to change. There are data privacy norms and

regulations, and the over-arching AML / KYC regulations which will somewhat pose as a business constraint, but then there are cases where regulations have also acted as a catalyst to development of online solutions and platforms which promote not only compliant but also efficient business models.

FinTech could be viewed as a merger of financial services, information technology in the most efficient manner, one that exhibits considerable synergies. The need for regulations is larger and more imminent than ever before as online financial transactions are prone to several security threats and hazards limitless. Another risk that stares vociferously is the exposure to money laundering and terrorist financing. The fact that FinTech's may not be entirely informed or aware of the deep-rooted risks they could potentially be exposed to, adds to the mercy and calls out for robust regulations, a regime that could offer a protected platform for the consumers.

One of the regulations that could need to keep pace with the evolution, as the FinTech industry grows in size is Data Privacy. Misuse of data is a serious risk globally, and for the FinTech firms to achieve competitive advantage, they necessarily will have to adopt the highest standards of the data security and privacy and allow only and only consent based encrypted access to sensitive information to protect the interests of the existing and prospective consumers. The need also to proactively address cyber security attacks is imminent like never before.

A comprehensive governance model that enables and facilitates a robust risk management framework is an absolute must. There is a need to be able to proactively identify the inherent risks in the processes, and discern the existing levels of manual and system controls to combat these risks, to have a fair idea of the residual risks which could then be matched with the risk appetite of the Company and its Board. Additional investments could find their way then to risk standards and systems that help counter money laundering, terrorist financing amongst other regulatory breaches and consequent reputation losses.

The biggest challenge however that stares at this bizarre development is the confusion, uncertainty and ambiguity around the regulations, for this rapidly and dominantly

growing FinTech sector. One challenge that literally cripples the start-up FinTech firms is the heaviness of the compliance burden with accountability to the biggies like the SEBI, RBI & IRDA, within the BFSI space. Currently, there aren't any explicitly stated prohibitions on FinTech businesses in India, however, the Government is trying to put in a regulated regime across verticals within this sector.

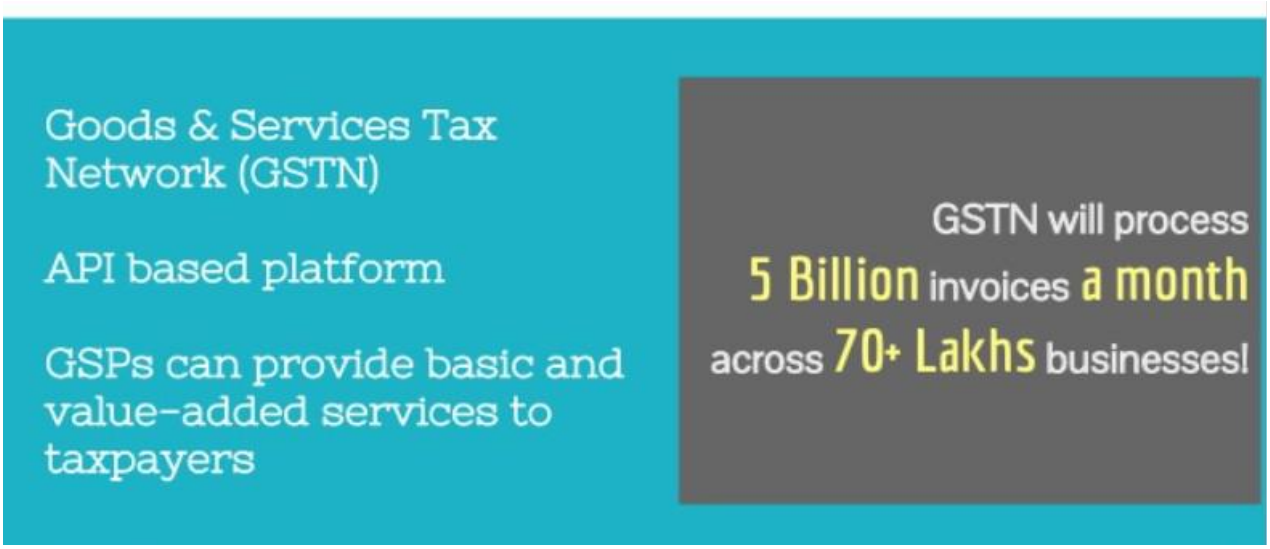
f) **The road ahead** which will talk about prioritization, in terms of market needs and then of course scalability which will fetch the desired ROI too, and no sooner than later, this will be a clear win-win for customers, the banks and financial institutions and the Fin-tech companies.

India stack as a platform is expected to stabilise, and eventually should be viewed as a launch pad which could be leveraged to provide the necessary impetus for digitisation. Chatbots have been the most recent trend to be adopted by the Banking biggies for facilitating convenient and effective modus to customer interactions. The speed and accuracy are only going to grow from hereon. Machine learning algorithms that provide a smart way to read the minds of the consumers, much like predictive analysis tools, will help identify the customer preferences which should help them translate these to goals, short term and long term, a mission with the focus in the desired and right direction. Smart workflows, with the aid of artificial intelligence, will be able to identify the bottlenecks in the operation workflows and will only streamline and strengthen the processes and make them seamless, going forward adding to the customer delight and resulting in process efficiencies. If you look at one aspect that reflects the thinking of the rewired customer, it is his desire to have everything at his door step, rather on his palm now. The mobile device that supports the apps, have provided Banks an opportunity to host net banking facilities, entertain requests and facilitate transactions securely at the click of a few buttons, exhibiting the extent of and importance of secure digitalisation. This goes a long way in making the users connected with the banks and also propel efficient self-service. Then there have been initiatives like Unified Payments Interface (UPI) and Aadhaar Enabled Payment System (AEPS), structures which quicken payments securely. Digital solutions are here to stay and as timelines shorten, budgets shrink, it

only allows banks to devise new paradigm shifts in designing the architecture in the form of micro-apps and micro-services. To face security challenges, one can observe robust mechanisms coming to the fore like OTP's which are sent to the registered mobile number ensuring secure authentication. So much so, when Google can detect that a customer is logging in to from a different device, there are additional security questions and gateways he has to validate and only then he can enter and progress further, one can imagine how much criticality the security factor assumes. The customer, although he has to be exposed to clearing these layers of security, in the mind, these aspects create a wow factor, that is unparalleled as it gives him a sense of security.

g) Conclusion

The most recent development, rather regulation is GST. With the advent of this unified tax regime, and all other taxes like VAT, Service Tax now subsumed with the introduction of GST, it allows a tremendous opportunity to the FinTech firms to reduce manual intervention with technology that can sit atop the legacy systems to process and produce invoices, reports and returns in an accurate manner. The diagram below is a great indicator of what lies ahead. The sheer volumes will tell you the huge opportunity that FinTech can explore, rather exploit!



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TRAINING STRATEGY FOR MILLENNIALS

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ABSTRACT:

Number of youths graduating and entering into the workforce is increasing every year. This new workforce is also known as Millennials. They are the population group with the birth year ranging from 1981 to 1996 i.e. between 23 and 38 years of age. According to All India Survey on Higher Education (AISHE) (2015-16), number of post graduate colleges established and enrolled in 2015-16 in Maharashtra is 406,625. People know the importance of higher education and most of the new workforce has a postgraduate degree now-a-days. But as per National Employability Report Engineers, 2019, many new engineers are not employable or they are not fit for hiring. Out of more than 6,00,000 engineers being pumped into the economy each year, only a handful (18.43%) are ready to be deployed as Software Engineers in the IT Services industry. And the number drops to as low as 3.21% for IT product roles. There is a huge skill gap between the existing skills and the demand for the skills. Because of the fast evolving and innovating technology the world is changing very fast. The skills has to be aligned to this changing world's requirements. A few Information Technology companies are creating learning centres to fill this widening skill gap. For organisations to earn maximum returns on investment, there is immense need for optimum training and development programs. Digitalisation is going on in almost every industry and it needs to be leveraged in learning as well. There are various types of training like Coaching/Mentoring, Lectures, Group Discussions & Tutorials, Role Playing, Management Games, Outdoor Training, Films & Videos, Case Studies, Planned Reading, Simulators, On-The-Job Training, Technology-Based Training. Technology based training options are unlimited including computers, multimedia, web and the internet. The percentage of millennials, is increasing rapidly in today's workforce, as per a report released by Deloitte India. Millennials,

also known as Generation Y, are the chief wage earners in India with a 47% share in the working age population. Many grew up using computers since very young age. The internet, mobile phones and other high technology is basic necessity for them. Being the largest demographic group in India and globally, millennials are characterized by multitasking, tech-savvy, digitally connected individuals with need for instant gratification and recognition, work life balance and flexibility, collaboration and transparency expecting career advancement. A study conducted by Microsoft claimed that the human attention span is now less than that of a goldfish, which is nine seconds. The decrease in attention span isn't the problem but the amount of information available is. Due to technological advances, there is now more information available than ever before, which also means that there are more ways to access information. According to a new research study from audience presentation platform Prezi, '2018 State of Attention' report finds that the attention of professionals can be captured for long periods of time with compelling content that includes great stories and interesting, gripping visuals. If this workforce is kept under continuous learning environment with specific topics of need and utility, the objective of having competitive workforce can be achieved. This research focuses on the importance of continuous learning using digital tools and social media and why it is one of the best ways of training and development for millennials entering the IT industry after their graduation and post graduation.

KEYWORDS: Skill gap, Digital tools, Continuous learning, Millennials

1. INTRODUCTION:

Earlier people used to get education from schools and universities and enter the workforce without any formal job related training. They used to get trained on-the-job by hands-on experience of the job they were doing. As industrialisation and then computerisation and digitalisation took place, more and more people thrived for formal education. They graduated, post-graduated even went for formal management education i.e. MBA. With more and more qualified people in the job market, the competition to get a good job increased. At the same time, companies also found it difficult to get a skilled talent as the formal education didn't always match the industry requirements. So a few IT companies started their own learning centers. Today, technology is evolving and innovating at a very fast pace and hence the world is changing

very fast. Today's workforce have to adapt to the changes very fast, at the very moment they have to give the best job performance. They have to be in the learning environment all the time and have to undergo continuous learning. This research is based on secondary data and its objective is to find strategies for engaging today's workforce of millennials for optimum training and development programs for them.

2. EMPLOYEE TRAINING:

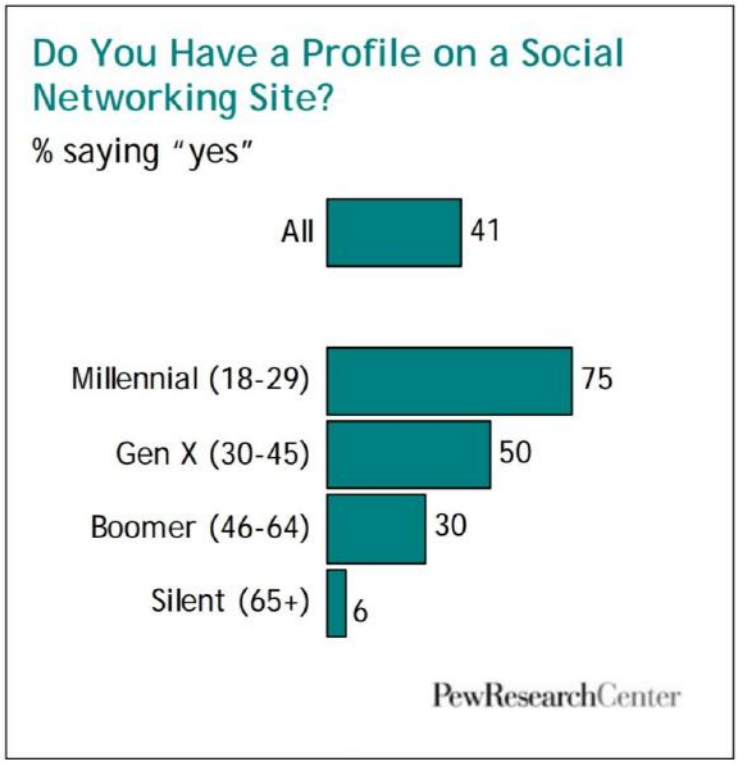
Training is a planned effort to facilitate the learning of job related knowledge, skill and behaviour by employees. High leverage training is the training practice that links training to strategic business goals, has top management support, relies on an instructional design model and is benchmarked to programs in other organisations. This also create working conditions that encourage continuous learning. Continuous learning is the learning system that requires employees to understand the entire work process and expects them to acquire new skills, apply them on the job, and share what they have learned, with other employees. Continuous learning, also known as lifelong learning, is very essential for every career and organisation.

3. MILLENNIALS:

According to Pew Research Center, USA, Anyone born between 1981 and 1996 (ages 23 to 38 in 2019) is considered a Millennial, and anyone born from 1997 onward is part of a new generation. They are multitasking, tech-savvy, "always connected" generation. With proficiency in digital technology and social media, they treat their cell phones almost like a body part – for better and worse. More than eight-in-ten say they sleep with a cell phone glowing by the bed, poised to disgorge texts, phone calls, emails, songs, news, videos, games and wake-up jingles. They embrace multiple modes of self-expression. Three quarters have created a profile on a social networking site.

4. JUSTIFICATION:

For example, Linkedin is a social networking site where professionals share their knowledge, upgrade their knowledge pool, connect with each other and use connections also for recruitment and selection. As per omnicore agency, there are 590 million total number of Linkedin users (last updated: 12/6/18) out of which 260 million are the monthly active Linkedin users. After US, India, Brazil, Great Britain and Canada have the highest number of Linkedin users. There are 87 million Millennials on LinkedIn with 11 million in decision-making positions. There are over 39 million students and recent grads on Linkedin.



Social Networking Users

% of adults who use social networking sites

	Feb/Mar 2005*	Aug 2006*	Nov/Dec 2008*	Jan 2010**	*05-10 Change*
All	5	11	27	41	*+36*
Millennial	7	51	71	75	*+68*
Gen X	7	10	38	50	*+43*
Boomer	5	4	13	30	*+25*
Silent	2	*	2	6	*+4*

*Data from surveys conducted by the Pew Research Center's Internet & American Life Project. Question wording varied from 2005 to 2008. The 2005 item was worded "Use online social or professional networking sites like Friendster or LinkedIn." The 2006 item was worded "Use an online social networking site like MySpace, Facebook or Friendster."
The 2008 item was worded "Use a social networking site like MySpace, Facebook or LinkedIn.com."
**Question wording: Have you ever created your own profile on any social networking site?

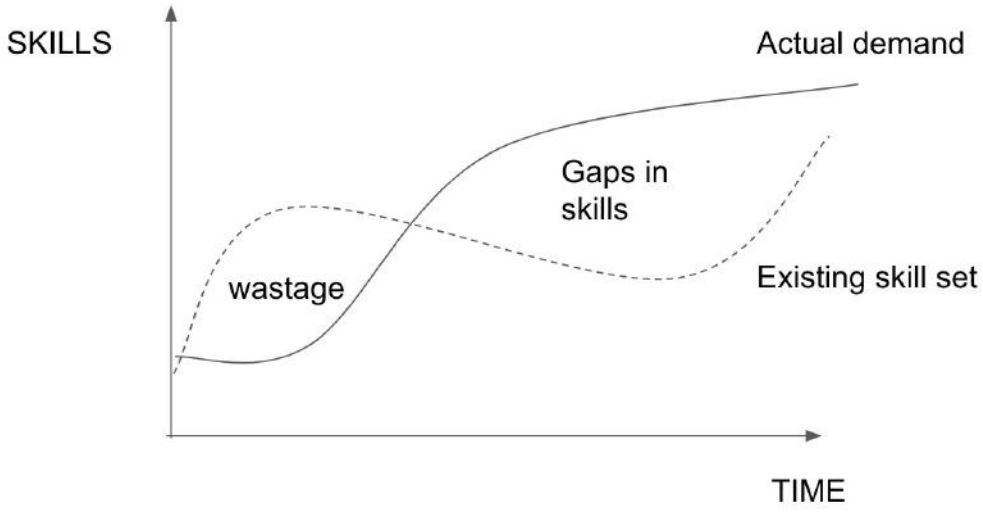
Every generation presents its own challenges and Millennials are no different. A whole new batch of Millennials will be graduating and entering the workforce in June 2019. The more you know about them now, the better off your company will be. They are the new workforce, the new human capital. Organisations have to equip with the mediums to keep them engaged, to get them trained fast to match the industry requirements and get the maximum output from the investment. Failure to smooth picks and valleys of skill set to demand would reduce the competitive edge of any organisation over its competitors. So organisations have to build optimum training and development programs that foster the lifelong learning environment or continuous learning environment.

4. IMPORTANCE OF BUILDING SKILL SET TO DEMAND:

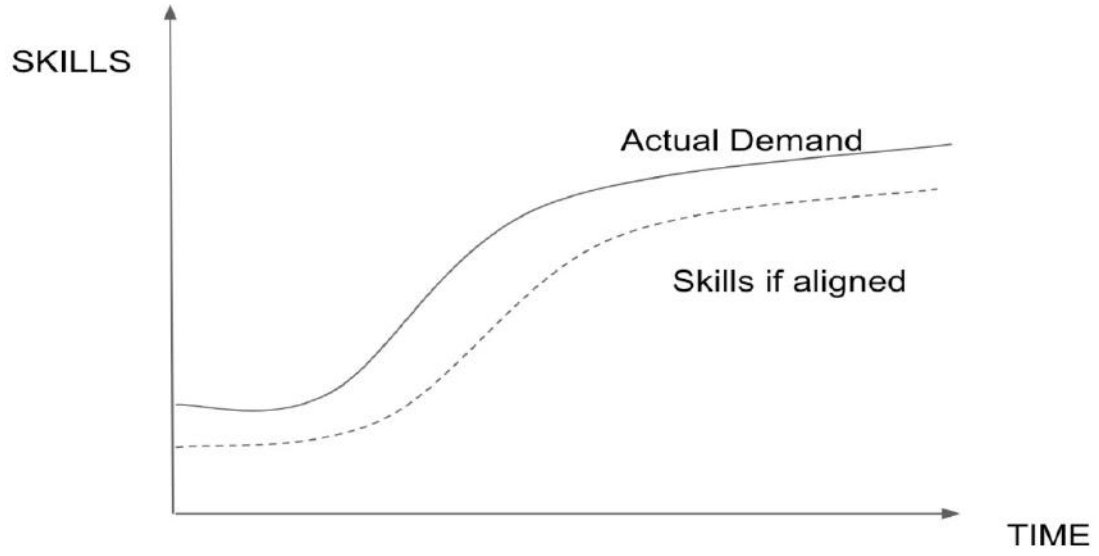
If this highly educated workforce has skills more or other than those are required to perform the particular job, its wastage of skills. Whereas if the workforce skills are not upto the mark and do not match the actual demand, there will be gap in skills. The skills should be aligned with the

demand for optimised skilled workforce. Hence its very important to build skill sets that matches to the demand.

Refer to following graph. If existing skill set is more than actual demand or utilization then it causes the underutilisation and the wastage of skills. Whereas, if existing skill set is less than the skills in demand, then it indicates the gap and need for training. Company will lose the competitive advantage as this gap increases.



Optimised skills to demand: As shown in the diagram below, If skill set is aligned to actual demand then there will not be underutilization or widening gap.



5. STRATEGIES FOR ENGAGING TODAY'S WORKFORCE OF MILLENNIALS:

Christy Price, EdD, a psychology professor at Dalton State College created 5 Rs of engaging these millennial learners. Training managers and eLearning developers can benefit from these 5 Rs to create a millennial centered learning environment.

(i) Research-based methods: Millennials prefer learning materials that are delivered to cater to their visual, auditory and even kinesthetic needs. They need to experience change in delivery formats to maintain interest. Their attention spans are shorter – they quickly move on to other forms of learning. Their ideal learning environment involves less lecture and more collaboration with peers. Group-based projects that emulate the work environment (authentic assessments) are ideal for these learners.

(ii) Relevance: Millennials prefer googling and discovering information. They do not value a piece of information for its own sake, rather for its relevance to their lives. Trainers will find millennials engaged in hands-on or application-based case studies, where new knowledge is discovered and synthesized actively between group members. The goal for trainers here is to connect the eLearning environment to the performance context of these learners to convince them of its relevance. Relevancy is very important to millennials. Training works best when the learner can immediately see its application. Millennials seek the ability to apply knowledge right away.

(iii) Rationale:

Millennials were raised in a less authoritative environment where decisions and actions were constantly justified. They expect socio-emotional rationale behind new ideas and processes. When trainers and instructors provide the rationale behind policies and regulations in a learning environment, these young learners are more likely to respond positively.

(iv)Relaxed:

Millennials prefer a relaxed learning environment, with minimum pressure, more freedom to complete assignments and also more freedom for personal expression and creativity. The mentors need to create a warm, empathetic and collaborative environment.

(v) Rapport:

Millennials strive on personal relationships. When being raised, they had complete attention from their parents. They are used to older adults showing more interest in their lives. They prefer and appreciate instructors showing a personal interest in their training and development plans and achievement goals.These learners also perform better at work and in the classroom when instructors connect with them on a personal level. Millennials were raised with an emphasis on structure, measurements, coaching and feedback. A study conducted by SuccessFactors found that millennials want feedback 50 percent more than other generations in the workforce. Training

programs that offer constant, frequent feedback enable learners to take corrective action immediately while avoiding imprinting the incorrect information.

Some more points are:

(i) Micro learning:

Bite-sized and focused information enable learners to grasp specific, actionable objectives. This specific bite-sized information provide opportunities for them to select and use the most relevant assets for their current upskilling needs. Microlearning works best with content that can easily be broken into smaller pieces. It can assist organisations in creating a personalized learning experience by enabling learners to control what and when they learn.

(ii) Collaboration:

In a 2016 survey by ttcInnovations, millennials identified other generations to be their top learning resource. They enjoy collaborating and sharing ideas with fellow training participants, coaches, mentors and managers. So, while it's great to provide online opportunities to introduce concepts, follow up that online learning with collaborative discussions.

6. OBSERVATIONS & SUGGESTIONS:

The above research shows that the tech-savvy millennials are hooked to their cell phone as if its their extended body part. They are actively using social media and like to be connected. Their attention span is not much shorter than the earlier generations but they are more focused on the relevant information, the information which can be of their use. So as a trainer we have to provide them the relevant information required to perform the job in a bite sized messages, images, videos preferably on the social media where they are able to give and seek immediate feedback. They can share it to their connections and get feedback and reviews from them as well and thus start healthy discussions which will lead to a good usable knowledge pool. This

collaboration with peers and friends (on social media) will definitely help to keep this workforce engaged and undergo continuous or lifelong learning.

7. CONCLUSION:

Organisations must have the rightly skilled workforce to have the sustainable competitive advantage. For this it must focus on its most valuable resource i.e. human resource or human capital. They should have skills that match the demand in the industry. For this, it's necessary to align the current learning and development strategy to meet the needs of the emerging workforce. Training managers need to modify their teaching strategies and course delivery methods to suit the learning styles of millennials. Social media is used in many business functions like recruitment, advertising, sales and marketing, socialising, entertainment,etc and it is recommended for the organisation to leverage it in training and development as well. Further research studies are also recommended on why the skill gap exist in hiring engineers in IT industry? How to design the micro learning content that can keep millennials engaged to continuous learning? Learning organisations - which organisations have transformed themselves in learning organisations? Pros and Cons of smart phone for the young generation.

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Disruptive Innovation: Opportunities and Challenges

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Introduction:

It has been rightly said that new things outdate the old ones. Disruptive innovation though a recent terminology can be traced to distant past. Take the journey of plastic being used from natural material like shellac to chemically modified materials like cellulose, natural rubber to the modern day material like Bakelite, polyethylene etc which have disrupted the market for metals and are finding wide applications in the market. The current article describes disruptive innovation as an agent of change with respect to business models, ideas, services and products that create waves of change in the market. A disruptive change altogether helps in creating a new market with new competition, demand pattern and a new methodology of usage. The paper discusses the opportunities and challenges associated with a new idea, business model, product or a service.

Disruptive Innovation:

In business theory, a **disruptive innovation** is an innovation that creates a new market and value network and eventually disrupts an existing market and value network, displacing established market-leading firms, products, and alliances. Disruptive innovation as a terminology was first coined by the American scholar Clayton M. Christensen and his co-workers beginning in 1995. Not all innovations will lead to disruption though they may be revolutionary.

Source: Clayton M. Christensen, Michael Raynor, and Rory McDonald, From "What is Disruptive Innovation?" December 2015

The early launching of automobiles during the late 19th century was not disruptive as it could not disturb the market for bullock carts and horse carriages. The reason behind this was the exorbitant price of the vehicles. The transportation market was further disrupted after the launching of the economical mass produced Ford Model T. Usually disruptions are caused by start-up businesses instead of leading and established companies as the later are not allowed by their environment to cause disruption in the market. Besides this scarcity of material, sustainability issues, competitive pressure and risk associated may not allow the established companies in causing disruptive innovations. Disruptions are a longer process but once deployed in the market penetrates easily creating greater impact on the established markets. Across the world the launching of battery driven automobiles are in the process of disrupting the market for fossil fuel driven automobiles. Currently there are significant number of technologies which have emerged to be the disruptive forces. According to a KPMG report that surveyed 768 technology company heads found the following technological disruptions for tomorrow.

1. Cloud computing and mobile technology to be the major disruptive force which may enable innovation and new business idea and models.

2. Big data, internet of things and 3D printing which would be more common in a tech-savvy world.

3. Cyber security will continue to be a predominant technological challenge haunting the technology leaders and the process of innovation.

4. Globalisation will bring more a diverse technological micro-innovation and revolution.

5. Industries leaders will have to be continuously ahead of their competitors through technological changes bringing value added products and services to customers thereby monetizing new business models from disruptive technologies.

Emerging Technologies causing Disruption

The prolific use of social media, cloud and mobile has led to democratization of technology and knowledge in the recent past. This has further facilitated easy start-up businesses by lowering the start-up cost to set new businesses and further helped in creating new ideas leading to a social change. The market growth opportunities have also surged compared to the past. The KPMG survey found 3D printing, internet of things and biotech/healthcare among the emerging technologies set to disrupt the market. Further the study also suggests data analytics, auto technology and artificial intelligence to be surging ahead. These technologies have excelled due to changes in the macro economic factors leading to opportunity growth at local levels and the deep penetration of global technological innovation further disrupting the established businesses and creating new business models through innovation in many industries. Many auto companies have planned to phase out their diesel engines and planning for battery operated cars in the near future.

According to KPMG Technology Survey 2014 report the following industries are to experience a significant transformation in the near future due to emerging technologies.

1. Technology

2. Consumer markets

3. Healthcare

4. Automotive/transportation

5. Manufacturing

The KPMG report further suggests Digital Currencies to be the technology in early stages of adoption. It has been predicted that digital currency may phase out the banking and payments. The Asia pacific region has greatly adopted the mobile payments and e-commerce thus increasing the chances of digital currency adoption.

According to Clayton Christensen, "Disruptive innovation describes a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors."

Disruptive innovations challenge the established companies of an industry which are relatively more structured and have massive operation capacities.

Disruptive innovation: Opportunities

1. Creation of new markets: Disruptive innovation usually leads to creation of new markets. The ideas stream into creation of new products and or new services which disrupts the market share of established products or services and thus leads to creation of new markets. The evolution of mobile phones saw the disruption of the market for coin boxes and digital cameras as the former already had administered cameras with comparable clarity as that of digital cameras. Similarly the advent of mobiles phones also could be considered responsible for the downside demand for music players and radios in particular. It is evident that the market for digital cameras is reducing while that of the mobile phones is uprising. The floppy disk and the compact disks has also disappeared from the market and the pen drives have created a new market for themselves. Usually creation of new markets takes a considerable period as market for the established products takes time to get eroded. But once the customers get satisfied by the usage of new products and service it hardly takes time to create awareness resulting in a chain reaction in the usage of new products and services.

2. Cost Reduction: Idea creation and translation of the same into new products and services, though a lengthy period can also be a costly affair. But with availability of technology and host

of web related services can significantly reduced the cost of newly created products and services. Various macro environmental factors also pressurise the organizations to come up with environment friendly and cost effective products. Disruptive innovations may seem to be costly in the initial stages but are cost effective in the long run due to economies of scale and learning curve effects. The new generation electric vehicles though are costly would become cheap as the researchers come up with advanced technology in reducing the cost. There are many examples in which frugal technology has been successful in bringing the cost down of some process and has ultimately created a different class of products or services. The small shampoo, detergent and soap sachets have increased the market share of fast moving consumer goods manufacturing companies. It is this frugal innovation which has enabled companies to penetrate smaller and interior markets creating brand awareness and brand loyalty. The mass availability of generic medicines can be considered as a breakthrough alternative to branded medicines and has significantly reduced the cost of medicines to patients particularly in prophylactic usage.

3. Value addition: Value addition is generally in the form of an extra feature that has been added to the product or the service before it is offered to the final customer for consumption of usage. Disruptive innovations are associated with some value as they lead to a different path altogether in satisfying the need of the customer. Zero or low calorie artificial sweeteners have been very successful in providing value based satisfaction to the customers. The increasing consciousness for a healthy life has resulted in the formulation of a low or zero calorie artificial sweeteners and has thus been a value added product for health enthusiasts. These artificial sweeteners are used by many beverage and food industries. Disruptive innovations are associated with value addition as they are successful in either reducing the manufacturing cost or come up with extra features or satisfying any other lateral wants of the customer as in the aces of hybrid cars which can be electrically driven or by fuel. The new generation electric scooters are also an example of value based products as they are non-polluting and are maintenance free.

4. Reduced complexities: Researchers are always interested in reducing the complexities of problems and thus lead to product or services that have multiple features with which the needs of customers can be satisfied. The market for application based smart phones has been saturated and researchers have come up with new generation smart processes and applications which not only have speed but also have reduced complexity. In short customers are getting many applications

under one umbrella. The applications used in banking system or in the insurance sector have been updating the process in lightening speed and benefitting the end user. Single window services in various sectors have also been introduced thus reducing the overall complexity.

Disruptive innovation: Challenges

1. Adaptability: Disruptive innovations take time to prove in the complex market conditions and significant time period is also consumed in penetrating the market. Disruptive innovations also have to be adaptive to the market environment. Established market players may create distractions to destabilise or disprove some innovative product, process or a service. Dishwashers were introduced in the Indian market in the 2000's but were not adaptable to the market conditions as the Indian kitchen/ home is being managed by maids. The failure of this innovative product can be attributed not only to the market conditions but also less marketing efforts undertaken by the companies.

2. Gestation period: It takes a significant period for any innovative idea or a product or a service to get established in the market. There are certain taboos associated with the market culture which results in creating a gestation period for an innovation to disrupt the market. Electric scooters which have been introduced in India since the last 4 to 5 years are still unable to catch the heat. Any innovative idea depending upon its utility and ability to meet the market needs has to undergo a gestation period. Further it also depends upon the manufacturer's production ability and meets the needs of the customer. Any innovative product or a service has to penetrate the market which depends upon how well the idea has diffused through the market which further decides the gestation period.

3. Increased competition: New ideas or business models have got a tendency to disrupt the existing and established ideas/products/services/business models and this creates fierce competition in the market. This is very challenging to the any new idea as the existing and established business may take any course to prevent them being thrown out of the market. The established companies may even lobby and demand for application of existing regulations for the new comers so as to lessen their impact on the formers and gain a competitive advantage. The current example of internet based hotel search and taxi sharing services have been competing with the traditional rickshaws and taxis in the Indian market. Similarly the online food delivery

applications have also changed the way customers are seeking out for food. This increased competition can give rise to legitimate public policy concerns and may demand regulation.

4. Market acceptance: A considerable period has to go before any innovative idea creates its own significant market share. This is due the resistance and competition that is shown by established organizations in the market and secondly the time that is taken by the market to accept any new business model or a product or even a service. The advent of internet has changed the way customers shop in the market place. Customers have started to demand products online rather offline. But this has not been overnight. The online companies like Amazon, Flipkart, Myntra have taken efforts in educating the customers and creating market awareness about the convenience and safety associated with online shopping. Today even costly items worth lakh rupees are also purchased online. Gone are the days when customer use to step out for purchasing a pair of shoe or any clothing item. Today's customer is internet savvy and has preferred these products online due to ease of shopping, easy return policy and guarantee offered.

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An Empirical Study of Impact of On The Job Training on Employee Performance in Selected IT Companies in Pune

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Abstract:

The organization can get benefit by giving proper training to its employees as well trained employees can boost profits and productivity. It can also increase employee motivation, confidence and satisfaction. A happy and satisfied employee can help to deal with clients and retain them as better training can save unwarranted costs. An employee performs poorly when he/she does not know their job properly and do not know what to do? An effective training program can cut down on the attrition, reduces maintenance, by helping employee to commit fewer mistakes. It helps boosting an employee job satisfaction, reduced supervision thereby increasing output. An organization can use number of methods to train its employees in various ways to fulfill the objectives. On the job training can allow an employee to actually work on the machine at the same time increasing knowledge, how to solve problems there itself, removes fear and makes them confident and gives satisfaction of reality. Now a day's an IT sector is very challenging, competitive, knowledgeable and highly skilled. Within a shorter span of time things can become obsolete, new methods, software can evolve which requires immediate training. An IT industry constantly requires skilling and re-skilling hence it becomes imperative to impart on the job training. This research gives the knowledge to enhance the performance by the help of On the Job Training. On the Job Training provides about practical guidance effectiveness and how it contributes in enhancing the employee performance and ultimately concludes along with suggestion to give directions for future research by applying different level of analysis on exploring the impact of On the Job training practices on employee performance. The primary

data is used for the study. The data was collected through the questionnaire from selected IT Companies in Pune. Analysis was done through the application using the T test and ANOVA on the response rates in SPSS.

Key Words

On the Job Training, Employee Performance, Training Impact

INTRODUCTION

Human Resource Management plays a pivotal role in acquiring and developing the talent to achieve the preferred objectives of an organization. An organization has to alter its employees with the changing times and as per the organization's needs. This can be achieved with a very systematic well thought process of training. Training alters an employee's knowledge, skill and ability coupled with attitude on the positive side. Training not only improves skills but builds on the existent knowledge enabling an employee to handle his current job and develops to handle future higher responsibility with confident. Training cements a slit between what an employee has and what the organization wants. A training programs requires a well thought, well designed approach due to cost of time, money and an attempt by an organization to train its employees to be more effective and efficient. The training need analysis plays an important role in desired outcome and must be aligned with the organization's recognized goals and objectives. Also evaluation and feedback from employees about training marks a new journey for altering and modifying inaccuracy in established training methods. Training is a continuous, ongoing process paving a need of training for old as well new employees of an organization. Training acquaints a new employee with colleagues, company culture, atmosphere, rules, regulations, procedures and serves as a refresher for old employees. Training can be imparted in several ways like on the job training, off the job training, vestibule training, role plays, case studies etc. each one having its own significance.

OBJECTIVES

1. To Study the Impact of On the Job Training Program on employee Performance

2. To Study the Impact of on the Job Training to enhance the Knowledge/ Skill to Perform better.
3. To study employee Satisfaction with respect to the On the Job Training Program.

LITERATURE REVIEW

Flynn and al., (1995) stated that, On the Job Training reduces cost and saves time for the organization. The organization can take the help the senior persons to give the training , which helps to attract the Junior employee and helps to attached for some time and they learn and train there on the job training reduces cost and saves time.

Wagner S (2000) suggested that, Highlighted employee development program are experiencing higher employee satisfaction. On the Job training has a major role for retention of the organization and helps to grow the employee and the organization as well. The people look for opportunities to learn new things, challenges of new responsibilities, and the prospect of personal and professional growth.

RESEARCH METHODOLOGY

A explanatory research design was used for the study. It is Stratified random sampling method was employed to select the respondents, from IT companies in Pune City. The Sample Size of 200 was selected. Out of that 160 respondents were given their feedback. A structured questionnaire was developed to collect the primary data.

The questionnaire consisted of three parts, Part -1 contains the demographic information of the respondent and Part -II had questions related to the Training Program & Part-III contains about the satisfaction, relation of the On the Job Training. Statistical test was used to measure relationship between selected variables. The data was analyzed using the T test and Anova through SPSS. Few analysis was done through the help of Excel.

HYPOTHESIS

H_0: There is no impact of demographic factors on satisfaction of the On the Job Training and employee Performance to develop their Knowledge and skill.

H_1: There is an impact of demographic factors on satisfaction of the On the Job Training and employee Performance to develop their Knowledge and Skill.

LIMITATION

The Primary data was collected for the purpose of study. The questionnaire was collected from IT companies from Pune City.

FINDING

Table 1:- Perception of Respondents on On the Job Training (Content wise Analysis)

Sr. No	Contents	Yes	Percentage (%)	No	Percentage (%)	Total	Percentage (%)
1	Are you satisfied with the current Job?	124	77.50	36	22.50	160	100.00
2	Are you satisfied with the current Profile	110	68.75	50	31.25	160	100.00
3	Does your company has any Policy to Provide Training Program to enhance the Skill/ Knowledge of the Employee?	142	88.75	18	11.25	160	100.00
4	Do you think the Company is providing better Training Program to the Employees	124	77.50	36	22.50	160	100.00
5	Do you think , Training Program helps you to Perform well and Fulfilled the Objective of the	122	76.25	38	23.75	160	100.00

Sr. No	Contents	Yes	Percentage (%)	No	Percentage (%)	Total	Percentage (%)
	Organization						
6	Are you aware about the On the Job Training Program and Off the Job Training Methods?	116	72.50	44	27.50	160	100.00
7	Do you require more Training Program related to your Work?	118	73.75	42	26.25	160	100.00
8	Is On the Job Training is aligned with your current Job requirement.	120	75.00	40	25.00	160	100.00
9	Is the Knowledge/ Skill imparted in On the Job Training is effective?	126	78.75	34	21.25	160	100.00
10	Do you think On the Job Training is helping to improve your Knowledge/ Skill.	126	78.75	34	21.25	160	100.00
11	Do you think, On the Training has helped you to become more Productive?	116	72.50	44	27.50	160	100.00

Source:- Survey Data

85.75 % respondents suggested that, the Company has the specific policy to train their employee to enhance their skill and knowledge to perform better. The employees who are associated the company above 7 Years is not satisfied regarding the policy.

75-80 % Respondents stated that On the Job Training is imparted their performance and helps to improve their skill. They are satisfied their current job as the company has the specific policy to develop the skill of the employee. They also stated that The training program helps them to perform well and it helps to fulfill the objective of the company. Besides of that the training program plans in a better way to which suits the profile of the employee?

72.50 % Respondents suggested that they were aware about the both On the Job and Off the Job Training Program and On the Job training program helps to be more productive.

68.75 % of the respondents are satisfied with their current profile. Maximum respondents are not satisfied who are associated with the company above 3 Years.

Table 2:- Satisfaction of Respondents on Current Company with respect of On the Job Training (Descriptive for Age group)

Descriptives								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
Rating					Lower Bound	Upper Bound		
Below 20 Years	8	7.0000	2.26779	.80178	5.1041	8.8959	4.00	10.00
21-30 Years	60	6.6667	1.90153	.24549	6.1754	7.1579	2.00	9.00
31-40 Years	54	6.9630	1.46613	.19952	6.5628	7.3631	4.00	9.00
41-50 Years	26	7.3846	1.52517	.29911	6.7686	8.0006	4.00	10.00
51 Years & Above	12	7.5000	1.44600	.41742	6.5813	8.4187	5.00	9.00
Total	160	6.9625	1.69679	.13414	6.6976	7.2274	2.00	10.00

Source:- Survey Data

Table 3:- Satisfaction of Respondents on Current Company with respect of On the Job Training (ANOVA Test for Age Group)

ANOVA					
Rating	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.362	4	3.340	1.165	.328
Within Groups	444.413	155	2.867		
Total	457.775	159			

Source:- Survey Data

P value is obtained as 0.328 (>0.05), thus it concluded that there is **no** significant difference between respondents of different age groups with regard to satisfaction with respect of On the Job Training.

Table 4:- Satisfaction of Respondents on Current Company with respect of effectiveness to On the Job Training (Descriptive for Age group)

Descriptives								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
Rating					Lower Bound	Upper Bound		
Below 20 Years	8	7.7500	1.38873	.49099	6.5890	8.9110	7.00	10.00
21-30 Years	60	6.8000	1.38760	.17914	6.4415	7.1585	4.00	9.00
31-40 Years	54	7.1852	1.26004	.17147	6.8413	7.5291	5.00	10.00
41-50 Years	26	7.4231	1.33186	.26120	6.8851	7.9610	5.00	10.00
51 Years & Above	12	7.8333	1.40346	.40514	6.9416	8.7250	6.00	9.00
Total	160	7.1562	1.36233	.10770	6.9435	7.3690	4.00	10.00

Source:- Survey Data

Table 5:- Satisfaction of Respondents on Current Company with respect of effectiveness to On the Job Training (ANOVA Test for Age Group)

ANOVA					
Rating	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17.833	4	4.458	2.492	.045
Within Groups	277.261	155	1.789		
Total	295.094	159			

Source:- Survey Data

P value is obtained as 0.045 (<0.05), thus it concluded that there is **a** significant difference between respondents of different age groups with regard to satisfaction with respect of effectiveness of On the Job Training.

Table 6:- Satisfaction of Respondents on Current Company with respect of On the Job Training (Descriptive for Gender)

Group Statistics					
	Gender	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Rating	Male	102	6.9608	1.61626	.16003
	Female	58	6.9655	1.84453	.24220

Source:- Survey Data

Table 7:- Satisfaction of Respondents on Current Company with respect of On the Job Training (T Test for Gender)

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Rating	Equal variances assumed	2.347	.128	-.017	158	.987	-.00473	.27993	-.55761	.54815
	Equal variances not assumed			-.016	106.211	.987	-.00473	.29030	-.58026	.57079

P value is obtained as 0.987 (>0.05), thus it concluded that there is **no** significant difference between respondents of male and Female with regard to satisfaction with respect of On the Job Training.

Table 8:- Satisfaction of Respondents on Current Company with respect of effectiveness of On the Job Training (Descriptive for Gender)

Group Statistics					
	Gender	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Rating	Male	102	7.2451	1.27765	.12651
	Female	58	7.0000	1.49854	.19677

Source:- Survey Data

Table 9:- Satisfaction of Respondents on Current Company with respect of effectiveness of On the Job Training (T Test for Gender)

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Rating	Equal variances assumed	1.356	.246	1.095	158	.275	.24510	.22390	-.19713	.68732
	Equal variances not assumed			1.048	103.848	.297	.24510	.23393	-.21879	.70899

Source:- Survey Data

P value is obtained as 0.275 (>0.05), thus it concluded that there is **no** significant difference between respondents of male and Female with regard to satisfaction with respect effectiveness of On the Job Training.

Table 10:- Satisfaction of Respondents on Current Company with respect of On the Job Training (Descriptive for Qualification group)

Descriptive								
Rating								
	N	**Mean**	**Std. Deviation**	**Std. Error**	**95% Confidence Interval for Mean**		**Minimum**	**Maximum**
					Lower Bound	**Upper Bound**		
Under Graduate	14	7.7143	1.72888	.46206	6.7161	8.7125	4.00	10.00
Graduate	74	6.7027	1.66947	.19407	6.3159	7.0895	2.00	9.00
Post Graduate	58	7.0345	1.60006	.21010	6.6138	7.4552	4.00	9.00
Above Post Graduate	14	7.2857	2.05421	.54901	6.0996	8.4718	4.00	10.00
Total	160	6.9625	1.69679	.13414	6.6976	7.2274	2.00	10.00

Source:- Survey Data

Table 11:- Satisfaction of Respondents on Current Company with respect of On the Job Training (ANOVA Test for Qualification Group)

ANOVA					
Rating					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	14.670	3	4.890	1.722	.165
Within Groups	443.105	156	2.840		
Total	457.775	159			

Source:- Survey Data

P value is obtained as 0.165 (>0.05), thus it concluded that there is **no** significant difference between respondents of different qualification group with regard to satisfaction with On the Job training.

Table 12:- Satisfaction of Respondents on Current Company with respect of effectiveness of On the Job Training (Descriptive for Qualification group)

Descriptive								
Rating								
	N	**Mean**	**Std. Deviation**	**Std. Error**	**95% Confidence Interval for Mean**		**Minimum**	**Maximum**
					Lower Bound	**Upper Bound**		
Under Graduate	14	7.5714	1.34246	.35879	6.7963	8.3465	6.00	10.00
Graduate	74	7.1081	1.29876	.15098	6.8072	7.4090	4.00	9.00
Post Graduate	58	7.1034	1.33364	.17511	6.7528	7.4541	5.00	10.00
Above Post Graduate	14	7.2143	1.84718	.49368	6.1478	8.2808	5.00	10.00
Total	160	7.1562	1.36233	.10770	6.9435	7.3690	4.00	10.00

Source:- Survey Data

Table 13:- Satisfaction of Respondents on Current Company with respect of effectiveness of On the Job Training (ANOVA Test for Qualification Group)

ANOVA					
Rating					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	2.794	3	.931	.497	.685
Within Groups	292.300	156	1.874		
Total	295.094	159			

Source:- Survey Data

P value is obtained as 0.685 (>0.05), thus it concluded that there is **no** significant difference between respondents of different qualification group with regard to satisfaction of effectiveness with On the Job training.

Table 14:- Satisfaction of Respondents on Current Company with respect of On the Job Training (Descriptive for Technical Qualification)

Group Statistics					
	Technical Qualification	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Rating	Yes	130	7.1077	1.46402	.12840
	No	30	6.3333	2.39732	.43769

Source:- Survey Data

Table 15:- Satisfaction of Respondents on Current Company with respect of On the Job Training (T Test for Technical Qualification)

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Rating	Equal variances assumed	21.075	.000	2.283	158	.024	.77436	.33922	.10437	1.44435
	Equal variances not assumed			1.698	34.150	.099	.77436	.45613	-.15247	1.70119

Source:- Survey Data

P value is obtained as 0.024 (>0.05), thus it concluded that there is **no** significant difference between respondents of male and Female with regard to satisfaction with respect of On the Job Training.

Table 16:- Satisfaction of Respondents on Current Company with respect of effectiveness of On the Job Training (Descriptive for Technical Qualification)

Group Statistics					
	Technical Qualification	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Rating	Yes	130	7.1000	1.33440	.11703
	No	30	7.4000	1.47625	.26952

Source:- Survey Data

Table 17:- Satisfaction of Respondents on Current Company with respect of effectiveness of On the Job Training (T Test for Technical Qualification)

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Rating	Equal variances assumed	.690	.407	-1.088	158	.278	-.30000	.27578	-.84469	.24469
	Equal variances not assumed			-1.021	40.642	.313	-.30000	.29384	-.89358	.29358

Source:- Survey Data

P value is obtained as 0.278 (>0.05), thus it concluded that there is **no** significant difference between respondents of male and Female with regard to satisfaction with respect effectiveness of On the Job Training.

Table 18:- Satisfaction of Respondents on Current Company with respect of On the Job Training (Descriptive for Experience group)

Descriptive								
Rating								
	N	**Mean**	**Std. Deviation**	**Std. Error**	**95% Confidence Interval for Mean**		**Minimum**	**Maximum**
					Lower Bound	**Upper Bound**		
Below 5 Years	64	7.0000	1.55329	.19416	6.6120	7.3880	4.00	10.00
6-10 Years	48	6.5417	1.99956	.28861	5.9611	7.1223	2.00	10.00
11-15 Years	36	7.1111	1.38930	.23155	6.6410	7.5812	4.00	9.00
16-20 Years	8	7.5000	1.77281	.62678	6.0179	8.9821	5.00	9.00
20 Years above	4	9.0000	.00000	.00000	9.0000	9.0000	9.00	9.00
Total	160	6.9625	1.69679	.13414	6.6976	7.2274	2.00	10.00

Source:- Survey Data

Table 19:- Satisfaction of Respondents on Current Company with respect of On the Job Training (ANOVA Test for Experience Group)

ANOVA					
Rating					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	28.303	4	7.076	2.554	.041
Within Groups	429.472	155	2.771		
Total	457.775	159			

Source:- Survey Data

P value is obtained as 0.041 (<0.05), thus it concluded that there is **a** significant difference between respondents of different qualification group with regard to satisfaction of On the Job training.

Table 20:- Satisfaction of Respondents on Current Company with respect of effectiveness of On the Job Training (Descriptive for Experience group)

Descriptive								
Rating								
	N	**Mean**	**Std. Deviation**	**Std. Error**	**95% Confidence Interval for Mean**		**Minimum**	**Maximum**
					Lower Bound	**Upper Bound**		
Below 5 Years	64	7.0938	1.29368	.16171	6.7706	7.4169	4.00	10.00
6-10 Years	48	7.1042	1.38748	.20026	6.7013	7.5070	5.00	10.00
11-15 Years	36	7.1111	1.42984	.23831	6.6273	7.5949	5.00	10.00
16-20 Years	8	8.0000	1.30931	.46291	6.9054	9.0946	6.00	9.00
20 Years above	4	7.5000	1.73205	.86603	4.7439	10.2561	6.00	9.00
Total	160	7.1562	1.36233	.10770	6.9435	7.3690	4.00	10.00

Source:- Survey Data

Table 21:- Satisfaction of Respondents on Current Company with respect of effectiveness of On the Job Training (ANOVA Test for Experience Group)

ANOVA					
Rating					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	6.622	4	1.655	.889	.472
Within Groups	288.472	155	1.861		
Total	295.094	159			

Source:- Survey Data

P value is obtained as 0.472 (>0.05), thus it concluded that there is **no** significant difference between respondents of different qualification group with regard to satisfaction of effectiveness of On the Job training.

Table 22:- Satisfaction of Respondents on Current Company with respect of On the Job Training (Descriptive for Year of Service group)

Descriptive								
Rating								
	N	**Mean**	**Std. Deviation**	**Std. Error**	**95% Confidence Interval for Mean**		**Minimum**	**Maximum**
					Lower Bound	**Upper Bound**		
Below 3 Years	56	6.7143	1.76547	.23592	6.2415	7.1871	2.00	10.00
4-6 Years	46	7.0000	1.73845	.25632	6.4837	7.5163	3.00	9.00
7-10 Years	36	7.3333	1.39386	.23231	6.8617	7.8049	4.00	10.00
10 Years & Above	22	6.9091	1.87487	.39972	6.0778	7.7404	4.00	9.00
Total	160	6.9625	1.69679	.13414	6.6976	7.2274	2.00	10.00

Source:- Survey Data

Table 23:- Satisfaction of Respondents on Current Company with respect of On the Job Training (ANOVA Test for Year of Service Group)

ANOVA					
Rating					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	8.528	3	2.843	.987	.400
Within Groups	449.247	156	2.880		
Total	457.775	159			

Source:- Survey Data

P value is obtained as 0.400 (>0.05), thus it concluded that there is **no** significant difference between respondents of different qualification group with regard to satisfaction of On the Job training.

Table 24:- Satisfaction of Respondents on Current Company with respect of effectiveness of On the Job Training (Descriptive for Year of Service group)

Descriptive								
Rating								
	N	**Mean**	**Std. Deviation**	**Std. Error**	**95% Confidence Interval for Mean**		**Minimum**	**Maximum**
					Lower Bound	**Upper Bound**		
Below 3 Years	56	7.1786	1.23740	.16536	6.8472	7.5100	4.00	10.00
4-6 Years	46	6.9348	1.45147	.21401	6.5037	7.3658	4.00	10.00
7-10 Years	36	7.5000	1.23056	.20509	7.0836	7.9164	5.00	10.00
10 Years & Above	22	7.0000	1.63299	.34816	6.2760	7.7240	5.00	9.00
Total	160	7.1562	1.36233	.10770	6.9435	7.3690	4.00	10.00

Source:- Survey Data

Table 25:- Satisfaction of Respondents on Current Company with respect of effectiveness of On the Job Training (ANOVA Test for Year of Service Group)

ANOVA					
Rating					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	7.075	3	2.358	1.277	.284
Within Groups	288.019	156	1.846		
Total	295.094	159			

Source:- Survey Data

P value is obtained as 0.284 (>0.05), thus it concluded that there is **no** significant difference between respondents of different qualification group with regard to satisfaction of effectiveness of On the Job training.

With regards to the results of T Test and ANOVA it is found that, satisfaction of the respondents with different demographic profile is a significantly different. Thus Null Hypothesis is rejected and it is concluded that, there is an impact of demographic factors on satisfaction and its effeteness of on the Job Training.

a. The average level of the satisfaction of the current company with respect of On the Job training is **6.96** & its effectiveness average is **7.16** . It means the On the Job Training is Effective to their skill and knowledge.
b. Out of the total respondents the respondents who posses technical qualification are highly satisfied (Mean-7.10) with On the Job Training, compare to Non Technical Respondents (Mean-6.33)
c. It is observed that, the factors of Age, Qualification, Year of Experience & Year of service in the Company is same with respect to effectiveness to On the Job training i.e **7.15** compare to the Gender and Technical Qualification parameter. The mean of the Male Respondents is **7.24** and Female is **7.00**. The mean of Technical Qualified Person is **7.10** and the mean of No Technical Person is **7.40**

Table 26:- Demographic Profile of Respondents

Age Group	**No of Respondents**	**Percentage (%)**	**Experience**	**No of Respondents**	**Percentage (%)**
Below 20 Years	8	5.00	Below 5 Years	64	40.00
21-30	60	37.50	6-10 Years	48	30.00
31-40	54	33.75	11-15 Years	36	22.50
41-50	26	16.25	16-20 Years	8	5.00
51 Years & Above	12	7.50	20 Years above	4	2.50
Total	**160**	**100.00**	**Total**	**160**	**100.00**
Qualification	**No of Respondents**	**Percentage (%)**	**Years of Service in the current Company**	**No of Respondents**	**Percentage (%)**
Under Graduate	14	8.75	Below 3 Years	56	35.00
Graduate	74	46.25	4-6 Years	46	28.75
Post Graduate	58	36.25	7-10 Years	36	22.50
Above Post Graduate	14	8.75	10 Years & Above	22	13.75
Total	**160**	**100.00**	**Total**	**160**	**100.00**
Technical Qualification	**No of Respondents**	**Percentage (%)**	**Gender**	**No of Respondents**	**Percentage (%)**
Yes	130	81.25	Male	102	63.75
No	30	18.75	Female	58	36.25
Total	**160**	**100.00**	**Total**	**160**	**100.00**

Source:- Survey Data

FINDING & SUGGESTIONS:-

1. 85.75 % respondents suggested that, the Company has the specific policy to train their employee to enhance their skill and knowledge to perform better. The employees who are associated the company above 7 Years is not satisfied regarding the policy. It indicates that the company should have the proper policy regarding the training program to enhance the skill of the employee.

2. 75-80 % Respondents stated that On the Job Training is imparted their performance and helps to improve their skill. They are satisfied their current job as the company has the specific policy to develop the skill of the employee. They also stated that, the training program helps them to perform well and it helps to fulfill the objective of the company. The program plans in a better way to which suits the profile of the employee. It shows that the training imparted the performance of the job.
3. 72.50 % Respondents suggested that they were aware about the both On the Job and Off the Job Training Program and On the Job training program helps to be more productive. It indicates that the awareness has a major role for benefit of the organisaiton.
4. 68.75 % of the respondents are satisfied with their current profile. Maximum respondents are not satisfied who are associated with the company above 3 Years. Means the same employee in the same organization requires a good trainer or should have to adopt the new technique for development for the employee.
5. It is observed that there is **no** significant difference between respondents of different age groups & Gender, Qualification, Experience and year of association of the company with regard to satisfaction with respect of On the Job Training. Hence the new On the Job Training Program should be planned for develop the skill and knowledge of the employee.
6. It is concluded that there is **a** significant difference between respondents of different qualification group with regard to satisfaction of On the Job training. Hence it requires enhancing the skill.
7. It concluded that there is **no** significant difference between respondents of Gender, Qualification, Technical qualified employee, Experienced Employee with regard to satisfaction with respect effectiveness of On the Job Training. Hence the training effectiveness is plays a role for satisfaction of the employee to perform well.
8. It is stated that there is **a** significant difference between respondents of different age groups with regard to satisfaction with respect of effectiveness of On the Job Training. Hence the training effectiveness has a major role for satisfaction level.

CONCLUSION

The Impact of the Training Program has a vital role in employee performance. The company takes the benefit of the employee by providing the Training program where On the Job Training

takes the practical knowledge and the benefit shows in both employee and the employer. This is the ROI of the organization where the benefit comes and it shows in Knowledge, Attitude and skill while the employee perform and change the attitude and communicate within the colleagues. It helps to develop the morale and also confidence level of the employee to perform better. IT industry always tries to provide On the job training program to their employee for enhancing the skill and update the skill. In competitive world IT sector has the main responsibility to encourage the employee by providing different training program which will be better for both employee and the employer. Training program polishes or shapes the knowledge of the employee and updates as required. HR department plays a crucial role to manage such kind of good things to develop the talent and achieve the objectives or goal of the organization. On the Job Training improves the practical knowledge and enabling an employee to perform the job in a better manner. Training is the process where the gap can be fulfilled the expectation of the employee. Major role is to manage or organize a suitable training program and identify the need and fulfill it by an experienced trainer where the vision can be fulfilled. Training should have its own significance when the vision should be achieved.

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ANALYTICAL STUDY OF DEBTOR'S MANAGEMENT WITH SPECIAL REFERENCE TO STERLITE TECH, PUNE

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ABSTRACT

The executive summary deals in "The study of debtor's management at sterlite Tech, Pune''. Debtor's management is one of the vital aspects of the organization, because it deals with the outstanding amount's management. The profit of the any company is mostly based on the accounts receivable. Therefore it need to proper management and careful analysis. The study focuses on the, to assess the debtors of company and to examine the relationship between debtor's management and creditors company that means sterlite tech. The study was carried out in Pune city, Koregaon Park. The study focused on the, to assess the debtors of company and to examine the relationship between debtor's management and creditor company that means sterlite Tech. The study focuses on financial records and debtor's records of the selected telecom companies for the period of five years that's (2013-2017). This is because the researcher believed the information for this period was available as the time was long enough to establish the relationship between the study variables. To prove or disprove hypothesis statement researcher used here analytical research design and purposive sampling technique. The total Population of the study 389 and researcher has chosen to study 135 samples among them. Data analysis was done by using statistical techniques like as correlation, descriptive statistics and chi-square-test.

Keywords: Debtors management, outstanding amount, debtors records,financial record

1. INTRODUCTION

To maintain current customer and attract potential customer, most of the manufacturing and trading firms find it imperative to offer trade credit. This selling of the produced goods on credit gives birth to accounts receivable. Every business organization is work for to earn maximum profit. Hence 'credit is the soul of business is an ancient saying of the business world. Receivable constitute a substantial portion of current asset of business firm.

1.1 DEBTOR MANAGEMENT

Debtor management is the process of decision making related to thebusiness investment in debtors. In the case of credit selling, it is unavoidable that we have to pay the cost of getting money from debtor's and to suffer from a little risk of loss because of .bad debts in business.The primary aim of debtor management is to decrease the loss due to not receiving money on time from debtors.

For the effective cash flow,Debtor management is a crucialfor your business. Without an efficient and effective debtor control practice, you leave your finances in danger.

(SMEs) Small-to-medium enterprises are fail many timesto create suitablesystem for debtor management for their business. Even if a business does a simple job of tallying debtor's days, then it will bean vitalinitial step in the right way towards it.

DEFINITION OF DEBTOR MANAGEMENT

"Debtor management is a strategy that involves the process of designing and monitoring the policies that govern how a company extends credit to its customer base. The idea behind this process is to minimize the amount of bad debt that the company will eventually incur due to customers failing to honor their commitments to repay the total amount of the credit purchases"

1.3 SCOPE OF THE STUDY

The study was carried out in western Maharashtra particularly in Pune city in Koregaon Park and focus on selected Telecom business. The study focused on the, to assess the debtors of company and to examine the relationship between debtor's management and creditor company that means sterlite Tech. The study focuses on financial records and debtor's records of the selected telecom companies for the period of five years that's (2013-2017). This is because the researcher believed

the information for this period was available as the time was long enough to establish the relationship between the study variables.

1.4IMPORTANCE OF DEBTOR MANAGEMENT**

Each and Every organization desire to buy goods on low price and sell it at high price. But there are the chances to lose everything with poor debtors management during the last phase of the sales cycle (payment). Over half of all bankruptcies can be attributed to poor receivables management, which demonstrates its importance. Receivables management is much more than reminding your customers to pay their debts. It is also about identifying the reason /reasons behind non-payment of debt. May be a product or service was not delivered? Or there was an administrative error in the invoice? Good receivables management is a comprehensive process containing of:

- Identifying the credit rating of customer in advance.
- Constantly monitoringandscanning customers for credit risks.
- Sustain customer relations.
- Detection of late payments in right time.
- To come at complaints in right time.
- Curtailing the total balance outstanding
- Preventing any bad debt in receivables outstanding

Effective management of debtor's will help get paid faster and forbid bad debt. Prompt collections of debtor's account will help to maintain a healthy cash flow in organization. The debtor's and credit management is a key tool of financial management. Receivable\ debtor's management provides a base and backing to the liquidity and working capital requirements of a company. Accounts receivable management means ensuring that customers pay their debts in time without failing. Healthy receivables management helps to prevent non-payment or overdue payment.

1.5FACTORS AFFECTING DEBTOR MANAGEMENT

- Company's credit policy

- Credit sales.
- Discount allowed by creditor
- Bucketing period
- Amount of credit, etc

1.6 DIGITAL DISRUPTION:

Most of the peoples thought that the debt collection is oldest profession. Few companies are overcome the challenges in debt collection industry and today there is no surprise that this companies are most regulated companies in the world. The Kodak is disappeared overnight because of digital disruption. The more examples of digital disruption are Apple, ebay, amazon and how Netflix change the way to watch TV or how taxi service converted in to Ola and Uber. It means that the collection industryhas aidedenormously from technology, agency collaboration, innovative and sophisticated technologies, Advanced and autonomous collection systems, predictive dialers, call recording capabilities and so on… all are used to empower to company to maximize efficiency, improve liquidity rates and ultimately drive profitability.

2. LITERATURE REVIEW

E. ChukeNwudeand Elias I. Agbo (2018),In this article researcher inspects the profitability of the cited insurance companies average collection in Nigeria. The accounts receivable period and return on assets (ROA) are the independent and dependent respectively. For the study author selected the sample of 20 insurance companies in Nigeria form the period of 2000 to 2011. In this paper author formulate the hypothesis for account receivable period and corporate performance has significant relationship present. After the testing, result shows the profitability.The Author concludes that accounts receivable period does not have a significant causal relationship with the profitability of cited insurance companies in Nigeria. The fixed effect was negative even though the impact was not significant.

BaljinderKaur, Laveena&Shivali Jindal (2017) In this article author explain the implication of trade credit when a firm does not receive payment, the firm grants trade credit and creates account receivables which will be collected in the future. But in this process the cost and risk is involved to extent the credit. So, it is essential to control and manage debtors. In this research article author study and examine the debtor management system and credit policy of an Indian

company. For this study author collected the primary as well as secondary data from the staff member, employer's member etc. Author used the statistical tools to analyze the data. The credit policy of the company is very strict. For this reason, company's brand image, goodwill and creditability is very high. So that Company is able to collects its debt on time.

Keeping this in mind researcher formulates the hypothesis that there is significant relationship between debtor's management and profitability of the debtor Companies. For testing this researcher used the SPSS 23.0 version and calculates the descriptive statistics, correlation and chi-square test for hypothesis testing.

HYPOTHESIS OF THE STUDY

1. There is a significant relationship between debtor's management and profitability of the debtor Companies.
2. There is significant relationship between debtor's management factors and profitability of the debtor company

OBJECTIVES OF THE STUDY

1. To understand the concept of debtor management deeply.
2. To understand the debtor's management's process adopted by the company.
3. To know the co-relation between debtor company's net
4. Profit/loss and outstanding amount.

RESEARCH METHODOLOGY

5.1 Research Design

To prove or disprove hypothesis statement the researcher used here **Analytical Research design**because the researcher used facts and information which is already exist, and study them to make a criticalassessment of the available information.Here, researcher is interested in research hypothesis. TO testing hypothesis and specifying and interpreting relationshipsanalytical research is primarily used, by studying and analyzing the information and facts which is already present.

5.2 SAMPLE TECHNIQUE:

Researcher used here **purposive sampling**. It is also known as subjective sampling or selective judgment .In this sample technique researcher depends on his /her own judgment when choosing members for the study among available population.

Here, researcher chooses samples from population purposefully to conduct her further study.

5.3 SAMPLE SIZE:

The total population of the study is 389 and researcher has chosen to study 135 samples among them.

5.4 DATA COLLECTION TECHNIQUE:

Here, researcher used primary data which is collected from the debtor companies of sterlite Tech by sharing them Google forms and collecting their response from it as well as secondary data which is collected from Sterlite Tech, for the purpose of study (debtor's aging dump).Secondary data means chunks of such information which is already gathered for a different motive, but it can be applicableto the research problems.

5.5STATISTICAL TOOLS AND TECHNIQUES :

The collected data is parametric as well as nonparametric so researcher used the descriptive statistics to know the nature of the data and identify the trend. To check the relationship between the debtors management and profitability researcher used the karlpearson's correlation on the parametric data. For checking there is significant relationship between debtor's management factors and profitability of the debtor company. Researcher used the chi-square test, because the data is an ordinal type and ordinal data are belongs to nonparametric and in nonparametric for checking the association or relationship we need to use the chi-square test.

5. DATA ANALYSIS AND INTERPRETATION

Descriptive Statistics					
		Net profit (in cr.) 2016	Net profit (in cr.) 2017	Outstanding	Bucketing
N	Valid	134	129	135	135
	Missing	1	6	0	0
Mean		-8723952.82	37939657.47	4028664.067111	3.22
Std. Error of Mean		10826819.808	-7345476.876	1298610.9102749	.239
Median		36.59	1908.00	444300.570000	3.00
Mode		10618	16244	-50000.00	7
Std. Deviation		125329500.27	8,34,28,579.87	1,50,88,495.28	2.780
Variance		157074836386155 26.00	69603279394869 17.00	227662689998479 .94	7.726
Skewness		-6.429	1.801	7.44	.270
Std. Error of Skewness		.209	.213	.20	.209
Kurtosis		73.360	1.318	60.88	-1.527
Std. Error of Kurtosis		.416	.423	.414	.414
Range		1794720114	241429189	151013627.00	7
Minimum		-1238763110	-3992533	-10242563.00	0
Maximum		555957004	237436656	140771064.00	7
Sum		-1169009679	4894215814	543869649.06	435

The total sample size (N) is 135. debtor companies of Sterlite Tech. Total available net profit figures of year 2016 is 134 and there is 1 figure is missing (134+1=135) similarly, Total available net profit figures of year 2017 is 129 and there is 6 figure are missing (129+6=135) .And there is no missing figure in outstanding. Mean (average) of 2016's net profit is -8723952.82, 2017's net profit37939657.47.Andoutstanding's figure is 4028664.067111. And bucketing for the same is 3.22.The average net profit of 2016 is -8723952.82, but there are extreme observation seen in the given data so, extreme observations are affected on mean so we cannot use mean as a correct measures of central tendency. Here we can use median and mode to measure the central tendency of data because, median and mode extreme observation are affected them. Standard errors of mean for the year 2016 is 10826819.808, 2017's net profit is, -7345476.876 and outstanding's figure is 4028664.067111. And bucketing is .239 Median for the year 2016 36 .59, 1908.00,

2017's net profit is1908.00 and outstanding's figure is 444300.570000 and bucketing for the same is 3.00.Mode for the year 2016 is 10618, 2017's net profit is 16244 and outstanding's figure is -50000.0000 and bucketing for the same is7.Standard deviation for the year 2016 is 12,53,29,500.273, 2017's net profit is 8,34,28,579.872 and outstanding's figure is 1,50,88,495.2860940 And bucketing for the same is 2.780 .

Variance for the year 2016 is 15707483638615526.000, 2017's net profit is 6960327939486917.000, and outstanding's figure is 227662689998479.940 and bucketing for the same. 7.726. Skewnessfor the year 2016 is -6.429, 2017's net profit is1.801, and outstanding's figure is 7.443 and bucketing for the same is .270. Std. Error of Skewnessfor the year 2016 is .209, 2017's net profit is .213, and outstanding's figure is .209 and bucketing for the same is .209. Kurtosis for the year 2016 is 73.360, 2017's net profit is 1.318, and outstanding's figure is 60.885 and bucketing for the same is -1.527. Std. Error of Kurtosis for the year 2016 is . 416, 2017's net profit is .423 and outstanding's figure is .414 and bucketing for the same is. 414 Range for the year 2016 is 1794720114, 2017's net profit is 241429189 and out standing's figure is 151013627.0000And bucketing for the same is 7. Minimum figure in the year 2016 is -1238763110 whereas in the year 2017 is -3992533 minimum figure of outstanding is-10242563.0000and bucketing for the same is 0.Maximum figure in the year 2016 is 555957004 whereas in the year 2017 is 237436656 minimum figure of outstanding is140771064.0000And bucketing for the same is 7.A sum of the year 2016's figure is -1169009679 and year 2017's figure is 4894215814, and sum of outstanding 543869649.0600 and a sum of bucketing is 435.

6.1 CORRELATIONS

HYPOTHESIS STATEMENT

Ho: There is no significant relationship between debtor's management and profitability of the debtor Companies.

Against

H1: There is significant relationship between debtor's management and profitability of the debtor Companies.

Correlations				
		Net profit (in cr.) 2016	Net profit (in cr.) 2017	Outstanding
Net profit (in cr.) 2016	Pearson Correlation	1	.017	.031
	Sig. (2-tailed)		.852	.719
	N	134	128	134
Net profit (in cr.) 2017	Pearson Correlation	.017	1	-.099
	Sig. (2-tailed)	.852		.262
	N	128	129	129
Outstanding	Pearson Correlation	.031	-.099	1
	Sig. (2-tailed)	.719	.262	
	N	134	129	135

From the above table, the researcher is tried to find out the correlation between net profit and outstanding amount.

It is found that the correlation of net profit for the year 2016 and outstanding amount is 0.31 which is positive very low correlation.

Whereas the net profit for 2017 and outstanding amount's correlation is negative and very low that is -0.099. So the researcher is not go for further regression analysis because there is very low correlations.

From the above analysis it is proved that, there is no significant relationship between debtor's management and profitability of the debtor Companies. Because correlation between debtor's management and profitability of the debtor company is very low. So here, Ho is accepted and H1 is rejected.

6.2 STATISTICAL HYPOTHESIS

Ho: There is no significant relationship between debtor's management factors and profitability of the debtor company.

Against

H1: There is significant relationship between debtor's management factors and profitability of the debtor company.

Note: 1=Strongly Agree, 2= Agree, 3=Don't Know, 4=Disagree, 5=Strongly disagree.

Observed Frequency table

Sr. No	**Factors**	**1**	**2**	**3**	**4**	**5**	**Total**
1	Competition	9	27	11	14	6	67
2	Customers influence	6	19	8	29	5	67
3	Planning	23	17	9	10	8	67
4	Marketing function	16	31	7	7	6	67
5	Economic changes	28	22	6	6	5	67
	Total	82	116	41	66	30	335

Expected Frequency table

Sr. No	**Factors**	**1**	**2**	**3**	**4**	**5**	**Total**
1	Competition	16	23	8	13	6	67
2	Customers influence	16	23	8	13	6	67
3	Planning	16	23	8	13	6	67
4	Marketing function	16	23	8	13	6	67
5	Economic changes	16	23	8	13	6	67
	Total	82	116	41	66	30	335

P- Value Table

Sr. No	Factors	P- Value
1	Competition	0.2908017985
2	Customers influence	0.0000258049
3	Planning	0.2119350255
4	Marketing function	0.2210655339
5	Economic changes	0.0115170650

Interpretation

In the above table of P-Values, researcher observed that Customers influence and Economic changesthe P-Values are less than the smallest level of significance i.e. 0.05 so that researcher may reject the null hypothesis H_0 and **accept the alternative hypothesis H_1**.

It says that, there is significant relationship between debtor's managementfactors and profitability of the debtor company.

Also researcher observed that Competition, Planningand Marketing function the P-Values are greater than the smallest level of significance i.e. 0.05 so that researcher may reject the alternative hypothesis H_1 and **accept the Null hypothesis H_0**.

It means that, there is not significant relationship between debtor's management factors and profitability of the debtor company for above cited factors.

6. FINDINGS:

- It is found that company following 30 days to 3 years credit policy, which is bearing maximum sales but less collection from debtor's.
- It is found that the company is transporting their goods on time to their customers. It shows that company strictly follows their Delivery system.
- It is found that the company has following bucketing of 0-30 days, 3- 90 days, 91-180 days, 6 months-1 year, 1 year -2 years, 2 years -3 years, and more than 3 years.
- It is found that there is very low positive as well as negative correlation between the net profit and outstanding amount.

7. CONCLUSION

After the studding of debtor's management, researcher has come to know that,

Outstanding amount of the debtor companies is not depends on the profitability of the debtor company because the correlation between it is very low. Hence there is no correlation between outstanding amount of the debtor companies and profitability of the debtor company. Company gives their customers (debtor's) bucketing period up to 3 years which is actually high, if company follows standard bucketing cycle then there are chances to reduce debtor. Correlation between the outstanding amount of debtor's and profitability of the debtor's company is very low so, profitability of the companies impacted very less on outstanding amount. Customers influence and Economic changes the P-Values are impacted so much on debtor's management and profitability of debtor's management. And remaining three factors i.e., Competition, Planning and Marketing function are not that much impacted. So company is needed to focus on Customers

influence and Economic changes. Current situation of debtor's recovery is not satisfactory as per the sterlite Tech.

8. SUGGESTIONS:

1. It is suggested that company should follow standard debtor collection period cycle.
2. It is suggested that Company should offer discounts to their debtor's to encourage prompt payments.
3. It is suggested that Company must use reports and references to identify credit ratings for new customer companies, mainly those who are placinghuge orders from the outset.
4. It is suggested that Company should be stay at the front of their thoughts when payments are scheduled. This will happen through send invoices on time and continuous reminder system.
5. It is suggested that Company have to more focus on Customers influence and Economic changes to reduce problems from debtors.

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"THE IMPACT OFHR PRACTICESON EMPLOYEE SATISFACTION IN HEALTH-CARE INDUSTRY."

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1.ABSTRACT:-

The success of any organization depend on the performance of its employee's.Organizations particularly health care industries are facing many competitive challenges to achieve the organization goals. In such situation a productive and satisfied employees are veryessential. Human resource practices in organizations of health care industry seek to improve the quality of services and patient satisfaction. Employee's satisfaction is an important perception of the employees towards the organization especially in the health care industry. When they are satisfied with their job, they will have better job performance.

The main purpose of this study is to assess the impact of HR Practices (Salary &Benefits, Trainingprograms, Performanceappraisal, Employee involvement in managerial decisions, and flexi working hours) on employee satisfaction with special reference to selected organizations of health care industry.

The study reveals that there is significant impact of HR practices on employee satisfaction in health-care industry but that impact is not found to be positive as per satisfaction level of employees is considered. Employees are not satisfied with the current HR practices in health-care industry and a radical change in these practices is recommended.

KEY WORDS:-

HR Practices, Employee satisfaction, Impact of human resource practices.

2. INTRODUCTION:-

Health care industry has become one of the India's largest sectors both in terms of revenue and employment. During 2018-22, the health care market is expected to record a compound annual growth rate of 16.28 percent. The hospital industry in India stood at 61.79 billion in 2017 and is expected to increase at a 16-17 percent to reach 132.84 billion by 2023.The health- care sector is expected to generate 40 million jobs in India by 2030. In India there are public and private health care sectors .Public health-care sector is funded by the state and central government. Now a days private hospital plays an important role in providing various health related services to the patients. In present times, the private healthcare sector has emerged as an international reputation. Due to high end technologies, modern devices and simple surgical procedures, the private health care sector is gaining highest preference by Indians for health related requirements.According to various published reports, it is found that Indians spend nine times more on private hospitals compare to public health care sector. In today's economic scenario, private healthcare organizations are largely attracting investments from big industry.The private healthcare sector in India has more importance due to easy access and quality and reliable services to the patients.The increased use of modern technology has help to reach millions peoples with modern operational efficiency. The private health care sectors always adopt advanced techniques for better treatment to the patients. There is full of opportunities in the Indian health care sector for industry players and has emerged as a vibrant force that contributes to the Indian economy and growth .India has become a high-end destination for medical tourism with modern diagnostics and latest technology services.

Human resource management plays very important role for contributing to the achievement of objectives of health- care sector. Health- care employees have problems in meeting the needs of their patients as their own needs are not satisfied. The success of any organization depends on the performance of its employee's. Health- care sector are facing many competitive challenges to achieve the organization goals. In such situation, it is very important to have productive and satisfied workforce for providing better services to the patients.

This study focus on the impact of HR practices(Salary & Benefits, Training programs, Performance Appraisal, Employee involvement in managerial decisions and flexi working hours) on employee satisfaction in selected organizations of health- care industry.

3. OBJECTIVES OF THE STUDY:-

1. To understand the HR Practices those are followed in selected health care industry.

2. To examine the relationship between HR Practices and employee satisfaction.

3. To analyze the most effective practices that impact on employee satisfaction.

4. To suggest measures to improve the HR Practices for employee satisfaction.

4. IMPORTANCE OF EMPLOYEE SATISFACTION IN HEALTH CARE INDUSTRY:-

Health-care employees are facing the problems in fulfilling the needs of their patients as employees own needs are not satisfied; hence, health- care authorities have responsibilities for both patients and their own staff. The job satisfaction in health- care industry is related to various aspects, such as best salary and other benefits, frequent training programs, impartial performance appraisal policy, involvement in managerial decision making and flexible working hours. Also good relation between management and employees, teamwork, Management attituderesults in employee satisfaction. If the above facilities are provided to employees result in high level of job satisfaction.

5. DEFINATION OF HRM PRACTICES AND JOB SATISFACTION:-

Human resource practices: is a management task that helps managers for Planning, Recruiting, Training and Development, Salary and other benefits and retain the employees for the organization.

Job satisfaction defined as employee's positive and negative feeling regarding their work. It can be known from the attitude of the employees towards his work. Job satisfaction is depends on motivational level of employees.

6. LITERATURE REVIEW:-

Dr.Ranjan(2015) Motivation and job satisfaction: A case study of pharmacists in private hospitals. concluded that both motivation and job satisfaction is highly important for all kind of employees to achieve high productivity and to maintain good morale and commitment, involvement among the employees which will further enhance quality of patient care. Hence, the hospital management must take3 necessary step to improve both motivation and job satisfaction of the employees.

Singh and Negi (2013) conducted study on "Human resource management practices in large hospitals of Dehradun, Uttrakhand'' Study suggested that HR functions are very important in healthcare facilities. The HR processes and procedures are fairly good in hospitals and HR policies are very important for healthcare facilities.

Patil and Choudhari (2013) with their study entitled "Investigation of HRM Practices in hospitals of Jalgaon districts''; the study found that HRM practices are very skillfully applied by private hospitals. They have applied all superficial practices in higher proportion as compared to govt hospital but the core practices are applied only in govt hospitals.

SonappaDajiba Goral (2010) conducted a study entitled "An analytical study of human resource management in private hospitals with special reference to Kolhapur district (MAHARASHTRA)''. The study found that hospital human resource to be totally unsatisfied with their compensation, working condition, welfare facilities etc.

Radhakarunakaran (2008) with her study entitled "Human resource management practices in private hospitals in Kerala''The study concluded that overall Human resource practices in private hospitals in Kerala are fairly satisfactory. There isa need of immediate attention in the several areas from policy maker and private hospital management.

7. RESEARCH METHODOLOGY:-

A descriptive research design was used for study. The primary data was collected from four selected hospitals in Pune by using questionnaire, personal discussion and interviews. And secondary data was collected from internet, published books, library reports and other records.

The selected Four large private hospitals are namely Shatayu hospital, Rao Nursing home vighnahar hospital and Chandralok hospital in Pune city based on physical survey and possibility of getting data and information..Random sampling design was used for collecting data. The totalpopulation size was 150 and sample size was selected.108 by using morgens sample size table.The design of questionnaire was based on five aspects of HRM Practices i.e. Compensation and Benefits, Performance Appraisal, Training program, Employee involvement in managerial decisions and flexi working hours by using five point Likert scale questionnaire. Statisticaltool like, pie charts showing frequency distribution for selected HR practices and percentage of employee satisfaction was used to measure the employee satisfaction. .

8.LIMITATION;-

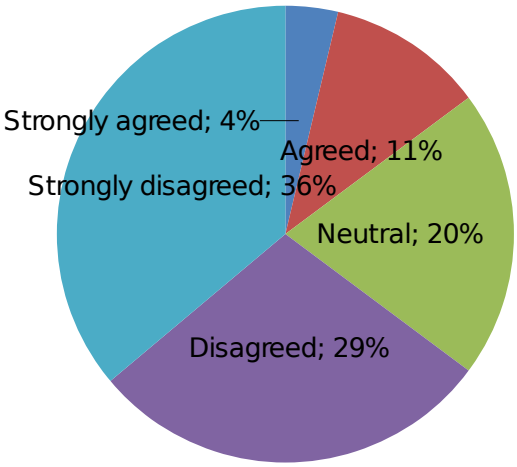
This study is limited to Pune city and 108 respondents have been selected against 150 total population. The study has not covered entire district and focused on middle and lower level staff working in selected health-care industry.

9.DATA ANALYSIS.

Part-A

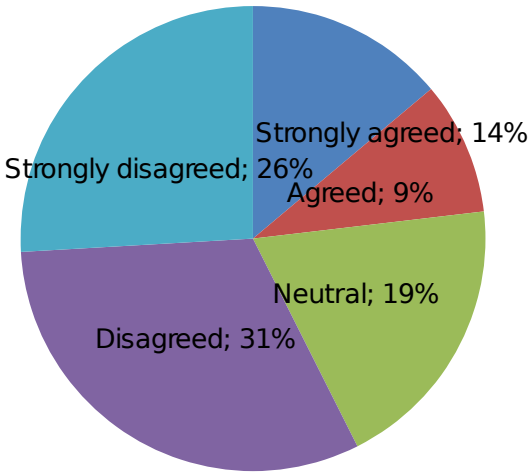
Frequency Distribution for selected HR practices and percentage of employee satisfaction from survey data.

Q- 1 Are you satisfied with the compensation and benefit package offered by the organization.



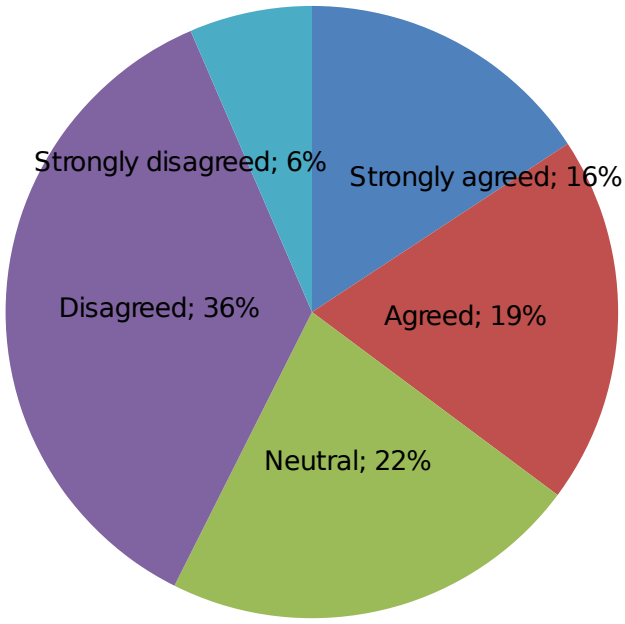
Source: Conceptualized by Researcher

Q-2 Are you satisfied with the performance appraisal system followed in your organization.



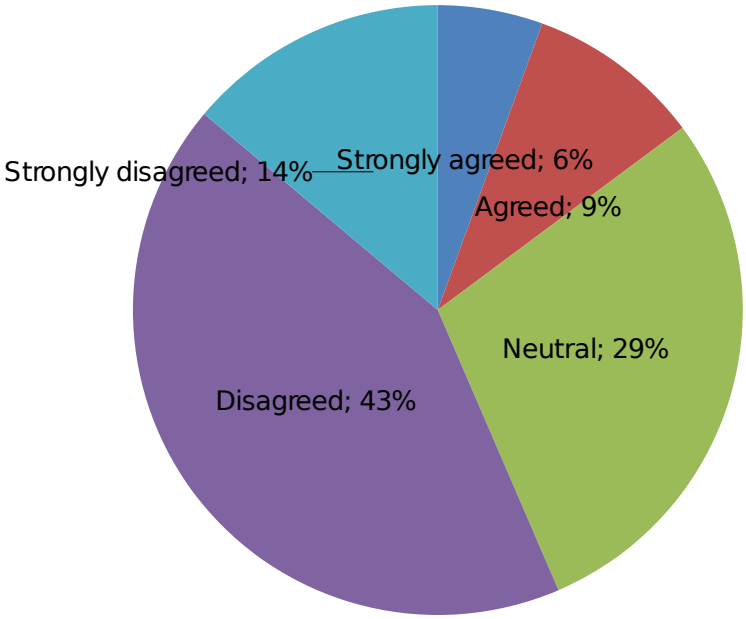
Source: Conceptualized by Researcher

Q-**3** Do you feel that timely training help in better performance and satisfaction.



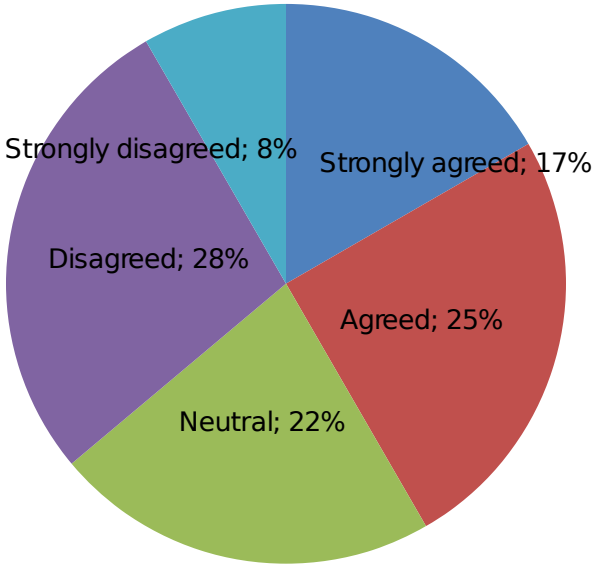
Source: Conceptualized by Researcher

Q- 4 Are you satisfied with the present system of employee participation in managerial decisions.



Source: Conceptualized by Researcher

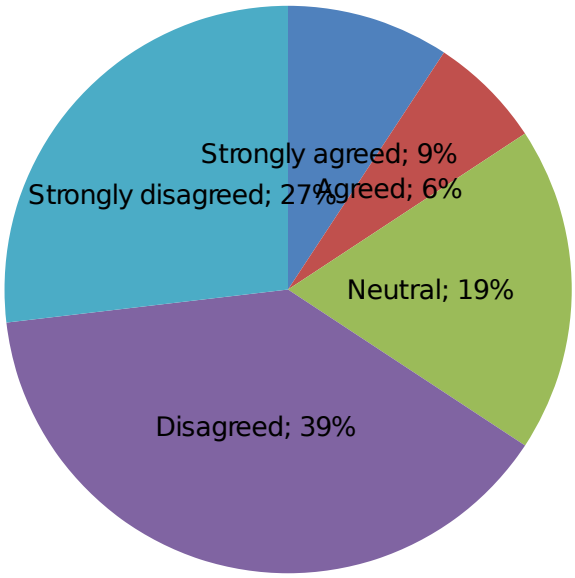
Q- 5 Are you satisfied with flexi hours working program that currently offered to you.



Part-B

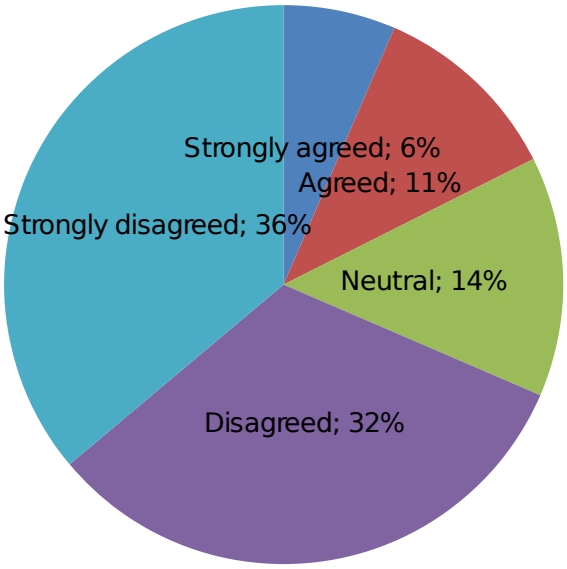
Frequency Distribution for employee satisfaction received from survey data.

Q-1 I am sometime bored with my tasks?



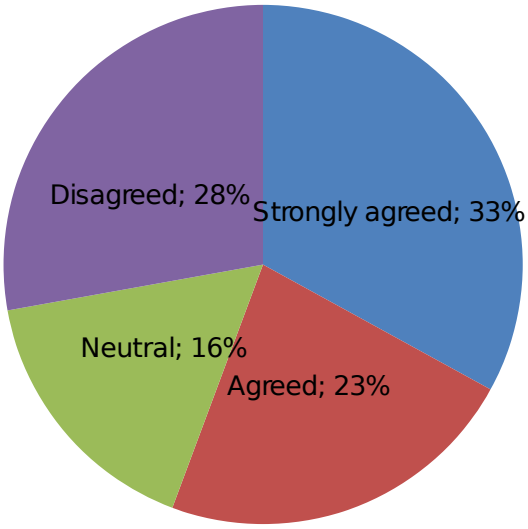
Source: Conceptualized by Researcher

Q-2I like my work better than other employees does?



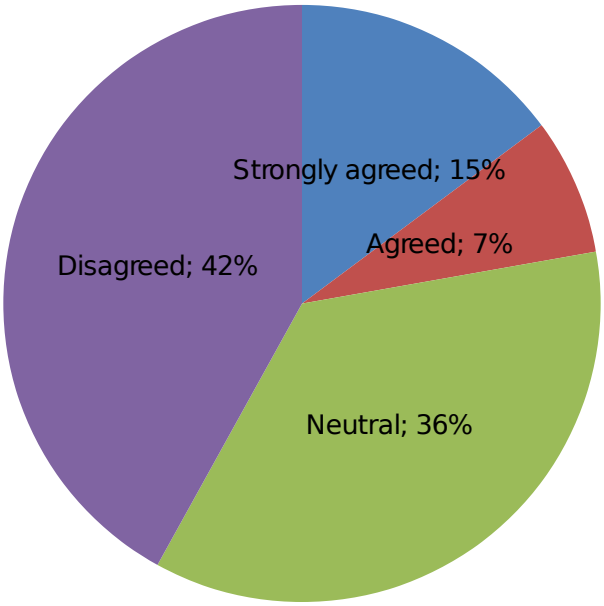
Source: Conceptualized by Researcher

Q-3- I feel motivated while performing my tasks?



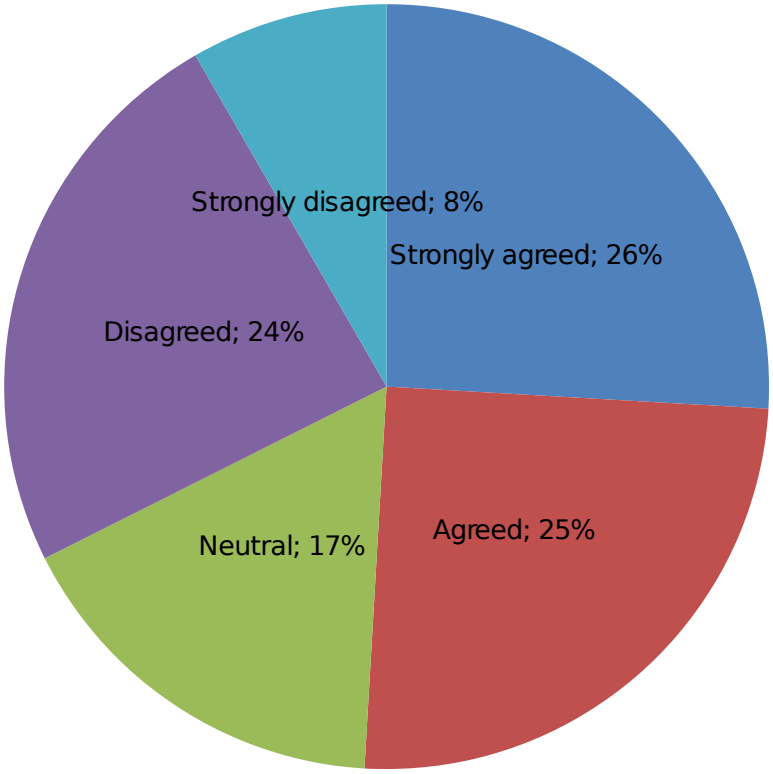
Source: Conceptualized by Researcher

Q-4 .I enjoy my duties at all the times?



Source: Conceptualized by Researcher

Q-5 My boss treat me as a family member?



Source :Conceptualized by Researcher

10.FINDING:-

Part-A

1.Incompensation and benefits package currently offered by organization,4% employees are strongly agreed,36% employees are strongly disagreed,29% employees are disagreed and 20% employees are neutral.

2.Inperformance appraisal system,14% employees are strongly agreed,26% employees are strongly disagreed,32% employees are disagreed and 19% employees are neutral.

3.In training program,7% employees are strongly disagreed,36% employees are disagreed,16% employees are strongly agreed and 22% employees are neutral.

4.In employee participation in managerial decisions,5% employees are strongly agreed,9% employees are agreed,14% employees are strongly disagreed,43% employees are disagreed and 29% employees are neutral.

5.In flexi hours working program,17% employees are strongly agreed,25% employees are agreed,8% employees are strongly disagreed,28% employees are disagreed and 22% employees are neutral.

Part-B

1. Under employee satisfaction, 6% employees are agreed for some time bored with their tasks, 9% employees are strongly agreed, 27% employees are strongly disagreed, 39% employees are disagreed and 19% employees are neutral.

2. Under liking of work ,7% employees are strongly agreed,11% employees are agreed,36% employees are strongly disagreed,32% employees are disagreed and 14% employees are neutral.

3.Under job motivation,23% employees are agreed,33% employees are strongly agreed,28% employees are disagreed and 16% employees are neutral.

4.Under enjoyment of duties,7% employees are agreed,15% employees are strongly agreed,42% employees are disagreed and 36% employees are neutral.

5.Under boss treatment ,5% employees are agreed,26% employees are strongly agreed,8% employees are strongly disagreed,24% employees are disagreed and 17% employees are neutral.

11. SUGGESTIONS:-

1. Health-care industry should provide fair & reasonable salary as well as other benefits to the employees.

2. Health-care industry should introduce fairly performance appraisal system to the employees.

3. Health-care industry should develop proper policy for employee involvement in managerial decision making process to motivate the employees.

4. Health-care industry should provide training opportunity to all employees frequently.

5. Health-care industry should design good flexi working hour policy for the employees.

12.CONCLUSION:-

From the above analysis it is concluded that there is significant impact of HR practices on employee satisfaction in health-care industry but that impact is not found to be positive as per satisfaction level of employees is considered. Employees are not satisfied with the current HR practices in health-care industry and a radical change in these practices is recommended.

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CHALLENGES FACED BY BANKING SECTOR

ON DIGITAL INNOVATION

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Abstract:

One of the main changes in the industry is becoming digitalization which is witnessing a profound transformation to the banking system. Digitalization offers new opportunities for banks to place the customer at the center of the development process. New technologies seem to be and stay in the market to disrupt the retail financial service value chain, as well as introducing new players into the competitive arena. Incumbents and new comers have innovative levers to adopt. The forces shaping these changes have led the industry to reconsider the role of banking and Finance, more as an "enabler" than a provider of products and services. The article aims at defining digital transformation in the banking industry, outlining what banks are developing in the market, and also pointing out that it is not going to be the technology itself that will be the disruptor of the banking industry, but rather how firm deploys the technology that will cause the disruption.

Index Terms - Digitalization; Digital Transformation; FinTech; Retail Banking; Business Model; Incumbents; Innovation.

I.INTRODUCTION:

The need for computerization was felt in the Indian banking sector in late 1980s, in order to improve the customer service, book-keeping and MIS reporting. In 1988, Reserve Bank of India set up a Committee on computerization in banks headed by Dr. C. Rangarajan. Banks began using Information Technology initially with the introduction of standalone PCs and migrated to

Local Area Network (LAN) connectivity. With further advancement, banks adopted the Core Banking platform. Thus, branch banking changed to bank banking. Core Banking Solution (CBS) enabled banks to increase the comfort feature to the customers as a promising step towards enhancing customer convenience through Anywhere and Anytime Banking. Different Core Banking platforms such as Finacle designed by Infosys, BaNCS by TCS, FLEXCUBE by I-flex, gained popularity. The process of Computerization gained pace with the opening of the economy in 1991-92. A major driver for this change was propelled by rising competition from private and foreign banks. Several commercial banks started moving towards digital customer services to remain competitive and relevant in the race. Banks have benefitted in several ways by adopting newer technologies. E-banking has resulted in reducing costs drastically and has helped generate revenue through various channels. As per last available information, the cost of a bank transaction on Branch Banking is estimated to be in a range of Rs.70 to Rs.75 while it is around Rs.15 to Rs.16 on ATM, Rs.2 or less on Online Banking and Rs.1 or less on Mobile Banking. The number of customer base has also increased because of the convenience in 'Anywhere Banking'. Digitization has reduced human error. It is possible to access and analyze the data anytime enabling a strong reporting system. RBI has been a guiding force for the banks in forming regulations and giving recommendations to achieve various objectives. Commercial Banks in India have moved towards technology by way of Bank Mechanization and Automation with the introduction to MICR based cheque processing, Electronic Funds transfer, Inter-connectivity among bank Branches and implementation of ATM (Automated Teller Machine) Channel have resulted in the convenience of Anytime banking. Strong initiatives have been taken by the Reserve Bank of India in strengthening the Payment and Settlement systems in banks. Artificial Intelligence (AI) is fast evolving as the go-to technology for companies across the world to personalize experience for individuals. The technology itself is getting better and smarter day by day, allowing more and newer industries to adopt the AI for various applications

II.OBJECTIVES

The objective of the research is to determine the challenges of digital innovation in banking

III.REVIEW OF LITERATURE

Various qualitative and quantitative research have been done in last one year on impact of demonetization on Indian economy, general public and various sectors of the economy. Dr. Arun Mittal (Mittal, 2017) in his qualitative research survey from general public during the days of demonetization found out that the people faced liquidity problem in early days and found out all possible methods of cashless transactions even helped each other with small currency notes besides changing their behavior pattern in spending like curtailing their expenses and saving cash for urgent needs. A study done on effects of demonetization on GDP of India (Sachin, 2017) found adverse effects of demonetization on GDP, small Traders, SMEs and agriculture sector both in last two quarters of 2016-17 and first two quarters of 2017. Sharma and Gupta (Gupta

2017) studied the impact of demonetization on MSME sector and found that MSME sector was hardly hit by demonetization due to their greater dependence on hard cash. Construction sector and roadside vendors seems to be worst hit. A real time survey done during demonetization days in Ghaziabad city on retail sector by Dimpal Viji and Arora (Vij, 2017) found that demonetization impacted retail sector very badly especially the small vendors (Rehdiwala) totally depended on cash. Demonetization has impacted e-business a lot and it will prove huge boom for digital payment market. Even small vendors have introduced cashless payment methods. Post- demonetization the people have finally started believing in the power of the plastic money in the form of credit card/debit card, and other channels of electronic payments. Online banking has gained prominence due to unavailability of enough cash in the market. (Shailey Gupta, 2017) Vandana Munjal et. al (vandana Munjal, 2017) in their primary survey on towards using of e-transactions and cashless methods in NCR region found out that people in India are sufficiently aware about e-payment methods but use of these methods depend on various factors including demographic. Dannenberg and Kellner (1998), in their study, overviewed the opportunities for effective utilization of the Internet with regard to the banking industry. The authors evaluated that appropriate application of today's cutting-edge technology could ensure the success of banks in the competitive market. They evaluated the services of banks via internet as websites provide sophisticated line of products and services at low price. The authors analyzed that transactions via internet reduce the risk of data loss to customers, chance to cut down expenses, higher flexibility for bank employees, re-shaping the 43 banks' image into an innovative and technologically leading institutes, etc. The researchers found that banks could move one step further by entering into a strategic alliance with internet service

provider. So, the bank of tomorrow stands to be feasible with today's technology. Daniel (1999), in his research paper, described e-banking as the newest delivery channel offered by the retail banks in many developing countries. The objective of the study was to analyze the current provision of electronic services of major retail banking organizations in the UK. The researcher through a questionnaire found that 25% banks in the UK were those already providing ebanking services, 50% banks were testing or developing such services while 25% were not providing any e-banking services. Electronic channels, PC, digital TV and all these provide greater accessibility and services at lower price. To make services more adaptable, customers should be provided maximum choice and convenience. Restriction and limitation within organization to operate the services and its market share or strength were viewed as important to decide and operate the e-banking services. Sathya (1999), in his research paper, explored the factors affecting the adoption of internet banking by Australian customers. The author stated that internet and other virtual banking had significantly lower the cost structure than traditional delivery channels. So, the banks should encourage customers to use internet for banking transactions. The author also emphasized that for adoption of internet banking, it was necessary that the banks offering this service made the consumers aware about the availability of such a product and explain how it adds value to the other products. The analysis of the study showed that security concerns and lack of awareness stand out as the reasons for non-adoption of internet banking by Australian customers. However, internet should be considered as a part of overall customers' service and distribution strategy. These measures could help in rapid migration of customers to internet banking resulting in considerable saving of operating costs of banks. Kamesam (2001) studied the changes that took place in the Indian banking industry which emphasized on technological advancements and profitability in banks. Technology has helped in centralized data storage with decentralized processing which has helped in reduction of costs and NPAs. Further, emergence of services such as electronic data interchange (EDI), usage of smart cards, RTGS, e-commerce; all resulted in increasing the level of profitability and productivity of banks. The author concluded that in order to reduce crimes, security audit should be done which will be helpful in improving customer service, increase systematic efficiency and thus increased productivity and profitability. Ramani (2007) studied the impact of e-payment system on Indian banking sector. E-payment was required for handling large volume of business payment and remittances for hassle free, quicker and faster payment remittances at low cost, and paperless transactions. The researcher

highlighted various steps taken by RBI for the e-payment. It includes RTGS, deferred net settlement system such as electronic clearing services debit and credit, electronic fund transfer and NEFT. The researcher studied that these methods had increased the use of core banking solutions, data warehousing and data mining. E-payment had reduced the chances of fraud, improved customer service by cutting the delay in payment obligation. In view of Dixit and Datta45, (2010), traditionally Internet banking refers to the development of a website by a bank to provide basic information on their services and products. Today the word "Internet banking includes providing services such as access to accounts, transfer funds, and the purchase of financial products or services online."

IV. CONCEPTUAL FRAME WORK

4.1 CURRENT STATUS IN DIGITAL BANKING

Indian Government is aggressively promoting digital transactions. The launch of United Payments Interface (UPI) and Bharat Interface for Money (BHIM) by National Payments Corporation of India (NPCI) are significant steps for innovation in the Payment Systems domain. UPI is a mobile interface where people can make instant funds transfer between accounts in different banks on the basis of virtual address without mentioning the bank account. Today banks aim to provide fast, accurate and quality banking experience to their customers. Today, the topmost agenda for all the banks in India is digitization. According to the RBI Report in 2017-18 there are 2,11,255 Automated Teller Machines (ATMs) and 33,11,184 Point of Sale devices (POS). Implementation of electronic payment system such as NEFT (National Electronic Fund Transfer), ECS (Electronic Clearing Service), RTGS (Real Time Gross Settlement), Cheque Truncation System, Mobile banking system, Debit cards, Credit Cards, Prepaid cards have all gained wide acceptance in Indian banks. These are all remarkable landmarks in the digital revolution in the banking sector. Online banking has changed the face of banking and brought about a noteworthy transformation in the banking operations.

4.1.1 National Electronic Funds Transfer (NEFT) is the most commonly used electronic payment method for transferring money from any bank branch to another bank in India. It operates in half hourly batches. At present there are 23 settlements.

4.1.2 Real Time Gross Settlement (RTGS) is primarily used for high-value transactions which are based on 'real time'. The minimum amount to be remitted through RTGS is Rupees Two Lakhs. There is no upper limit.

4.1.3 Immediate Payment Service (IMPS) is an instant electronic funds transfer facility offered by National Payments Corporation of India (NPCI) which is available 24 x 7. The usage of Prepaid payment instruments (PPIs) for purchase of goods & services and funds transfers has increased considerably in recent years. The value of transactions through PPI Cards (which include mobile prepaid instruments, gift cards, foreign travel cards & corporate cards

4.2 Challenges

4.2.1 Security Risks - External threats such as hacking, sniffing and spoofing expose banks to security risks. Banks are also exposed to internal risks especially frauds by employees / employees in collusion with customers

4.2.2 Financial Literacy / Customer Awareness - Lack of knowledge amongst people to use e-banking facilities is the major constraint in India.

4.2.3 Fear factor - One of the biggest hurdle in online banking is preference to conventional banking method by older generation and mostly people from the rural areas. The fear of losing money in the online transaction is a barrier to usage of e-banking.

4.2.4 Training - Lack of adequate knowledge and skills is a major deterrent for employees to deal with the innovative and changing technologies in banks. Training at all levels on the changing trends in IT is the requirement of the day for the banks.

4.3 ARTIFICIAL INTELLIGENCE

4.3.1 Artificial Intelligence (AI) is fast evolving as the go-to technology for companies across the world to personalize experience for individuals. The technology itself is getting better and smarter day by day, allowing more and newer industries to adopt the AI for various applications. Banking sector is becoming one of the first adopters of AI. And just like other segments, banks are exploring and implementing the technology in various ways. The rudimentary applications AI include bring smarter chat-bots for customer service, personalizing services for individuals, and

even placing an AI robot for self-service at banks. Beyond these basic applications, banks can implement the technology for bringing in more efficiency to their back-office and even reduce fraud and security risks.

4.3.2 Advent of AI banking in India

According to Accenture's recent Accenture Banking Technology Vision 2018 report, 83% of Indian bankers believe that AI will work alongside humans in the next two years — a higher than the global average of 79%. "93% bankers in India said they increasingly use data to drive critical and automated decision-making. More partner-supplied customer data means a higher degree of responsibility for banks. Yet, 77% Indian bankers agree that most firms are not prepared to confront impending waves of corrupted insights from falsified data," said the report. "AI is not new to India. Research institutions and universities have been working with various AI technologies for decades, and especially in the area of social transformation. With enabling technologies becoming a lot more accessible and inexpensive, AI is now becoming mainstream, with large enterprises and start-ups looking at different opportunities. Our research shows that the adoption of AI has the potential to add nearly $1 trillion to the Indian economy in 2035. AI adoption is still in its nascent stages, and a lot more needs to be done to realize its full potential," says Rishi Aurora, managing director, financial services, Accenture. "Application of AI and ML (machine learning) to different functions within the banking industry has enabled them to offer a far more personalized and efficient customer service. By achieving that, banks have also been able to gain better insights into their customers' preference and expectations from the bank. Accordingly, automation of back-end workflows has shown better outcomes. According to various industry reports, more than 36% of large financial institutions are already investing in such technologies, and close to 70% are planning to in the near future," according to Darshan Shah, MD, South Asia, LenddoEFL, a Singapore-based fintech company. State Bank of India, the largest bank in India, last year conducted "Code for Bank" hackathon to encourage developers to build solutions leveraging futuristic technologies such as AI and Blockchain into the banking sector. Private banks like HDFC Bank and ICICI Bank have already introduced chat-bots for customers service. Some have even gone ahead with placing robots for customers service. Last year, Canara Bank installed Mitra and Candi robots at some of its offices. "Payment companies are using AI to offer personalized payment experience to consumers. By applying AI

and analyzing past payment patterns, payment systems can prompt the preferred payment instrument which best suits a purchase at the time of checkout. Say a consumer avails EMI option frequently for his big-ticket purchases, then the best EMI option is made available to the consumer at the time of checkout. Such personalized consumer experiences drive up consumer spending and creates stickiness to the product consumers are using," said Varun Rathi, cofounder and COO, Happay, a Bangalore-based start-up focused on digital payment solutions.

4.4 COMMON USES OF AI IN BANKS:

4.4.1 Fraud Detection: Anomaly detection can be used to increase the accuracy of credit card fraud detection and anti-money laundering.

4.4.2 Customer Support and Helpdesk: Humanoid Chatbot interfaces can be used to increase efficiency and reduce cost for customer interactions.

4.4.3 Risk Management: Tailored products can be offered to clients by looking at historical data, doing risk analysis, and eliminating human errors from hand-crafted models.

4.4.4 Security: Suspicious behaviour, logs analysis, and spurious emails can be tracked down to prevent and possibly predict security breaches.

4.4.5 Digitization and automation in back-office processing: Capturing documents data using OCR and then using machine learning/AI to generate insights from the text data can greatly cut down back-office processing times.

4.4.6 Wealth management for masses: Personalized portfolios can be managed by Bot Advisors for clients by considering lifestyle, appetite for risk, expected returns on investment, etc.

4.4.7 ATMs: Image/face recognition using real-time camera images and advanced AI techniques such as deep learning can be used at ATMs to detect and prevent frauds/crimes.

4.5 CHALLENCES

4.5.1 Availability of right data: A key challenge is the availability of the right data. Data is the lifeblood of AI, and any vulnerability arising from unverified information is a serious concern for

businesses. Imagine for example, the risks that could arise from KYC compliance AI systems if the data sources are incorrect. Or consider the efficacy of a fraud detection AI system without the right kind of data. Structured mechanisms for collecting, validating, standardizing, correlating, archiving and distributing AI relevant data is crucial.

4.5.2 Language Barrier: India has 150+ languages with sizable spoken population. Applications which use speech to text or text to speech rely on natural language processing (NLP) libraries and techniques. Banks can use the existing technologies to start with to support some major Indian languages, but in order to effectively reach out to wider population in India, much more progress is required on NLP front

4.5.3 Data privacy: Data access and data privacy is a central aspect of any AI work banks do. These aspects will be of paramount importance with introduction of regulations in Europe such as GDPR (General Data Protection Regulation). GDPR regulation is currently applicable to European citizens, but India and other countries have their own data privacy regulations. Banks in India will have to build AI systems with GDPR and similar privacy regulations in mind

4.5.4 Scarcity of trained human resources: The biggest challenge is the scarcity of trained human resources; the existing workforce is not familiar with latest tools and applications. Secondly, the AI technology is a big threat to redundant employees in the banking sector. The mass adoption of AI may cause a grave unemployment problem in the sector

4.5.5 Unavailability of skilled people: One of the important challenges that is faced by Industry and not just banks in India is unavailability of people with right data science skills. With only small number of good data scientists available to do AI work, the industry needs to work with universities in India to develop skilled data scientists as well as develop in-house training programs to train employees on data science skills. Also, identification of right use cases for AI implementation with the help of domain experts and data scientists can help banks in successful implementation of AI technologies for banking functions

V. CONCLUSION

Based on the above findings, it can be concluded that technology has greatly influenced the bank customers encouraging them to conduct banking in an innovative manner. They have good

awareness regarding ATMs and credit card whereas it is low in internet and mobile banking. Further, variability of awareness of ATMs is less among bank customers and among the different age, education and income groups whereas for all other e-banking delivery channels, variability of awareness is high among different categories. Adoption of ATMs was highest followed by internet banking, credit card and mobile banking, whereas as drop page rate is high in the case of credit cards followed by mobile banking, internet banking and ATMs. Further it is revealed that variability of adoption of e-banking products is high among the bank customers where new generation bank customers are ahead of scheduled bank and nationalized bank customers

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An Empirical Study of Impact of Off the Job Training on Employee Performance in Selected IT Companies in Pune

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ABSTRACT

An organization permits its employees to pay more thought to the training actionswhenever they are given off-the job training opportunity. Whenever off the jobtraining programs are held at different location using methods like workshop,seminar, role plays encourages employees to concentrate on gaining new skills,knowledge and different types of behavior sans any type of distraction, noise ofmachines, people working nearby, telephones etc. Such off the job trainingprograms when coupled with a reward of recognition enhances employeemotivation and morale, belongingness to the organization etc. An effective off the Job training program can cut down on the attrition, reduces maintenance, by helping employee to commit fewer mistakes and helps to perform better. As an IT industrykeeps on evolving its contents need to be regularly updated and put in use. A soundoff the job training program can save cost, time and can be error free and alsoboosts confidence when an employee starts working on the job working. Off the Job provides about practical training effectiveness and how it contributes in enhancing the employee performance and develop the skills ultimately concludes along with recommendation to give directions for future research and analysis on exploring the impact of on the training practices on employee performance in different manner. The primary data is used for the study. The data was collected through the questionnaire from selected IT Companies in Pune. The data was analyzed in SPSS and Excel tools using the T test and ANOVA and various formulas as well.

KEY WORDS

Off the Job Training, Employee Performance, Skill Development, Training Impact

INTRODUCTION

Training plays an important role in an employee's working life as it enhances his/her confidence, boosts morale and motivation, develops courage to undertake and tackle any business problem with ease and allows to think out of the box. A proper training allows to commit lesser mistakes at work and helps in reducing the waste thereby increasing productivity of a worker. It changes one's attitude towards work/job making it more positive; one can think various point of views about a problem and situation to tackle it if trained well. All business organizations lay a great emphasis on training in today's complex business situations to find out a correct outcome to their problems. Most of the organizations have revamped their regular training and development departments to learning and development departments. Almost all organizations across the sectors be it automobile, real estate, and retail, pharmaceutical, IT and ITes train their employees. So right from manufacturing to service industry training appears to be a major tool to address employee as well clients' issues.

In certain sectors as technology changes very rapidly making current practice and knowledge obsolete, continuous training programs become imperative which help in imparting and updating latest technology, its know-how, its procedures and implementation as well to keep employee motivated and with the flow of current trends so they do not feel left out in the process. An IT industry requires continuous updating of technology, processes and solutions to their customers problems. Training can help a great deal here, which can be imparted via on the job or off the job training methods. Both of which have their own merits and demerits. However off the job training has its own importance in the training industry. Off the job training is generally conducted thru class room, lecture, seminars, workshops etc. Off the job training explains all the required concepts, various parts of a machine or may be process of selling etc. Thus it gives clarity to the incumbent about it, also trainee can ask numerous questions to get doubts cleared, it

straight away doesn't expose an incumbent to a particular machine, client thus giving enough room to do the home work and avoid possible accidents or mistakes which otherwise result in lesser or damaged output, may be losing a business opportunity with a client. Off the job training allows to commit several mistakes, correcting them and approach boldly the On the Job Training. It can be said that off the job training acts as a precursor to on the job training or an important ingredient without which other training methods would sound incomplete.

Off the job training prepares a trainee to aquatint with a particular machine, chart, diagram and understand various components of it without actually handling it, but it makes him/her to keep all important points at the back of mind while approaching it physically.

OBJECTIVES

4. To Study the Impact of Off the Job Training Program on employee Performance
5. To Study the Impact of Off the Job Training to enhance the Knowledge/ Skill to Perform better.
6. To study employee Satisfaction with respect to the Off the Job Training Program.

LITERATURE REVIEW

Erica Smith (2002)suggested that, Off the job training has several issues that seemed to be more importance to the young employee persistence in their satisfaction with their performance and learning and the effectiveness of their training program as well. He also suggested that when the young employee tended to privilege on – against off the job training program when began their contracts of the training program. It indicates that Off the Training Program is important to enhance the skill and knowledge to perform the duty.

Aidah Nassazi (2013)stated that off the Job training is argued to be more effective. Organisation should have proper policies to conduct a suitable training program which will be effective to the employee and they will perform better depends upon the trainer.

Wright & Geroy (2001) stated that, the employee can be changed their performance through effective training program. It therefore not only improve the overall performance of the employee to effectively perform their job but also enhance the skill, knowledge and attitude of

the workers necessary for the future job. The Off the Job training program helps to develop the skill and knowledge for better performance.

RESEARCH METHODOLOGY

A explanatory research design was used for the study. It is Stratified random sampling method was employed to select the respondents, from IT companies in Pune City. The Sample Size of 180 was selected. Out of that 160 respondents given their feedback.

The questionnaire was divided into three parts, Part -1 contains the demographic information's about the respondent, Part -II related to the Training Program & Part-III about the satisfaction, relation and effectiveness of the Off the Job Training. Statistical test was used to measure relationship between selected variables. The data was analyzed using the T test and Anova through SPSS.

HYPOTHESIS

H_0: There is no impact of demographic factors on satisfaction of the Off the Job Training and employee Performance to develop their Knowledge and skill.

H_1: There is an impact of demographic factors on satisfaction of the Off the Job Training and employee Performance to develop their Knowledge and skill.

LIMITATION

The Primary data was collected for the purpose of study. The questionnaire was collected from IT companies from Pune City.

FINDING

Table 1:- Perception of Respondents on Off the Job Training (Content wise Analysis)

Sr. No	Contents	Yes	Percentage (%)	No	Percentage (%)	Total	Percentage (%)
1	Are you satisfied with the current Job?	124	77.50	36	22.50	160	100.00
2	Are you satisfied with the current Profile	110	68.75	50	31.25	160	100.00
3	Does your company has any Policy to Provide Training Program to enhance the Skill/ Knowledge of the Employee?	142	88.75	18	11.25	160	100.00
4	Do you think the Company is providing better Training Program to the Employees	124	77.50	36	22.50	160	100.00
5	Do you think , Training Program helps you to Perform well and Fulfilled the Objective of the Organisation	122	76.25	38	23.75	160	100.00
6	Are you aware about the On the Job Training Program and Off the Job Training Methods?	116	72.50	44	27.50	160	100.00
7	Do you require more Training Program related to your Work?	118	73.75	42	26.25	160	100.00
8	Is Off the Job Training is aligned with your current Job requirement.	122	76.25	38	23.75	160	100.00
9	Is the Knowledge/ Skill imparted in Off the Job Training is effective?	132	82.50	28	17.50	160	100.00
10	Do you think Off the Job Training	126	78.75	34	21.25	160	100.00

	is helping to improve your Knowledge/ Skill.						
11	Do you think, Off the Training has helped you to become more Productive?	112	70.00	48	30.00	160	100.00

Source:- Survey Data

88.75 % respondents stated that, the Company has the specific policy to train the employee to enhance their skill and knowledge. Graduate, Post Graduate and Post Graduate respondents are not satisfied for the same. Very few Under Graduates are not agreed with this.

75-85 % Respondents suggested that Off the Job Training is effective and agreed that, It helps to enhance the skill and knowledge and it is helped them to perform well.

70 % Respondents suggested that Off the Job Training Program helps to be more productive.

68.75 % of the respondents are satisfied with their current profile. Maximum respondents are not satisfied who are associated with the company above 3 Years.

Table 2:- Satisfaction of Respondents on Current Company with respect of Off the Job Training (Descriptive for Age group)

Descriptive								
Rating	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Below 20 Years	8	6.5000	2.20389	.77919	4.6575	8.3425	3.00	8.00
21-30 Years	60	6.6000	1.53159	.19773	6.2043	6.9957	3.00	9.00
31-40 Years	54	7.2222	1.17629	.16007	6.9012	7.5433	5.00	10.00
41-50 Years	26	7.0000	1.69706	.33282	6.3145	7.6855	4.00	10.00
51 Years & Above	12	7.0000	1.59545	.46057	5.9863	8.0137	5.00	9.00
Total	160	6.9000	1.50136	.11869	6.6656	7.1344	3.00	10.00

Source:- Survey Data

Table 3:- Satisfaction of Respondents on Current Company with respect of Off the Job Training (ANOVA Test for Age Group)

ANOVA					
Rating	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12.667	4	3.167	1.420	.230
Within Groups	345.733	155	2.231		
Total	358.400	159			

Source:- Survey Data

P value is obtained as 0.230 (>0.05), thus it concluded that there is **no** significant difference between respondents of different age groups with regard to satisfaction with respect of Off the Job Training.

Table 4:- Satisfaction of Respondents on Current Company with respect of effectiveness to Off the Job Training (Descriptive for Age group)

Descriptive								
Rating	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Below 20 Years	8	7.7500	.46291	.16366	7.3630	8.1370	7.00	8.00
21-30 Years	60	7.0000	1.13496	.14652	6.7068	7.2932	5.00	9.00
31-40 Years	54	7.2963	1.47469	.20068	6.8938	7.6988	5.00	10.00
41-50 Years	26	7.9231	.93480	.18333	7.5455	8.3006	7.00	10.00
51 Years & Above	12	7.1667	1.52753	.44096	6.1961	8.1372	5.00	9.00
Total	160	7.3000	1.27284	.10063	7.1013	7.4987	5.00	10.00

Source:- Survey Data

Table 5:- Satisfaction of Respondents on Current Company with respect of effectiveness to Off the Job Training (ANOVA Test for Age Group)

ANOVA					
Rating	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17.328	4	4.332	2.795	.028
Within Groups	240.272	155	1.550		
Total	257.600	159			

Source:- Survey Data

P value is obtained as 0.028 (<0.05), thus it concluded that there is **a** significant difference between respondents of different age groups with regard to satisfaction with respect of effectiveness of Off the Job Training.

Table 6:- Satisfaction of Respondents on Current Company with respect of Off the Job Training (Descriptive for Gender)

Group Statistics					
	Gender	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Rating	Male	102	7.0000	1.54150	.15263
	Female	58	6.7241	1.42402	.18698

Source:- Survey Data

Table 7:- Satisfaction of Respondents on Current Company with respect of Off the Job Training (T Test for Gender)

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Rating	Equal variances assumed	.008	.931	1.118	158	.265	.27586	.24671	-.21142	.76314
	Equal variances not assumed			1.143	126.557	.255	.27586	.24137	-.20178	.75350

P value is obtained as 0.265 (>0.05), thus it concluded that there is **no** significant difference between respondents of male and Female with regard to satisfaction with respect of Off the Job Training.

Table 8:- Satisfaction of Respondents on Current Company with respect of effectiveness of Off the Job Training (Descriptive for Gender)

Group Statistics					
	Gender	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Rating	Male	102	7.3725	1.31948	.13065
	Female	58	7.1724	1.18674	.15583

Source:- Survey Data

Table 9:- Satisfaction of Respondents on Current Company with respect of effectiveness of Off the Job Training (T Test for Gender)

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Rating	Equal variances assumed	1.833	.178	.956	158	.341	.20014	.20938	-.21341	.61368
	Equal variances not assumed			.984	129.256	.327	.20014	.20335	-.20219	.60246

Source:- Survey Data

P value is obtained as 0.341 (>0.05), thus it concluded that there is **no** significant difference between respondents of male and Female with regard to satisfaction with respect effectiveness of Off the Job Training.

Table 10:- Satisfaction of Respondents on Current Company with respect of Off the Job Training (Descriptive for Qualification group)

Descriptive								
Rating								
	N	**Mean**	**Std. Deviation**	**Std. Error**	**95% Confidence Interval for Mean**		**Minimum**	**Maximum**
					Lower Bound	**Upper Bound**		
Under Graduate	14	6.2857	1.89852	.50740	5.1895	7.3819	3.00	8.00
Graduate	74	6.9189	1.37250	.15955	6.6009	7.2369	3.00	9.00
Post Graduate	58	6.9655	1.41379	.18564	6.5938	7.3373	4.00	10.00
Above Post Graduate	14	7.1429	2.03270	.54326	5.9692	8.3165	4.00	10.00
Total	160	6.9000	1.50136	.11869	6.6656	7.1344	3.00	10.00

Source:- Survey Data

Table 11:- Satisfaction of Respondents on Current Company with respect of Off the Job Training (ANOVA Test for Qualification Group)

ANOVA					
Rating					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	6.384	3	2.128	.943	.421
Within Groups	352.016	156	2.257		
Total	358.400	159			

Source:- Survey Data

P value is obtained as 0.421 (>0.05), thus it concluded that there is **no** significant difference between respondents of different qualification group with regard to satisfaction with Off the Job training.

Table 12:- Satisfaction of Respondents on Current Company with respect of effectiveness of Off the Job Training (Descriptive for Qualification group)

Descriptive								
Rating								
	N	**Mean**	**Std. Deviation**	**Std. Error**	**95% Confidence Interval for Mean**		**Minimum**	**Maximum**
					Lower Bound	**Upper Bound**		
Under Graduate	14	7.2857	.91387	.24424	6.7581	7.8134	6.00	9.00
Graduate	74	7.2432	1.26935	.14756	6.9492	7.5373	5.00	9.00
Post Graduate	58	7.1724	1.35255	.17760	6.8168	7.5280	5.00	10.00
Above Post Graduate	14	8.1429	1.02711	.27451	7.5498	8.7359	7.00	10.00
Total	160	7.3000	1.27284	.10063	7.1013	7.4987	5.00	10.00

Source:- Survey Data

Table 11:- Satisfaction of Respondents on Current Company with respect of effectiveness of Off the Job Training (ANOVA Test for Qualification Group)

ANOVA					
Rating					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	11.131	3	3.710	2.348	.075
Within Groups	246.469	156	1.580		
Total	257.600	159			

Source:- Survey Data

P value is obtained as 0.075 (>0.05), thus it concluded that there is **no** significant difference between respondents of different qualification group with regard to satisfaction of effectiveness with Off the Job training.

Table 12:- Satisfaction of Respondents on Current Company with respect of Off the Job Training (Descriptive for Technical Qualification)

Group Statistics					
	Technical Qualification	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Rating	Yes	130	6.9538	1.34603	.11805
	No	30	6.6667	2.05667	.37549

Source:- Survey Data

Table 13:- Satisfaction of Respondents on Current Company with respect of Off the Job Training (T Test for Technical Qualification)

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Rating	Equal variances assumed	6.678	.011	.944	158	.347	.28718	.30420	-.31365	.88801
	Equal variances not assumed			.730	34.940	.471	.28718	.39362	-.51195	1.08631

Source:- Survey Data

P value is obtained as 0.347 (>0.05), thus it concluded that there is **no** significant difference between respondents of male and Female with regard to satisfaction with respect of Off the Job Training.

Table 14:- Satisfaction of Respondents on Current Company with respect of effectiveness of Off the Job Training (Descriptive for Technical Qualification)

Group Statistics					
	Technical Qualification	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Rating	Yes	130	7.2769	1.27599	.11191
	No	30	7.4000	1.27577	.23292

Source:- Survey Data

Table 15:- Satisfaction of Respondents on Current Company with respect of effectiveness of Off the Job Training (T Test for Technical Qualification)

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Rating	Equal variances assumed	.199	.656	-.476	158	.635	-.12308	.25844	-.63352	.38737
	Equal variances not assumed			-.476	43.415	.636	-.12308	.25841	-.64407	.39792

Source:- Survey Data

P value is obtained as 0.635 (>0.05), thus it concluded that there is **no** significant difference between respondents of male and Female with regard to satisfaction with respect effectiveness of Off the Job Training.

Table 16:- Satisfaction of Respondents on Current Company with respect of Off the Job Training (Descriptive for Experience group)

Descriptive								
Rating								
	N	**Mean**	**Std. Deviation**	**Std. Error**	**95% Confidence Interval for Mean**		**Minimum**	**Maximum**
					Lower Bound	**Upper Bound**		
Below 5 Years	64	6.9375	1.46791	.18349	6.5708	7.3042	3.00	9.00
6-10 Years	48	6.6667	1.47797	.21333	6.2375	7.0958	3.00	10.00
11-15 Years	36	7.0556	1.70620	.28437	6.4783	7.6328	4.00	10.00
16-20 Years	8	7.0000	.75593	.26726	6.3680	7.6320	6.00	8.00
20 Years above	4	7.5000	1.73205	.86603	4.7439	10.2561	6.00	9.00
Total	160	6.9000	1.50136	.11869	6.6656	7.1344	3.00	10.00

Source:- Survey Data

Table 17:- Satisfaction of Respondents on Current Company with respect of Off the Job Training (ANOVA Test for Experience Group)

ANOVA					
Rating					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	5.094	4	1.274	.559	.693
Within Groups	353.306	155	2.279		
Total	358.400	159			

Source:- Survey Data

P value is obtained as 0.693 (>0.05), thus it concluded that there is **no** significant difference between respondents of different qualification group with regard to satisfaction of Off the Job training.

Table 18:- Satisfaction of Respondents on Current Company with respect of effectiveness of Off the Job Training (Descriptive for Experience group)

Descriptive								
Rating								
	N	**Mean**	**Std. Deviation**	**Std. Error**	**95% Confidence Interval for Mean**		**Minimum**	**Maximum**
					Lower Bound	**Upper Bound**		
Below 5 Years	64	7.1250	1.17514	.14689	6.8315	7.4185	5.00	9.00
6-10 Years	48	7.2083	1.30398	.18821	6.8297	7.5870	5.00	10.00
11-15 Years	36	7.5000	1.32017	.22003	7.0533	7.9467	6.00	10.00
16-20 Years	8	8.0000	1.51186	.53452	6.7361	9.2639	6.00	10.00
20 Years above	4	8.0000	1.15470	.57735	6.1626	9.8374	7.00	9.00
Total	160	7.3000	1.27284	.10063	7.1013	7.4987	5.00	10.00

Source:- Survey Data

Table 19:- Satisfaction of Respondents on Current Company with respect of effectiveness of Off the Job Training (ANOVA Test for Experience Group)

ANOVA					
Rating					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	9.683	4	2.421	1.514	.201
Within Groups	247.917	155	1.599		
Total	257.600	159			

Source:- Survey Data

P value is obtained as 0.201 (>0.05), thus it concluded that there is **no** significant difference between respondents of different qualification group with regard to satisfaction of effectiveness of Off the Job training.

Table 20:- Satisfaction of Respondents on Current Company with respect of Off the Job Training (Descriptive for Year of Service group)

Descriptive								
Rating								
	N	**Mean**	**Std. Deviation**	**Std. Error**	**95% Confidence Interval for Mean**		**Minimum**	**Maximum**
					Lower Bound	**Upper Bound**		
Below 3 Years	56	6.8571	1.39386	.18626	6.4839	7.2304	3.00	9.00
4-6 Years	46	6.5217	1.51642	.22358	6.0714	6.9721	3.00	10.00
7-10 Years	36	7.5556	1.48217	.24703	7.0541	8.0570	4.00	10.00
10 Years & Above	22	6.7273	1.51757	.32355	6.0544	7.4001	4.00	9.00
Total	160	6.9000	1.50136	.11869	6.6656	7.1344	3.00	10.00

Source:- Survey Data

Table 21:- Satisfaction of Respondents on Current Company with respect of Off the Job Training (ANOVA Test for Year of Service Group)

ANOVA					
Rating					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	22.812	3	7.604	3.535	.016
Within Groups	335.588	156	2.151		
Total	358.400	159			

Source:- Survey Data

P value is obtained as 0.016 (<0.05), thus it concluded that there is **a** significant difference between respondents of different qualification group with regard to satisfaction of Off the Job training.

Table 22:- Satisfaction of Respondents on Current Company with respect of effectiveness of Off the Job Training (Descriptive for Year of Service group)

Descriptive								
Rating								
	N	**Mean**	**Std. Deviation**	**Std. Error**	**95% Confidence Interval for Mean**		**Minimum**	**Maximum**
					Lower Bound	**Upper Bound**		
Below 3 Years	56	7.2143	1.21677	.16260	6.8884	7.5401	5.00	10.00
4-6 Years	46	7.2174	1.36485	.20124	6.8121	7.6227	5.00	10.00
7-10 Years	36	7.5000	1.32017	.22003	7.0533	7.9467	5.00	10.00
10 Years & Above	22	7.3636	1.17698	.25093	6.8418	7.8855	6.00	9.00
Total	160	7.3000	1.27284	.10063	7.1013	7.4987	5.00	10.00

Source:- Survey Data

Table 21:- Satisfaction of Respondents on Current Company with respect of effectiveness of Off the Job Training (ANOVA Test for Year of Service Group)

ANOVA					
Rating					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	2.254	3	.751	.459	.711
Within Groups	255.346	156	1.637		
Total	257.600	159			

Source:- Survey Data

P value is obtained as 0.711 (>0.05), thus it concluded that there is **no** significant difference between respondents of different qualification group with regard to satisfaction of effectiveness of Off the Job training.

With regards to the results of T Test and ANOVA it is found that, satisfaction of the respondents with different demographic profile is a significantly different. Thus Null Hypothesis is rejected and it is concluded that, there is an impact of demographic factors on satisfaction and its effeteness of Off the Job Training.

d. The average level of the satisfaction of the current company with respect of On the Job training is **6.87**& its effectiveness average is **7.30** . It means the On the Job Training is Effective to their skill and knowledge.
e. Out of the total respondents who posses Non technical qualification (Mean- 6.60) and the female respondents (Mean-6.70) are not satisfied with all the aspects where all are agreed with all the parameters. Whereas Female respondents are not agreed about the effectiveness of the training Program. The Mean of Non Technical persons (Mean-7.40) is higher than total average.
f. It is observed that, the factors of Age, Qualification, Year of Experience & Year of service in the Company is same with respect to effectiveness to Off the Job training i.e**7.30** compare to the Female (Less Average mean-**7.10**) and Technical Qualification parameter (Mean-**7.27**). Above satisfied about the effectiveness are non technical qualified respondents. (Mean-**7.40)**

Table 10:- Demographic Profile of Respondents

Age Group	**No of Respondents**	**Percentage (%)**	**Experience**	**No of Respondents**	**Percentage (%)**
Below 20 Years	8	5.00	Below 5 Years	64	40.00
21-30	60	37.50	6-10 Years	48	30.00
31-40	54	33.75	11-15 Years	36	22.50
41-50	26	16.25	16-20 Years	8	5.00
51 Years & Above	12	7.50	20 Years above	4	2.50
Total	**160**	**100.00**	**Total**	**160**	**100.00**
Qualification	**No of Respondents**	**Percentage (%)**	**Years of Service in the current Company**	**No of Respondents**	**Percentage (%)**
Under Graduate	14	8.75	Below 3 Years	56	35.00
Graduate	74	46.25	4-6 Years	46	28.75
Post Graduate	58	36.25	7-10 Years	36	22.50
Above Post Graduate	14	8.75	10 Years & Above	22	13.75
Total	**160**	**100.00**	**Total**	**160**	**100.00**
Technical Qualification	**No of Respondents**	**Percentage (%)**	**Gender**	**No of Respondents**	**Percentage (%)**
Yes	130	81.25	Male	102	63.75
No	30	18.75	Female	58	36.25
Total	**160**	**100.00**	**Total**	**160**	**100.00**

Source:- Survey Data

FINDING & SUGGESTIONS:-

88.75 % respondents stated that, the Company has the specific policy to train the employee to enhance their skill and knowledge. Graduate, Post Graduate and Post Graduate respondents are not satisfied for the same. Less than 1% of the total Respondents of Under Graduates are not

agreed with this. Hence we can say that the policy of the company regarding the development of the skill of the employee is helping to fulfill the objective of the organization.

75-85 % Respondents suggested that Off the Job Training is effective and agreed that, It helps to enhance the skill and knowledge and it is helped them to perform well. Mean Off the Job training is effectively for the perform of the job in a better way.

70 % Respondents suggested that, Off the Job Training Program helps to be more productive. It indicates that is helpful for the production and develop the motivation factor.

68.75 % of the respondents are satisfied with their current profile. Maximum respondents are not satisfied who are associated with the company above 3 Years. Hence it is observed that the policy must be made as per the requirement of the company and should be effectively for the employee.

It is stated that there is **no** significant difference between respondents of different age groups with regard to satisfaction with respect of Off the Job Training. Hence it is stated that the satisfaction of the Off the Job training is require the students to enhance the knowledge the skill and development.

It is concluded that there is **a** significant difference between respondents of different age groups with regard to satisfaction with respect of effectiveness of Off the Job Training. Hence Effectiveness is the factor for Off the job training.

It is concluded that there is **no** significant difference between respondents of Gender, Qualification with regard to satisfaction and effectiveness with respect of Off the Job Training. Hence Off the Job training is require for the employee.

CONCLUSION

Training has become the buzz word in the dynamic competitive market atmosphere. Training is an essential part in current generation. It helps to enhance the knowledge, Skill and Attitude

and identify the employee in a new manner. Off the Job Training is defined as learning which is undertaken outside of the normal day to day working environment and provide new learning tricks in new manner. It includes the apprenticeship framework or standard and could include the different lecture, Role Play, Simulation Exercise, Practical Training, Learning support and can be provide some time in Writing assessments. Employee tends to become absolute and therefore making the requirement to adopt the continuous learning process and which is required for update as per requirement. The most vital assets of every organization under stiff and dynamic completion in IT sector is its human capital. So Training & Development is a better instrument that aid human capital in exploring their dexterity. Therefore training and Development is vital to the productivity and develop the organization culture and workforce as well as to develop the morale of the employee which helps to fulfill the mission and vision of the organization. In 21st Century, the organizations should change the training techniques, basically in IT Sector. Off the Job Training helps to improve the employee morale and communication skill and also helps to develop the workforce at national level. Further research studies are also recommended on the training and development of employees in order to have a broader understanding of its valuable impacts.

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AN EMPIRICAL STUDY OF STRATEGIES FOR TRAINING TRANSFER IN IT COMPANIES

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ABSTRACT

Organizations across the globe have been investing heavily in training their workforce on a multitude of competencies. The learning and development professionals in organizations have continually utilized training evaluation to ascertain the impact and effectiveness of the training interventions delivered. Yet, negligible efforts have been devoted towardsthe training transfer process or implementation of program learning back at the workplace. Training transfer is the logical progression of a training program delivered and appropriate conclusion of a training intervention as it focuses on practical application, either in the form of knowledge acquisition, skill enhancement or behavioral modification. Transfer strategies such as coaching, mobile applications, video and audio modules, whatsapp chat groups, peer learning and several others are being increasingly utilized to encourage training participants to apply the concepts and skills acquired during the training program.This paper discusses training transfer strategies that organizations in the Information Technology (IT) sector have been leveraging to ensure post-training implementation by its employees who have undergone training programs. An empirical investigation has been conducted to objectively assess the training transfer strategies used in IT companies and to evaluate the effectiveness of these strategies at the workplace.The research findings highlighted in this paper are aimed at supporting decision-makers in companies to shift their focus on practical training transfer strategies that deliver results by ensuring trainees' involvement in the implementation process. Furthermore, the paper provides recommendations for companies to enable them to address their training transfer requirements and ensure a seamless process of knowledge and skill transfer on the job. Lastly, it also provides future

directions for researchers to explore the domain of training transfer in greater detail and to ensure its effectiveness towards facilitating successful execution of organizational training interventions. The primary data is used for the purpose study. The data was collected through the questionnaire from IT Companies in Pune & Mumbai. The data was analyzed using ANOVA**.**

Keywords – Training Transfer, Training Implementation, Training Transfer Strategies

INTRODUCTION

The learning and development landscape in organizations has undergone a huge metamorphosis over the past few decades. Decision-makers have been emphasizing on ensuring continual training for their employees and also been focusing on ensuring on ground implementation of the knowledge disseminated during the training programs. Information Technology (IT) sector has been at the forefront of enabling training opportunities for their employees. The IT sector has witnessed remarkable growth over the past few decades. The burgeoning workforce demands organizations to upskill them at regular intervals, both in terms of technical competence as well as behavioral skills which are tacit in nature. The advancement of technology coupled with the rising expectations of the clients have made it mandatory for the IT sector to establish training mechanisms that would upskill their employees at regular intervals. For training interventions to be truly successful, the training enablers must therefore insist on ensuring a seamless training transfer process in the organization. Training transfer or the application of trained knowledge and skills back on the job (Burke & Hutchins, 2007) is the logical conclusion of every training intervention in an organization. Efforts must be directed towards application of effective transfer strategies such as coaching, supervisory mentoring, peer learning, mobile learning applications, whatsapp chat groups, sharing curated content and a host of other such reliable transfer tools and techniques.

The IT sector has been constantly striving to leverage innovative training transfer tools that would support the transfer of knowledge and skills back at the workplace. The pragmatic application of learned skills on the job is the most crucial criteria based on which the success of

the training intervention would be assessed. The training transfer strategies being used in IT organizations are a culmination of both IT and non-IT tools. The IT related transfer strategies comprise of tools such as augmented learning, mobile learning applications, Learning Management Systems (LMS), whatsapp learning groups and several others. The non-IT related transfer strategies involve the use of strategies such as one-on-one coaching or mentoring, peer learning, sharing curated content and other relevant strategies. It is imperative that IT companies identify the appropriate transfer tools to enable a systematic on the job implementation of the concepts and skills addressed during the training period.

The successful implementation of training transfer would also require adequate support from the top management in the organization. The top management is a major driving force in enabling systematic and consistent transfer of knowledge in the post-training environment. Additionally, the participants who have undergone training interventions need to be mentored by their respective supervisors to aid the implementation process. A congenial transfer climate would provide the necessary encouragement for trainees to apply their learnings at the workplace and to reap better dividends from the transfer process. The learning and development team as well as the facilitator(s) need to ensure that the all the infrastructure necessary for the successful implementation of the transfer strategies are fully functional and operational.

OBJECTIVES

1. To study the impact of training transfer strategies in IT companies
2. To study the effectiveness of training transfer strategies amongst trainees in IT companies
3. To explore innovative strategies for training transfer use in IT companies

LITERATURE REVIEW

The Information Technology sector has been organizing employee trainings to upskill them and upgrade their knowledge. A study of literature focusing on IT companies reveals several noteworthy findings. A survey conducted in Ireland on IT organizations by (Acton & Golden, 2003) demonstrates that, well-structured training interventions have a positive impact on employee satisfaction and job competencies. Several studies in the past have proposed models on training transfer (Baldwin & Ford, 1988; Holton, Bates & Ruona, 2000; Burke & Hutchins, 2008) to facilitate systematic transfer of acquired skills and knowledge back at the workplace. It is therefore essential to study the training process in IT sector, especially in the context of training transfer for growth of the organization as well as for employee.

RESEARCH METHODOLOGY

An exploratory research design was used for the purpose of research. It is stratified Random sampling method was employed to select the respondents from selected IT companies in Pune and Mumbai. The sample size of 200 was selected. Out of that 170 respondents were given their feedback through the questionnaire and also given their feedback through the Google form. A structured questionnaire was prepared to collect the primary data.

The Questionnaire was designed into two parts. Part I is consists of demographic information of the respondents and the Part-II consists of different strategic training program conducting by the IT companies relating training transfer and its effectiveness. Statistical test was used to measure relationship between the selected variable. The data was analyzed using Anova through SPSS. Few analyses were done through the help of Excel.

HYPOTHESIS

H_0: There is no impact of demographic factors on effectiveness of the Innovative Training Transfer in IT Sector.

H_1: There is an impact of demographic factors on effectiveness of the Innovative Training Transfer in IT Sector.

LIMITATIONS

The Primary data of 170 respondents were collected for the purpose of study, time constraint. The Research paper is limited only to measure the satisfaction of the strategies Training Techniques and its effectiveness in IT Sector in Pune & Mumbai. The questionnaire was collected from Selected IT companies from Pune & Mumbai City.

FINDINGS

Table 1:- Perception of Respondents on Strategies for Training Transfer (Content wise Analysis)

Sr. No	Contents	Yes	Percentage (%)	No	Percentage (%)	Total	Percentage (%)
1	In your opinion Strategically Innovation Training Technique is required to develop the Knowledge/ Skill.	158	92.94	12	7.06	170	100
2	Do you think Effectiveness of the Training transfer is impact upon the Performance?	162	95.29	8	4.71	170	100
3	Does your company provide Innovative Training Transfer technique (One on One Coaching/ E-learning/ Mobile learning app/ Whatsapp learning groups etc.) to enhance the knowledge/Skill?	154	90.59	16	9.41	170	100
4	Does your company have any Policy to Provide Training Program to enhance the Skill/ Knowledge of the Employee?	154	90.59	16	9.41	170	100
5	Do you think, Training Program helps you to perform well and fulfilled the goal of the Organization?	164	96.47	6	3.53	170	100
6	Do you require more Training Program to fulfill your Job Satisfaction?	136	80.00	34	20.00	170	100
7	Does your Company arrange the training	162	95.29	8	4.71	170	100

Sr. No	Contents	Yes	Percentage (%)	No	Percentage (%)	Total	Percentage (%)
	program to provide the latest knowledge as per the requirement to develop the knowledge, Skill?						
8	Do you think Training helps to improve your Knowledge/Skill.	166	97.65	4	2.35	170	100

Source: Survey Data

It is observed that 95 % and above respondents suggested that, Effectiveness of the Training Transfer is impact upon performance, The Company arrange the latest Training program as per requirement which helps to fulfill the vision of the organization and also helps to enhance the Knowledge and Skill

It is observed that 90 % of the Respondents agreed that, Strategically Innovating Training is require to enhance the skill and knowledge and the company provide for the same.

80 % of the respondents suggested it require more Training Program for fulfillment of the Job satisfaction

Table 2: Satisfaction of Respondentswith respect of Strategies for Training transfer (Descriptive for Age group)

Descriptive								
Satisfaction Level of Respondents as per Age Group								
Rating	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Below 20 Years	6	7.6667	1.36626	.55777	6.2329	9.1005	6.00	9.00
21-30 Years	62	6.9032	1.38741	.17620	6.5509	7.2556	5.00	10.00
31-40 Years	74	7.2973	1.51458	.17607	6.9464	7.6482	4.00	10.00
41-50 Years	18	7.5556	1.09664	.25848	7.0102	8.1009	6.00	9.00
51 Years & Above	10	6.2000	1.93218	.61101	4.8178	7.5822	4.00	8.00
Total	170	7.1294	1.47394	.11305	6.9062	7.3526	4.00	10.00

Source:- Survey Data

Table 3:- Satisfaction of Respondents with respect of Strategies for Training transfer(ANOVA Test for Age Group)

Satisfaction Level (ANOVA Test)					
Rating	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18.896	4	4.724	2.238	.067
Within Groups	348.257	165	2.111		
Total	367.153	169			

Source:- Survey Data

P value is obtained as 0.067 (>0.05), thus it concluded that there is **no** significant difference between respondents of different age groups with regard to satisfaction with respect Strategies for Training Transfer.

Table 4:- Satisfaction of Respondents with respect of Strategies for Training transfer (Descriptive for Gender group)

Descriptive								
Satisfaction Level of Respondents as per Gender Group								
Rating	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Male	114	7.1754	1.59782	.14965	6.8790	7.4719	4.00	10.00
Female	56	7.0357	1.19033	.15906	6.7169	7.3545	5.00	9.00
Total	170	7.1294	1.47394	.11305	6.9062	7.3526	4.00	10.00

Source:- Survey Data

Table 5:- Satisfaction of Respondents with respect of Strategies for Training transfer (ANOVA Test for Gender Group)

Satisfaction Level (ANOVA Test)					
Rating	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.733	1	.733	.336	.563
Within Groups	366.420	168	2.181		
Total	367.153	169			

Source:- Survey Data

P value is obtained as 0.563 (>0.05), thus it concluded that there is **no** significant difference between respondents of different Gender groups with regard to satisfaction with respect Strategies for Training Transfer.

Table 6:- Satisfaction of Respondents with respect of Strategies for Training transfer (Descriptive for Marital Status group)

Descriptive								
Satisfaction Level of Respondents as per Marital Status Group								
Rating	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Married	98	7.2041	1.51935	.15348	6.8995	7.5087	4.00	10.00
Un Married	72	7.0278	1.41394	.16663	6.6955	7.3600	4.00	10.00
Total	170	7.1294	1.47394	.11305	6.9062	7.3526	4.00	10.00

Source:- Survey Data

Table 7:- Satisfaction of Respondents with respect of Strategies for Training transfer (ANOVA Test for Marital Status Group)

Satisfaction Level (ANOVA Test)					
Rating	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.290	1	1.290	.592	.443
Within Groups	365.863	168	2.178		
Total	367.153	169			

Source:- Survey Data

P value is obtained as 0.443 (>0.05), thus it concluded that there is **no** significant difference between respondents of different Marital Status Groups with regard to satisfaction with respect Strategies for Training Transfer.

Table 8:- Satisfaction of Respondents with respect of Strategies for Training transfer (Descriptive for Different Qualification)

Descriptive								
Satisfaction Level of Respondents as per Qualification Group								
Rating	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Under Graduate	6	8.3333	.51640	.21082	7.7914	8.8753	8.00	9.00
Graduate	82	6.5854	1.58660	.17521	6.2368	6.9340	4.00	10.00
Post Graduate	74	7.5676	1.22844	.14280	7.2830	7.8522	5.00	10.00
Above Post Graduate	8	7.7500	.46291	.16366	7.3630	8.1370	7.00	8.00
Total	170	7.1294	1.47394	.11305	6.9062	7.3526	4.00	10.00

Source:- Survey Data

Table 9:- Satisfaction of Respondents with respect of Strategies for Training transfer (ANOVA Test for Different Qualification)

Satisfaction Level (ANOVA Test)					
Rating	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	50.255	3	16.752	8.775	.000
Within Groups	316.898	166	1.909		
Total	367.153	169			

P value is obtained as 0.00 (<0.05), thus it concluded that there is significant difference between respondents of different Qualification with regard to satisfaction with respect Strategies for Training Transfer.

Table 10:- Satisfaction of Respondents with respect of Strategies for Training transfer (Descriptive for Technical Qualification)

Descriptive								
Satisfaction Level of Respondents as per Technical Qualification Group								
Rating	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Yes	160	7.1000	1.49296	.11803	6.8669	7.3331	4.00	10.00
No	10	7.6000	1.07497	.33993	6.8310	8.3690	6.00	9.00
Total	170	7.1294	1.47394	.11305	6.9062	7.3526	4.00	10.00

Source:- Survey Data

Table 11:- Satisfaction of Respondents with respect of Strategies for Training transfer (ANOVA Test for Technical Qualification)

Satisfaction Level (ANOVA Test)					
Rating	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.353	1	2.353	1.084	.299
Within Groups	364.800	168	2.171		
Total	367.153	169			

Source:- Survey Data

P value is obtained as 0.299 (>0.05), thus it concluded that there is **no** significant difference between respondents of Technical Qualification with regard to satisfaction with respect Strategies for Training Transfer.

Table 12:- Satisfaction of Respondents with respect of Strategies for Training transfer (Descriptive for Experience)

Descriptive								
Satisfaction Level of Respondents as per Experience Group								
Rating	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Below 5 Years	64	7.2500	1.35693	.16962	6.9110	7.5890	5.00	10.00
6-10 Years	46	7.3043	1.61754	.23849	6.8240	7.7847	4.00	10.00
11-15 Years	44	6.7273	1.22690	.18496	6.3543	7.1003	4.00	9.00
16-20 Years	4	8.5000	.57735	.28868	7.5813	9.4187	8.00	9.00
20 Years above	12	6.8333	2.12489	.61340	5.4832	8.1834	4.00	9.00
Total	170	7.1294	1.47394	.11305	6.9062	7.3526	4.00	10.00

Source:- Survey Data

Table 13:- Satisfaction of Respondents with respect of Strategies for Training transfer (ANOVA Test for Experience)

Satisfaction Level (ANOVA Test)					
Rating	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18.020	4	4.505	2.129	.079
Within Groups	349.133	165	2.116		
Total	367.153	169			

Source:- Survey Data

P value is obtained as 0.079 (>0.05), thus it concluded that there is **no**significant difference between respondents of Experience with regard to satisfaction with respect Strategies for Training Transfer.

Table 14:- Satisfaction of Respondents with respect of Effectiveness on Strategies for Training transfer (Descriptive for Age Group)

Descriptive								
Satisfaction Level of Respondents as per Age Group								
Rating	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Below 20 Years	6	7.6667	1.36626	.55777	6.2329	9.1005	6.00	9.00
21-30 Years	62	6.8065	1.50233	.19080	6.4249	7.1880	4.00	10.00
31-40 Years	74	7.2973	1.38217	.16067	6.9771	7.6175	4.00	10.00
41-50 Years	18	7.6667	1.37199	.32338	6.9844	8.3489	5.00	9.00
51 Years & Above	10	6.2000	1.93218	.61101	4.8178	7.5822	4.00	8.00
Total	170	7.1059	1.49178	.11441	6.8800	7.3317	4.00	10.00

Source:- Survey Data

Table 15:- Satisfaction of Respondents with respect of Effectiveness on Strategies for Training transfer (ANOVA Test for Age Group)

Satisfaction Level (ANOVA Test)					
Rating	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	24.024	4	6.006	2.815	.027
Within Groups	352.070	165	2.134		
Total	376.094	169			

Source:- Survey Data

P value is obtained as 0.027 (>0.05), thus it concluded that there is **no** significant difference between respondents of different Age Group with regard to satisfaction with respect of Effectiveness on Strategies for Training Transfer.

Table 16:- Satisfaction of Respondents with respect of Effectiveness on Strategies for Training transfer (Descriptive for Gender Group)

Descriptive								
Satisfaction Level of Respondents as per Gender Group								
Rating	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Male	114	7.1228	1.63014	.15268	6.8203	7.4253	4.00	10.00
Female	56	7.0714	1.17330	.15679	6.7572	7.3856	5.00	9.00
Total	170	7.1059	1.49178	.11441	6.8800	7.3317	4.00	10.00

Source:- Survey Data

Table 17:- Satisfaction of Respondents with respect of Effectiveness on Strategies for Training transfer (ANOVA Test for Gender Group)

Satisfaction Level (ANOVA Test)					
Rating	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.099	1	.099	.044	.834
Within Groups	375.995	168	2.238		
Total	376.094	169			

Source:- Survey Data

P value is obtained as 0.834 (>0.05), thus it concluded that there is **no** significant difference between respondents of different Gender with regard to satisfaction with respect of Effectiveness on Strategies for Training Transfer.

Table 18:- Satisfaction of Respondents with respect of Effectiveness on Strategies for Training transfer (Descriptive for Marital Status)

Descriptive								
Satisfaction Level of Respondents as per Marital Status								
Rating	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Married	98	7.2041	1.42119	.14356	6.9192	7.4890	4.00	10.00
Un Married	72	6.9722	1.58312	.18657	6.6002	7.3442	4.00	10.00
Total	170	7.1059	1.49178	.11441	6.8800	7.3317	4.00	10.00

Source:- Survey Data

Table 19:- Satisfaction of Respondents with respect of Effectiveness on Strategies for Training transfer (ANOVA Test for Marital Status)

Satisfaction Level (ANOVA Test)					
Rating	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.231	1	2.231	1.003	.318
Within Groups	373.863	168	2.225		
Total	376.094	169			

Source:- Survey Data

P value is obtained as 0.318 (>0.05), thus it concluded that there is **no** significant difference between respondents of Marital status with regard to satisfaction with respect of Effectiveness on Strategies for Training Transfer.

Table 20:- Satisfaction of Respondents with respect of Effectiveness on Strategies for Training transfer (Descriptive for Educational Qualification)

Descriptive								
Satisfaction Level of Respondents as per Educational Qualification Status								
Rating	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Under Graduate	6	8.3333	.51640	.21082	7.7914	8.8753	8.00	9.00
Graduate	82	6.5610	1.49152	.16471	6.2333	6.8887	4.00	10.00
Post Graduate	74	7.6216	1.35184	.15715	7.3084	7.9348	4.00	10.00
Above Post Graduate	8	7.0000	1.06904	.37796	6.1063	7.8937	6.00	8.00
Total	170	7.1059	1.49178	.11441	6.8800	7.3317	4.00	10.00

Source:- Survey Data

Table 21:- Satisfaction of Respondents with respect of Effectiveness on Strategies for Training transfer (ANOVA Test for Educational Qualification Status)

Satisfaction Level (ANOVA Test)					
Rating	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	53.160	3	17.720	9.109	.000
Within Groups	322.934	166	1.945		
Total	376.094	169			

Source:- Survey Data

P value is obtained as 0.00 (<0.05), thus it concluded that there is significant difference between respondents of Educational Qualification status with regard to satisfaction with respect of Effectiveness on Strategies for Training Transfer.

Table 22:- Satisfaction of Respondents with respect of Effectiveness on Strategies for Training transfer (Descriptive for Technical Qualification)

Descriptive								
Satisfaction Level of Respondents as per Technical Qualification Status								
Rating	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Yes	160	7.0125	1.48361	.11729	6.7809	7.2441	4.00	10.00
No	10	8.6000	.51640	.16330	8.2306	8.9694	8.00	9.00
Total	170	7.1059	1.49178	.11441	6.8800	7.3317	4.00	10.00

Source:- Survey Data

Table 23:- Satisfaction of Respondents with respect of Effectiveness on Strategies for Training transfer (ANOVA Test for Technical Qualification Status)

Satisfaction Level (ANOVA Test)					
Rating	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	23.719	1	23.719	11.308	.001
Within Groups	352.375	168	2.097		
Total	376.094	169			

Source:- Survey Data

P value is obtained as 0.01 (<0.05), thus it concluded that there is significant difference between respondents of Technical Qualification status with regard to satisfaction with respect of Effectiveness on Strategies for Training Transfer.

Table 24:- Satisfaction of Respondents with respect of Effectiveness on Strategies for Training transfer (Descriptive for Experience)

Descriptive								
Satisfaction Level of Respondents as per Experience Status								
Rating	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Below 5 Years	64	7.0938	1.45535	.18192	6.7302	7.4573	4.00	10.00
6-10 Years	46	7.2174	1.63181	.24060	6.7328	7.7020	4.00	10.00
11-15 Years	44	7.0909	1.25417	.18907	6.7096	7.4722	5.00	9.00
16-20 Years	4	8.5000	.57735	.28868	7.5813	9.4187	8.00	9.00
20 Years above	12	6.3333	1.87487	.54123	5.1421	7.5246	4.00	8.00
Total	170	7.1059	1.49178	.11441	6.8800	7.3317	4.00	10.00

Source:- Survey Data

Table 25:- Satisfaction of Respondents with respect of Effectiveness on Strategies for Training transfer (ANOVA Test for Experience Status)

Satisfaction Level (ANOVA Test)					
Rating	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	15.528	4	3.882	1.776	.136
Within Groups	360.567	165	2.185		
Total	376.094	169			

P value is obtained as 0.136 (>0.05), thus it concluded that there is no significant difference between respondents of Experience with regard to satisfaction with respect of Effectiveness on Strategies for Training Transfer.

With regards to the results of ANOVA it is found that, satisfaction of the respondents with different demographic profile is a significantly different. Thus Null Hypothesis is rejected and it is concluded that, there is an impact of demographic factors on satisfaction and its effeteness of Strategies used for Training Transfer.

g. The average level of the satisfaction of the current company with respect of On the Job training is **7.13**& its effectiveness average is **7.11**. It means that the strategies for different training programs are effective to their skill and knowledge.
h. All Respondents were satisfied in strategic Training Program organized by the Company expect the respondents of the Age Group who is above 51 years Old(Mean-6-20) , Graduates (Mean- 6-58), 20 years & Above Experience Employee(Mean- 6.83), Female(Mean- 7.03), Un Married (7.02), Having the Technical Qualification(Mean- 7.10) . Means most of the respondents from the different demographic factors are satisfied.
i. It is Observed that the Effectiveness of the Training Program also very good. The Training Program was effective expect the age Group of 21-30 years (Mean-6.80, 51 years & above (Mean- 6.20), Graduates(Mean- 6.56), above Post Graduate((Mean(7.00), Experience Below 5 Years (Mean(7.09), 11-15 years (Mean- 7.09), Female (mean-7.07), Un Married(Mean- 6.97), Technical Qualified Respondents (Mean- 7.01)

Table 26:- Demographic Profile of Respondents

Experience	**No of Respondents**	**Percentage (%)**	**Age Group**	**No of Respondents**	**Percentage (%)**
Below 5 Years	64	37.65	Below 20 Years	6	3.53
6-10 Years	46	27.06	21-30 Years	62	36.47
11-15 Years	44	25.88	31-40 Years	74	43.53
16-20 Years	4	2.35	41-50 Years	18	10.59
20 Years above	12	7.06	51 Years & Above	10	5.88
Total	**170**	**100.00**	**Total**	**170.00**	**100.00**
Marital Status	**No of Respondents**	**Percentage (%)**	**Gender**	**No of Respondents**	**Percentage (%)**
Married	98	57.65	Male	114	67.06
Un Married	72	42.35	Female	56	32.94
Total	**170.00**	**100.00**	**Total**	**170.00**	**100.00**

Qualification	No of Respondents	Percentage (%)	Technical Qualification	No of Respondents	Percentage (%)
Under Graduate	6	3.53	Yes	160	94.12
Graduate	82	48.24	No	10	5.88
Post Graduate	74	43.53	**Total**	**170.00**	**100.00**
Above Post Graduate	8	4.71			
Total	**170.00**	**100.00**			

Source:- Survey Data

FINDINGS & RECOMMENDATIONS

i. It is observed that 95 % and above respondents suggested that, Effectiveness of the Training Transfer is impact upon performance, The Company arrange the latest Training program as per requirement which helps to fulfil the vision of the organization and also helps to enhance the Knowledge and Skill. It indicates that the company should have created effectiveness program to fulfil the goal.

ii. It is observed that 90 % of the Respondents agreed that, Strategically Innovating Training is require to enhance the skill and knowledge and the company provide for the same. It shows the Innovating training program to develop the skill.

iii. 80 % of the respondents suggested it require more Training Program for fulfilment of the Job satisfaction. It stated that more training programs are required as per the requirement of the employee, which can give better result. Out of that the respondents are suggested to provide the training programs that are associated with the organization below 7 Years. It means who are associated with the company in long term association, they are happy. It indicates that the company provides the training program and it may not be for the current employee.

iv. It is observed that there is **no** significant difference between respondents of different age groups & Gender, Marital Status, Technical Qualification, Experience and with regard to satisfaction with respect of Strategies Training Transfer. Hence the Strategies Training Transfer method should be planned for develop the skill and knowledge.

v. It is also observed that there is no significant difference between of different age group, Gender, Marital Status & Experience with respect of effectiveness of Strategies Training Transfer. Hence it is fulfilled the objective of the organization and the employee as well.

vi. It is also observed that there is significant of different Qualification and the Technical Qualified respondents. Hence we may suggest that the company should plan a good training program for effectiveness of the training Program.

vii. It is observed that the Effectiveness of Training Program impacts upon the employee for their different parameters. Where 60 % of the Respondents suggested that it is helping to develop the Skill/ Knowledge, 55.29 % of the stated that, it Increases the Productivity, 37.65 % stated that is help to Increase the Speed of Work & 15.29 % stated that, it helps to Increase moral and it impacts upon the attitude change. Hence we may suggest that company should provide the Effectiveness Training Program to fulfill the mission & vision of the organization.

CONCLUSION

The researchers believe that this study is significant as it provides valuable insights on training transfer in the domain of Information Technology. The strategies for training transfer need to be used both adequately and appropriately to enable a systematic transfer of learning back at the workplace. The Information Technology sector has been at the forefront of providing training opportunities for their workforce, however consistent efforts should be made to ensure that the transfer process is at par with the training delivery in terms of effectiveness. The learning and development function in various Information Technology organizations have to ensure that they use the right transfer strategies to provide an impetus to the implementation process in the organizations. A functional transfer process complimented with the right tools and strategies will ensure that the training system is successful and delivers the desired results on a continual basis.

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A STUDY ON THE IMPACT OF SENSORY MARKETING ON PURCHASE BEHAVIOR

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Synopsis

People satisfy their needs and wants with the help of (goods) products. The emergence of technology made the people to depend on the business organisations to get the required products. Based on the needs of the people, business organizations manufacture the products for the customers, the customers pay the money, get that products and quench their needs. The businesses exchange their goods and services with their potential common people as customers.

As the population is increasing day by day, the needs of the people are also increasing. The outcome of this has seen an increase in their (people's) dependency on the manufacturers even more. Knowing the increasing needs, many new companies have started to come into and the number of new entrants in the market has also seen an unexpected increase in the marketing sector. Due to these new business organizations entering the market by offering the similar products for the same needs of the people, the existing business organisations are to face a huge competition in the market. Their entrance in the market has brought so many changes in the lives of the customers because, people have many options to choose a better product with the help of the factors like price, quality, durability etc., which are considered by the rational customers and get their needs satisfied. Once they experience the product or the service, they realise the justification for the amount they spent, and also the level of satisfaction along with the views of their friends, family members, neighbours or colleagues who had used other products in the market. A rational customer, after considering all these, comes to conclusion and decides to whether to continue with the product or switch over to another.

Key words: Sensory, Marketing, Branding.

INTRODUCTION:

The world has become a global village and very small because of the information technology. The boundaries between continents, countries, and states have been vanishing due to the advancement in communication system. The information can be passed to any wanted place within seconds of time with the advancements in technology. The businesses have taken high chances to come even closer to the common people in order to become a part in their lives and most of the companies which can afford have already succeeded in this. With the effect of all the advancement in information technology, the tourism industry has also grown up enormously. Many MNCs have entered the domestic market to provide hospitality services. In this context, the hotels who provide hospitality services to the global tourists, need to prepare themselves for global competitiveness. It is because of the increasing competition in the world market with a great number of brands who have already got established themselves in the world market and penetrated into the market as a result of globalisation. Multi National hotel brands and other large scale hospitality organisations have occupied a comfortable place in the daily lives of luxury class tourists.

1.1. Sensory Branding:

We see so many changes in the marketing styles. Bertil Hulten & Niklas Broweus (2009) says traditional mass and relationship marketing theories do not offer the satisfactory answers to the question how a firm should treat its customers in a more individualized way in today's society (Nagarjuna & Bushan Sudhakar D. , 2015). Heavy competition, and rational customers, conventional marketing methods are no more adequate in the business in the current generation. When faced with this kind of different difficult ies, as Martin Lindstrom says, the marketers need to go back to the fundamentals of human life and fundamentals of marketing for spotting out what actually appeals to human beings on an everyday basis (Lindstrom, 2005) (Anandkumar, 2008). Bertil (2009), in his book, continued telling that the conventional marketing is not able to give result because they ignore the significance of the human senses & the supreme sensory experience of human beings (Bertil 2009). There are five senses viz. Sight, Smell, Taste, Touch and Sound through which we engage, communicate and understand the whole world. These

senses are linked to our memory and thus help us to make emotional attachment or connection with everything around us in the world (Nagarjuna & Bushan Sudhakar D. , 2015). Thus, people are emotionally connected to the brands. Kahn, 2007 describes sensory marketing as "the purposeful design and deployment of the interaction between the senses in order to stimulate a consumer's relationship with a brand; and to foster a lasting emotional connection that optimizes **brand loyalty."** The AMA (American Marketing Association)'s definition of Sensory marketing is "marketing techniques that aim to seduce the consumer by using his senses to influence his feelings and behaviour". "It measures and explains emotional consumer decisionmaking by variability of products, concepts, and marketing mix scenarios to ensure long-lasting success" (VALENTI, 2008). Today, sensory marketing is not new and a lot of companies are practicing this method of multi-sensory stimulation to build a strong relationship between its brands (products/services) and customers. Sensory marketing is a sensible tool to gain consumer insights in a sensory point of view for an effective and fruitful marketing strategy.

1.2 Research Gap:

Even though the concept of sensory branding is quite new to the area of branding in marketing, some studies have been conducted on sensory branding with focused on its significance, environmental stimuli, and customers' emotional states. Most of the researches were limited either to study customers' response to the sensory practices in the hotels, or the sensory strengths and potentials (the emotional impact it can create on the customer). No study was found on 'how far the customer behavioural intentions can impact their loyalty towards the hotel in terms of revisiting and suggesting to others there by strengthening the brand image of the hotel. There is also no study found which explains the impact of level of awareness about sensory branding on the brand image of the hotel. So, the study was undertaken to contribute to the existing body of knowledge on Sensory Branding.

Research Question:

1. How sensory marketing can be used in an effective way as the promotional tool in developing tourism and hospitality industries?
2. What is the awareness level regarding sensory marketing practices among the foreign tourists in the study places
3. What are the strengths and potentialities of sensory branding in hospitality

industry?
4. What is the impact of sensory branding on global tourism and hospitality industries?

1.3. OBJECTIVES OF THE STUDY:

1. To know the level of awareness among the sensory marketing in Pune Regarding Sensory Branding
2. To identify and describe sensory strengths and potentials of sensory marketing in Pune.
3. To know the impact of sensory branding strategy.

Scope of the Study:

This study is an attempt to examine how the sensory branding can be used in an effective way as the promotional tool in developing tourism and hospitality industries. It also tried to examine how far the hotels in Pune have been succeeded in building brand image with the help of sensory branding especially in the case of international tourists in Pune.

a) Carried out as a statistical study using the survey method to know the awareness level regarding the sensory branding practices with respect to international tourists who visited Pune
b) Studying how far the sensory branding practices, with each individual sense separately and all the senses as a whole, are able to influence the behavioural intentions of the customers responding to the hotel atmosphere.
c) Statistical study using the survey method to find out whether the changing behavioural intentions of the customers have any impact on the hotel's brand image in terms of brand strength and brand loyalty.

2. LITERATURE REVIEW

2.1. The concept of Marketing:

Human wants are unlimited. These wants are satisfied or quenched by the products which are available either in the nature or in the market. A product is an offering that can satisfy a need or want, presented in terms of goods, services, experiences, events, persons, places, properties, organizations, information, and ideas (Philip Kotler, 2008). The business organisations provide different kinds of services to meet the needs of common people. The businesses use so many ways and methods in order to make their target customers known about their services and other related information. In the era of commercial warfare, 'marketing' their products is the path that the business organisations have chosen to do because they have to be known to the people/customers who need these services. But, as the competitors are also there in the market, the marketing activities are needed to be effective when compared with others in the market. The so-called 'marketing techniques' and its ways are used for promoting and also marketing themselves among the potential customers. The marketing of business organisation and also its services play a key role in this regard. Marketing has been defined as "the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual (customer) and organizational objectives" (Grönroos, 1990). The Marketing concept is "a business philosophy that defines marketing as a process intended to find, satisfy, and retain customers while the business makes a profit". International marketing is defined as "the business activities designed to plan, price, promote and direct the flow of a company's goods and services to consumers in more than one country for profit" (Hudson, 2008). The primary difference between marketing and international marketing is that - marketing is 'within a country' whereas international marketing involves at least two or more countries. The foreign marketing is unique because it deals with the problems which are unaccustomed and different kinds of strategies that are necessary to meet the uncertainty that is faced in the international markets at different levels and intensity. International marketing is now common for all kinds of business organisations, industries because of the globalisation where most of the big businesses are expanding their businesses to other countries also.

What is experiential Branding?

Experiential branding is "a process by which brands create and drive sensory interactions with consumers in all aspects of the brand experience to emotionally influence their preferences and to actively shape their perceptions of the brand" (Lab Brand Brand Innovations, n.d.).

Sensory marketing: "Marketing techniques that aim to seduce the consumer by using his senses to influence his feelings and behaviour". Multisensory branding stands for involving several bodily senses in product promoting activities. "Kahn Consulting describes it as the purposeful design and deployment of the interaction between the senses in order to stimulate a consumer's relationship with a brand; and to foster a lasting emotional connection that optimizes brand loyalty" (Annica Isacsson, 2009).

Significance of Sensory Branding

Branding through senses (Sensory Branding) is relevant for most of the products and services in the market. As products and services have been commoditized, the experiences that companies create among the customers will matter most (BJ Pine, 1998). Sensory branding has critical role to play in creating these experiences. Human Senses are programmed (by themselves) to be more of danger detection than towards 'sensory delight' (Lindstrom, 2005). The human sensory delight will make him/ her experience it, enjoy and get attached to that particular service.

2.5. Services and Senses:

In this context, Bertil Hulten & Niklas Broweus (2009) says traditional mass and relationship marketing theories do not offer the satisfactory answers to the question how a firm should treat its customers in a more individualized way in today's society. They ignore the significance of the human senses & the supreme sensory experience of human beings five senses viz. Sight, Smell, Taste, Touch and Sound through which we engage, communicate and understand the whole world (Hultén, 2009). "Anything we see, hear, feel, smell, or taste requires billions of nerve cells to flash urgent messages along linked pathways and feedback loops in our brains, performing intricate calculations that scientists have only begun to decipher" (Pines, 1995). The earlier researches have concluded that if a brand appeals to the more number of senses, the consumers connect to the brand even more strongly because the stronger the message will be. Visual aesthetics attract customer's attention, provokes the curiosity and they help in bringing the

material to life. The customary senses used in marketing are sight and sound. According to Lindstrom (2009) visual pictures can work more effectively and meaningfully if they can be combined with other senses such as touch or scent. He forecasts that the mixture of scents and sounds will have a lot of potential and emphasises that that combination can affect the customer behaviour better than what sight alone can do. Smell appears to be the second most persuasive sense followed by the sense of sight, and it implies the importance for multisensory marketing/branding in this regard.

Once the customers have stronger bonding towards the brand, it translates directly into their willingness to pay premium prices. And we have seen all the big organizations have been successful with the help of sensory marketing only. So every time business focused on what does their brand look like, they have to question themselves also how does it sounds, smells and feels. So, sensory strategy is needed in order to give the customers an effective experience in the hotel so that they will be attached to it even in future. Even the advertisement in digital media has been growing; ads are gradually shifting from Radio, Television and magazines, newspapers to internet, and mobile phones.

Sensory branding has wonderful benefits for marketers, their brands and also to the customers. Especially the power, strength and potential of each sense have been discussed above, it is clear that there is a possible chance for hotels to protect themselves (and dominate as well) in the market. They provide a greater impact for enhanced interruption and acquisition by longer attention, higher recall and by bringing the product experience into the communications.

Sensory Branding in Current Scenario:

Multisensory branding is in the beginning stage nowadays and we can just find a few firms practicing multisensory marketing strategy during their promotional activities, including tourism and hospitality industry. Several researchers have been quoting that the future of marketing, branding and advertising will be full of multisensory marketing.

During 1950s, since posters were the foremost medium of promoting and advertising, sight and visuals were the only options on which marketers concentrated on, for branding. Colour, appearance, form were focused to promote brands. As the technology started developing, TVs

had become popular, another sensory component 'sound' was started to focus on in promoting and advertising. Television commercials started using jingles in advertising.

In the 1970s, the businesses started to find the need of smell to be added in brand promotion. Even, they were able to regulate the odours in their services and products to mould the firm more appetizing for the customer. And in recent times, sensory branding was developed by incorporating all five senses, because business firms now aware that more number of senses are involved in, branding will be even more effective.

Vision is our most persuasive sense in brand building and bonding with a share of fifty percent, smell the second one with a proportion of forty five percent, hearing stands third for forty one percent, sense taste for thirty one percent with fourth place and fifthly 'touch' for twenty five percent.

Each and every sense is highly significant and has its own unique and impactful role in human's life. The human behaviour will automatically be led by the senses because they are sensitive enough to respond to the environment without even human thinking. If fact, human thoughts are many times lead by our senses. The sensory branding approach heightens the influence of brand on customers' purchase behaviour and can build a sustained customer loyalty. The more customers' senses are on in play, the stronger opportunity for the brand to gain their trust. Since the senses trigger a stronger and passionate emotional response, it results in a stronger memory of that particular brand means in people's lives. That memory stands as a powerful bond connecting the business firm (brand) and the customer emotionally. Both, memory and emotions together influence the behaviour may be positively or negatively, towards the brand.

3. RESEARCH METHODOLOGY

3.2. Nature of the Data:

Data collected from primary sources have been used for this study. The primary data had been collected from the people who have visited Pune City during the period of May 2018 to December 2018. A structured questionnaire was used as the instrument to collect the data.

Nature of the Data Primary Data

Sampling Technique Convenient Sampling

Area of the Study Pune City

Data Collection Method Structured Questionnaire

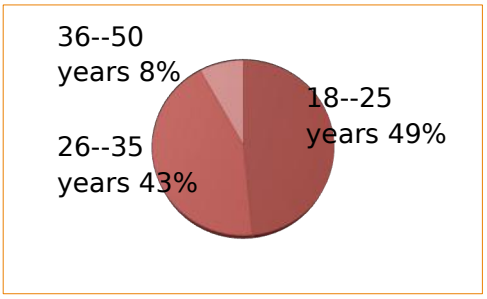
Period of the Study May 2018 to Dec 2019

As the Methodology is the heart for the study and it plays key role in taking the study in a proper scientific method, the represented subheadings in the table are explained in detailed in later part of the chapter.

ANALYSIS:

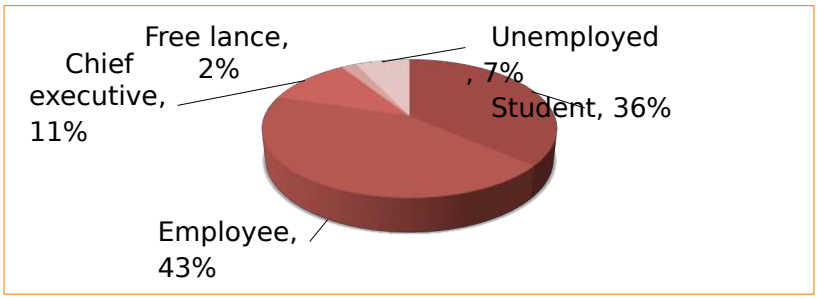
Question 1-Which age group are you in?

The first question consisted in knowing the age group of the respondents. The results revealed that with 49%, nearly half of them were aged between 18 and 25, followed by the group aged between 26 and 35 with 43%. Respondents aged between 36 and 50, with 8%, represent the smaller group, see Chart 4.1- Age groups division.



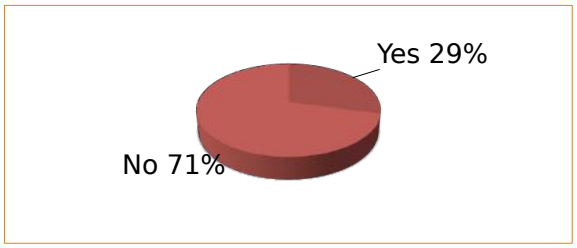
Question 2-What is your current professional situation?

Free-lances, unemployed and chief executives with, respectively, 2%, 7% and 11% represent the smaller groups. The majority of the respondents are employed and students with 43% and 36%. See Chart 4.2- Professional situation below.



Question 3-Are you familiar with the term "sensorial marketing"?

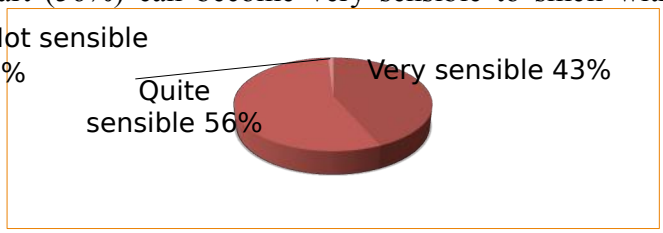
This question helps to assess the awareness of the customers in relation to the topic, thus their objectivity when answering this questionnaire. Nearly 3/4 of the respondents (71%) have never heard about sensorial marketing, meaning that most of the customers are unaware of the methods in place to attract them, and subsequently that the fashion brands are not communicating on it. This question will further help to know whether the majority of customers are open to sensorial marketing or not and if companies should communicate on these strategies or not, as it can influence the customer's perception of the brand. See Chart 4.3-Familiarity with the term "sensorial marketing" below.



Q4-Do you feel sensible to the smell in a store?

The chart affirms that whatever their degree of sensibility (not, quite or very sensible), a smell in a store do not let customers indifferent- with only 1% of "not sensible". The 'quite sensible' respondents might have never experienced a specific smell while shopping, or just remember an unpleasant smell, explaining

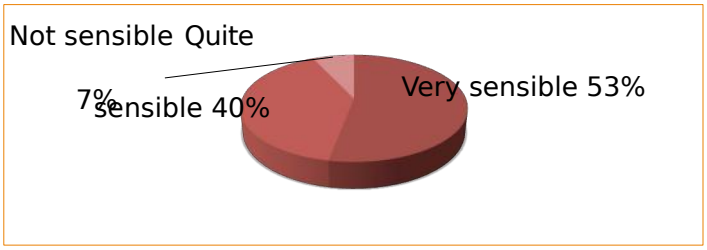
their choice. This part (56%) can become very sensible to smell with a clearly



identified and pleasant smell of a company. The results represent a great opportunity for companies to develop their own smell and attract customers in their stores. Moreover, nearly half of them are very sensible (43%), ensuring that smell represents a key opportunity to differentiate from competitors by a specific smell. See Chart 4.4- Sensibility to smell in a store below.

Q6-When shopping, do you feel the need to touch the clothes?

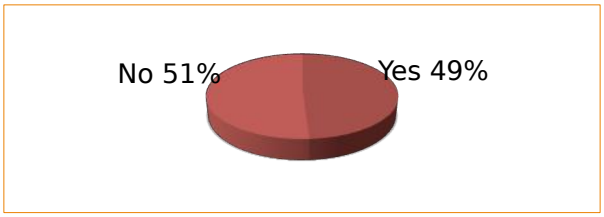
The results (Chart 4.6- The need to touch the clothes) show that every customer do need to touch the clothes while shopping- 81% of them revealing a strong need to touch it.



Q7-Would it influences your opinion on the brand?

However, being offered a drink or a sweet in a store can be seen as insignificant, nearly half (49%) of the respondents affirms that it would influence their opinions on the brand. The researcher would say that the opinion would be more positive as receiving something for free is most of the time appreciated and it is a proof of the desire to please the customer. Here, an interesting opportunity to build a brand identity is demonstrated. See Chart 4.8- Influence of a taste experience on the

customer's opinion.



5. FINDINGS:

1. Most of the respondents are aware that the stores do take many steps to attract and engage the customers in the form of playing music, using good spray and aroma. But they do not know the term sensory branding. More the educated the respondents are, higher they aware of sensory branding.

2. It was found that there is a significant relationship between the levels of awareness among the stores visitors when they know the term sensory branding.

4. When it was checked between male and female respondents, the level of awareness among the male doesn't differ from females. In other words, the awareness level doesn't differ from male and female.

5. There is a significant difference between male and female with respect to their level of awareness of the term "sensory branding". The study found out that the level of awareness among the male and female significantly differs when they are aware of the term sensory branding.

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OnlineVideo Streaming Services in India: A Critical Review

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Abstract

The growth of internet and digital technology have enabled innovations and disruptions leading to significant changes in our lifestyles. Online video streaming has gained popularity all over the world. Our consumption of media and entertainment is witnessing a dramatic shift from family TV viewing to private smartphone viewing. A lot of activity is happening in the digital world starting with the surge in the production of smartphones in multiple price range, availability of cheaper internet and entry of new and old companies in the streaming space. This exploratory research paper is a critical review of online video streaming services companies in India. It introduces the concept of disruption and disruptive innovation to justify that online video streaming is a disrupter. It first highlights the key players in the online video streaming or Over The Top (OTT) Video on-demand global landscape before focusing on the Indian marketplace. With secondary data, the objective of this paper is to understand the digital ecosystem of online streaming in India in terms of the strategies, enablers and trends.

Introduction

Internet was a disruptive technology that sparked the digital revolution and changed the way the world connected for work and pleasure. Lifestyles have changed because of disruptions in the cyberspace and so have the consumption habits. One of the major shifts in the consumption of entertainment has been in the growth of online video streaming services.

Lamare (2018) mentions that the history of streaming services in the world has two key mentions – YouTube and Netflix, both founded in the USA. The world at large came to know of YouTube in December 2005. This was a young start-up and one of the firsts in video streaming (by video sharing). Google bought YouTube in 2006 for $1.65 Billion and it is considered to be its most lucrative purchases. Almost five billion videos are watched everyday on YouTube and more than 1.3 billion people use YouTube per month. But, even before the YouTube founders had bought the YouTube domain name in February 2005, Netflix was launched in 1997 with an initial investment of $2.5 million. Netflix subscribers could rent unlimited DVD's online, one at a time, for a subscription of $20 per month. At that time, Blockbuster was a leader in the video rental industry. It dominated the marketplace withefficient operation, extensive network of retail locations and millions of customers (Satell, 2014). Netflix tried to offer a different form of video rental service where its patrons could rent as many DVDs as they wanted to, from the comfort of their homes/offices, without paying any late fee. They would receive the DVDs by post. This business model could not generate enough revenue for the company and for a few years Netflix was losing money.

In 2007, Netflix launched its streaming service and found its firm footing on the growth trajectory. As of end of March 2018, Netflix could boast of 125 million subscribers worldwide (Alsin, 2018). In 2018, it generated a revenue of $3.91 billion and a profit of $291 million in one quarter (Zeitchik, 2018). Since then, many other subscription-based video streaming services have entered the marketplace (Refer Table 1 in appendix) and the list is only growing (Zeitchik, 2018).

Objective

The objective of this paper is to answer the following questions:

- What is disruption? Isonline streaming a disrupter or merely an innovation?
- Which are the popular online streaming companies in India?
- What are the strategies adopted by the online streaming companies in India?
- What are the enablers for the growth of online streaming services in India?

Literature Review

Christensen et al. (2015) have defined 'Disruption' as a process where a firm with fewer resources successfully challenges conventional and recognized incumbent businesses. They state that incumbents (competitors) are inclined to overlook disrupters because disruption is a slow process. According to their analysis, Netflix is a disrupter because it did not begin by launching a service to target its competitor – Blockbuster's, core market. Instead, it followed a classically disruptive path by using new technologies to shift from online DVD rental service to streaming video online. It offered a wide selection of content to its subscribers where they could watch a high quality content as many times as they wanted to, whenever they wanted to and could choose to watch it either on the phone, desktop, laptop or bigger screens. Gradually, Blockbuster's core customers began finding the offering by Netflix appealing. Blockbuster never considered Netflix a competitor and ignored it and ultimately went bankrupt in 2010, while Netflix is believed to be worth more than $24 billion (Satell, 2014).Netflix has achieved this not just by licensing video content and streaming those online, but by buying and creating its own content and it is doing so on a massive scale (Alsin, 2018).

Every year Forbes.com creates a list of the World's most innovative companies.

Its method ranks the companies by their innovation premium – which is the difference between their market capitalization and the net present value of cash flows from existing businesses (Figure 1).

Rank	Company	Country	12-Month sales growth	Innovation premium
#1	ServiceNow	United States	39.02%	89.22%
#2	Workday	United States	36.07%	82.84%
#3	Salesforce.com	United States	24.88%	82.27%
#4	Tesla	United States	67.98%	78.27%
#5	Amazon.com	United States	30.8%	77.4%
#6	Netflix	United States	32.41%	71.23%

Figure 1(Source: Forbes.com)

Netflix occupies the sixth position and it has achieved this in a short span of 11 years since it set its foot on the path of disruption. If Netflix was one of the pioneers of the subscription-content model, and is the world's largest online video streaming company (The Economic Times, 2018), it is also a fact that it has to now face competition from many other players in the market.

Several industry professionals have widely acknowledged the streaming services as a disruption because they are challenging the TV companies (Bradshaw, 2015). Figure 2 shows the three core factors that define the online video streaming services as disrupters.

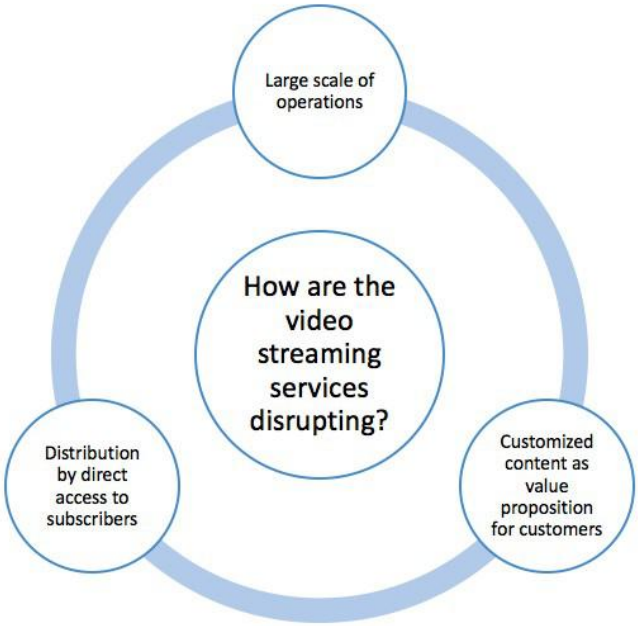

Figure 2 (Alsin, 2018)

The business models of companies like Netflix, Amazon Prime and Hulu are based purely on revenue generated by their subscribers and they are not dependent on advertisers (like in the case of the TV channels). Thus, they have complete control over their content (Alsin, 2018) and subscribers of video streaming services at times are bypassing TV altogether (Aggarwal et al., 2016). Figures 3(a) and 3(b) show how growth in TV subscriptions is expected to slow in the mature markets in the USA and Western Europe (BCG analysis, 2018). In these figures, the data from 2014 to 2018 are estimated data.

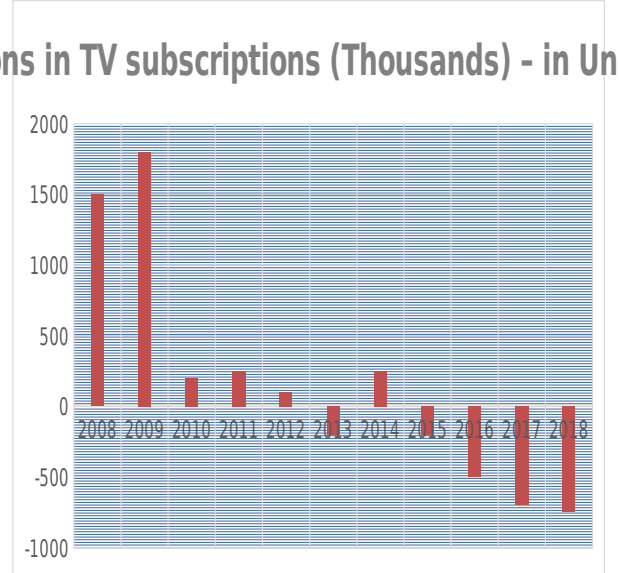

Figure 3(a)

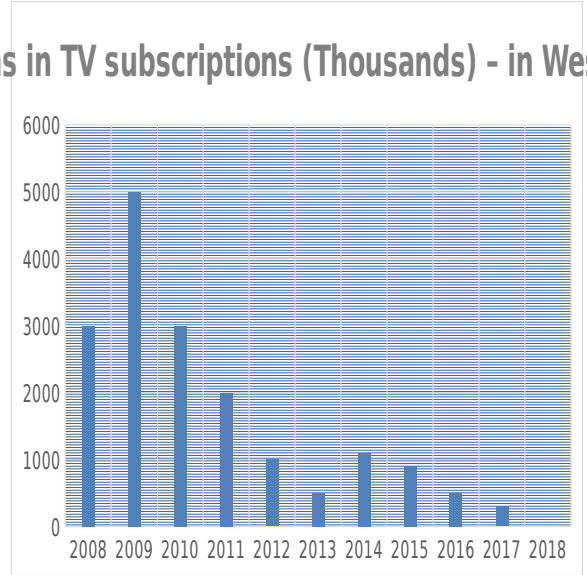

Figure 3(b)

Disruption and innovation are different and the difference can be understood in this way – "All disrupters are innovators, but all innovators are not disrupters" (Howard, 2013). Innovations can be disruptive or sustaining.

Disruptive innovation in the present times are Internet of Things (IoT), the cloud, mobile internet, 3D printing as these can transform our daily lives and the sustaining innovation are those that use existing technologies to offer more cost effective solutions or more accessible and efficient products/services (Kloefkorn, 2016). Bradshaw has added augmented and virtual reality, machine learning and artificial intelligence to his list of disruptive innovations(2015).

The disruption innovation model (Figure 3) suggested by Christensen et al. contrasts product performance trajectories (shown in bold black line) with customer demand trajectories (shown in dashed line)(2015). According to this theory, as incumbent companies introduce better quality/higher end products or services to satisfy the higher end of the market, where profitability is maximum, they tend to miss the needs of low end of the market. At this point, the disrupter enters the market space as there is a gap for it to find a foothold. Gradually entrants following the disruptive trajectory improve the performance of their offerings and move towards the high end of the market to challenge the dominance of existing incumbents.

Figure 3 (Christensen et al., 2015 in Harvard Business Review)

Table 1(Appendix) gives the list of subscription based video streaming services in the world. The list is not exhaustive, but it is an evidence of how disruptive innovation can redefine the marketplace and consumption habits.

How can companies deal with disruptions and resulting change? Basu has stated about Accenture's Disruptability index which defines business disruption through four clear periods – viability, volatility, durability and vulnerability(2018). His view is that to unravel growth, businesses need to detect where their industry is placed in relation to these four periods and why. Businesses can then use the knowledge to assess the possibility and speed of disruptions in future.

Aggarwal et al. have identified three enabling forces that have an impact on the online ecosystem of video streaming(2016). These enablers are: (a) Technological advances – Most of the countries today have the infrastructure requirement in terms of high speed internet and broadband services to enable online streaming with ease. (b) High quality online content – Studios have been collaborating to create high quality content for online viewing. (c) Development of new models based on low cost production of content – many studios and digital companies are managing to produce at lesser cost per episode because of higher number of subscribers.Does this hold true for the online ecosystem of video streaming in India as well?

Findings

Online video streaming services in India or OTT (Over The Top) media serviceshave entered the home entertainment business with an impressive platter of high quality, locally produced content along with the popular international releases. These are slated to become an important choice for home entertainment (Thomas, 2018), though a live mint report states that the growth path is an uphill one at present. It was estimated in a report by PR Newswire that subscription based Video

on demand OTT market will be worth $61.5 billion by 2019. This is an impressive rise from $280 million in July 2018.

OTT media services enable one to watch video content online by bypassing the traditional distribution channel comprising of cable networks and TV channels (Hindu Business Line, 2018). So, people can use the internet connection on their phones to watch videos and the trend seems to be catching up (A Deloitte report on digital media).

Table 2 has a list of some of the online video streaming services in India.

Online video streaming service	**Type of content**	**Revenue model**	**Market share by installations (as of October 2018)**
Netflix India	Original content(movies, documentaries, web series etc.), International and local films and web series, documentaries	Subscription Starts with INR 250 per month (for mobile viewing only, single device)	6.26%
Amazon Prime Video	Original content(movies, documentaries, web series etc.), International and local films and web series, documentaries	Subscription INR 999 for one year	10.77%
Hotstar	Content from Star India's channels such as Star Plus,	Freemium model (Free access with advertisements +	30.4%

	Asianet	Subscription with no advertisement) Partnerships with telecom companies	
Jio TV	Access to wide range of TV channels	Comes bundled with Jio telecom service; exclusive for Jio SIM users	23.88%
VOOT	Content from TV channels like Colors, Nickeldeon	Advertisements	8.44%
Sony LIV	Content from Sony India's channels, original content (in regional languages as well), Wide access to sports	Freemium model (Advertisments + Subscriptions, for ad-free viewing)	6.75%
Jio Cinema	Access to movies	Comes bundled with Jio telecom service, exclusive for Jio SIM users	4.17%

Table 2 (Source: business-standard.com)

The month-wise (from January 2018 to October 2018) market share by installations shows how Netflix and Amazon Prime Video have been gaining while Jio TV has slipped (Table 3 and Figure 4).

OTT	**Market Share by Installations (All India)**

Platform										
	Jan'18	Feb'18	Mar'18	Apr'18	May'18	Jun'18	Jul'18	Aug'18	Sep'18	Oct'18
Amazon Prime Video	4	3.95	4.12	4.34	4.66	6.48	9.03	10.46	11.07	10.77
Jio TV	30.96	31.07	31.66	30.46	27.63	26.11	25.66	25.38	24.34	23.88
Netflix	0.53	0.52	0.52	0.54	0.73	1.83	3.24	5.26	6.03	6.26
Sony LIV	3.89	4.83	5.82	5.54	4.6	4.76	4.78	5.25	6.03	6.75
Voot	8.8	8.43	7.83	7.05	6.47	7.17	8.08	8.08	8.25	8.44
HotStar	36.04	34.53	32.05	34.8	40.4	40.36	36.13	32.56	30.17	30.44

Table 3 (Source: business-standard.com)

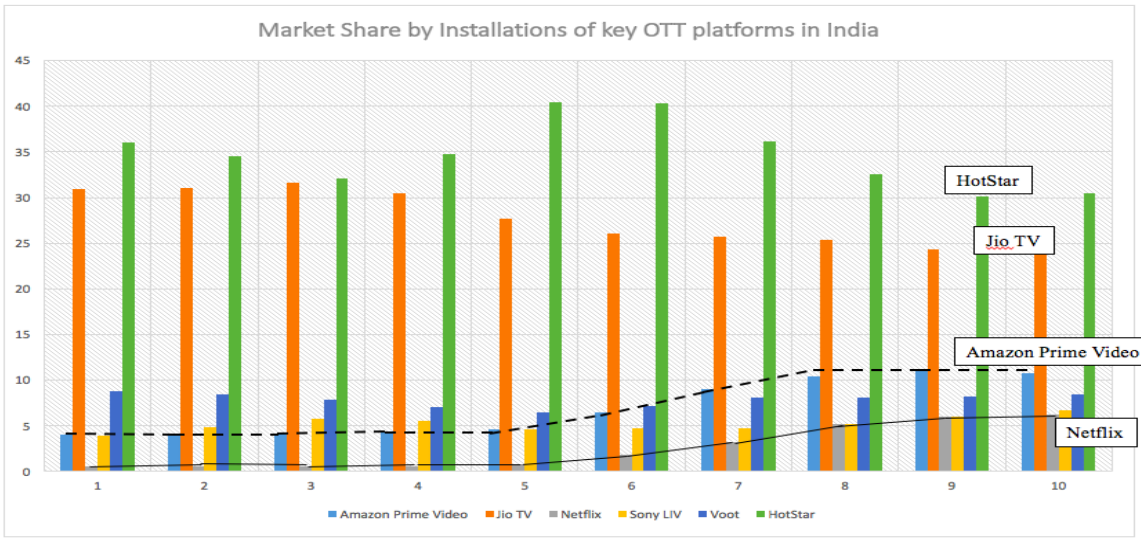

Figure 4(Based on Table 3)

The market share percentages and chart in Table 3 and Figure 4 show that Hotstar has been the leader in the OTT space in India. Hotstar and Sony LIV have a hybrid revenue model where they offer free streaming (with advertisements). Also, these platforms offer content of popular TV

channels in India, which people are already used to. Sony LIV registered a growth in its market share and one of the reasons could be that it had the exclusive rights of broadcasting FIFA word cup held in June-July 2018 and also the latest season of popular quiz programme-KaunBanegaCrorepati. Apart from Netflix and Amazon Prime Video, all other OTT platforms mentioned above are offering TV content with either free access or with nominal fee as these are earning from advertisements.

VOOT has been focusing on regional content, while VOOT kids is dedicated to content created exclusively for children. Reportedly, VOOT has six million active users everyday with each user, on an average, consuming video for 50 minutes per day (The Hindu Business Line, 2018). Another entrant in the OTT space has been the first regional OTT platform in Bengali– Hoichoi. It started streaming in end of 2017 (Thomas, 2018). The OTT market in India has taken into cognizance that regional language content cannot be overlooked and these will add on to their subscriber base. Thomas also mentions that 93% of the time that Indians spend on streaming online video is in Hindi or regional language(2018).

Netflix and Amazon Prime Video, both with subscription only revenue model, have been gradually increasing their market share in the same period. In January 2018, Netflix had the lowest market share and the reason could be that it was a premium subscription service where the minimum subscription was of INR 500 per month as compared to Amazon Prime Video's INR 999 per year.

In 2017, Amazon partnered with Vodafone India to give access to Prime Video at promotional rates to Vodafone subscribers. Vodafone India was to merge with Idea Cellular in that period and the resulting subscriber base was of 400 million customers (Forbes, 2017). This strategy indicates that Amazon was focusing on the smartphone video consumption trend/habit. Unlike Netflix, Amazon offered local content in India right from the start. It invested 2000 crores in creating original content for the Indian market (Thomas, 2018).

The key strategies used by Netflix in India have been:

(i) Offer free streaming for one month before the viewer chooses to subscribe;

(ii) Netflix had a tie-up with Airtel, where Airtel users were offered three months of free Netflix subscription;

(iii) Netflix has a bouquet of high quality, popular international films, TV shows, Web series and documentaries which attracts new viewers, despite the high subscription price;

(iv) It has also invested in and produced some interesting and high quality content for local population and also bought the streaming rights of many popular films produced in India. This enables diversity in its offering– something for everyone;

(v) Since March 2019, Netflix has revised its subscription plan in India and is testing a low cost option of offering streaming on only mobile phone That is, only one device per subscriber, for INR 250. For other plans, subscribers can view its content on multiple devices and screens. With this plan, it appears that Netflix is also looking at attracting more late majority category consumers and the smartphone video viewing generation.

All OTT platforms are investing and strategizing to tap into the growing mobile internet users which was 456 million in December 2017 and estimated to grow further (The Hindu Business Line, 2018).Upreti predicts that by 2020 most Indians will be watching video on their phones, privately as estimated 520 million Indians will have smartphones by then(2018). Thus, TV will not be the primary screen. A Deloitte analysis estimates that mobile data consumption will go up to 1869 PetaBytes per month in 2020 (from 94 PB per month in 2014) and smartphone penetration will rise from 13% in 2014 to 58% in 2020 (Figure 5).

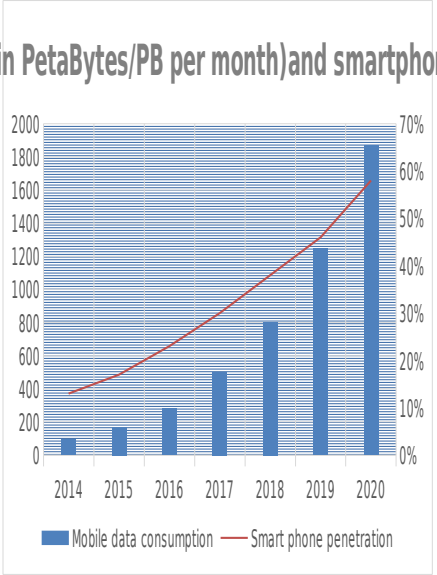

Figure 5 (Source: Deloitte Analysis)

Another analysis by Deloitte shows that smartphones constitute 43% of the total data consumption in India (Figure 6).

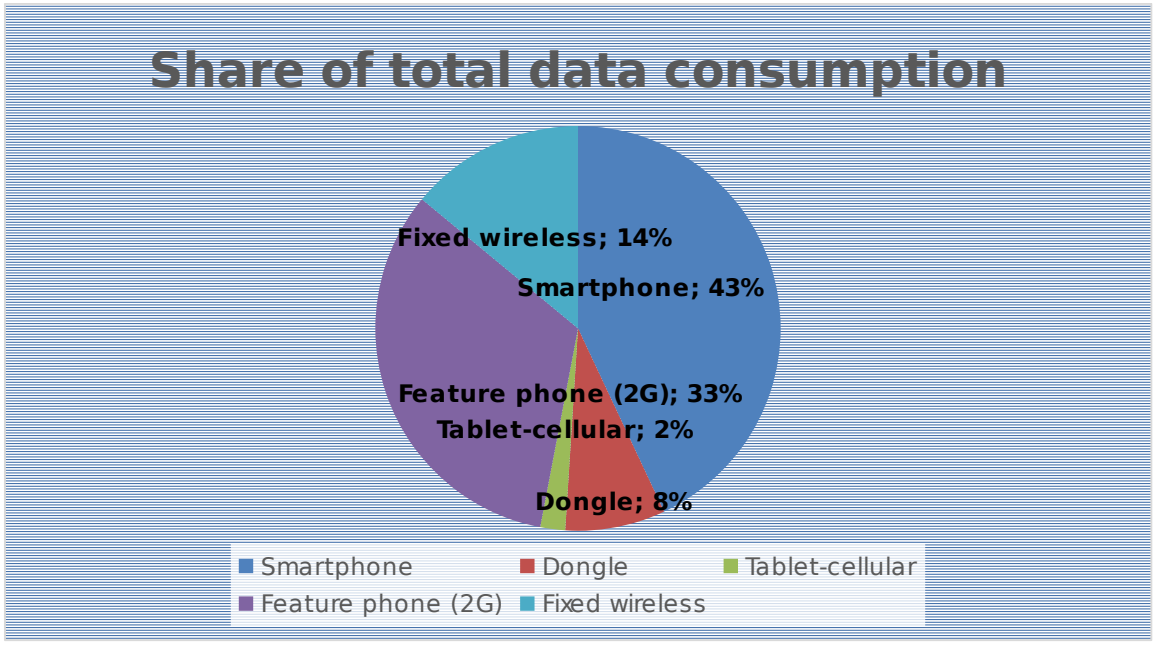

Figure 6(Source: Deloitte Analysis)

A report by Ernest & Young has summed up the future of consumption of digital content as follows:

(i) Easy availability of internet services and connected devices (laptops, PCs and smartphones) have enabled increased online presence on personal devices
(ii) The average length of videos viewed in India has been found to be less than 20 minutes
(iii) TV does not have dominance in media consumption
(iv) Availability of low cost smart phones and affordable data plans will enable deeper penetration of online streaming services
(v) Rise in disposable income and emergence of freemium revenue model will also enable greater consumption of video on demand
(vi) There will be focus on mass + niche communities such as kids, young college students, young professionals, homemakers etc. and communities related to sports, motherhood, hobbies, adventure etc. will also be created
(vii) There will be emergence of internet celebrities- that is, those who enjoy large followings on their social media accounts

Analysis and conclusion

India's demography offers a complex market place for video streaming companies. While most of the educated population follows programmes in English and Hindi, the demand for regional language content is also significant. So, the international names like Netflix and Amazon Prime Video have been investing in producing local, original content to tackle the volatile competitive environment and reduce their vulnerability in the demand for local content.

Traditional TV and DTH (Direct To Home) companies will need to have digital presence by offering their content online. This appears to be a viable extension strategy due to rise in internet and smartphone penetration in India. Thus, they can design their business model around free access with advertising revenues or ad free paid subscription or a combination of both.

The quality of content is likely to determine the sustainability of these OTT platforms as consumers will have choice and they have the freedom to subscribe to more than one OTT platform. Eventually, the content quality will be the winner. This implies that these streaming services have to invest significant amount of money in licensing/producing high quality content. So, a careful balancing of revenue generation and investment plans has to be achieved to ensure sustained operations as the content creators will have a challenging task to find both – the viewers and finance for their projects. With multiple OTT platforms crowding the marketplace, making new shows or programmes accessible by engaging with the target viewers will also be a challenge.

Technology will continue to play an important role in the ecosystem of online video streaming services in India. Artificial Intelligence (AI) can be used by these companies to understand the customer's requirements better and offer tailored content for which the viewer is willing to pay. YouTube, Netflix among others have been using data mining technology to direct viewers to the shows or videos they are most likely to be interested in. Figure 7 summarizes the landscape of online streaming services in India.

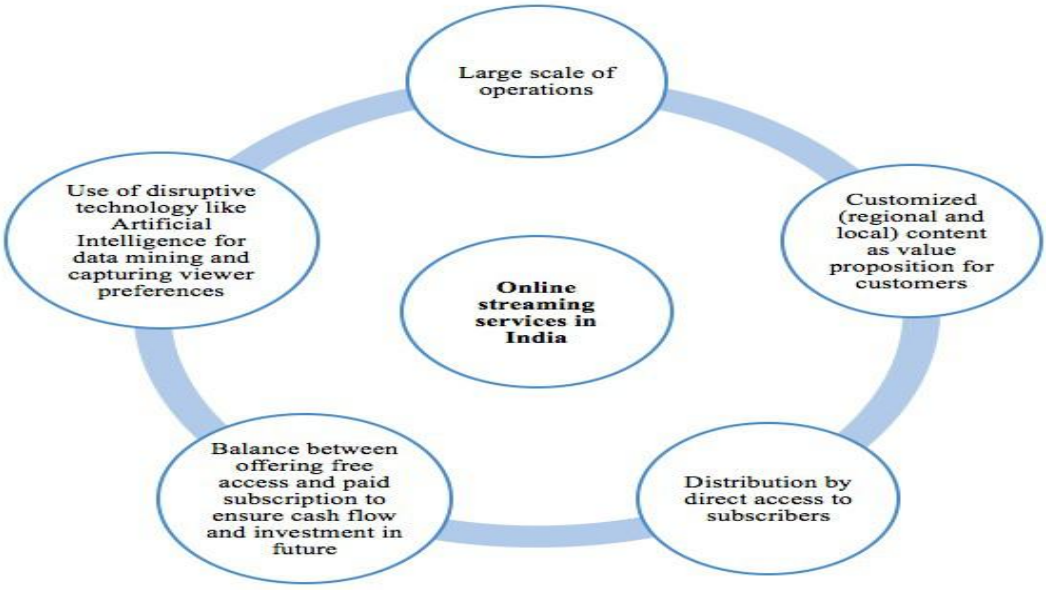

Figure 7

The future of entertainment consumption is likely to be dominated by online streaming. More research in this field will provide valuable insights into consumer behavior specific to online consumption – such as: What motivates the innovators and demotivates the laggards to consume online video streaming services? Is there specific difference between the consumption habits of people of different nationalities?Further empirical research can also be conducted to assess the areas where these companies are vulnerable, what constitutes volatility in their business environment, which factors account for viability of their strategies and how are the companies managing the durability of their business model.

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Appendix

Table 1

Online video streaming service	Type of content
Acorn TV	TV dramas, Mysteries, Comedies etc.
Amazon Prime Video	Original shows, Movies, TV dramas etc.
CBS All access	CBS programs, plus live programming streams of local CBS affiliates in 124 markets
The Criterion Channel	Classic and contemporary films from multiple countries
DirecTV Now	Different TV channels including Cinemax and sports channels
ESPN+	Sports, documentaries, scripted series
FuboTV	Sports- line and on-demand channels
HBO Now	TV series, movies, and documentaries
Hulu	Broadcast TV including shows from ABC, NBC and Fox; Original content
Netflix	Movies, TV shows, Original shows and movies
Philo	Various sports free channels including Comedy Central, Discovery channel, Food Network etc.
PlayStation Vue	Local channels
Showtime	Movies and original shows
Sling TV	Different TV Channels
YouTube TV	More than 70 networks

WASTE TO CASH TRANSFORMATION IN WESTERN MAHARASHTRA THROUGH APPLICATION OF PLASMA

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Abstract

The goal of composing this paper is to consider the present practices identified with the different waste management activities taken in western Maharashtra by Solid waste management. The other reason for existing is to give a few proposals and suggestions to enhance the waste management rehearse in towns. This paper depends on secondary research. Existing reports identified with waste management and suggestions of organizers/NGOs/specialists/government responsibility organizations/key industry specialists/for enhancing the framework are considered. It offers profound learning about the different waste management activities in western Maharashtra and discovers the extension for development in the management of waste for the welfare of the general public. Domestic Waste is increasing day by day and hence; our analysis explain Plasma Gasification may be proven as a sustainable source of energy and environmentally safe solution for Domestic Waste disposal in western Maharashtra. The paper endeavors to comprehend the imperative pretended by the formal division occupied with waste to cash out our nation and to increase employment. This work is unique and could be additionally broadened.

Keywords: Solid Waste, Plasma, Environment, Cash, Employment

1. Introduction

Pune City faces the various challenges for Solid Waste Management, as large amount of domestic waste is generated, the Pune municipal corporation is finding it difficult to manage huge amount of waste and give clean and healthy life to people. Domestic waste management is

one of the major environmental problems of Pune. Improper management of Domestic waste causes hazards to inhabitants. Various studies reveal that about 90% of waste is disposed of unscientifically in open dumps and landfills, creating problems to public health and the environment. Domestic Waste is considered as a source of renewable energy, and plasma gasification technology is one of the leading-edge technologies available to harness this energy. Domestic Waste is increasing day by day and hence; our analysis explain Plasma Gasification may be proven as a sustainable source of energy and environmentally safe solution for Domestic Waste disposal in Aundh region of Pune City.

1.1 Plasma Technology: Plasma technology is based on a simple physical principle. Matter changes its state when energy is supplied to it: solids become liquid, and liquid becomes gaseous. If even more energy is supplied to a gas, it is ionized and goes into the energy-rich plasma state, the fourth state of matter.

Plasma an ionized gas resulting from an electrical discharge, can be distinguished into high temperature plasma (a thermal equilibrium state) and fusion plasma (quasi-equilibrium plasma and non-equilibrium plasma or cold plasma).

Plasma was first discovered by Irving Langmuir in 1928. It is not rare; actually, quite the opposite is true. More than 99% of the visible matter in the universe is in the plasma state. With increasing energy input, the state of matter changes from solid to gaseous. If additional Energy is then fed into a gas by means of electrical discharge, the gas will turn into plasma.

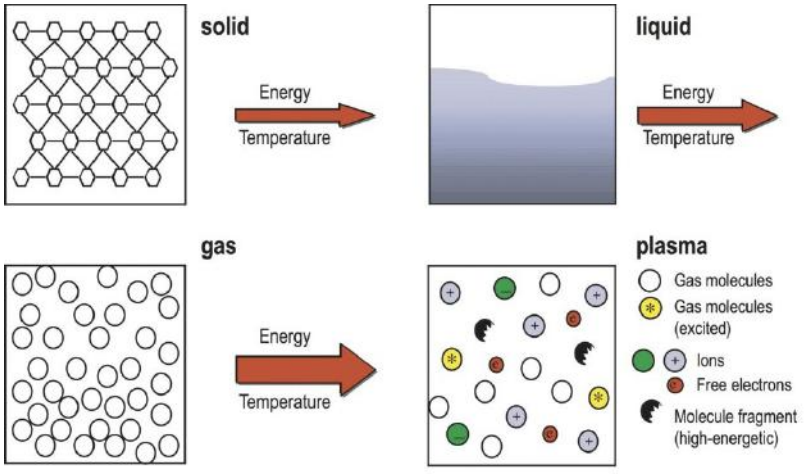

Fig No. 1: State of matter changes from solid to liquid to gaseous

In Plasma Gasification Process (PGP), the matter gasified in an oxygen-starved environment to decompose waste material into its basic molecular structure. It does not combust the waste as in the incinerators. Electricity is fed to a torch, which has two electrodes, creating an arc. A constant flow of electricity through the plasma maintains a field of extremely intense energy powerful enough to disintegrate the garbage into its component elements. The by-products are a glass-like substance used as raw materials for high-strength asphalt or household tiles and "syngas". Syngas is a mixture (Blees, Tom 2008) of hydrogen and carbon monoxide and it can be converted into fuels such as hydrogen, natural gas or ethanol. The Syngas so generated is fed into a cooling system which generates steam. This steam is used to drive turbines which produce electricity – part of which is used to power the converter, while the rest can be used for the plant's heating or electrical needs, or sold back to the utility grid. The metals become molten and in-organics such as silica, soil, concrete, glass, gravel, etc. are vitrified and flow out the bottom of the reactor. There are no tars, furans or ashes to go back to landfills.

As per our analysis, Domestic waste is considered as a source of renewable energy and plasma gasification technology is one of the leading-edge technologies available to harness this energy . Plasma treatment has been used for many years in almost all areas of Industry, Including automobile engineering, transport, electronics manufacturing, packaging technology, consumer goods, life science, textiles and new forms of energy. Now our analysis showed that, this process can be utilize for conversion of domestic waste into energy generation in smallest region.

2. Materials and Methods

The Methodology of the current study is as follows-

1. Study of Plasma Gasification Existing plant in Ranjangoan MIDC
2. Collection of sample for Residential Zone & Commercial Zone of Aundh in Pune
3. Analysis of Collected Sample for various parameters as prescribed in standard methods was done
4. Comparisons of Test result of samples collected for residential zone & Commercial zone
5. Domestic waste disposal process using Plasma Gasification technology

6. Obtained Results for various samples.

Fig No.2 - Dustbins for collection of Domestic Waste in residential area of Aundh, Pune

Table No.1-Source of MSW Generated in PMC

Sr. No.	Source	Quantity of Waste Generated per day- tons	Composition in %
1	Domestic (Households)	400	40
2	Commercials	250	25
3	Market Areas	50	5
4	Hotels and Restaurants	250	25
5	Vegetable waste (19 Markets)	50	5
	Total	1000	100

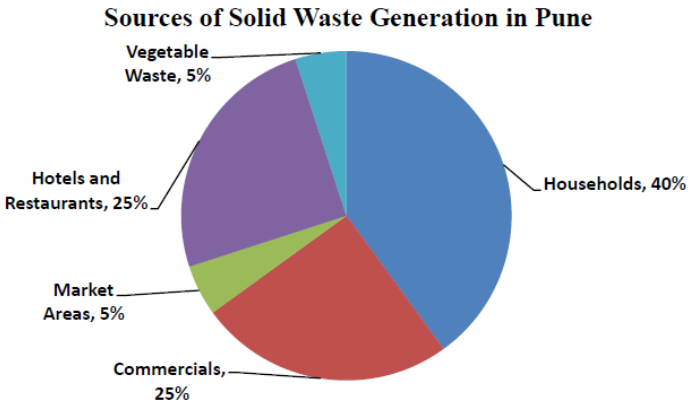

Fig No.3-Sources of MSW Generation in PMC

As per study, the existing disposal site is located at Urali Devachi (165 acres), which is about 20 km away. Earlier, PMC was converting biodegradable organic waste into compost by the aerobic

process at the landfill sites. But from 2002 onwards, PMC has shifted to Effective Micro Organism (EM), a Japanese technology. The EM technology eliminates harmful gases like ammonia and Hydrogen Sulphide, thus reducing the polluted smell; the microbes digest the organic matter and this produces high quality compost. At the time of their study about 1000 tonnes of waste is composted using the EM technology; the compost is then supplied to farmers free of cost. Pune is the first city in India to implement this technology. PMC has adopted a decentralized system for waste disposal, at the local or ward level. Wet waste is disposed by vermiculture, biogas plant and waste to energy program. About 1370 MT/day of solid waste generated is scientifically treated in various ways (Table 7) like landfilling, organic compost, bio-gas and mechanical compost.

2.1 Process study of Plasma Gasification Plant at Ranjangaon MIDC

Maharashtra Enviro Power Limited is operating hazardous waste destruction using Plasma Gasification Technology since 2008

Address of Plant:- M/s. Maharashtra Enviro Power Ltd. (SPV of M/s. Shaktikumar M. Sancheti Ltd) Plot No. 56, MIDC Ranjangaon, TalukaShirur, Dist – Pune.

Fig No.4-Plasma Gasification Plant at Ranjangaon MIDC

Plasma Gasification Vitrification Reactor (PGVR) – Primary & Secondary chamber are lined suitable designed with refractory & connected with thermal Oxidiser, WHRB-ESP APC System, ID fan & then flue gas through rubber linned stack of height 45 M.

2.2 Plant Description:

Maharashtra Enviro Power Limited (MEPL) is an operational CHTSDF site located at MIDC, Ranjangaon, Ranjangaon, Dist Pune, and Maharashtra from 2008. The facility was established under tripartite agreement between MIDC, MPCB and Developer.

Fig No.4-Hazardous waste disposal at Ranjangoan MIDC Plasma Plant

MEPL is a SPV company of SMS Limited (SMSL) who is one of the leading companies in the sectors of Infrastructure development, Environment & Clean Energy Projects having its corporate office at Nagpur, Maharashtra. SMSIL is Central India's largest professionally managed Infrastructure Company which figures in the list of first 500 unlisted companies of India in terms of turnover and have been awarded with several National Awards for its State of-the- Art work in the field of Construction and Environmental Management. SMSIL has the credit and distinction of having established the first – of –its – kind Plasma Gasification based Hazardous Waste Management facilities (Maharashtra Enviro Power Limited – at Pune, Maharashtra &VidarbhaEnviro Protection Limited at Nagpur, Maharashtra) in the world.

At present Hazardous waste is disposed of through Plasma Gasification Plant of 72 TPD capacity. Plasma gasification is having high tech component such as plasma torches, power supply and instruments related to plasma system.This project utilizes the proprietary PGVR technology from Weistinghouse Plasma Corporation, USA for destruction of industrial hazardous waste. The technology uses the ultra-high thermal energy from a plasma generation system (e.g. plasma torches) in an oxygen starved environment to first, pull apart the molecules that make-up organic constituents of the waste, then, through the addition of controlled amounts of pure

oxygen and steam the dissociated molecules reform the base elements into the syngas, consisting mainly of Carbon Monoxide (CO) and Hydrogen (H2). The present plant capacity is 72 TPD disposal of industrial hazardous waste. Synthesis gas generated from the plasma gasification process is further destructed in Thermal Oxidizer. Flue gas from thermal oxidizer is taken to waste heat recovery system for generation of steam. Air pollution control system consisting of Ventury Scrubber, Wet ESP, and Alkali Scrubber is provided for meeting the emission norms for flue gas from Incineration Facility.

2.3 Plant Process:

Plasma Gasification Vitrification Reactor (PGVR) – Primary & Secondary chamber are lined suitable designed with refractory & connected with thermal Oxidiser, WHRB-ESP APC System, ID fan & then flue gas through rubber linned stack of height 45 M. PVGR is operating with following Process flow diagram-

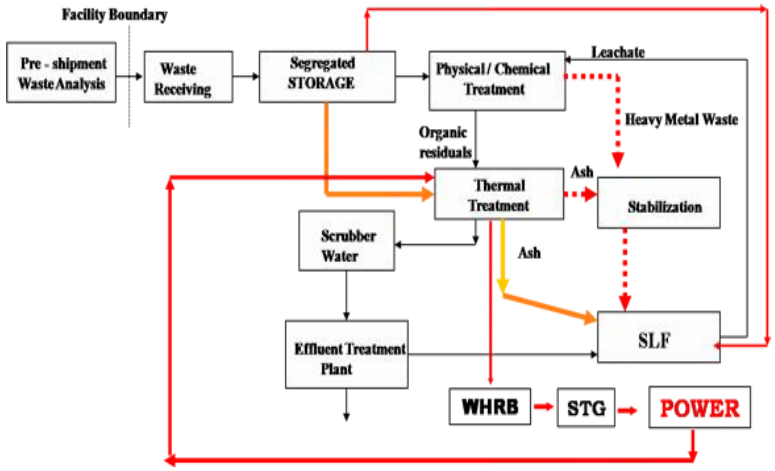

Fig No.5- Process for Hazardous waste disposal at Ranjangoan MIDC Plasma Plant

Table No. 2- Hazardous waste Incinerator will be designed and operated to meet following emission norms

Sr No	Parameter	Emission Limit (mg/Nm3)
1	Particulates	50
2	HCl	50
3	SO2	200
4	CO	100

5	TOC	20
6	HF	4
7	NOX (NO and NO2 expressed as NO2)	400

Note: All values above shall be corrected to 11% oxygen on dry volume basis.

2.3.1. Monitoring & Execution-

Process control & monitoring is done through SCADA software. Sensors are provided inside of stack, other plasma generating units then it is monitored on Computer through SCADA software. Data stored as per daily process & plant is controlled as per data provided. Plant operates under negative pressure. Reactor negative pressure is controlled through ID fan speed control. Safety valve venting in case of pressure built up ID Fan, Scrubber Pump, Waste Feed System and Plant instrumentation are provided with emergency power supply for corrective actions during power failure. Dedicated Nitrogen Plant with storage tank is provided for emergency dumping of nitrogen into plasma reactor. Complete Plant operation is controlled and monitored from centralized control room using P LC based control system. Exhaustive plant instrumentation and interlocks are provided to ensure that plant comes to safe mode in all eventualities. This monitoring is essential for our study to understand control of plasma system and neutralization of content to control environmental norms.

2.4 Process And Method

The torch is consisting of two electrode devices that convert electrical energy into heat energy, which is known as Plasma Torch. In the primary chamber, waste is fed and treated with plasma emitted by the torch. Thereafter, gases and slag are formed in the chamber. The gases include carbon monoxide, nitrogen and hydrocarbons. These are decontaminated (scrubbed) in the secondary chamber (with the help of a chemical/water shower). The temperature of the gases is also reduced from 600°c to less than 80°c during the quenching process. The entire process takes place in the absence of oxygen. The system can treat 15- 20 kg of domestic waste per hour. Plasma discharge treatment has no byproducts which must be disposed of as waste. Therefore it can be viewed as a totally closed treatment system. The basics of plasma technology are straightforward. A high-voltage current is passed between two electrodes to create a high-

intensity arc, which in turn rips electrons from the air and converts the gas into plasma or a field of, intense and radiant energy.

This is the process behind fluorescent and neon lighting where low voltage electricity passing between electrodes in a sealed glass tube containing an inert gas excites the electrons in the gas. The gas releases radiant energy and electric arc welding or cutting; this electricity passing between electrodes creates plasma that can melt metal, plastic, rubber and any other domestic wastePlasma gasification is a simple and commercially well proven technology. It involves the conversion of various feedstock's to clean syngas, through a reaction with oxygen and steam; this reaction is spontaneous at high temperature and pressure under reduction conditions, and consumes half of the oxygen required for total combustion. The raw syngas product is cooled and purified; it is then used in one or a combination of many product applications: syngas for chemicals, gaseous fuels, for liquid fuels burned in commercial boilers to produce steam or in heat transfer process and in internal combustion engines to produce electrical energy.

The gasification takes place in a closed plasma chamber called the plasma reactor which is a sealed, stainless steel vessel filled with ordinary air. A 650- volt electrical current is passed between two electrodes; this rips electrons from the air and creates plasma.The gas from the reactor has a low to medium calorific value, and is therefore suitable as fuel for a gas fired power generation unit. However, after leaving the reactor, the gas is still contaminated with a number of undesirable compounds, such as hydrogen chloride and metal particulates that can cause damage to machinery and the environment. The cleaned air similar in quality to natural gas is then fed to a compressor and storage facility ready for use. The most typical use of the gas is as fuel for power generation, although it can also be used as a feedstock for chemical processes i.e. the production of methanol.

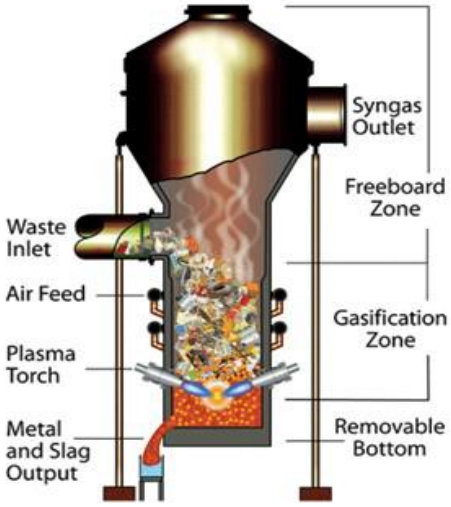

Fig No.6 Plasma gasification vitrification reactor

4. Result and Discussion

Properly designed, a plasma plant theoretically produces no air pollution and no ash or dust; it's only real waste product is the solid, vitrified aggregate that can be used in construction ("environmentally inert" and "leach resistant.") In practice, every kind of waste treatment produces toxic heavy metals and other residues that cannot be disposed of completely. In a plasma plant, they can at least be separated out, melted down, and reused; they're not simply being blown into the air as incinerator ash or stuffed underground in a landfill and left there to cause problems for future generations. We have done testing on those samples collected in Aundh area following are the testing of that sample-

4.1 Physical Analysis Result-

4.1.1 Primary Analysis-

Primary analysis is conducted by visualization of samples from Domestic waste collection. Following are the observations for primary analysis-

- Sample-1 & Sample-2 are in solid state
- Color of samples-1 is black
- Color of sample-2 is white

- Odor of both sample are messy.

4.1.2 Segregation & waste constituent-

Collected samples are segregated for physical analysis and then Waste constituent is separated as per category- Food Scrap, Wood, Rubber/Leather, Plastic, Metal, Glass, Paper, Dust, Etc. Following are the segregation of Sample-1, which is collected from residential zone, segregated manually as per constituent for sample.

TABLE No. 4.01-Waste Constituent of Sample-1

Sr No	Constituent	Percentage
1	Food Scrap	38%
2	Wood	22%
3	Rubber/Leather	4%
4	Plastic	10%
5	Metal	9%
6	Glass	6%
7	Paper	8%
8	Dust	3%
9	other	1%

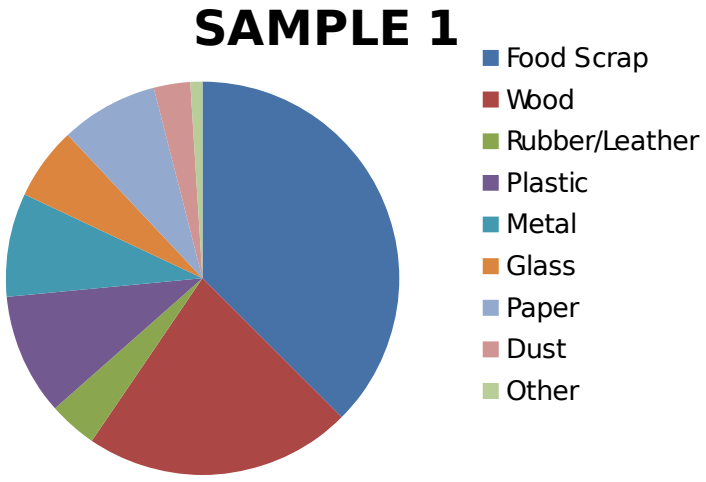

Fig No.4- Constituent of Sample-1

Residential areas solid waste storage ishandled by residents and tenants. Commonly used containers are plastic or galvanized metal containers, and disposable paper or plastic bags. The plastic or galvanized containers are 75-150 liter size with tight covering. The single use paper or plastic bags are generally used when curb service is provided and the homeowner is responsible for placing the bags along the curb. Special vertical chutes are provided to deliver the waste to a central location for storage, processing, or resource recovery.

4.3 Discussion& Result

Environmental & Commercial development of any project is endeavor towards sustainable development. Any project activity can cause impacts on environment either positive or negative depending on the type of the activity, throughout the project lifetime. After conceiving the project activity, it was found that the project benefits to the local, regional and global environment in various ways. Reduced additional GHG emission related to thermal power production, which includes a huge emissions including carbon dioxide, sulphur dioxide, oxides of nitrogen, and particulate matter, which would have occurred in absence of the project activity in business-as-usual scenario. Substantial reduction in thermal pollution is necessary to obtain environmental pollution control. In absence of the project activity, there would have been considerable amount of cooling requirement to be operated with plasma Process. Plasma Torch primarily utilizes the heat content of the waste flue gas and thereby takes care of thermal pollution. The flue gas of temperature 11000 C enters the boiler system and comes out with a reduced temperature at 3000 C after effective heat transfer. With reducing the temperature, the corrosiveness of flue gas also reduces, thus protecting ESP from early wear and tear and increasing its lifetime. Work environment pollution due to thermal radiation is not significant. The impacts on air, water and land environment exist for a temporary period of time till the end of construction phase. Therefore, it does not affect the environment considerably.

Reduce adverse impacts related to air emission at coal mines, transportation of coal that would have been required to meet the capacity requirement of thermal power stations. It has also successfully conserved the non-renewable natural resource such as coal, oil and natural gas by reducing power demand.

Project activity has also save energy loss by utilizing waste heat energy of the flue gas of plasma process.Opponents of the technology are concerned that it's largely untried and its drawbacks aren't yet known. No-one really knows whether it's safe or whether it's more economic than other forms of waste treatment. One concern is that it's simply a new way of dressing up something that is little better than incineration. Although the waste isn't burned, it is heated and some harmful products (including heavy metals and toxic dioxins) are left over at the end of the process. The solid aggregate waste has been billed as a useful construction material, but no-one can yet be certain precisely what it would contain, how safe it would prove, or whether it could indeed release toxic chemicals into the environment over time. One argument against conventional incinerators is that they undermine drives to reduce and recycle waste. Commercially operated Plasma plant need (and indeed profit from) steady supplies of waste.

TABLE No. 4.10-Sample 1: Test Parameter Result

Sr No	Test Parameter	Unit	Result	CPCB Guidelines
1	Physical State/Texture	--	Solid	Not Specified
2	Color	--	Black	Not Specified
3	Stability	--	Stable	Not Specified
4	React with Water	--	No Reaction	Not Specified
5	Flash Point	ºC	55	> 60 ºC
6	pH	--	5.6	>4 to < 12
7	LOD @105 ºC	% w/w	44.6	< 40 %
8	LOI @ 550 ºC on dry basis	% w/w	70.8	< 20 %
9	ASH @ 850º C on dry basis	%	23.6	Not Specified
10	TOC	% w/w	4%	< 5 % for BD Waste or < 20 % for NBD Waste
11	Calorific Value	cal/gm	2000	< 2500 cal/gm
12	Cadmium	mg/Kg	0.21	50
13	Lead	mg/Kg	5.94	5,000
14	Chromium (III)	mg/Kg	1.36	5,000
15	Copper	mg/Kg	1.4	5,000
16	Nickel	mg/Kg	0.001	5,000
17	Zinc	mg/Kg	23.6	20,000
18	Iron	mg/Kg	32.5	Not Specified

5. Conclusion

This technology is useful for the Aundh region for small scale. So we studied the parameter required for execution of plasma gasification process for samples. This Sample was collected in Aundh area. Plasma Gasification process is more helpful because the plasma reactor does not discriminate between any types of wastes. Hence this process doesn't require any Kind of segregation of waste. The only variable is the amount of energy that it takes to destroy the waste i. e. its calorific value. Consequently, no sorting of waste is necessary and any type of waste, other than nuclear waste, can be processed. This process also generating revenue for execution as well as this can be proving as eco-friendly.

In this project, We conclude from obtained test result calorific value of domestic waste collected from Aundh area are lower than requirement of plasma generated. But we can use Plasma Gasification technology for solid waste consumes high poly vinyl carbon. Thermal plasma technology is a mature, reliable, and proven method for generating zero waste disposal of domestic waste. Thermal plasma gasification processes convert organics contained in domestic waste into syngas, and dissociate other materials into constituent chemical elements that are then collected and vitrified to produce an inert glass-like slag retaining most of the heavy and alkali metals from the waste. The vitrified slag can be used as construction materials. In addition, NOx and SOx are not emitted due to O2-starved conditions inside the thermal plasma furnace. Therefore, thermal plasma processes are an environmentally friendly alternative for the gasification of domestic waste of Aundh region

We obtained a detailed evaluation of economics for a 1 TPD scale plant for aundh region including construction cost 1 Cr.total operation costs are Rs 6, 50, 000.

TABLE No.5.01- Assumed Estimated Cost

Sr No	Description	Amount (In Lac)
1	Civil Work	15.6
2	Mechanical Work	83.7
3	Electrical	3.0
4	Instrumentation	1.9
5	Design/ PMC	0.8
	Total Amount	105

Total Project Cost for the proposed facility is estimated at Rs 1,05,00,000/-

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2. Technical and economic analysis of Plasma-assisted Waste-to-Energy processes By Caroline Ducharme Advisor: Prof. Nickolas J. Themelis, Columbia University Co-advisor: Prof. Marco J. Castaldi, Columbia University, In partial fulfilment of requirements for M.S. Degree in Earth Resources Engineering, Department of Earth and Environmental Engineering Fu Foundation of Engineering and Applied Science Columbia University (September 2010); Research partially sponsored by the- Earth Engineering Center, Columbia University
3. INTERNATIONAL JOURNAL OF ENVIRONMENTAL SCIENCES Volume 3, No 1, 2012, Plasma Gasification: A Sustainable Solution for the Municipal Solid Waste, Management in the State of Madhya Pradesh, India Patel Munna Lal1, ChauhanJanardan Singh2, 1- Executive Engineer, M. P. Pollution Control Board, E-5, Arera Colony, Bhopal, 2- Professor and Head of the Department (Civil), SamratAshoka Technological Institutes (Engineering College) Vidisha (M. P) India
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Waste Management in the State of Madhya Pradesh" represented by Patel Munna Lal1, ChauhanJanardan Singh.

9. In IOSR Journal of Applied Physics (IOSR-JAP), "Thermal Plasma Solution for Environmental Waste Management and Power Generation" represented by F. N. C. Anyaegbunam (Ph.D.) Department of Physics/Geology/Geophysics Federal University, Ndufu-Alike, Ikwo, Abakaliki.Ebonyi State.
10. "APPLICATION OF PLASMA TECHNOLOGY IN THE ENVIROMENTAL, WASTE PROCESSING INDUSTRY", an Overview of Plasma Technology for Waste Disposal and a Description of Specific Processes.
11. As per thesis submitted to The University of Manchester for the degree of Doctor of philosophy in the Faculty of Engineering and Physical Sciences on topic "Plasma Methods for the Clean-up of Organic Liquid Waste" presented by Maria Prantsidou
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14. ECONOMIC FEASIBILITY OF A PLASMA ARC GASIFICATION PLANT, CITY OF MARION, IOWA, Bruce J. Clark, P.E, SCS Engineers, Tampa, Florida, USA, Marc J. Rogoff, Ph.D.SCS Engineers, Tampa, Florida, USA

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