

Green IT Governance: An Empirical Study For Successful Green IT Implementation

1. Dr. Huma Lone

Assistant Professor

Suryadatta Institute of Management and Mass communication, Pune

2. Dr. Sonali Parchure

Associate Professor

Smt. Hiraben Nanavati Institute of Management and Research for Women, Pune

3. Dr. Prajakta Warale

Associate Professor

Rajgad Institute of Management Research and Development, Pune

4. Prof. Devdatta Sant

Assistant Professor,

Suryadatta Institute of Management and Mass communication, Pune

ABSTRACT

IT has, without doubt, substantially enhanced business productivity and improved the overall quality of our lives. However, but this increasing growth is placing a tremendous burden on our environment. The concept of Green IT has emerged in 1992 when the U.S. Environmental protection Agency unveiled Energy Star. It has received great attention in the past two decades. It is now becoming more compelling for IT companies as sustainability has become a biggest challenge. It has become essential to adopt Green IT culture for sustainable future. It is crucial to look in to increasing problems of power consumptions, e-waste, unsustainable work practices like leaving PCs, laptops switched on when not in use, keeping screen savers on, excessive use of printers, etc.

Most companies are talking a good game but not actually going green where it counts. Lot of researches shows that Green IT practices are adopted in an adhoc manner with no proper governance in place. Green IT Governance plays a very crucial role in overall implementation of Green IT management in an organisation. Green IT Governance dimension can be measured using the indicators such as budget allocation, well defined roles, responsibilities, accountability and presence of administrative processes for promoting Green IT initiatives and existence of metrics for assessing the impact of Green IT initiatives.

This paper will provide a deeper insight about indicators for Green IT Governance. An online questionnaire survey method was used and the data for 100 IT companies were analysed. Kruskal Wallis and Chi square test were used to hypothetically uncover the difference in

adoption level of Green IT governance indicators amongst large, medium sized and small IT companies.

Keywords:Green IT, Green IT Governance, Green IT Metrics, Green IT Expert, Green IT advocate

INTRODUCTION

India is currently one of the largest IT capitals in the modern world. Tata Consulting services, Accenture, Infosys, Oracle Financial Services, Mphasis, Mindtree and HCL Technologies, are all global IT giants. Several international companies have set up their offices here in India like Google, IBM, Accenture, Microsoft etc. It has aided in transforming Indian economy from an agriculture-based economy to a knowledge driven economy. With this swift expansion of IT sector, it is posed with one of the major challenges i.e. environmental sustainability of IT. According to the statement from IT committee, MCCIA (Maharashtra Chamber of Commerce Industries & Agriculture), computing resource costs are reducing but the power costs are increasing substantially. IT users in India are significant consumers of electricity (DNA, 2013; <http://www.dnaindia.com/pune/report-green-computing-is-fast-becoming-a-compulsion-1873213>).

Rapidly growing e-waste, escalating energy consumption, together with government-imposed levies on carbon production, are increasingly affecting the cost of doing business, creating many present business practices cost-effectively unsustainable. It is becoming gradually more crucial for all businesses to perform in an environmentally responsible manner, both to complete their legal and moral obligations, and to improve the brand and corporate image.

Most companies are talking a good game but not actually going green where it counts. Lot of researches shows that Green IT practices such as leaving PCs, laptops switched on when not in use, keeping screen savers on, excessive use of printers, etc. are adopted in an adhoc manner with no proper governance in place. Adoption of these practices in a haphazard way with no management and monitoring will not successfully make an environmentally conscious organisation. Even though researches have been done in this area for the past two decades Green IT is still at nascent stage and each organization adopts it according to its own criteria. That is why it is extremely important to develop the bases or best practices of governance and management that permit organizations to execute Green IT practices correctly and standardize them. Green IT Governance plays a very crucial role in overall implementation of Green IT management in a company. Without proper governance of Green IT initiatives will lead to unmonitored efforts towards environmental sustainability, where there be no accountability and responsibility for such a required action in current scenario.

This research is an attempt to unveil the various indicators of the Green IT governance and the status of overall governance in selected IT companies in Pune. The research was endeavoured to ascertain the answer to the following research questions:

- What are the various indicators for Green IT governance?
- Do IT companies have any formal system in terms of Green IT governance?
- Whether size of the IT companies matter for Green IT governance?

LITERATURE REVIEW

Governance refers to the overall administration infrastructure to implement Green IT. Green IT necessitates sound management infrastructure to realize impacts, prioritize actions and supervise the enterprise's responses. The governance dimension of G-preparedness can be measured using the indicators such as budget allocation, well defined roles, responsibilities, accountability and control for Green IT initiatives, existence of standard administrative processes for developing Green IT initiatives, formation of metrics for evaluating the impact of Green IT initiative and other resources for Green IT (Molla et al., 2008; Molla et al., 2009a)

The study performed by Molla et al. (2009b) revealed that most of the companies had no clear metrics for evaluating the impact of Green IT adoption and overall, the Green IT governance was just starting to develop (Molla et al., 2009b).

Substantial contribution has been made by Molla in investigating Green IT governance indicators. He has pinpointed the various Green IT governance considerations which are important for overall administration and management of Green IT adoption. Green IT can be executed effectively by formalizing a process which provides proper understanding of inputs, outputs, roles and responsibilities, workflows, metrics etc. Specialized roles need to be created such as sustainability head to overall govern the Green IT initiatives. Manager at operational level needs to be appointed for day-to-day operation and coordination of activities of Green IT.

Green IT steering committee as a decision-making body, including stakeholders from IT and the business can be formalized and put on board. This committee is responsible for the development of the Green IT policy, oversight of operational area, monitoring progress and proposing corrective actions that the respective process owner or departmental manager can then mandate (Spafford, 2008).

Roles and responsibility are also centered by Neil (2011). RACI (responsible, accountable, consulted and informed) matrix has been established, which is a responsibility assignment matrix system that brings structure and transparency to assigning the roles that people play with in team. Actors such as Green IT champion, Chief sustainability manager, procurement manager have been recognized for effective execution of Green IT (Neil, 2011).

Patón David (2017) proposed Governance and Management Framework for Green IT, based on COBIT 5, establishing the characteristics needed to carry out the governance and management of Green IT in an organization.

Table 1 below summarizes the research reported on Green IT governance indicators.

Researcher	Contribution in Green IT Governance indicators
Molla et al., 2008	Highlighted on budget allocation, role of CIOs, roles & responsibilities of sustainability Head, accountability, existence of standard administrative processes, establishment of metrics
Molla et al., 2009a; Molla et al., 2009b	Concentrated on target setting for carbon footprint, roles and responsibilities, metrics establishment and responsibility of IT department for its own electricity cost
Spafford, 2008	Considered roles and responsibilities and metrics establishment
Neil, 2011	Emphasised on roles and responsibilities
Patón David et al., 2017	Governance and Management Framework for Green IT

Table 1: Research reported on Green IT governance indicators

Overall, it can be observed that companies having correctly defined Green IT policy and practices will not be able to successfully implement Green IT initiatives without Green IT governance having sound and defined governing body. In order to transform policy, into practices through appropriate channel, Green IT governance plays an essential role in executing Green IT initiatives. Even though few researchers have settled on the significance of Green IT governance and have recognized some of its indicators, but it appears that Green IT governance is distinctly less explored area. It is very important to find out what companies are undertaking to accelerate Green IT initiatives in their companies. Indicators such as creating Green IT awareness by encouraging employees to attend Green IT seminars, establishing Green IT club in the company and training programs for the employees would assist IT companies to enhance the awareness about Green IT. Association with groups committed to Green IT and Green IT reporting inside and outside the company, would further reinforce and promote Green IT.

RESEARCH METHODOLOGY

An online survey instrument targeted towards the large, medium sized and small IT companies had been developed to measure the status of Green IT governance indicators. Nineteen indicators were considered to measure Green IT governance dimension. The validity and consistency of the developed questionnaire had been checked prior to their administration to the target population by discussing with two independent IT experts from IT industry. The questionnaire was divided into two sections. First section focused on general characteristics about the respondents (name of the company, employee count etc.) and second section measured the Green IT Governance indicators. 100 NASSCOM registered IT companies from Pune was considered for the current research.

Green IT governance indicators considered for analysis were measured on ordinal (5-point scale) and nominal scale. 19 indicators were taken into consideration as listed in the table below with their response categories, out of which first eight indicators were measured on 5-point scale and rest of the indicators were measured on nominal scale.

Sr. No	Indicators	No. of Response categories
1.	Encourage employees to attend seminar/ workshops on Green IT	<ol style="list-style-type: none"> 1. Not at all 2. To a little extent 3. To some extent 4. To much extent 5. To a great extent
2.	Encourage employees to suggest through Green IT Club	
3.	Share environmental information on website	
4.	Roles and responsibilities clearly defined	
5.	Set a target for reducing IT carbon footprint	
6.	Engage the service of Green IT expert	
7.	Analysing IT energy bill separately	
8.	Auditing the power efficiency of existing IT systems	
9.	Association with any Green IT group	<ol style="list-style-type: none"> 1. Yes 2. No
10.	Green IT compliance required from customers	
11.	Enforce Green IT compliance on IT suppliers	
12.	Green IT advisory team	
13.	Green IT metrics	
14.	Green IT auditing practice	
15.	Tangible benefits from government agencies	
16.	Green IT feedback system	
17.	Company's budget for Green IT implementation	<ol style="list-style-type: none"> 1. None 2. 1-5% 3. 6-15% 4. 16-25% 5. More than 25% 6. Don't know
18.	Green advocate coordinating all Green IT activities	<ol style="list-style-type: none"> 1. No, not at all 2. No, but we are considering one 3. Yes, but they do not focus on all IT initiatives 4. Yes, focused exclusively on IT initiatives 5. Yes, focused on all green initiatives as a whole (including IT)
19.	Green IT champion	<ol style="list-style-type: none"> 1. C- Suits – CEO, CTO, CIO 2. Owner, chairman, partners 3. IT department 4. Finance department 5. Marketing department

Table 2: Green IT Governance Indicators

DATA ANALYSIS AND HYPOTHESIS TESTING

The data was analysed based on the size of IT companies. The size of the company was the criteria to categorised IT companies in to major three categories: Small, Medium sized and Large Companies (Small: Employee count up to 100; Medium sized : Employee count between 101 and 1000 and Large: Employee count more than 1000).

Figure 1 shows the median comparison for eight indicators measured on five-point scale.

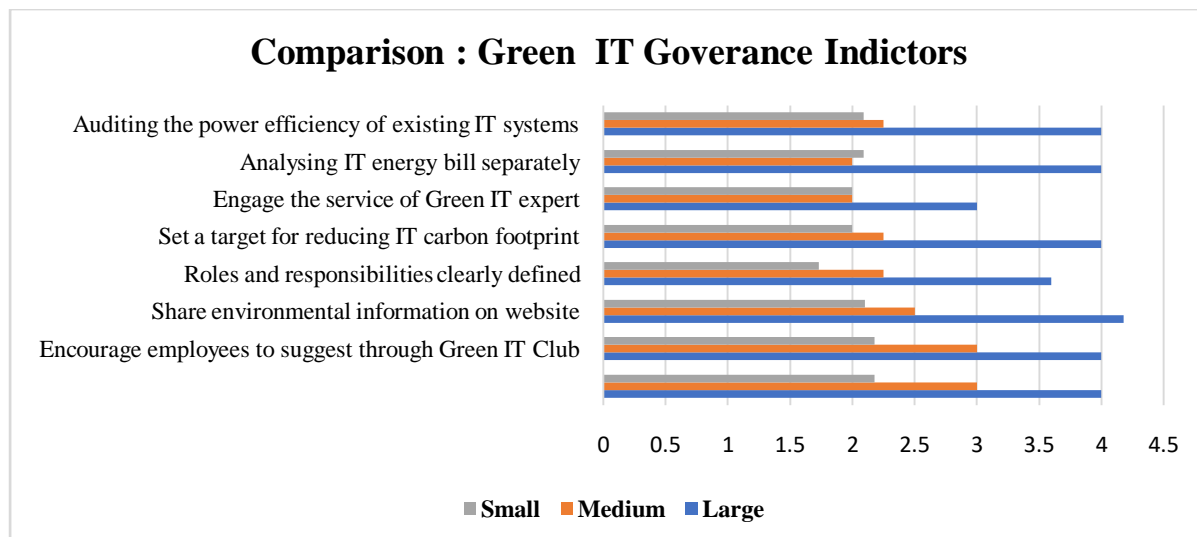


Figure 1: Median Comparison for eight indicators measured on five-point scale

Table 3 shows the extent of efforts taken by large, medium sized and small IT companies with respect to nominal Green IT governance indicators. The data in percentages were converted into the symbolic presentation for easy interpretation.

Sr. No	Green IT Governance Indicators	Size of the IT Company		
		Large	Medium	Small
1.	Budget Allocation	•		○
2.	Green advocate coordinating all green activities	•	■	○
3.	Green IT advisory team	•	■	○
4.	Green IT compliance required from customers	○	○	○
5.	Enforce Green IT compliance on IT suppliers	■	○	○
6.	Green IT advisory team	•	■	○
7.	Green IT metrics	■	○	○
8.	Green IT auditing practice	■	○	○
9.	Tangible benefits from government agencies	■	■	■
10.	Green IT feedback system	■	○	○
11.	Association with any Green IT group	○	○	○

Table 3: Efforts taken by large, medium sized and small IT companies with respect to nominal Green IT governance indicators

- Initiatives taken to a great extent ■ Some efforts taken ○ No Focus

The research was endeavoured to ascertain the answer to the following research questions:

- What are the various indicators for Green IT governance?
- Do IT companies have any formal system in terms of Green IT governance?
- Whether size of the IT companies matter for Green IT governance?

Based on the review of literature and the above research questions the following hypothesis was proposed.

H₀: Small, medium sized and large IT companies do not differ in Green IT governance implementation.

H₁: Small, medium sized and large IT companies differ in Green IT governance implementation.

Kruskal Wallis test was applied on eight indicators regarding Green IT governance, measured on a 5-point scale (1- Not at all, 2- To a little extent, 3- To some extent, 4- To much extent and 5- To a great extent). This eight-item scale was collapsed to a single item scale using transform compute command in IBM SPSS for convenient data analysis. χ^2 values was found to be 13.982 and $P(\text{sig}) = 0.001$ Since the p value (0.001) is less than the level of significance (0.05), small, medium sized and large IT companies differ across Green IT governance indicators measured on 5-point scale.

Chi-square test was applied on indicators which were measured on nominal scale. All indicators except association with any Green IT group (Asymp. Sig (2 sided) =0.576), Green IT compliance required from customers (Asymp. Sig (2 sided) =0.832), Tangible benefits from government agencies (Asymp. Sig (2 sided) =0.411) has Asymp. Sig value less than the level of significance (0.05). Thus, for majority of the indicators measured on nominal scale, small, medium sized and large IT companies differ across Green IT governance indicators.

Considering output of both the tests applied, null hypothesis was rejected. Hence Small, medium sized and large IT companies differ in Green IT governance implementation.

KEY FINDINGS

1. Large IT companies are promoting Green IT by inspiring their employees to attend seminars, forming Green IT club, sharing information on their website, having clear roles and responsibilities, setting target to reduce their carbon footprint, hiring Green IT expert, analysing the IT energy bill separately and auditing the power efficiency of existing IT systems.
2. Large IT companies are more serious in implementing Green IT by allocating budget, having Green advocate who coordinates Green IT activities, discussing their Green IT implementation with their Green IT advisory team as compared to medium sized IT companies. medium sized IT companies are making their effort in the above-mentioned areas whereas small IT companies are not focusing on them.
3. Large IT companies are taking some efforts to use Green IT metrics for evaluating their Green IT credentials, improve their Green IT implementation in the

form of feedback system, audit their Green IT implementation and enforce Green IT on their suppliers. medium sized and small IT companies are not focusing on them.

4. Irrespective of the size of the IT company, there is no association with Green IT groups that help to promote Green IT implementation in the companies and no Green IT compliance required from customers. Green IT adoption has not yet become necessary from customers' side.
5. IT companies are getting very few tangible benefits from government agencies. This indicates that government agencies are not making adequate efforts to promote Green IT.
6. C-suits (CEO, CTO, CIO), partner, owner, chairman, and IT department drive Green IT implementation in all the IT companies. Other departments like finance, marketing department etc. have not yet participating in Green IT implementation.
7. Based on the current research Green IT governance indicators can be categorised in to basic, intermediate and advanced level. This will help IT companies to start their journey of Green IT adoption and increase their level from basic to advance. Table 4 depicts the three levels.

Level	Green IT Governance Indicators
Basic	Employee Green IT forum/club
	Participation of employees in Green IT seminars/workshops
	Presence of Green IT at social networking sites/ blogs/intranet
	Publishing Green IT information on organization's website
	Having Green IT volunteers / Green IT Head like Sustainability Manager/ Sustainability Head
Intermediate	Budget allocation
	Consultation of Green IT expert
	Organization training
	Role creation
	Target setting for carbon reduction
Advanced	Green IT promotion
	Green IT metrics
	Green IT auditing
	Analysing IT energy bill separately from the overall corporate bill
	Green IT feedback mechanism in any form like Intranet portal to receive suggestions from anybody in the organizations
	Annual meeting and publication of annual reports

Table 4: Three Levels for Green IT Governance Indicators

CONCLUSION

Despite having realized the importance of Green IT governance, IT companies still have a long way to go to strengthen their Green IT efforts through proper governance. Overall Green IT governance is relatively stronger in large IT as compared to medium sized and small IT companies. This could be mainly because large IT companies are more environmental conscious and have the capability to invest in such initiatives as compared to medium sized and small IT companies. But indicators like Green IT audit, formal feedback system, Green IT metrics, and association with Green IT promoting groups are not focused much, indicating that the evaluation of Green IT implementation is not done and hence there is no formal and

systematic approach to improve and review Green IT implementation. The current research has supplemented indicators such as creating Green IT awareness through encouraging employees to attend Green IT seminars, forming Green IT club in the company, formal feedback mechanism and association with Green IT promoting groups apart from the existing indicators.

REFERENCES

1. Baroudi Carol, Hill Jeffrey, Reinhold Arnold & Senxian Jhana. (2009). Green IT for Dummies. *Indianapolis, Indiana: Wiley Publishing.*
2. Calder Alan. (2009). Compliance for Green IT: A Pocket Guide (1st ed.). *UK: IT Governance Publishing.*
3. Calder Alan. (2009). The Green Agenda—A Business Guide (1st ed.). *UK: IT Governance Publishing.*
4. Calder Alan. (2009). The Green Office: A Business Guide (1st ed.). *UK: IT Governance Publishing.*
5. CFO Research Services. (2009). The next wave of Green IT. *CFO Publishing Corp* [Online], 36 pgs. Available: http://mbsportal.bloombergliaison.com/secure/subjareas/techinnov/deloitte/116072UK_C_Green_IT_EMEA.pdf
6. Cooper Donald R & Schindler Pamela S. (2006). Business Research Methods (9th ed.). *New Delhi Tata McGraw-Hill*
7. Cooper Vanessa & Alemayehu Molla. (2010). Conceptualizing Green IT Organizational Learning. [Online], 12 pgs. Available: http://greenit.bf.rmit.edu.au/Working_Paper/GITWP3_2010.pdf
8. Daniel Esty & Winston Andrew S. (2008). Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value, and Build Competitive Advantage (1st ed.). *Yale University Press.*
9. Elliot Steve. (2007). Environmentally Sustainable ICT: A Critical Topic for IS Research? *PACIS 2007 Proceedings* [Online], 14 pgs. Available: <http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1115&context=pacis2007>
10. Elliot Steve & Binney Derek. (2008). Environmentally Sustainable ICT: Developing Corporate Capabilities and an Industry-Relevant IS Research Agenda. *Pacific Asia Conference on Information Systems 2008 proceedings* [Online], 12 pgs. Available: <http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1239&context=pacis2008>
11. Elsenpeter Robert, Velte Toby & Velte Anthony. (2008). Green IT. *New Delhi: Mc Graw Hill.*
12. Fujitsu (2007). Reducing the environmental impact of business: what role can IT play., *Fujitsu* [Online] 5 pgs. Available: <http://www.fujitsu.com/uk/Images/greenit-brochure.pdf>
13. Herd Gary. (2008). Green IT in Practice—How One Company is Approaching the Greening of its IT (1st ed.). *UK: IT Governance Publishing.*
14. Info-Tech Research Group. (2009). Green IT: Why Mid-size Companies are Investing Now. [Online], 18 pgs. Available: <http://www-03.ibm.com/press/attachments/GreenIT-final-Mar.4.pdf>
15. ITG Research and Analysis Team. (2008). Green IT - Reality, Benefits & Best Practices. *UK: IT Governance Publishing.*

16. Lamb John. (2009). *The Greening of IT—How Companies Can Make a Difference for the Environment?* (1st ed.). *United States: Pearson Education Inc.*
17. Molla Alemayehu. (2008). GITAM: A Model for the Adoption of Green IT. *19th Australasian conference on Information Systems 2008 Proceedings* [Online], 11 pgs. Available: <http://www.bsec.canterbury.ac.nz/acis2008/Papers/acis-0152-2008.pdf>
18. Molla Alemayehu. (2009a). Organizational Motivations for Green IT: Exploring Green IT Matrix and Motivation Models. *Pacific Asia Conference on Information Systems 2009 proceedings* [Online], 13 pgs. Available: http://www.pacisnet.org/file/2009/%5B68%5DOrganizational%20Motivations%20for%20Green%20IT_%20Exploring%20Green%20IT%20Matrix%20and%20Motivation%20Models.pdf
19. Molla Alemayehu. (2009b). The Reach and Richness Of Green IT: A Principal Component Analysis. *20th Australasian conference on Information Systems 2009 Proceedings* [Online], 11 pgs. Available: <http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1073&context=acis2009>
20. Molla Alemayehu & Abareshi Ahmad. (2011). Green IT Adoption: A Motivational Perspective. *Pacific Asia Conference on Information Systems 2011 proceeding* [Online], 14 pgs. Available: <http://projects.business.uq.edu.au/pacis2011/papers/PACIS2011-133.pdf>
21. Molla Alemayehu, Cooper Vanessa, Corbitt Brian, Deng Hepu, PeszynskiKonrad, Pittayachawan Siddhi & Teoh Say Yen. (2008). E-Readiness to G-Readiness: Developing a Green Information Technology Readiness Framework. *19th Australasian Conference on Information Systems 2008 proceedings* [Online], 10 pgs. Available: <http://researchbank.rmit.edu.au/eserv/rmit:2156/n2006009179.pdf>
22. Molla Alemayehu, Cooper Vanessa, Pittayachawan Siddhi. (2009a). IT and Ecosustainability: Developing and Validating a Green IT Readiness Model. *30th International Conference on Information Systems 2009 proceedings* [Online], 17 pgs. Available: <http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1064&context=icis2009>
23. Molla Alemayehu, Pittayachawan Siddhi, Corbitt Brian & Deng Hepu. (2009b). An International Comparison of Green IT Diffusion. *International Journal of e-Business Management* [Online], 21 pgs. Available: <http://galenet.galegroup.com/servlet/BCRC?vrsn=unknown&locID=inhnimr&srchtp=art&c=3&cR=RE+REF&ste=25&tab=2&tbst=tsAS&atp=SG&docNum=A212102713&art=green+IT&bConts=0>
24. Murugesan San. (2008). Harnessing Green IT: Principles and Practices. *IT Professional* [Online], 10pgs. Available: <http://www.sis.pitt.edu/~dtipper/2011/GreenPaper.pdf>
25. Neil Mark G. O. (2011). *Green IT for Sustainable Business Practices –An ISEB Foundation Guide* (1st ed.). *UK: British Informatics Society Limited (BISL).*
26. Patón-Romero J. David, Baldassarre Maria Teresa, Piattini Mario, García Rodríguez de Guzmán Ignacio. (2017). A Governance and Management Framework for Green IT [Online], 18pgs. Available: <https://pdfs.semanticscholar.org/3503/a84aa247932f053a8095a1cd9fd96c5118a2.pdf>
27. Spafford George. (2009). *Greening the data center- Opportunities for improving data center Energy Efficiency* (1st ed.). *UK: IT Governance Publishing.*

28. Spafford George. (2008). *The Governance of Green IT— The Role of Processes in Reducing Data Center Energy Requirements* (1st ed.). *IT Governance Publishing*.
29. Tomlinson Bill. (2010). *Greening through IT*. *London, England: The MIT Press*.

The Evolving Role of Business Analytics in Decision Making

Dr. Prajakta Nilesh Warale

*Associate Professor,
Rajgad Institute of Management Research and Development,
Pune-43*

Dr.Huma Omar Lone

*Assistant Professor,
Suryadatta Institute of Management and Mass Communications,
Pune-21*

Abstract

The terms data analytics, business analytics, big data analytics, and data science are more or less same. Data analytics is the analysis of huge or small data, in order to understand it and discover and use the knowledge hidden inside data. Business analytics is the application of data analytics to business. There are many commercial data analytics tools and platforms available such as R, SAS, Hadoop etc. These tools are very powerful and helpful in effective and efficient analysis of big data. The primary objective of this paper is to explore the impact of business analytics tools in decision making. We also gained deep insight into understanding concept of business analytics, drivers, tools of business analytics and BA project life cycle.

Keywords: R, big data, data analytics, business analytics.

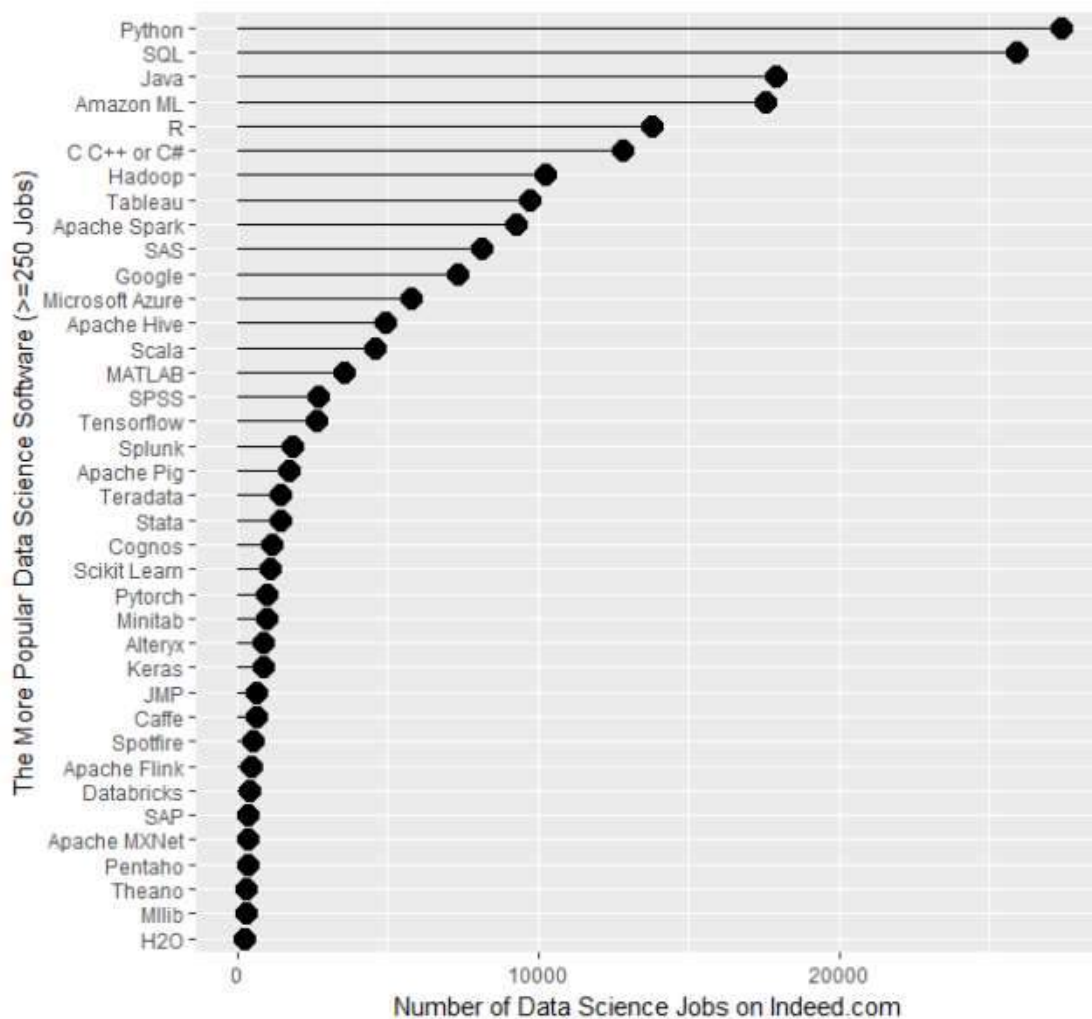
• **Introduction:**

With advent of technology the businesses have become highly competitive. To sustain, businesses have to invent the ultimate methods to attract end customer. Data or business analytics has enabled this effectively. Business analytics can be applied to many field including manufacturing, logistics, finance, marketing and sales, e-commerce, Human resource management product design etc.

In this section, we discuss basics of business analytics its growth some of the areas in which data/business analytics is used effectively to the benefit of the organizations.

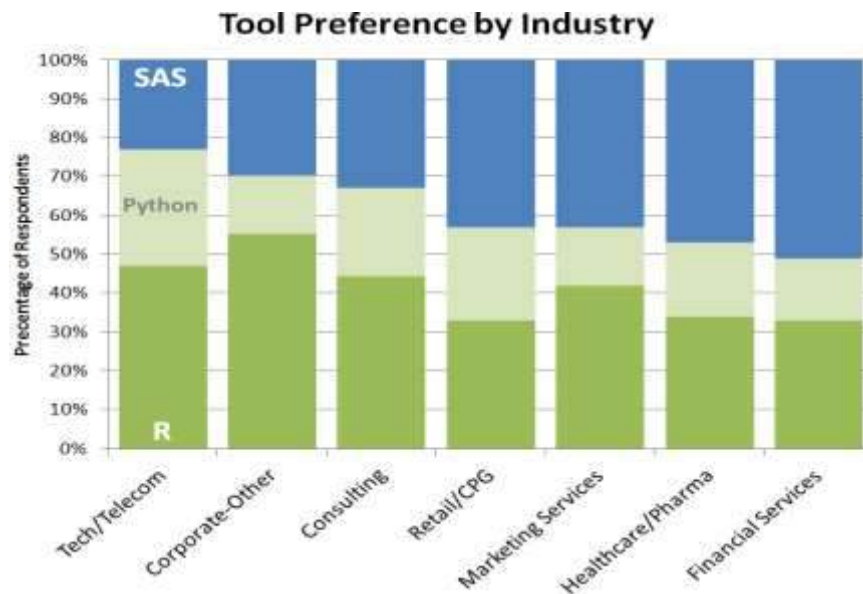
• **Business Analytics:**

Business analytics (BA) refers to “the extensive use of data, statistical and quantitative analysis, explanatory and predictive models, and fact-based management to drive decisions and actions” (G.Cao,Y.Duan,2015).Big data analytics helps organisation to amalgamate their data to identify new opportunities. This helps organisation to plan their strategies to grow their business in more smarter way.



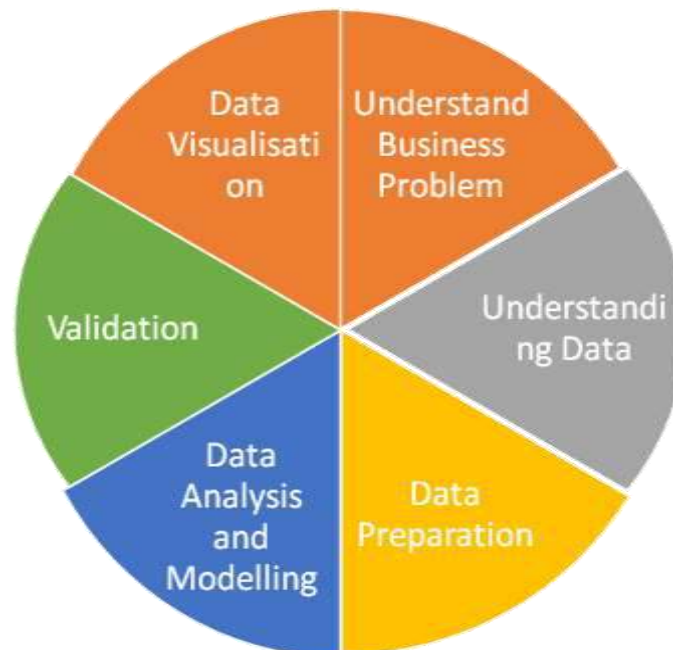
The recent trends shows that there are more data science jobs exist in the market such as Python, SQL,R, Hadoop SAS and so on.

Given below is the trend reflected by industry with respect to business analytics tools. Tech/Telecom most heavily favors open source options R and Python. As in 2016 and 2017, SAS continues to have a stronghold in the Retail/CPG and Financial Services industries. (Burtch,2017)



- **Drivers of Business Analytics:**
 - Highly competitive business with increasing business risk.
 - Advances computing capabilities specially cloud technology.
 - Ability to amalgamation of variety of data from multiple sources.
 - Infinite storage facility
 - Trend of using programming tools such as R programming and Hadoop.
 - Use of various algorithms and statistical methods.

- **Life Cycle of a Business Analytics Project**



Step 1: Understand the business Problem:

Business Analyst should examine the business problem and all data relevant to the business issue. Examine the input and output (i.e. deliverables) .

Step 2: Understanding Data :

In this step the data is studied in greater detail. Data mining tool,R,Python helps you in data cleansing and data preparation. Operations such as categorisation, sorting, omission even spelling mistakes are taken care of. Data redundancy is removed.

Step 3: Data Preparation:

In this stage, business analyst brainstorm the data, plot the histogram, identify the missing values and fill in the blanks. One may start to formulate the hypotheses. This stage analyses the outliers and remove the outliers to remove the its impact on the analysis.

Step 4: Data Analysis and modelling:

This stage is used to build the model and test the data. Various types of models are used such as regression, correlation, forecasting models, ANOVA etc.

Step 5: Validation:

It is necessary to validate the data once the model is crafted. Dis the model work properly and whether or not there is necessity for more cleansing of data.

Step 6: Data Visualisation:

Once the insights are derived from the model it is necessary to present it to the customer and illustrate the conclusion.

Next section explains role of business analytics in decision making.

- ***Business Analytics and Decision making:***

Business analytics aims to generate knowledge, understanding and learning – collectively referred to as ‘insight’ – to support evidence-based decision making and performance management. Decision making is a dynamic, contextual and personal/group activity in which prior knowledge and experience are recalled and combined with information. Many established companies have built an analytical capability. They have also demonstrated a clear link between company performance and the effective use of data to generate insight for decision making.

As stated in earlier section, Business analytics has a wide range of application such as human resource management, customer relationship management, financial management, marketing, logistics and supply chain management etc.

- **Marketing and sales:**

Business Analysts use business analytics to identify which marketing channel would be most effective (for example, e-mails, web sites, or direct telephone contacts). They also use business analytics to determine which offers make sense to which types of customers (in terms of geographical regions, for instance) and to specifically tune their offers.

- **Human Resources:**

An HR department can identify which employees have high potential for retention by processing employee data. Similarly, an HR department can also analyse which competence (qualification, knowledge, skill, or training) has the most influence on

the organization's or team's capability to deliver quality within committed timelines.

➤ **Product Design:**

This analysis may reveal issues with materials, issues with the processes employed, issues with the design process itself, issues with the manufacturing, or issues with the handling of the equipment installation or later servicing. The results of such an analysis can substantially improve the quality of future designs by any company.

➤ **Service Design:**

Business analytics may be used to Identify components of the service , product design and cost factors in pricing. The length of warranty, coverage during warranty, and pricing for various services can also be determined based on data from earlier experiences and from target market characteristics.

➤ **Customer Service and Support Areas**

Customer comments on the Web or on social media (for example, facebook, shopping site, Twitter) provide a significant source of understanding about the customer pulse as well as the reasons behind the issues faced by customers. A service strategy can be accordingly drawn up, or necessary changes to the support structure may be carried out, based on the analysis of the data available to the industry.

➤ **Banking sector:**

Banks are leading by discovering new ways to exploit transactional and behavioral consumer data. Banks are routinely going beyond the conventional structured information such as credit score reports and are also looking out for unconventional sources of information such as loyalty card consumer data, and government information.

Next section discuss about different data analysis tools.

• **Data Analysis Tools:**

Many commercial and free tools are available to perform data analysis. Few important tools are listed below.

Predictive Analytics Tools in Market



Name of BA Tool	Details
MATLAB	Full set of statistics and machine-learning functionality. Nonlinear optimization, system identification, and financial modeling.
IBM SPSS	SPSS has full set of statistical analysis, parametrics, nonparametric analysis, classification, regression, clustering analysis. Bar charts, histograms, boxplots. Social media analysis, text analysis, and so forth.
Statistica	Statistical analysis, graphs, plots, data mining, data visualization, and so forth.
R Programming	R is the leading analytics tool in the industry and widely used for statistics and data modeling. It can easily manipulate your data and present in different ways. R has full set of functions to support statistical analysis, histograms, boxplots, hypothesis testing, inferential statistics, t-tests, ANOVA, machine learning, clustering, and so forth.
Minitab by Minitab Statistical Software	Minitab has descriptive statistical analysis, hypothesis testing, data visualization, t-tests, ANOVA, regression analysis, reliability, and survival analysis.
Tableau	Tableau Public is a free software that connects any data source be it corporate Data Warehouse, Microsoft Excel or web-based data, and creates data visualizations, maps, dashboards etc. with real-time updates presenting on web.
SAS	SAS is a programming environment and language for data manipulation and a leader in analytics, developed by the SAS

	Institute in 1966 and further developed in 1980's and 1990's. SAS is easily accessible, managable and can analyze data from any sources.
Python	Python is an object-oriented scripting language which is easy to read, write, maintain and is a free open source tool. It was developed by Guido van Rossum in late 1980's which supports both functional and structured programming methods.
Apache Spark	The University of California, Berkeley's AMP Lab, developed Apache in 2009. Apache Spark is a fast large-scale data processing engine and executes applications in Hadoop clusters 100 times faster in memory and 10 times faster on disk. Spark is built on data science and its concept makes data science effortless.
Excel	Microsoft Excel is the most common tool used for manipulating spreadsheets and building analyses. With decades of development behind it, Excel can support almost any standard analytics workflow and is extendable through its native programming language, Visual Basic.
Hadoop	Hadoop is an open-source software framework for storing data and running applications on clusters of commodity hardware. It provides massive storage for any kind of data, enormous processing power and the ability to handle virtually limitless concurrent tasks or jobs.

• **Conclusion:**

Business analytics, with its far reaching use cases and diverse applications, is now emerging as the keystone of strategic business decision making. In an increasingly customer oriented era, organizations have amassed wealth of consumer information and data. In order to remain competitive, it is imperative for organizations to use these consumer insights to shape their products, solutions and buying experiences. Business managers can streamline internal business processes, identify unfolding consumer trends, interpret and monitor emerging risks, and build mechanisms for constant feedback and improvement. Driving analytical transformations will thereby enable companies to gain competitive edge

References:

- Dr. Umesh R. Hodeghatta, Umesha Nayak, Business Analytics using R, Springer Publications, pp 10-562017,.
- W. N. Venables, D. M. Smith, An introduction to R, R Core Team Publication, pp 12-502020,.
- Guangming Cao, Yanqing Duan, Gendao, LINKING BUSINESS ANALYTICS TO DECISION MAKING EFFECTIVENESS: A PATH MODEL ANALYSIS, European

Journal of Operational Research, International Journal of Production Economics, Journal of the Operational Research Society, International Journal of Production Research, 2012

- T. H. Davenport and J. G. Harris, *Competing on Analytics: The New Science of Winning*. Boston, MA: Harvard Business School Review Press, 2007.
- T. H. Davenport, "Analytics 3.0," *Harvard Business Review*, vol. 91, pp. 64-72, 2013.
- H. Chen, R. H. L. Chiang, and V. C. Storey, "Business intelligence and analytics: from big data to big impact," *MIS Quarterly*, vol. 36, pp. 1165-1188, 2012.
- H. J. Watson, "Tutorial: Big Data Analytics: Concepts, Technologies, and Applications," *Communications of the Association for Information Systems*, vol. 34, pp. 1247-1268, 2014.
- C. Holsapple, A. Lee-Post, and R. Pakath, "A unified foundation for business analytics," *Decision Support Systems*, 2014.
- T. H. Davenport, "Competing on analytics," *Harvard Business Review*, vol. 84, pp. 98-107, 2006.

Websites:

- <https://www.northeastern.edu/graduate/blog/data-analysis-project-lifecycle/>
- <http://r4stats.com/articles/popularity/>
- <https://towardsdatascience.com/the-most-in-demand-skills-for-data-scientists-4a4a8db896db>
- <https://www.mckinsey.com/business-functions/mckinsey-analytics/our-insights/the-age-of-analytics-competing-in-a-data-driven-world>
- <https://www2.deloitte.com/us/en/pages/deloitte-analytics/articles/capturing-the-digital-customer.html>
- <https://www.proschoolonline.com/blog/business-analytics-meaning-benefits-and-challenges>



ISSN 2582-9009

Symbiosis International Research Journal on Online & Distance Learning



Peer-Reviewed | Refereed | International | Interdisciplinary | Bi-Annual

Sustaining and Enhancing the Quality of ODL

Symbiosis Centre for Distance Learning

Symbiosis Bhavan, 1065 B, Gokhale Cross Road, Model Colony, Pune - 411016, Maharashtra, India.

www.scdl.net

PUBLISHER

Dr. Swati Mujumdar

Director, Symbiosis Centre for Distance Learning, Pune
1065 B, Symbiosis Bhavan, Gokhale Cross Road, Model Colony,
Pune - 411016, Maharashtra, India
Email : director@scdl.net

EDITORIAL BOARD

Major Sonali Kadam

Deputy Director, Symbiosis Centre for Distance Learning, Pune
1065 B, Symbiosis Bhavan, Gokhale Cross Road, Model Colony,
Pune - 411016, Maharashtra, India
Email : dydirector@scdl.net

Dr. Madhulika Kaushik

Pro Vice Chancellor, Usha Martin University
At Village Narayansoso, Near Angara Block Office, Ranchi-Purulia Highway,
Angara, Ranchi - 835103, Jharkhand, India
Email : pvc.ushamartin@gmail.com

Dr. Kaviraj Sharma Sukon

Director General
Open University of Mauritius
Reduit, Mauritius
Email : directorgeneral@open.ac.mu

Dr. Shashikala Gurpur

Director, Symbiosis Law School, Pune
Sr. # 227, Plot # 11, Rohan Mithila, Opp. Pune Airport,
Viman Nagar, Pune - 411014, Maharashtra, India
Email : director@symlaw.ac.in

Dr. Charles Misiko Wafula

Lecturer: Open, Distance, and e-Learning Campus,
University of Nairobi, P.O. Box 30197 – 00100 GPO
Nairobi, Kenya
Email : charles.misiko@uonbi.ac.ke

INDEX	
	Sustaining and Enhancing the Quality of ODL
1	Enhancing Quality of Educational Resources in Open and Distance Learning Dr. Prashant Ubarhande, Ankita Mendiratta
2	A Review on Enhancing Quality of Online Distance Education Dr. Ravindra Kayande
	Need of Faculty Development in ODL
3	The Role of Faculty Development in Online Teaching with Different Online Tools for the Effective Learning Dr. Neha Gupta
4	Skills and Competencies needed for the Faculty members in ODL Format Dr. Padmpriya Irabatti
	Integration of Technology in ODL
5	Integration of Technology in Online and Distance Learning Dr. Satish Chinchorkar
6	E Skills: Teaching with Technology for Online Educators Dr. Pallavi Soman, Prof. Jyoti Peswani
7	Integration of Technology in ODL: NEP-2020 Initiatives & its Fall-out Effects Dr. Vikas Inamdar
8	Learner Support Services in Open Distance Learning System: Plug and Play Model of Education Dr. Narendra Mishra
9	MOOCs in India: Changing Trend towards Open Distance Learning Geetanjali Kople

	Curriculum Development in ODL
10	Effective Design of ODL Curriculum Ganesh Lohar
	Use of OER's in ODL
11	Role of Open Educational Resources in Distance Learning Abhishek Anand, Ishwarlal Rathod
12	Notion of Copyright Protection in Open Access Publications and Development of Self-Learning Material Vishal Ranaware
13	Open Educational Resources (OERs): A Boon for Digital Education Dr. Rohan Dahivale, Tejas Lonkar
14	Use of Open Educational Resources (OERs) in Online Teaching and Learning Dr. Rahul Viswe, Dr. Nandkumar Shinde
15	Transforming Traditional Teaching - Use of Open Educational Resources in ODL Neha Sharma, Manish Khule
	E-Proctored Exams in ODL
16	e-Proctored Exams in ODL Pramod Bhadakwade

COVER PAGE

Research Paper Title: **Open Educational Resources (OERs): A Boon for Digital Education**

Name of the author: **Dr. Rohan Dahivale**

Designation: **HOD & Associate Professor**

Name of the co-author: **Tejas Lonkar**

Official contact address: **Rajgad Institute of Management Research & Development, Pune
411043**

Phone Numbers: Mobile: **9921613494, 8686717161**


Landline: **020-24362334**

E Mail ID: **rohandahivale@gmail.com & tejaslonkar@gmail.com**

DECLARATION

I, the undersigned, hereby would like to explicitly state that the write-up titled, “**Open Educational Resources (OERs): A Boon for Digital Education**” is original and has not been published earlier, or that it is not under consideration for possible publication elsewhere.

Name: Dr. Rohan Dahivale



Signature:

Date: **17/12/2020**

Open Educational Resources (OERs): A Boon for Digital Education

Dr. Rohan Dahivale

(HOD & Associate Professor)

Rajgad Institute of Management Research &
Development, Pune 411043

Tejas Lonkar

(Student)

Rajgad Institute of Management Research &
Development, Pune 411043

Abstract

Technological advances have emerged as a replacement of various traditional ways of doing the things. Education sector which is one of the most intangible service sectors also cannot keep itself away from these technological advances. This paper is an attempt to touch key learning and basic concepts regarding online educational resources. Introduction of online distance teaching–learning is a reason behind the existence of open educational resources. Here researchers try to find about OERs and how they can make a contribution towards the development of national education.

Keywords

Online educational resources, OER

Introduction

Though ‘Right to Education’ is having official existence in India, it has been facing continuous challenges and hurdles to come into actualization. The set goal ‘equitable access to quality education’ is not far away from its accomplishment. There are various barriers including geographical and demographical barriers including shortage of ‘Qualified Educators’(CARRHE, 2009) and

restrain access to educational institutions (Lall, 2005). Along with these, many of the educational institutions faced additional basic hurdles like number of students are more than the sitting capacity of the classrooms, outdated teaching aids and facilities, old-fashioned and outdated teaching-learning and evaluation methods (Stella, 2002). Increasing Indian population shows a considerable gap between ‘demand for higher education’ and ‘the infrastructure for the fulfillment of the demand.’ This shows a need for Online Distance Education (ODE) and preparation of reliable and useful Open Educational Resources (OER). The various OER include open textbooks, videos, course materials, lesson plans, software and educational games as well.

Open Educational Resources

To enhance the quality education in India, Indian Government in 2007 enacted ‘Right to Education Act’ to promote universal education. The National Knowledge Commission (NKC) recommended (2007) that the role of Open Educational Resources (OER) be elevated to support access to quality education for all.

Objectives of the Study

1. To define learn the constitution of OER.
2. To study the value of OER to solve real world problems.
3. To learn 5Rs of OER.
4. To discuss advantages of OER.

Definition of OER

“Any type of educational materials those are available to the university community with little or no cost. It may also be the case with PSU-OER that the nature of these open materials means that students, faculty, and staff can legally and freely copy, use, adapt, and re-share them within the university community.”

-According to Penn State University working definition of OER

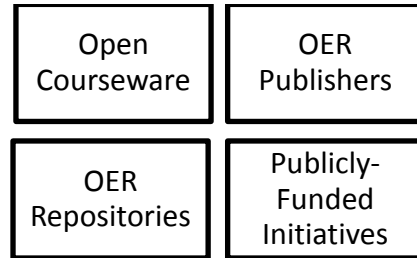
Similarly, OER definition is identified by various agencies or Universities based on their implications and applied characteristics. These are summarized in the following Table 1:

	Requirement of Open copyright license	Does not limit use or form	Non-discriminatory	Right of access, adaption and re-publication
Hewlett Foundation	√	√	√	√
OECD				√
UNESCO	√	√	√	√
Cape Town Declaration	√		√	√
Wiki educator OER handbook		√	√	√
OER Commons		√	√	√

Table 1: Various definitions of OER from various sources.

OER Movement

The first recognized OER project was the MIT open courseware project. In 1998, David Wiley coined the term ‘open content’ and in 2002, OER was first used at UNESCO’s forum. The OER movement can be included in following 4 major categories



Open Courseware (OCW)	<ul style="list-style-type: none"> • In Open Courseware enhanced quality educational study materials are freely available through online mode. • It is digital publication where openly licensed open resources are online available 24*7. • They are having thematic contents with course plan and evaluation tools and a large-scale participation through online learning is possible.
OER Publishers	<ul style="list-style-type: none"> • There is increasing demand of textbooks and everyone is searching and demanding affordable alternatives for traditional textbooks. • This search can be fulfilled by OER. Specific collection and edition of OER can be developed depending upon the course requirements. • Saylor Publication can be one of the examples of OER Publisher.
OER Repositories	<ul style="list-style-type: none"> • Digital content repository can be termed as digital content warehouses. • It is more like a convenient place where one can search, share, edit, and mix OER from various sources. • There are variety of portals and gateways which provide open access to OERs.
Publicly-Funded Initiatives	<ul style="list-style-type: none"> • If we study OER policy in Europe and POERUP, we can see that many countries are keen to develop OER and adoption of OER is increasing at National, state and local levels. • Funding is made available for development of OER.

Five Rs of Openness

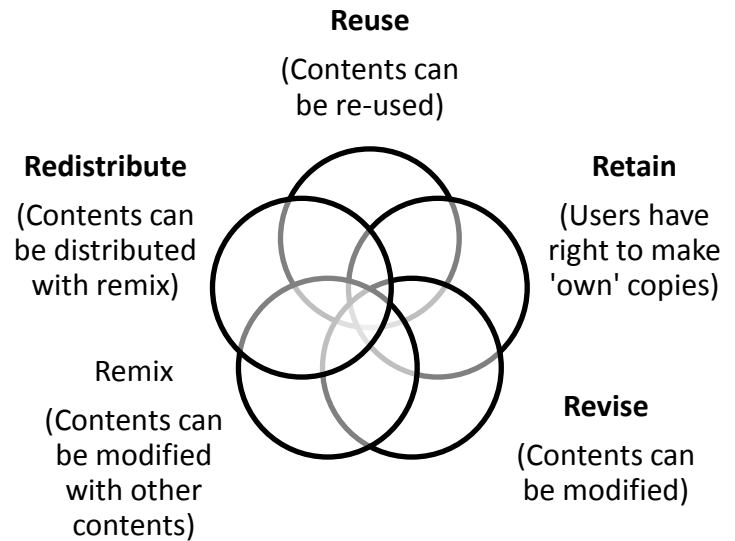
There are various types of OER, which include open access journals, text books, reading materials, course materials,

educational audio and videos, digital PowerPoint presentations, etc. Though the

term is ‘open content’ or ‘OER,’ it describes any form of a copyrightable educational material in the software or digital form. This can be in public domain or in licensed manner which may be freely (without cost) accessible to all users and learners with everlasting authorization to engage in 5 Rs openness initiative described as follows:

- 1) **Retain:** It means the right of the authors to make and own the digital content and having a control over download, storage, duplication of the contents.
- 2) **Reuse:** It means the right about the usage of the contents over a wide range such as preparing a video, learning in a classroom or study group, etc.
- 3) **Revise:** It means the right to modify or alter, adjust and adopt the available content such as translating the contents from national level language into regional languages.
- 4) **Remix:** It means the right to revise the available content and make a combination with other content for making a more customized content relevant for a particular course.
- 5) **Redistribute:** It means the right to share the originally available or

remixed version of the contents with other learners.



Advantages of OER

The overall advantages of OER include:

- i. Creation of reliable savings which students can count
- ii. Increase in academic freedom for the teaching staff
- iii. Improvement in learners' knowledge and saving their money
- iv. Making the course more attractive for potential learners
- v. Learners can gain knowledge with faster pace
- vi. Revenue enhancement for the institutions

Advantages of OER for the teachers

- i. Extension of academic profile
- ii. Provision of more engaging study materials for their students
- iii. Increase in retention of the students as reduction in the costs
- iv. Supports academic freedom and customized study material to alter and modify the contents

Advantages of OER for the learners

- i. Learners get access to quality digital contents and OER for free or at lowest possible costs

- ii. It is easier to 'find' and access required study material from available OERs
- iii. More customized and relevant contents for the learners

Conclusion

OER has been found to be more reliable open access and less costly source for the teachers and learners. OER supports preparation of higher quality study materials and course contents. Academic flexibility can be achieved for the teaching staff and this might help learners to get customized study materials from various reliable sources. In India various OERs such as Swayam portal, NPTEL, TESS-India, etc. are continuing the worldwide OER movement and this seems to continue for next few decades.

References

- 1) Committee to Advise on Renovation and Rejuvenation of Higher Education (CARRHE). (2009). *Report of The Committee to Advise on Renovation and Rejuvenation of Higher Education [a.k.a. Yash Pal Committee Report]*. Government of India, Department of Higher Education.
<http://www.academics->

- india.com/Yashpal-committee-report.pdf
- 2) Lall, M. (2005). *The challenges for India's education system. [Briefing paper, Asia Programme, ASP BP 05/03]*. Chatham House, Royal Institute of International Affairs.
<http://marielall.com/wp/wp-content/uploads/Chatham-house-indiaeducation.pdf>
 - 3) Stella, A. (2002). *External quality assurance in Indian higher education: Case study of the National Assessment and Accreditation Council (NAAC)*. Paris: International Institute for Educational Planning.
 - 4) <https://oer.psu.edu/oer-definitions>
 - 5) <http://www.hewlett.org/strategy/open-educational-resources>
 - 6) <http://www.unesco.org/new/en/communication-and-information/access-to-knowledge/open-educational-resources/what-are-open-educational-resources-oers>
 - 7) <http://www.capetowndeclaration.org>
 - 8) <https://www.oercommons.org/about#about-open-educational-resources>
 - 9) https://en.wikibooks.org/wiki/Open_Education_Handbook/History_of_the_OER_movement
 - 10) <http://sparc.arl.org/issues/oer>
 - 11) bccampus.ca
 - 12) <https://lumenlearning.com>

Changing Scenario in Teaching Pedagogy

Dr. Renuka Ekanath Walunj



Changing Scenario in Teaching Pedagogy



EMPYREAL PUBLISHING HOUSE

India | UAE | Nigeria | Uzbekistan | Montenegro

First Impression: 2020

Changing Scenario in Teaching Pedagogy

ISBN : 978-81-946375-1-6

Rs. 650/- (\$18)

No part of the book may be printed, copied, stored, retrieved, duplicated and reproduced in any form without the written permission of the editor/publisher.

DISCLAIMER

Information contained in this edited book has been published by Emyreal Publishing House and has been obtained by the author(s) from sources believed to be reliable and are correct to the best of his/her knowledge. The author(s) are solely responsible for the contents of the articles compiled in this book. Responsibility of authenticity of the work or the concepts / views presented by the authors through this book shall lie with the authors. The publisher or editor does not take any responsibility for the same in any manner. Errors, if any, are purely unintentional and readers are requested to communicate such error to the Editor to avoid discrepancies in future.

Published by:
Emyreal Publishing House

Table of Contents

Preface	IV
Acknowledgements	V
Table of Contents	VI - VII
Title of the chapter	Page No.
PEDAGOGIC THEORIES AND THE USE OF TECHNOLOGIES FOR LEARNING AND THEIR APPLICATIONS	1 – 3
<i>Dr. Rohan P. Dahivale and Mrs. Dhanshri R. Dahivale</i>	
MOTIVATION OF LEARNERS ENHANCING COMMUNICATIVE & COGNITIVE ABILITIES THROUGH DIGITAL LEARNING	4 – 7
<i>Dr. Amol S. Ramdasi</i>	
A REVIEW OF OPEN EDUCATIONAL RESOURCES IN TEACHING AND LEARNING	8 – 12
<i>Dr. Anita Bhimappa Desai</i>	
IMPACT ON TEACHING OF ONLINE TEACHING DESIGN	13 – 17
<i>Dr. Manisha Shinde</i>	
A STUDY OF PARADIGM SHIFT IN EDUCATION SECTOR FROM NORMAL TO NEW NORMAL IN COVID- 19	18 – 20
<i>Dr. Priti Sonar</i>	
INNOVATIVE STRATEGIES AND TACTICS IN TEACHING PEDAGOGY	21 – 24
<i>Dr. R. Nithya</i>	
CONSTRUCTIVE APPROACHES TO LITERACY TEACHING AND PEDAGOGIES USING ICT TOOLS	25 – 28
<i>Dr. Rekha Sidram Mudkanna</i>	
METHODS OF ONLINE ASSESSMENT	29 – 34
<i>Dr. Sangeeta Shashikant Shinde</i>	
SHIFT TOWARDS ONLINE TEACHING LEARNING	35 – 41
<i>Dr. B. Thulasi Priya</i>	

PEDAGOGIC THEORIES AND THE USE OF TECHNOLOGIES FOR LEARNING AND THEIR APPLICATIONS

Dr. Rohan P. Dahivale

Associate Professor & HoD, Rajgad Institute of Management Research & Development, Pune 43

Mrs. Dhanshri R. Dahivale

Student, Sarhad College of Arts, Commerce & Science, Pune

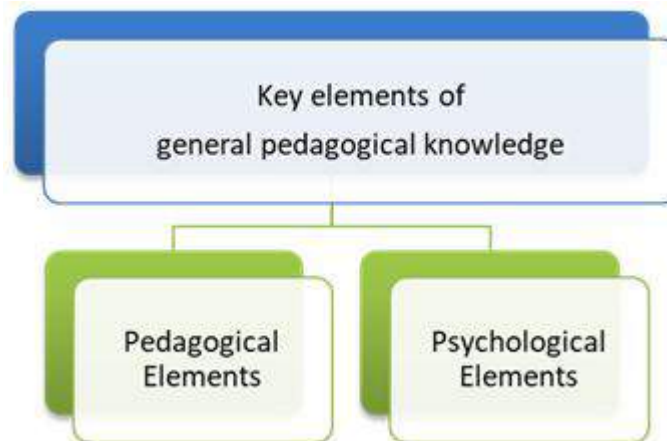
ABSTRACT

Use of technology will play a key role in the future of the education system. To meet the challenges such as online teaching-learning and evaluation, technology will be at centre stage. In the current education system, technology is related to the effective utilization of technology in teaching learning endeavours. This chapter focuses on reflecting on theoretical teaching of thought and associated pedagogies along with exploring the beliefs and values that can be applied by individuals and institutions about technology integration in pedagogical concerns. The chapter will help to understand technology integration in pedagogical experiences.

Keywords: Technology, Teaching pedagogical theories, behaviourism

1.1 INTRODUCTION

From generations, teachers across the globe are trying to teach their students through various pedagogy theories. These theories help teachers to stimulate the process of teaching-learning. These theories covenant 'process of teaching-learning' and 'nature of knowledge'. These are the theories that hypothesize and suggest how teaching should be done and how things should be thought to the learners. The foremost learning theories that consist of technology integration generally include the concepts of Behaviourism, Cognitivism, Constructivism, Connectivism and Humanism. In this chapter authors just endow with a basic outline of each of these pedagogy theories including discussion of each for teaching, learning and technology.



1.2 PEDAGOGICAL ELEMENTS: Following are the pedagogical elements of general pedagogical knowledge.

Pedagogical Elements	Particulars
Classroom Management	Teacher should have knowledge about how to maximize the quality and quality of instructional time, handle classroom activities and teach at a stable speed. Teacher should have knowledge about the class room management skills and maintaining clear directions in lessons.
Assessment and Evaluation	Teacher should have knowledge about different types of assessment tools and diverse types of evaluation devices.

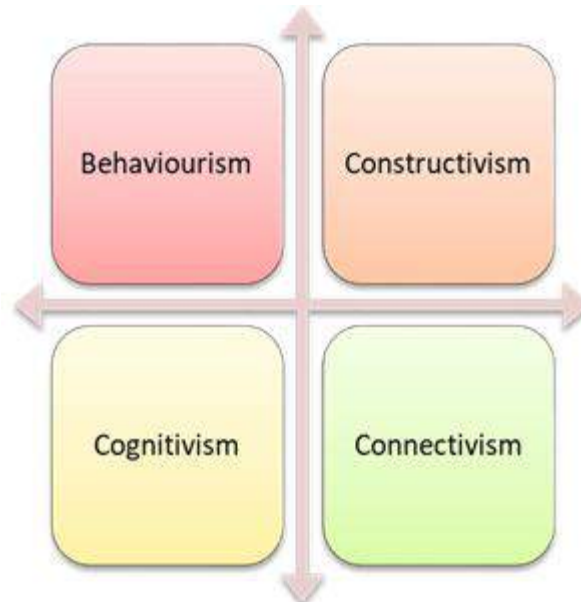
Classroom Differentiation	Teacher should know how to handle different learners (Slow to advance learners) in the classroom and should aware that, each one has their own different and unique learning styles.
Teaching methods	Teacher should have a command of various instructional strategies. Teacher should know how to use these strategies in different classroom situations according to the learner.
Lesson Plan (Structure)	Teacher should have command over developing learning objectives and lesson planning with assessment and evaluation.

1.3 PSYCHOLOGICAL ELEMENTS: Following are the Psychological elements of general pedagogical knowledge.

Psychological Elements	Particulars
Knowledge about Learner characteristics	Teachers must be having knowledge of the sources of learner characteristics. (Learning goals, Diversity, Digital Natives, Prior Knowledge etc)
Knowledge about Learning Processes	Teachers must know the supportive and nurturing individual learning progress in form of educational psychology. It consists of knowledge of various cognitive, affective and psychomotor domains. (Motivation, Learning Styles, Individualized Instruction etc.)

1.4 LEARNING THEORIES CONCEPTS AND ASSOCIATED PEDAGOGIES:

The foremost learning theories that consist of technology integration generally include the concepts of Behaviourism, Cognitivism, Constructivism, Connectivism.



1. Behaviourism

Students can learn easily through repetition. According to this concept, a learner is a passive blank slate shaped by environmental stimuli, both positive and negative reinforcement. The origin of Behaviourism was propagated in the twentieth century. In this theory, psychologists had investigated and propounded theory about behaviour and response systems in humans. Psychologists of Behaviourism consider the learning process as a response to 'stimuli'.

In this function, technology can help in this training of stimulus-response conditioning by designing incentives in the form of games or simulations or other rewards. Behaviourism theory postulates that the behaviour of human and animal can be described or conditioned by external factors. This theory of stimulus-response can be properly utilized in the learning process.

2. Cognitivism

This is a learning theory that was in response to behaviorism. Psychologists who promoted this idea claimed that behaviorism failed to explain cognition. In this theory, the mind is an information processor. It emphasizes understanding the concept as a whole instead of just the pieces.

3. Constructivism

Students mostly learn new things through experiences. They can build knowledge through experiences and interactions. In a cognitive type of learning, the students are taught to do a bit in constructivism. The students are encouraged to find out something on their own. Such a type is known as 'self-directed learning'. Here, the major difference is that cognitive learning is about building on prior knowledge and constructivism is about building new ideas and concepts based on one's own discoveries or findings. The theory suggests that students and learners can construct knowledge and meaning from their experiences.

- i. Inquiry based: Inquiry-based learning is a form of active learning that starts by posing questions, problems or scenarios. It contrasts with traditional education, which generally relies on the teacher presenting facts and their knowledge about the subject.
- ii. Integrative: Integrative learning is the process of making connections among concepts and experiences.
- iii. Collaborative: In Collaborative learning, groups of students are working together to solve a problem, complete a task, or create a product.
- iv. Reflective: Reflective practice is the ability to reflect on one's actions so as to engage in a process of continuous learning.

4. Connectivism

Connectivism is a learning theory developed by George Siemens and Steven Downs. It stresses the connections and combinatorial creativity. All the knowledge is out there - it's a matter of making the connections. Siemens (2004) states, "A community is the clustering of similar areas of interest that allows for interaction, sharing, dialoguing, and thinking together."

Means students can learn about COVID-19 from an Instagram post, Facebook update by his/her friend. If there are comments, then students can click on the links which may direct to a personal blog, online newspaper or any official website etc. From these various sources student can learn.

1.5 OPINION

This chapter highlighted various pedagogic theories and their integration with technology for effective learning. These theories acted as a guide for our thinking process and gave a way to plan further for the overall development of the students.

REFERENCES

- Koliass, A. & Kikis, K. (2005). Pedagogic Innovations with the use of ICTS. From wider visions and policy reforms to school culture, Edicions Universitat Barcelona.
- Siemens, G. (2008). Learning and Knowing in Networks: Changing roles for Educators and Designers
- Grootenboer, P., Groves, E.C, Choy, S. (2017). Practice Theory Perspectives on Pedagogy and Education: Praxis, Diversity and Contestation, Springer.
- Jarvis, P. (2002). The Theory & Practice of Teaching, Psychology Press.

National Journal of Research In Marketing, Finance & HRM



National Journal of Research in Marketing, Finance & HRM

EDITORIAL BOARD:

Dr. S. G. Walke
Editor in Chief
walkekrishna@gmail.com

Prof. S. A. Shah
Member
svapnilshah75@gmail.com

Dr. M. M. Shetye
Editor
mahavirshetye@gmail.com

Prof. Sudam Shinde
Member
shindesudam1@gmail.com

REVIEWER PANEL

Dr. Parag Saraf
Director-MBA
Global Institute
of Management.

Dr. Yogesh W Bhowte
HOD,
SKNSSBM, Pune

Dr. Subhash Jadhav
Director,
Dr. B.V.Tiray College of
Management and Research Centre Nashik

Dr. Preeti Kulkarni
Director,
Navjeevan Institute of Management,
Nashik

National Journal of Research In Marketing, Finance & HRM is biannual research journal.

© March 2020. All Rights Reserved

- ↓ No part of this publication may be reproduced or copied in any form by any means without prior written permission.
- ↓ All efforts are made to ensure that the published information is correct. The organization is not responsible for any errors caused due to oversight or otherwise.
- ↓ The views expressed by individual contributions in the journal are not necessarily endorsed by the management.

National Journal of Research In Marketing, Finance & HRM is available against subscription only.

Subscription rate for Individuals/ Institutions	
1 year	Rs. 1000/-
2 years	Rs. 1800/-
3 years	Rs. 2500/-
For International subscription	US \$ 40 per year

Subscriptions:

For subscriptions and related enquiries write to:
The Head,
Subscription Cell,
National Journal of Research In Marketing, Finance & HRM,
Pune - 410505.
+91-02133-272213/14
Email: njr.editor@gmail.com



National Journal of Research in Marketing, Finance & HRM

Volume: 5 No.1

March 2020

ISSN: 2455-5398

INDEX

Sr. No.	Title & Author Name	Page No.
1.	ANALYSIS ON SECURITY UNDERWRITING RISK MANAGEMENT IN CAPITAL RAISING Miss. Laveena Makesh Jawahirani	1
2.	ISHIKAWA DIAGRAM VERIFICATION FOR QUALITY AND PRODUCTIVITY IMPROVEMENT IN CONNECTOR ASSEMBLY Ms. Supriya Ramchandra Jagdale, Mr. Vikram Patil, Dr. Rohan Dahivale	9
3.	A STUDY ON GREEN HR PRACTICES AND ITS IMPACT ON HR FUNCTIONS IN IT INDUSTRY Ms. Angshupriya. Datta, Miss. Pooja M. Nair	15
4.	A STUDY ON PERCEPTION OF FACTORS AFFECTING PURCHASE DECISION OF STUDENTS TOWARDS LAPTOP IN PUNE Prof. Archana Borde, Shuham Katkar	29
5.	A STUDY OF IMPORTANCE OF PACKAGING AND ITS INNOVATIVE METHODS Ms. Dhanshri Dabale, Prof. (Dr.) Shital Lakade	38
6.	EMOTIONAL INTELLIGENCE: ITS POSITIVE INFLUENCE ON WORK-LIFE BALANCE Ms. Sarah D'souza, Dr. Safia Farooqui	44
7.	A STUDY OF CONSUMER'S AWARENESS AND ATTITUDE TOWARDS E - MONEY WITH SPECIAL REFERENCE TO PUNE CITY Ms. Kajalade Madhuri S. M. S. Suran. Khandare	51
8.	EMPLOYEE GRIEVANCE REDRESSAL SYSTEM AT LIC OF INDIA Dr. Ujjwal M. Mishra, Ms. Aishwarya K. Rath	58
9.	A STUDY OF EFFECT OF 'SOCIAL MEDIA MARKETING' ON CONSUMERS' PURCHASE INTENTIONS Mr. Pranav Kawade, Dr. Rohan P. Dahivale	66
10.	A STUDY AND IMPLEMENTATION OF PRODUCTION PLANNING AND CONTROL Mr. Bhupendra Kumar Kelam	75

H. Bhanu
Dr. B. B. Bharati
Director
Rajgad Dnyanpeeth's
Rajgad Institute of Management
Research and Development,
Dhankawadi, Pune - 411 043



ISHIKAWA DIAGRAM VERIFICATION FOR QUALITY AND PRODUCTIVITY IMPROVEMENT IN CONNECTOR ASSEMBLY

Ms. Supriya Ramchandra Jagdale
vikrampatil169@gmail.com

Mr. Vikram Patil
vikrampatil169@gmail.com

Dr. Rohan Dahivale
(Associate Professor).
Rajgad Institute of Management Research & Development, Pune 43
rohndahivale@gmail.com

Abstract

This research paper is prepared by analysis of existing rejection of assembly line components and solution successfully implemented by using Quality Tool Ishikawa Diagram. Organization is mainly focused on the Defect Rejection and ultimately to control external defect i.e. customer complaints. After study & analysis of assembly line work process flow in minute level, to analyze the root cause for rejection, proposed Ishikawa Diagram (also Called Fish Bone Diagram) on the assembly line. Post Analysis corrective actions are implemented. After implementation of the solution with the help of this tool, ~44% PPM Contributor Defects are controlled which helps Organization by reduction of defects which ultimately leads to improve productivity. Ishikawa Diagram can be used to analyze at any step of a manufacturing process where something can go wrong, or an error can be made.

Keywords: Ishikawa Diagram, Fish bone diagram, QC tools.

1) Introduction

Ishikawa Fish Bone Diagram

Common uses of the Ishikawa diagram are product design and quality defect prevention to identify potential factors causing an overall effect. Each cause or reason for imperfection is a source of variation. Causes are usually grouped into major categories to identify and classify these sources of variation.

2) Objectives of the study

1. To understand Ishikawa Diagram Verification for Quality Productivity Improvement in Connector Assembly.
2. To find errors or defects in manufacturing process of Connector assembly.



3. To procure for Ishikawa diagram for detection of quality and productivity improvement in Connector assembly.
4. To find Productivity before and after implementing fixture.

3) Problem Statement

Increasing number of Scrap parts leading to increase the COPQ (Cost of Poor Quality) value of Plant. The Rejection is mainly because of Machine Parameters and Process Issues. So, the project "Ishikawa Diagram Verification for Quality and Productivity Improvement in Connector Assembly"

4) Research Design

Main Objective of Research

The objective of this project is to find out Root Cause for the Scrap occurs in 20P Short Pin Project. Through this project we can able to identify what are the causes of rejection and preventive action measure for the same. Aim to reduce the scrap of the finished product.

Primary Data: It was collected through personal interviews and observations.

Secondary data: The data were collected in the form of company profile and produce profile from the web sites and newspaper. Some of the books were referred for theoretical concepts.

Methods of Data Collection:

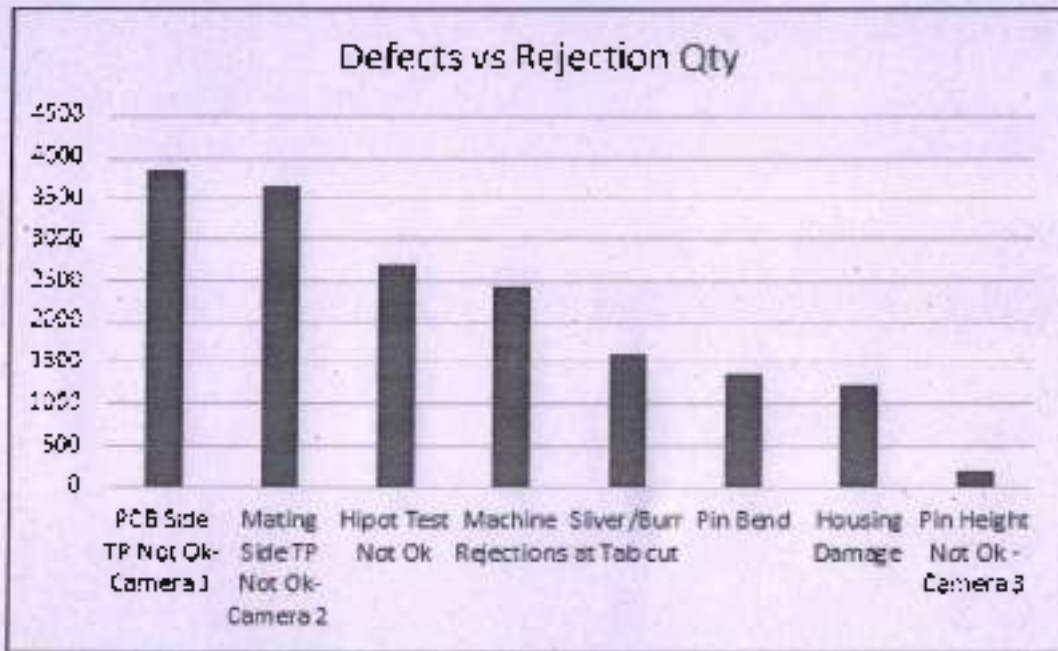
- Data was collected through the defect record sheet (CII-DRS-81).
- Preventive Maintenance Check Sheet (CII-PM-005)
- Start Up Check Sheet (CII-SC-12)
- First Part Inspection Check Sheet (CII-FPI-009)

5) Data Analysis

To verify the result of defect this is recorded in existing project through the Cause and Effect Diagram (Ishikawa Diagram)

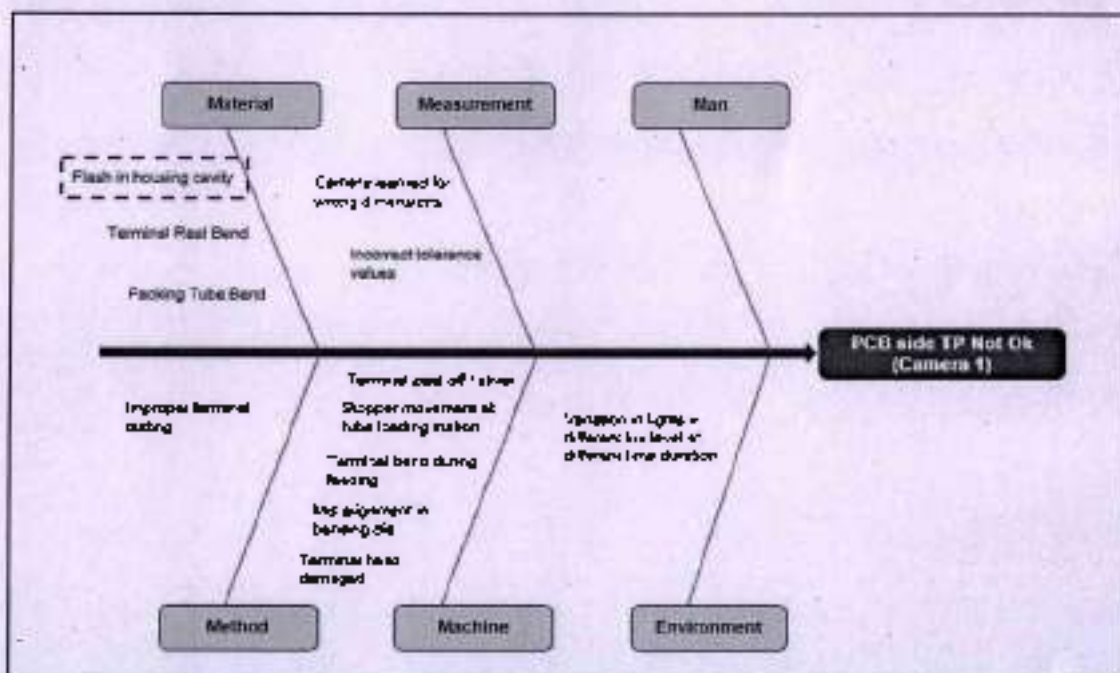
20P SHORT PIN Rejection Details - Dec, Jan, Feb 2020		
Defect	Rejection Qty	% Rejections
PCB Side TP Not Ok- Camera 1	3839	23%
Mating Side TP Not Ok- Camera 2	3653	21%
Input Test Not Ok	2701	16%
Machine Rejections	2433	14%
Sliver/Burr at Tab cut	1605	9%
Pin Bend	1365	8%
Housing Damage	1230	7%
Pin Height Not Ok - Camera 3	183	1%
TOTAL	17009	100%





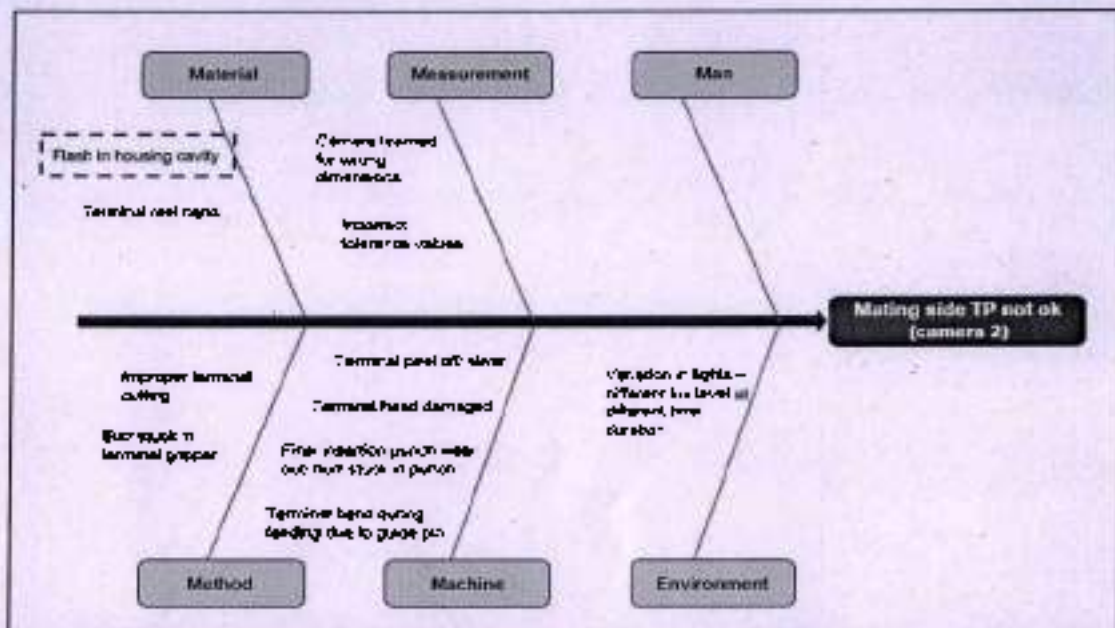
From the above Graphs, we have taken top 2 defects contributor for Analysis through Ishikawa Diagram.

1. PCB Side TP Not Ok- Camera 1



2. Mating Side TP Not Ok- Camera 2





After the brainstorming, it has been concluded for "Flash in Housing Cavity" as one of the Major Root Cause.

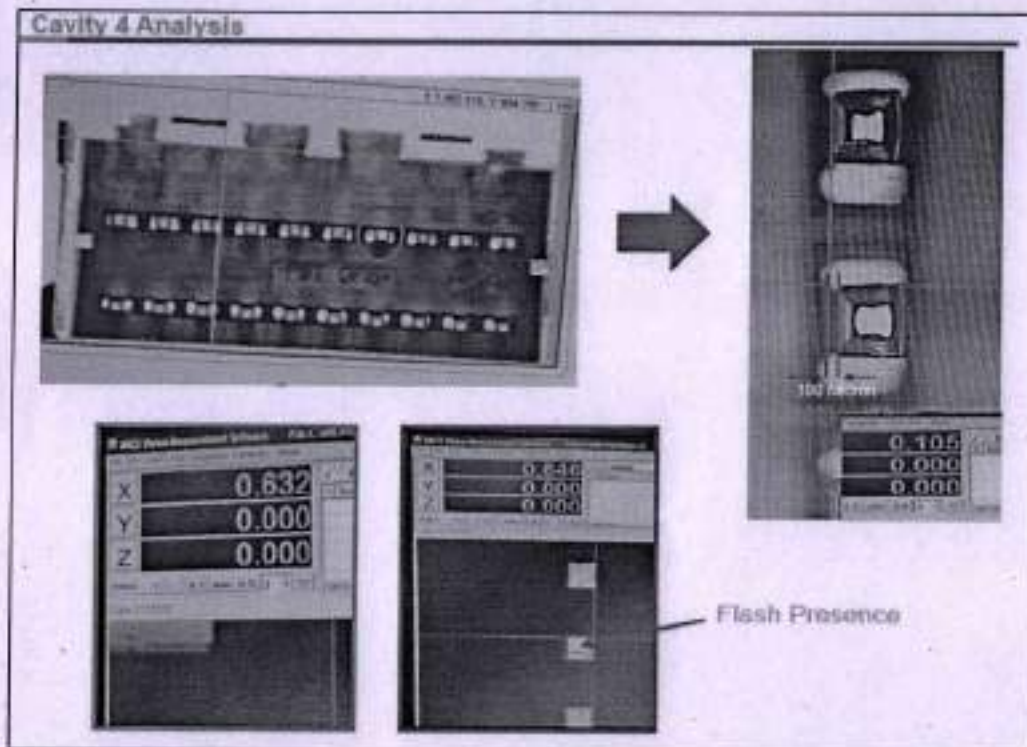
Further Analysis is done for the cavity wise review of the housings for the Flash

20 P – Cavity-wise Analysis

Housing	No of parts checked	Pin height	PCB side (Camera 1)	Mating side (Camera 2)	Test Fail	Scrap	% Scrap
Cavity 1	570	3	0	14	8	25	4%
Cavity 2	560	3	4	9	11	29	5%
Cavity 3	485	0	2	32	2	36	7%
Cavity 4	590	0	6	40	6	52	9%

Table shows total 17 & 4 pins major test fail found in Mating side (Camera 2)





6) Findings

1. Major Defect Contributors are TP Not OK Defect together contributes ~44%.
2. This Defect is mainly because of the Presence of Flash in the housing
3. Further analysis shows that Cavity 4 Housing are major contributor for the rejection.

7) Recommendation

Below are recommendations suggested after the brainstorming session after the Ishikawa diagram result

1. Immediate Inspection of Molding Parts before it comes at Assembly Line
2. Cavity 4 Mold Design to be Calibrated as per the Standard Mold Design Drawings
3. Preventive Maintenance of Mold Machines as per the Plan
4. Implementation of the corrective actions and its sustenance
5. Communication of the actions over the assembly line working employees

8) Conclusion

1. Cavity 4 Housing are the major contributor for the Part Rejection.
2. Presence of Flash in Housing is mainly because of Molding Issues.
3. Necessary Action need to take in Mold design of Cavity 4 to avoid flash

References

- 1) Mr. Sangappa P. Parit, Mr. Y.N. Burali/ Review Paper On "Poka-Yoke: The Revolutionary Idea In Total Productive Management"/ Research Inventy: International Journal Of Engineering And Science Issn: 2278-4721, Vol. 2, Issue 4 (February 2013), Pp 19-24
www.Researchinventy.com
- 2) Shigeo Shingo, Zero Quality Control: Source Inspection and the Poka-yoke System. Productivity Press.
- 3) Statistical Quality control by M. M. Mahajan, Dhanpat Rai & Co. Publication.
- 4) www.6sigma.us/six-sigma
- 5) Grant E.L. Statistical Quality Control- McGraw Hill Book Company. New York.
- 6) Total Quality Control Feigenban - McGraw Hill Book Company. New York



A STUDY OF CONSUMER'S AWARENESS AND ATTITUDE TOWARDS E – MONEY WITH SPECIAL REFERENCE TO PUNE CITY

Ms. Kakade Madhuri S

Assistant professor,

Rajgad Institute of Management research And Development, Pune 43.

madhurikakade1996@gmail.com

Ms. Simran Khandare

simran.khandare@gmail.com

ABSTRACT:

This paper is about E-Money in India. E-Money means we don't need to carry any cash (like rupees, coin etc) with the help of that we can easily pay our bills, fees and other things. For that we can use credit cards, debit cards or net banking and we can also use different kind of apps like PhonePe, Google Pay, and Paytm. Respected Prime Minister Mr. Narendra Modi declared demonetization on 8th Nov 2016 and he supported digital money from that some people started using E-Money but some people didn't accept that because of they aren't comfortable with or somewhere they get conscious while using digital money. In 1983 Devid charm developed of online cash payment concept. Banking sector mostly use online payment. The customers understand how to use E-Money. In India mostly transaction are exchange hard cash so online payment app less use. After demonetization mostly people prefers use to E-Money.

KEYWORDS: E-Money, Consumer's attitude, demonetization

1. INTRODUCTION:

In last decenniums Indian people are using internet. After demonetization people can using digital money app. India proceed to coming up cashless money. Indian people have been using smart phone and making some transaction online cash. As per observation digital cash to positive impact on consumer using this app. Effect on demonetization to regular transaction that time opportunity develop for E-Money. After demonetization consumer have not any option using E-Money apps. All country people support to E-Money. In last decade rural area people can't using E-Money but currently they are using this wallets. In village near to bank so people can prefer going to bank and take some cash. Opposite in urban area people are so busy in our work so they can preferred to digital waller apps. Usage of this app people saves money, user friendly, save time etc. One can use any E-Money apps in smart phone with necessary internet connection.

2. REVIEW OF LETURATURE:

(Shah, 2013) Elaborate that "Digital Payment System: Problems and Prospects" India people are mostly belong to rural are but some people were shifted in city but rural area people can be prefer bank taking some money because bank is near by village. This reason rural area people not using digital wallet app. Demonetization in India government adopted digital money scheme urban people are prefer digital wallet. In digital money security of money as cyber crime, facilities etc. E-commerce using digital payment to help grow international market. In India four trend using cashless payment. Using advance technology digital payment transaction is strengthening and secure. Indian economy are using digital



payment in future strengthen. Indian government scheme are to support for using digital money.

(Sanatani, 2017) She discussed "Effect of Demonetization on Digital payment System in India". Prime Minister Mr. Narendra Modi announce demonetization on 8th Nov 2016 in mid night at 12:15 am ISI ours speech communicate to India people. That day closed Rs. 500 and Rs. 1000 currency. After they introduced Rs 200 and Rs 2000 currency note in regular life. Those days inside of ATM and bank people rush because of exchange old currency. That time introduce many electronic apps you can use easily transfer money. Last some year's people can't support to electronic money but now a day support this apps. Demonetization large effect on E-commerce. In E-commerce mostly delivered to hard cash for daily transaction. After Demonetization people mostly using digital wallet apps. There are many apps available in market.

(Baghla, 2018) Stated that "A Study on the Future of Digital Payment in India" Indian economy to promote cashless using digital payment. Digital money means exchange money by using electronic apps. In 2016 Prime Minister Mr. Narendra Modi declared demonetization on 8th November. Demonetization concept was main motive is transparency in India economic. That time digital payment mode in front of economy. This system is to support government of India. But some people are not using digital payment mode. Digital payment mode under debit cards, credits, internet banking etc. In this paper is of digital payment acceptance reasons. Digital payment is developing the transparency in money transaction. Cashless India is dream of Prime Minister Mr. Narendra Modi. In India less and using digital payment.

(Jacob, 2019) Describe that "A Study on Replacing Currency with Digital Cash Among Students in Patbanambhita District". India economy is to promote cashless using digital payment. In this process customer have waste of time. The hard cash is large using black money. All banking system has been provide digital money facilities like NEFT, RTGS, Debit cards, Credit card anything anywhere you can use this app. This app is using time necessary to internet connection. Rural area people have no knowledge of internet or lack of knowledge so they aren't using digital wallet apps. So these reason rural areas people less using this app. But this app beneficial for people.

(Biradar 2019) Describe that "Digital Money: An Analysis of Users' Perception" Indian country proceed to coming up cashless money. Prime minister Dr. Narendra Modi had developed the concept of digital wallets on 1 July 2015. These concepts are main motive in our country people beneficial for government scheme. Using digital wallets has been transparency between people and government. As digital in our country people take positively or negative impact overview. Digital money is no one any type of currency. They are using internet exchange cash. As no anyone hard cash use. They using electronic app like debit card, credit card, E-wallets, UPI, RTGS, NEFT etc. In India most of people using internet so they are support this digital wallet.

3. OBJECTIVES:

- 1) To know the basic theoretical concepts about E-Money.
- 2) To find people awareness regarding E-Money.
- 3) To analyze people attitude toward usage of E-Money.



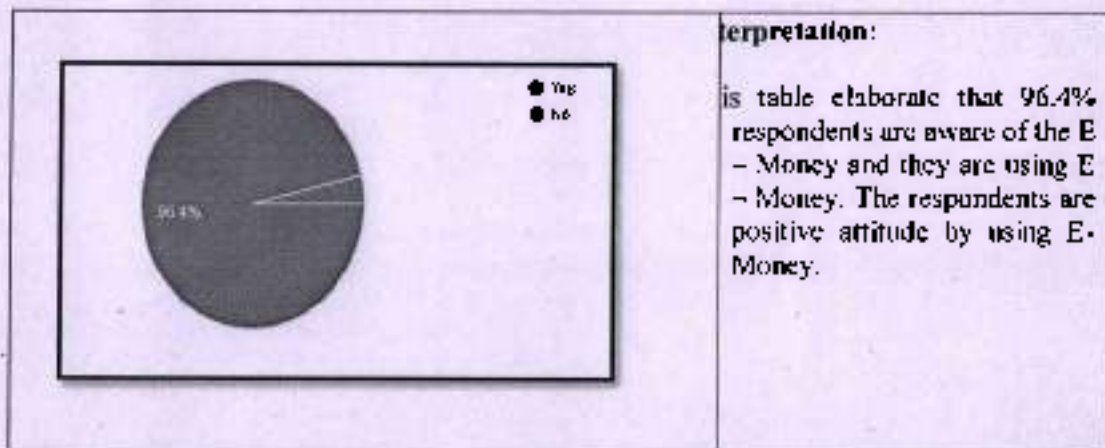
4. RESEARCH DESIGN:

- **Types of Research:** In this paper using descriptive research and exploratory research.
- **Primary Data Collection:** This paper data selected pune city people responses.
- **Secondary Data Collection:** This information collected that Journals, research paper etc.
- **Sample size (as pilot study):** 50
- **Population – People of Pune City.**
- **Research Instrument – Structural Questionnaire.**

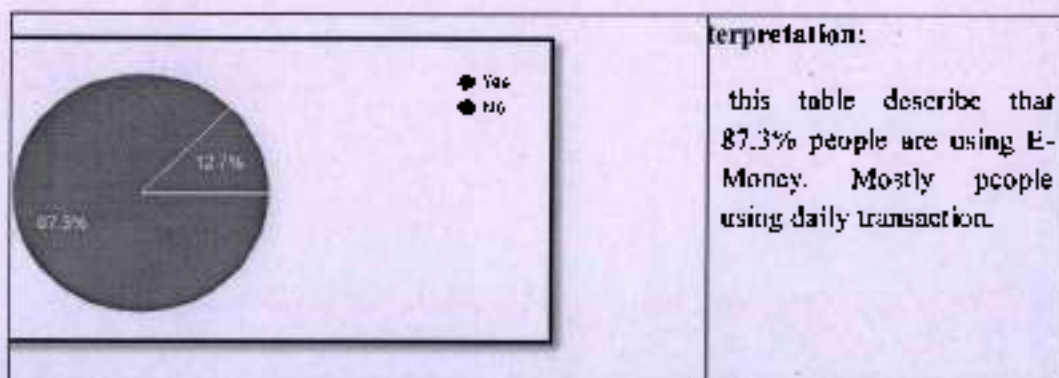
5. DATA ANALYSIS:

This paper is depending on secondary and primary data and information is based on descriptive essence. This data is set of 50 respondents.

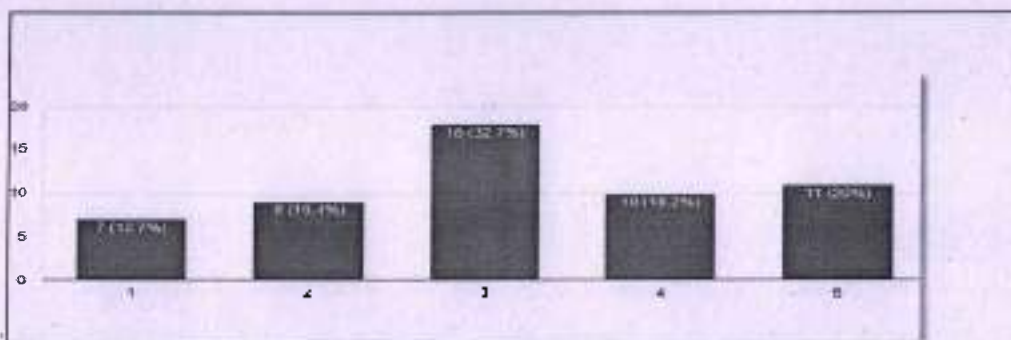
1. Are you aware of E – Money?



2. Are you using of E – Money?

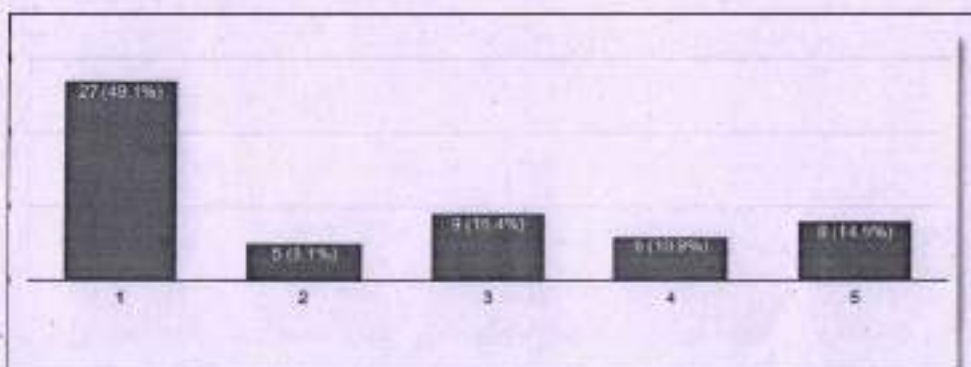


3. I feel there are security problems in digital money.



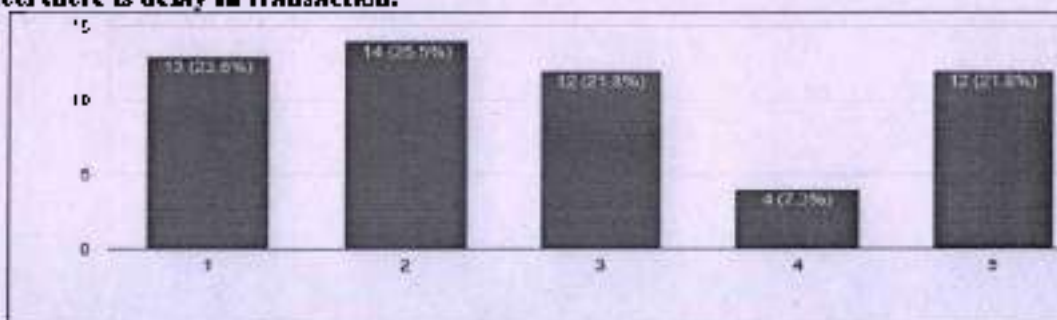
Interpretation:
 The above table elaborates that 32.7% of people have security problems. Security is the most important part of E-Money.

4. I don't know procedure to use.



Interpretation:
 This table represents that 49.1% of people know this process. Now a day's people are using smart phones so they are known this procedure.

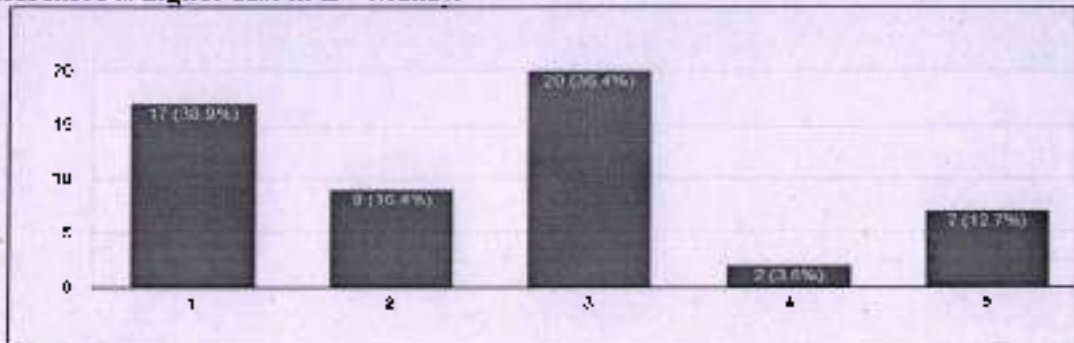
5. I feel there is delay in transaction.



Interpretation: The above table elaborates that 25.5% of people's opinion is as delay in transaction but 21.8% of people's assumption is not delay in transaction. So some people are supporting him but some aren't using this app.



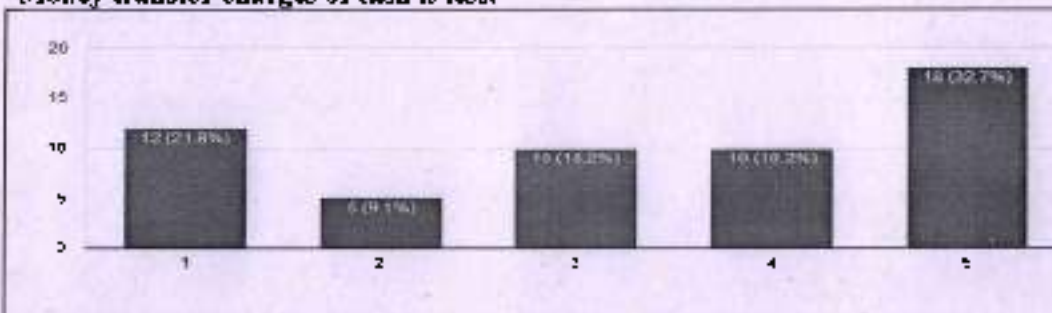
6. I feel there is higher cost in E – Money.



Interpretation:

this table represent that 36.4% people assumption is higher cost in E – money.

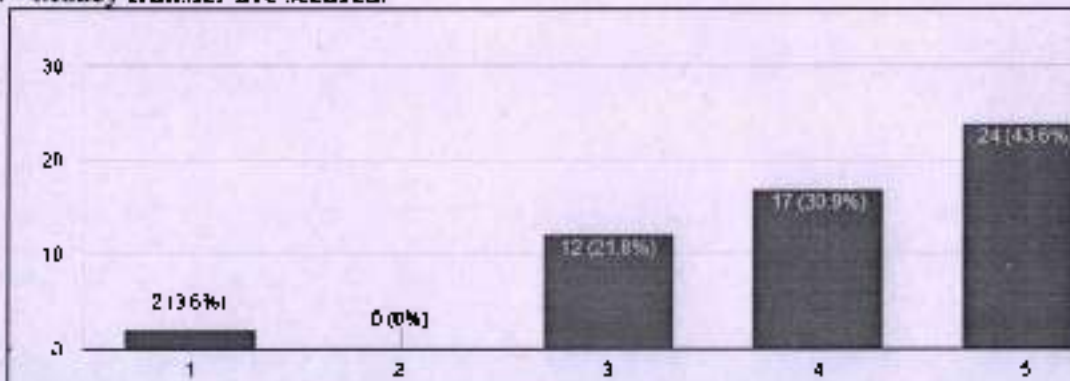
7. E – Money transfer charges of cash is less.



Interpretation:

this table describes that 32.7% opinion as positive assumption for transfer charges are very less but some people have not accept it.

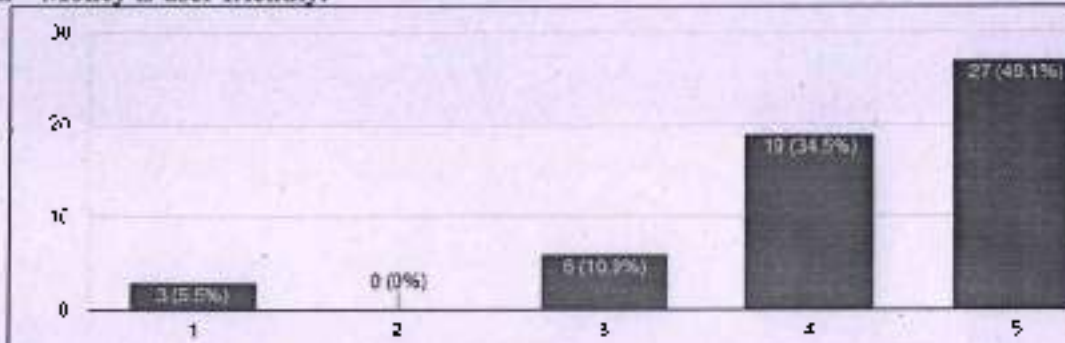
8. E – Money transfer are secured.



Interpretation:

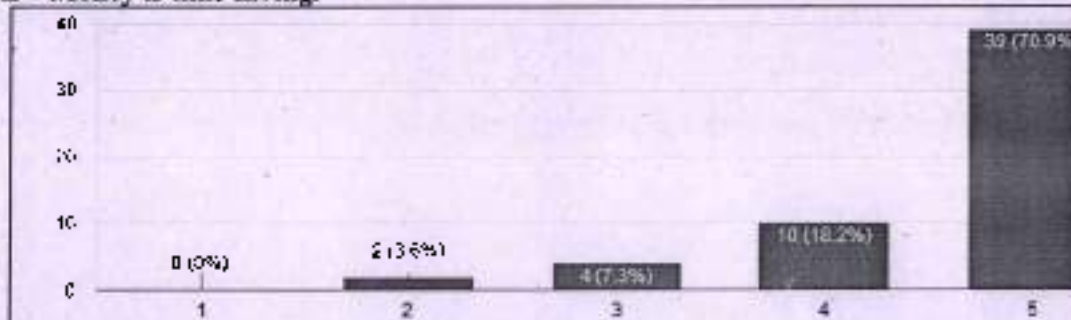
this above table 43.6% people assumption that E – Money transfer are secured because they are using in daily transaction.

9. E – Money is user friendly.



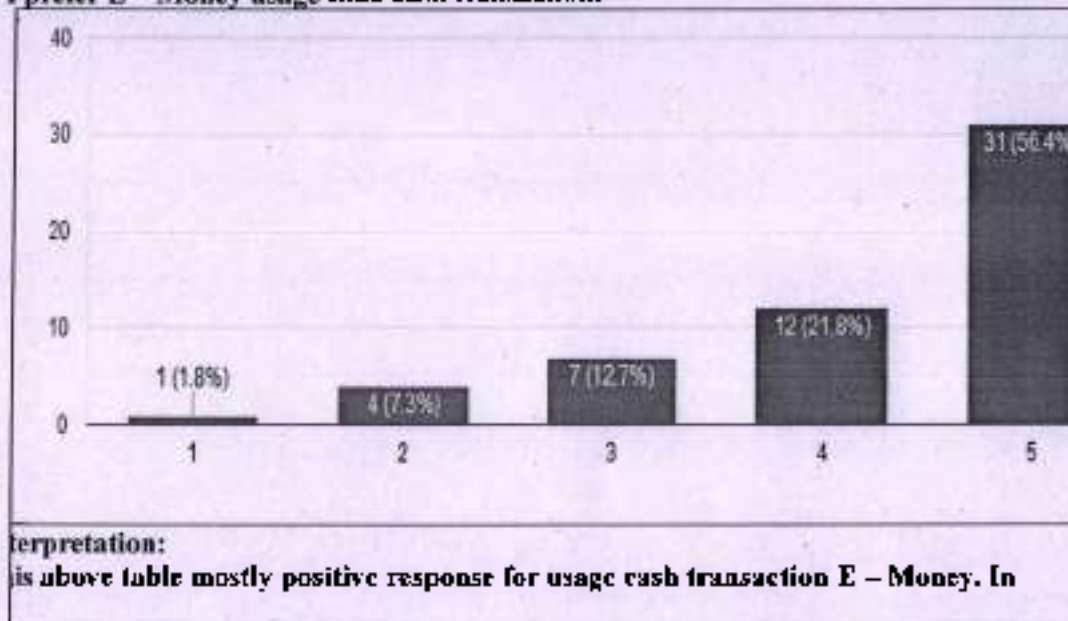
Interpretation: This table elaborate that 49.1% people can user friendly E – Money because mostly people can using smart phone so they familiar to E – Money.

10. E – Money is time saving.



Interpretation: above table describe that 70.9% people save time for using E- Money. In urban people are so busy mostly using electronic money.

11. I prefer E – Money usage than cash transaction.



6. FINDINGS:

- 1) 90% respondents are familiar of the E- Money and remaining people using E- Money.
- 2) There are many people have positive impact of the E- Money, 85% people are agreed for using delay transaction.
- 3) Some people prefer to using E- Money because time saving and no have any transfer cost.

7. CONCLUSION:

Thus through the research conducted researcher to understand consumer's awareness and attitude E –Money. After demonetization opened inroad of the E – Money. There are many applications available in market, we studies consumer perceptinn regarding e- Money. Now users are using smart phone and internet so easy to use in our life. So E- Money utilization will surely drastically increase in coming days.

8. REFERENCES:

- 1) Baghla, A. (2018). A Study on the future of Digital Payment In India. *IRAR- International Journal of research and Analytical Review*, 5 (4).
- 2) Jacob, A. (2019). A Study on Replacing currency With Digital cash among Students in Pathanamthitta District. *International Journal Of Scientific Engineering and Research*, 7 (1).
- 3) Sanatani, T. (2017). Effects of Demonetlization on Digital Payment System In India. *UCSNS International Journal of Computer Science and Network Security*, 17.
- 4) Shah, Z. A. (2013). Digital Payment System: Problems And Prospects. *EPRA International Journal of Economic and Business Review*, 5 (8).



A STUDY OF EFFECT OF 'SOCIAL MEDIA MARKETING' ON CONSUMERS' PURCHASE INTENTIONS

Mr. Pranav Kawade

pranav.kawade94@gmail.com

Dr. Rohan P. Dahivale

Associate Professor.

Rajgad Institute of Management Research & Development, Pune 43

rohandahivale@gmail.com

Abstract

The marketing place in the new era has changed from traditional to online marketing. Social media usage is exponentially increasing. There are new platforms for marketers like Facebook, Instagram, Youtube etc. While emerged as apps for entertainment and social media, now these popular apps are medium for marketing and advertisements. This is beneficial to consumers and marketers both. There is need to study whether consumers trust these advertisements. The impact of these marketing efforts on consumers' purchase intentions is needed to study. In this research paper, researchers made an attempt to study these variables under study with a pilot study.

Keywords: 5S, sort, set in order, shine, standardize, sustain

AI Introduction to social media marketing

Social media marketing is the use of social media platforms and websites to promote a product or service. Although the terms e-marketing and digital marketing are still dominant in academia, social media marketing is becoming more popular for both practitioners and researchers."

Most social media platforms have built-in data analytics tools, which enable companies to track the progress, success, and engagement of ad campaigns. Companies address a range of stakeholders through social media marketing, including current and potential customers, current and potential employees, journalists, bloggers, and the general public.

On a strategic level, social media marketing includes the management of a marketing campaign, governance, setting the scope (e.g. more active or passive use) and the establishment of a firm's desired social media "culture" and "tone."

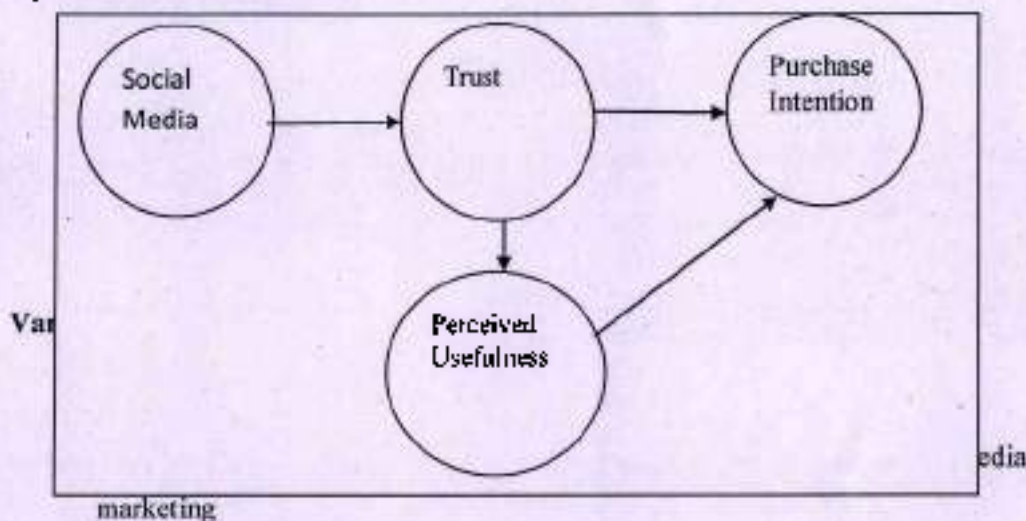
When using social media marketing, firms can allow customers and Internet users to post user-generated content (e.g. online comments, product reviews, etc.) which is also known as "earned media," rather than use marketer-prepared advertising copy.

Among all Internet users between the ages of 16 and 54 globally, the Wave 3 report suggests the following:



- i. 394 million users watch video clips online
- ii. 346 million users read blogs
- iii. 321 million users read personal blogs
- iv. 307 million users visit friends' social network profile pages
- v. 303 million users share video clips
- vi. 202 million users manage profiles on social networks
- vii. 248 million users upload photos
- viii. 216 million users download video podcasts
- ix. 215 million users download audio podcasts
- x. 184 million users start their own blogs
- xi. 183 million users upload video clips

B) Theoretical Framework



C) Objectives of the Study

- 1) To find relationship between social media marketing & trust of consumers.
- 2) To know the impact of trust on consumers' purchase intentions
- 3) To assess relation between perceived usefulness of products on consumers' purchase intentions

D) Research Design

SN	Parameter	Description
1	Type of research	Descriptive Research
2	Research Instrument	Structured Questionnaire
3	Survey period	February 2020
4	Scale	Likert Scale 1 to 7, Where: 1 = Strongly Disagree 7 = Strongly Agree
5	Primary sources	Structured questionnaire

6	Secondary sources	Books, Journals
7	Data interpretation	Though Graphs
8	Sample Size	37 (Pilot Study)
9	Sampling Technique	Convenient Sampling

E) Data analysis & Data Interpretation

Gender
37 responses



Age Group
37 responses



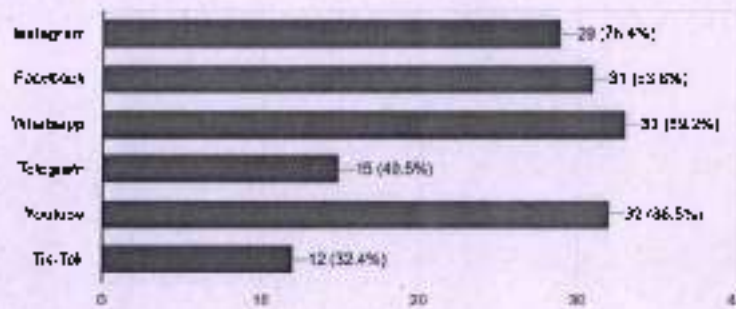
Occupation
37 responses



Are you using Social Media?
37 responses



Which social media you are using?
37 responses

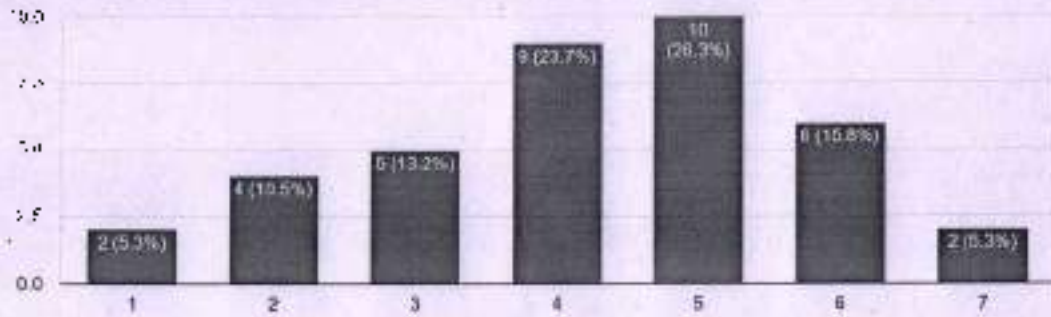


Have you noticed advertisements on social media?
38 responses



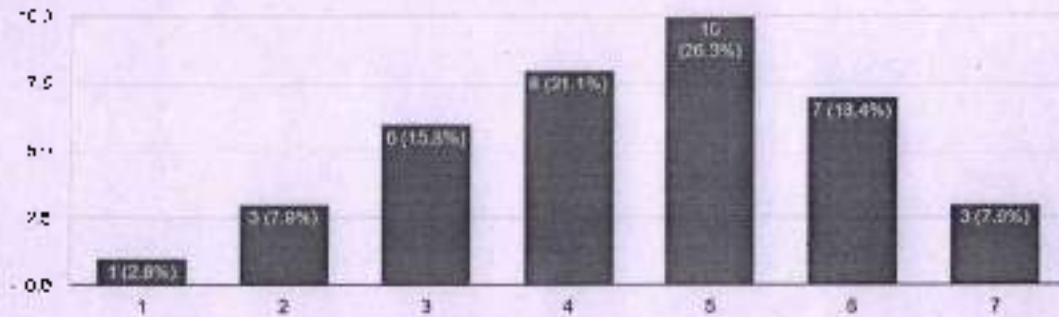
I trust advertisements on Social Media

78 responses



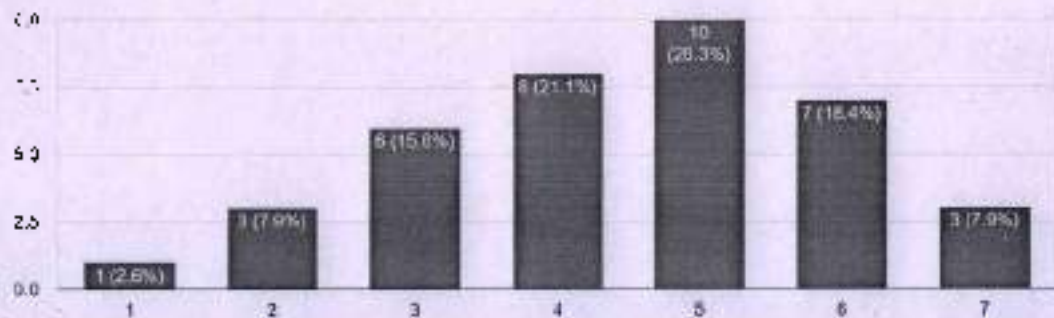
I feel genuine products & services are available on social media

38 responses



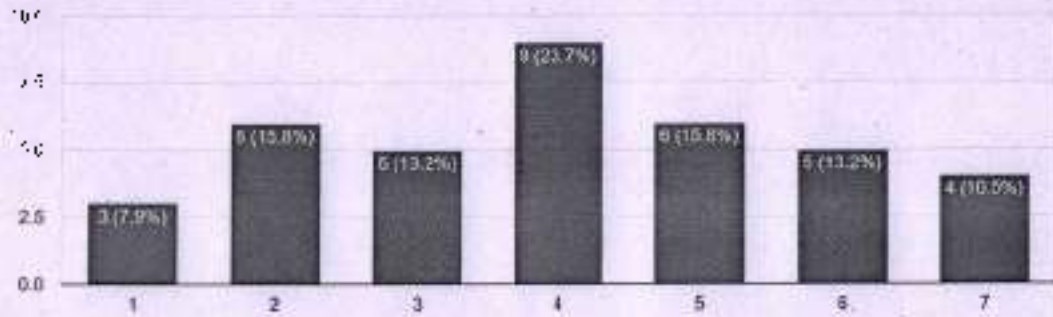
I feel genuine products & services are available on social media

35 responses



I feel products available on social media are as shown in advertisements or pictures

38 responses



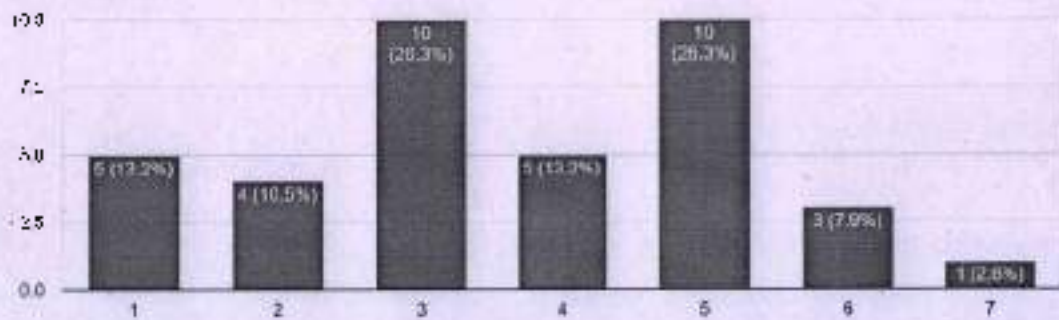
I trust brands endorsed on social media

38 responses



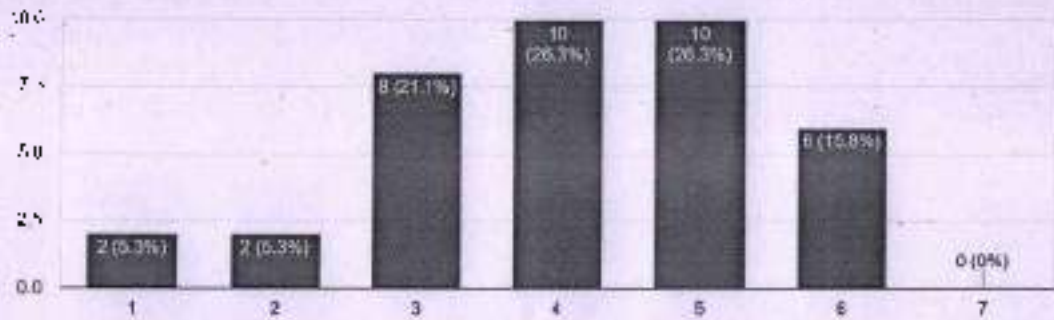
I feel only useful products are available on social media

38 responses



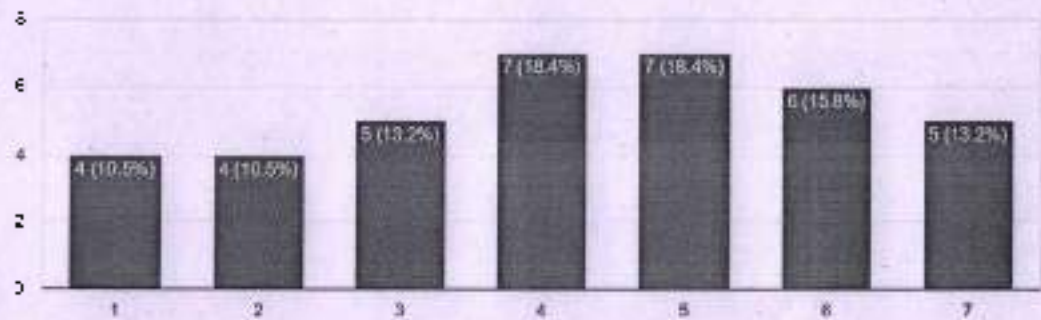
I feel quality products are available on social media

38 responses



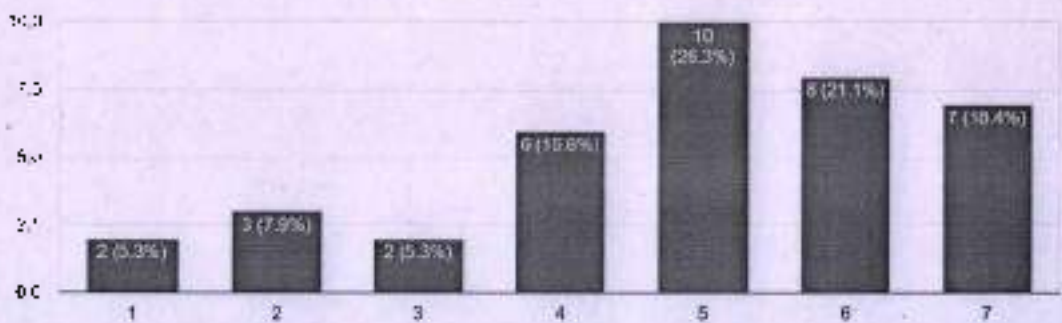
I feel products available on social media are cheaper than offline markets

38 responses

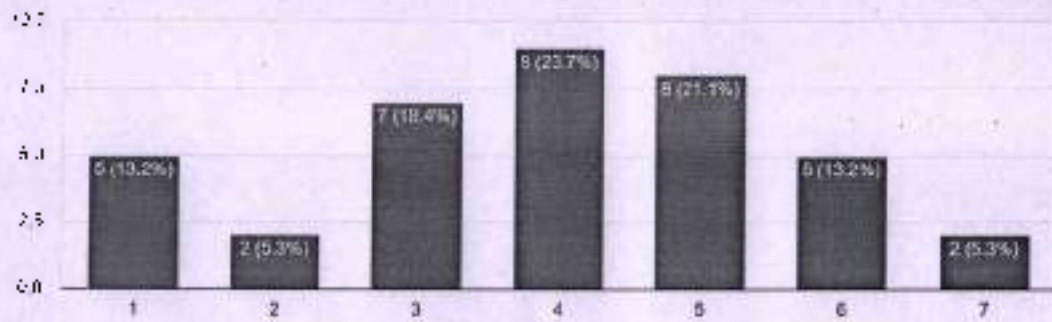


I feel a large variety of products are available on social media are than offline markets

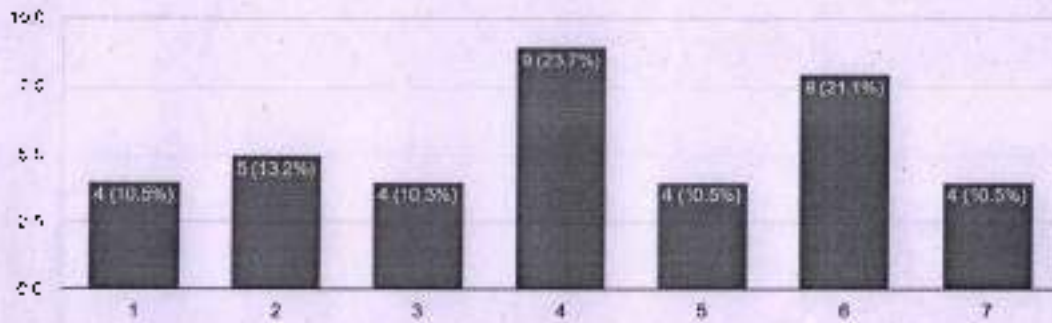
36 responses



I usually buy products after the influence of social media advertisements
34 responses



I recommend products to friends after seeing the advertisements on social media
48 responses



My overall impression of the usefulness of 'social media marketing'
24 responses



F| Findings:

- 1) Consumers moderately agree that they trust the advertisements on social media.
- 2) Consumers feel that products are many times not same as they have shown in the advertisements.
- 3) Consumers moderately trust the brands endorsed on social media.
- 4) Consumers are not much sure about the usefulness of the products available.
- 5) Consumers are moderately agree about good quality products are available.
- 6) About overall impression about usefulness social media marketing: 15.8% respondents feel that usefulness in 80 to 100%. 28.9 % feels that usefulness is 61 to 80% while 36.8 % feel that, usefulness is 41 to 60%.

G| Conclusion:

Social media marketing is an effective media for future marketing activities. It is good way to build a brand, launch a product or service, promotion of events and direct selling. Marketers should do efforts in building a trust among the consumers. The intention of purchase should be actually turn into orders.

References:

- 1) ¹ Felix, R., Rauschnabel, P.A., Hinsch, C. (2016). "Elements of Strategic Social Media Marketing: A Holistic Framework". *Journal of Business Research*, 70: 118–126. doi:10.1016/j.jbusres.2016.05.001
- 2) ¹ Shaltoni, AM (2016-07-01). "E-marketing education in transition: An analysis of international courses and programs". *The International Journal of Management Education*, 14 (2): 212–218. doi:10.1016/j.ijme.2016.04.004. ISSN 1472-8117
- 3) Bennett, Shea (April 25, 2014). "Social Media Business Statistics, Facts, Figures & Trends 2014". Retrieved 2016-04-06.
- 4) Bowden, J. (March 17, 2014). **The Impact of Social Media Marketing Trends on Digital Marketing** socialmediatoday.com
- 5) "Here's How Many Internet Users There Are" *Money*. Retrieved 2018-03-28
- 6) "U.S. population with a social media profile 2017 | Statista". *Statista*. Retrieved 2018-03-28
- 7) Ryu, Jay Sung (2013). "Mobile Marketing Communications in the Retail Environment: A comparison of QR code users and non users" *International Journal of Mobile Marketing*



National Journal of Research In Marketing, Finance & HRM



National Journal of Research in Marketing, Finance & HRM

Advisory Board

Dr. E. B. Khedkar

Vice – Chancellor,
Ajinkya D. Y. Patil University, Pune.

Dr. S. U. Gawade

Former Head – Research,
Sinhgad Institute of Management, Pune.

Dr. Parag Saraf

Director,
Global Institute of Management, Pune.

Dr. Yogesh Bhowte

SKNSSBM, Pune.

Dr. A. S. Sarkar

Director,
Mahatma Phule Institute of
Management & Computer
Studies, Pune.

Dr. D. B. Bharati

Director,
Rajgad Institute of
Management, Pune.

Dr. A. A. Deshmukh

Director,
IIMHRD, Pune.

Dr. Pandit Mali

Director,
Indira Institute of Management, Pune.

Dr. Yuvraj Natwade

Research coordinator,
VIT, Baramati, Pune.

Dr. M. K. Ingale

Royal University, Bhutan.

Dr. Aftab Anwar Shaikh

Principal, Poona College of
Arts, Science & Commerce, Pune.

Dr. M. G. Mulla

Professor, Abcda Inamdar College of
Arts, Science & Commerce, Pune.

Dr. Preeti Kulkarni

Director,
DMIMCS, Nashik.

Dr. Prashant B. Suryavanshi

Director
KBHIMR, Malegaon.

Dr. Subhash Jadhav

Director,
Dr. B.V.Hiray College of
Management and Research Centre Nashik,

Dr. H. M. Jare

Principal,
SBPM,
Pune



National Journal of Research in Marketing, Finance & HRM

Chief Editor

Dr. Kishor N. Jagtap

Editor

Dr. S. G. Walke

Associate Editor

Dr. Mahavir M. Shetiya

Prof. Sudam Shinde

Editorial Board Members

Prof. S. A. Shah

Prof. Nilesh Awari

© March 2021. All Rights Reserved

- No part of this publication may be reproduced or copied in any form by any means without prior written permission.
- All efforts are made to ensure that the published information is correct. The organization is not responsible for any errors caused due to oversight or otherwise.
- The views expressed by individual contributions in the journal are not necessarily endorsed by the management.

Subscriptions:

National Journal of Research in Marketing, Finance & HRM is available against subscription only.

Subscription rate for Individuals/ Institutions	
1 year	Rs. 1000/-
2 years	Rs. 1800/-
3 years	Rs. 2500/-
For International subscription	US \$ 40 per year

For subscriptions and related enquiries write to:

The Head,
Subscription
Cell

National Journal of Research in Marketing,

Finance & HRM, Pune – 410505.

+91-02113-272213/14

Email: njr.editor@gmail.com

Disclaimer: The views expressed in the journal are those of author(s) and not the publisher or the Editorial Board. The readers are informed, authors, editors or the publisher do not owe any responsibility for any damage or loss to any person for the result of any action taken on the basis of the work. © The articles/papers published in the journal are subject to copyright of the publisher. No part of the publication can be copied or reproduced without the permission of the publisher.



National Journal of Research in Marketing, Finance & HRM
Peer Review Team

Sr. No.	Name	Designation
1.	Dr. Walmik Sarvade	Dean, Department of Commerce and Management, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad-431005.
2.	Dr. S. S. Mahajan	Dean, Department of Commerce and Management, Shivaji University, Kolhapur - 416 004
3.	Dr. Syed Azzharuddin	Professor & HOD, Department of Commerce & Management, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad-431005.
5.	Dr. Meenakshi Waikole	Principal, Arts, Science & P. O. Nahata Commerce College, Bhusawal, Jalgaon- 425 201
6.	Dr. Dilip Gotmare	Principal, Dr. Panjabrao Deshmukh College, Cotton Market, Nagpur.
7.	Dr. Ganesh T. Patil	Principal, Smt. V. N. Mahika College, Pusad, Dist.- Yavatmal, 445204
8.	Dr. D. M. Khandare	Professor, School of Commerce and Management Sciences, Swami Ramanand Teerth Marathwada University, Nanded - 431 606.
9.	Dr. M. R. Patil	Professor, D. M. S. College of Art, Commerce and Science, Mapusa, Goa 403507.

Peer Review Policy Statement:

Reviewers are matched to the paper according to their expertise or subject. Our panel of reviewer is constantly being updated. Reviewers then evaluate the manuscript on following aspects: a. Originality or otherwise b. Methodology c. Follows appropriate guidelines given d. Results clearly presented with conclusions and findings and correct references. Reviewers not expected to correct or copyedit manuscripts. Language correction is a part of the editorial process.



National Journal of Research in Marketing, Finance & HRM

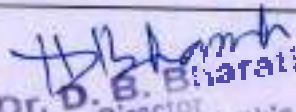
Volume: 6 No.1

March 2021

ISSN: 2455-5398

INDEX

Sr. No.	Title & Author Name	Page No.
1.	AN IMPLEMENTATION OF TRACEABILITY IN PRODUCTION PLANNING SYSTEM Dr. Rohan P. Dahivale, Datta K. Satpute	1-9
2.	FDI IN TELECOM SECTOR IN THE POST LIBERALIZATION PERIOD IN INDIA Dr. Kishor P. Bholane	10-17
3.	A STUDY OF IMPACT ON SOCIAL MEDIA MARKETING ON CUSTOMER AWARENESS AND PERCEPTION LEVEL FOR DEMAT ACCOUNT Dr. Archana Borde, Dipali Agrawal	18-27
4.	INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS): ITS HISTORICAL IMPLICATIONS IN DIFFERENT COUNTRIES Dr. Mohan Devappa Chinee	28-35
5.	WHITE PAPER ON - EMERGING IMPORTANCE OF BUSINESS MODEL INNOVATION Dr. Yogesh Raut, Neha Deshpande	36-41
6.	ANALYSING EMPLOYEE POACHING AS A MODERN-DAY RECRUITMENT TOOL Dr. Arvind A. Dhond	42-47
7.	A STUDY OF IMPACT OF E-COMMERCE ON INDIA'S COMMERCE Dr. Prajakta Warale, Mr. Umesh Soni	48-55
8.	FACTORS AFFECTING FOR THE GROWTH OF DISPOSABLE PAPER PLATE PRODUCTS MANUFACTURING BUSINESS IN PUNE CITY. Paras Ramesh Gaikwad	56-62


Dr. D. B. Bharati
Director
Rajgad Dnyanpeeth's
Rajgad Institute of Management
Research and Development,
Dhankawadi, Pune - 411 043



National Journal of Research in Marketing, Finance & HRM

9.	A STUDY OF EFFECTIVENESS OF AVIATION CARGO LOGISTICS OPERATION IN INDIAN SCENARIO Mr. Hrushikesh Mahindra Lokhande , Dr. Rohan Dabivale	63-70
10.	A STUDY ON FINANCIAL & INCOME TAX PLANNING FOR SALARIED EMPLOYEES WITH REFERENCE OF DR.AMBEDKAR COLLEGE, YERWADA, PUNE.(F.Y.-2019-20) Dr.Kakade Shivaji M.	71-79
11.	ROLE OF UNIVERSITIES IN IMPROVING FINANCIAL LITERACY AND FINANCIAL INCLUSION: A CASE STUDY OF KOLHAPUR DISTRICT Dr. Amardeep D. Jadhav	80-89
12.	BASIC CONCEPTS, BENEFITS, AND TYPES OF GOOD AND SERVICE TAX IN INDIA Mr. Shefar Pratik Ashok, Dr. G. M. Dumbre	90-94
13.	SIGNIFICANCE OF PERFORMANCE MANAGEMENT IN THE ORGANIZATION Dr. Manisha A. Navare Kulkarni	95-99
14.	A REVIEW ON E-PHARMACY IN INDIA – SWOT ANALYSIS Mr. N. P. Awari, Dr. P. B. Suryawanshi	100-107
15.	INNOVATIVE AND CREATIVE THINKING HELP TO ENTREPRENEUR TO SURVIVE SUCCESSFULLY EVEN IN PANDEMIC SITUATION OF COVID-19. Manjusha Arun Thorat – Patil, Dr. Sanap S.R.	108-118
16.	A STUDY OF PERCEPTION OF COMMERCE STUDENTS TOWARDS CHOICE BASED CREDIT SYSTEM Dr. Kishor P. Bholane	119-123
17.	IMPACT OF SELF-EMPLOYMENT TRAINING PROGRAMME ON MEMBERS OF SHG OF THE PUNE CITY Mrs. Sukanya Harshal Jagtap	124-134
18.	IMPACT OF FORMATION TRAINING PROGRAM AND ITS IMPLEMENTATION BY PUNE MUNICIPAL CORPORATION FOR SELF HELP GROUPS Mrs. Sukanya Harshal Jagtap	135-141



National Journal of Research in Marketing, Finance & HRM

19.	INDIAN DAIRY INDUSTRY – A SUCCESSFUL CONTRIBUTION OF "AMUL" - ANAND MILK UNION I.TD. Dr. Mohan D. Chinee	142-149
20.	A STUDY ON WORK-LIFE BALANCE AMONGST INDIVIDUALS DURING COVID-19 PANDEMIC Prof.(Mrs.) Shravani S. Mandalkar, Prof. Prathamesh R. Bobhate	150-158
21.	IMPACTING OUT OF HOME (OOH) MEDIA ADVERTISING IN COVID-19: A LITERATURE REVIEW Prof. Rupa Rawal, Dr. Amod Markale	159-163
22.	CHANGING THE CONSUMER AND RETAILERS PERCEPTION TOWARDS CASHLESS TRANSACTION AND ITS IMPACT FOR SUSTAINABLE GROWTH IN INDIAN ECONOMY Ashish Suryaprakash Gade, Minakshi Chikhalkar	164-170
23.	THE RESPONSIBILITIES OF MANAGEMENT INFORMATION SYSTEM IN IMPROVING MANAGERIAL PERFORMANCE AND EFFICIENCY Dr. Rachana V. Chavan, Dr. Magadum Alkawati A, Prof. Mugdha U. Kande	171-185



AN IMPLEMENTATION OF TRACEABILITY IN PRODUCTION PLANNING SYSTEM

Dr. Rohan P. Dabivale

(Associate Professor)

Rajgad Institute of Management Research & Development, Pune - 43

rohandabivale@gmail.com

Datta K. Satpute

(Student)

Rajgad Institute of Management Research & Development, Pune - 43

datta_satpute@gmail.com

Abstract - This paper focuses on MPS i.e. master production schedule of the two wheeler assembly line. The relation between customer forecasts, relevant production costs, and costs parameters related to production planning, are examined. The research provides an approach that considers all relevant costs factors, while optimizing the production planning problem, and automates the execution of the planning. The emphasis of this research is on the production process and finished goods; the supply side, of the internal processes, is out of the scope of this research.

Keywords: *Traceability, MPS, Production Planning*

Introduction-

Necessary information such as manufacturers, suppliers, and distributors is recorded. This information is tracked in all processes from procurement of raw materials and parts to machining, assembly, distribution, and sales to ensure that their histories can be traced.

Three terms of traceability

In this paper three terms for traceability with distinguishing aims will be consistently used: traceability, traceability system, and traceability methods. The relations between the three terms are graphically described in Figure In words, the relation could be described as follows: "Models showing the product flow in process sections are constructed with traceability methods. The various product flow models for the process sections are then combined by a traceability system to achieve traceability through the process."



Traceability	• The ability
Traceability System	• The system creating the ability by linking product and process data
Traceability Methods	• The methods generating the ability to link product and process data

Advantages of traceability

- Improve data accuracy
- Increase operational productivity
- Protect your brand and bottom line

Disadvantages of traceability

- Time consuming
- Management changing
- Checklist updates

Features of traceability

- Regulatory and Compliance Reporting
- Detailed Search and filtering
- Real-Time Production and Quality Monitoring
- End-to-End ERP and MES Integration
- Time Sensitive Materials and Expiration Monitoring
- Security
- Data Collaboration
- Extensive Drill Down

Objectives of the Study

1. To understand basic theoretical concept of traceability.
2. To analyse shift wise production K1 EBR Modal.
3. To find weekly production efficiency in the production.

Research Statement Problem

The main problem occurs in production planning system are following; observed volatile demand rates, under-capacity of the production system, high emergency shipment costs, and



obsolete labour. The under-capacity of the system is caused by a lack of knowledge about production system configurations with a high output per time unit.

There is argued that the production line is able to operate under lower tact-times, but the physical requirements to change the line to these requirements are currently not known.

During the literature review, it was observed that in Production planning and control manufacturing systems and hybrid systems, there are uncertainties associated with the performance due to dynamic variations in number of kanbans, machine break down and repair, demand variability and inventory for serial and non-serial flow systems.

Methods of data collection

Primary Data

System need primary data conveyor system live mass production, one server system with PC, PLC, HMI, Sensor, Data matrix QR Code printer, one Auto Scanner and Control panel. Also need SQL Server, .Net frame work and Mitsubishi Gx works3 Ladder Logic software

Secondary Data

- a) **Collection:** Connects to automated, semi-automated and manual production to count and collect data with minimal or no human intervention. As per customer requirement provide solution.
- b) **Display:** Presents relevant production information back to operators, line leaders, supervisors, the supporting departments and the management. Big TV display provide on system live mass production industry.
- c) **Analysis:** Should provide sufficient production data for the management to conduct relevant analysis at all level in the shop floor.

Data Analysis

Data related high level security provide, does not permission of worker data changes and interferences permission. Permission allows only Manager, Sr Manager and line supervisor only data log, data management normal changes in traceability permission only authorised person. Analysis of data management to implement system as per customer requirement. As per customer requirement collect Testing system data from PLC to software. Different part parameters data collected and save in excel format as well as display on PC screen. Design user dashboard to display all bike part parameters status like alarm, warning, real time SMS

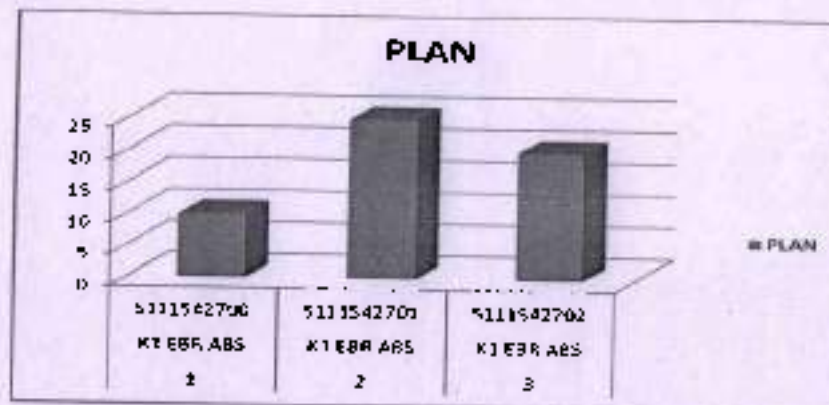


& Email alert, with respect to parameters status show and report generate.

Shift	PART NAME	PART NUMBER	PLAN
1	K1 EBR ABS	S111542700	10
2	K1 EBR ABS	S111542701	25
3	K1 EBR ABS	S111542702	20

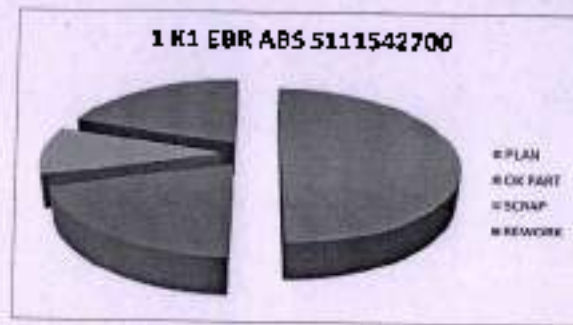
Table 1: Shift wise production K1 EBR ABS Model

Above table 1 shows production side cover today's production plan 10 part morning shift target.



Graph 1: Shift wise production K1 EBR Model

Side cover shift wise plan is generated, lower and upper as per requirement of customer. Not constant production of all shifts. first shift has 10 parts needed for customer, second shift has 25 parts and third shift has 20 parts, second max production as compare to first shift and second shift. An Actual current plan and today's production are same. No production loss and all data logged and stored on server.

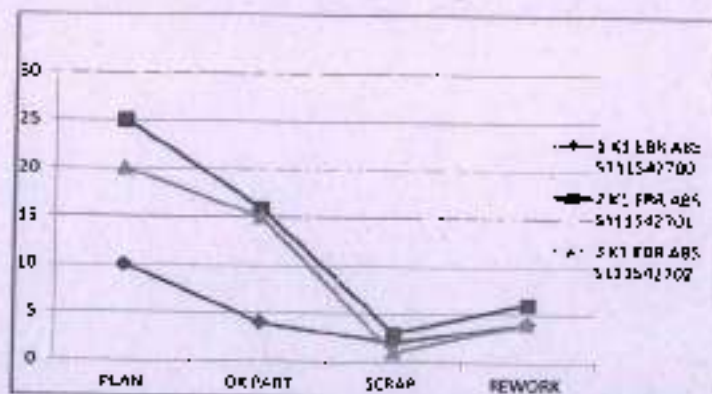


Graph 2. Pie Chart Shift wise production K1 EBR Modal

As above graph shows data actual plan and production completion process of K1 EBR ABS model. Quality manager's full day plan is to submit the production manager and production supervisor First shift plan in 10 K1 EBR ABS model target.

First shift's ok part 4, rework part 4 and scrap part 2. So production loss generate because in given time 10 part dispatch at a time is not possible for production head. Same work on second shift plan 25 part ok part 16, rework part 6 and 3 part scrap. Third shift production actual plan 20 part as per production data, Production improve better than first and second shift. Ok part 15, rework part 4 and scrap part no large production loss in third shift.

After understanding the system processes at the line, we tried to elaborate more on the actual issues and their production management and part trace. For the purpose of easily data stored of the system, we differentiated the working of the system into the current and required states. The performance of the line was majorly based on measurement of production efficiency and was displayed on the activity boards in the form of day-by the hour-production.



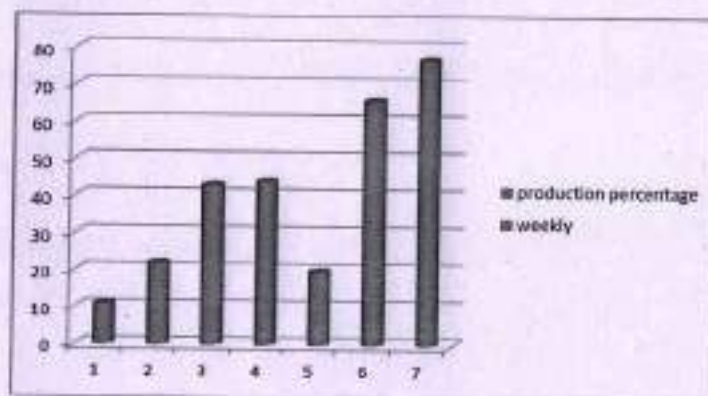
Graph 3: Line Chart Shift wise production K1 EBR ABS Modal



Batch production and therefore efficiency was increased for a certain amount of time. Thus efficiency parameter does not provide a clear picture of the performance of the system. It is therefore required to check the finished and unfinished product inventory levels.

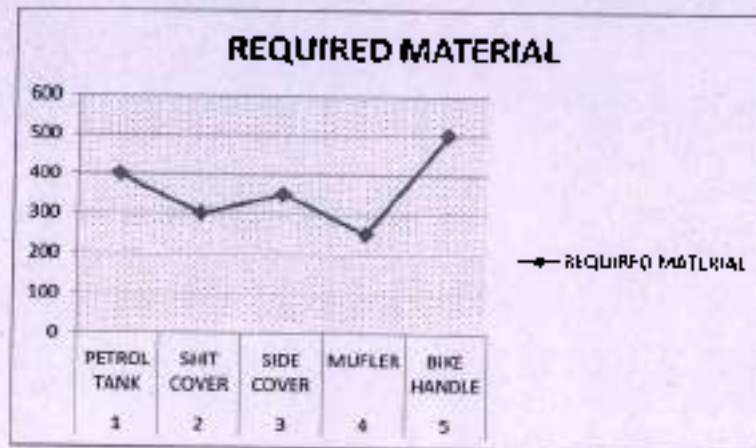
Weekly production efficiency data collected company:

The performance of the line was majorly based on measurement of production efficiency and was displayed on the activity boards in the form of day-by-day and the hour-by-hour production. The data is collected from the shift records provided by the company. As seen from the below graph, the efficiency varies in the range from around lowest of 10% to highest of 70%. The variation was found high in nature and not pretending to any specific pattern. This figure gives an overall picture but has limited use so as to understand which specific area needs to be improved. It should be further assisted with the help of other performance measurement criteria. The need of another performance parameter is justified if we observe the figure shown below.



Graph 4: Weekly Production efficiency

Prediction and description can be achieved by using data minimizing a tasks such as classification, prediction, association, regression, clustering, summarization, dependency modelling, and change and deviation detection. In descriptive modelling the aim is to describe not to predict models. As a consequence, descriptive are used in the setting of unsupervised learning. Typical methods of descriptive are density estimation, smoothing, data segmentation and clustering. For predictive, it falls into the category of supervised learning with method like classification, regression a decision tree.



Graph 5: Line Chart of Required Material

The strength of the connections between neurons increases with frequency of stimulation and the neural networks also operates in the same manner. The third technique is rules. Rules induction is one of the major forms of data mining and is perhaps the most common form of knowledge discovery in unsupervised learning systems because it is relatively easy to understand. When the rules are mined out of the database, the rules can be used either to understanding the business problems or to perform an actual predictions against some predefined prediction target. Beside the previously mentioned techniques, genetic algorithms and fuzzy logic were another example of artificial intelligence techniques that have place in data mining applications.

Findings

Traceability and production management important finding key are following:

1. Having access to all the data on products' paths enables manufacturers to dig deep, and find the root cause of problems. Issues are identified and solved quickly to minimize impact.
2. Seeing how parts and products move through lines facilitates continuous improvement. Indeed, improvement opportunities are lost when genealogical data is not accessible. Knowing where and when bottlenecks and delays occur makes real-time optimization possible.
3. Since traceability monitors how products move through the manufacturing process, it helps with value stream mapping. Equipped with detailed product genealogy records, manufacturers gain supply chain visibility, which provides a much more granular picture of their operations' value stream.



4. Moreover, part traceability along the entire production line can also help find key points where quality check-ups should be added. It also increases accountability and engagement on the shop floor.

Conclusion

Technology-enabled end-to-end traceability in two wheeler part value chains, coupled with multi stakeholder collaboration, has the potential to fundamentally improve production systems. To achieve its full potential, stakeholders will need to come together to enable emerging technologies and to install a broad system and standards. This collaboration should be built on a shared vision and executed with recognition of the mutual benefits of partnership.

Over-time costs and emergency shipment costs are not included in these analyses. Furthermore, the used capacity scenarios are based on empirical data, but remain an approximation of the true behaviour of the production system, when adding a worker to the system. Nonetheless, these scenarios should provide a sound insight in the methods of planning, and in the practical use and the importance of the capacity scenarios. The traceability in the distribution chain would significantly increase by applying the barcode part tracing technique. The improved traceability gives a better opportunity to see how the products are affected by the handling in the distribution chain, as analyses from different stages in the distribution chain can be compared.

References

1. Alfaro, J.A., Rabade, L.A.: Traceability as a strategic tool to improve inventory management: A case study in the automobile industry. *Int. J. Prod. Econ.* 118 (1), 104–110 (2009)
2. Barata, J., Cunha, P.R.: Mending the patchwork of requirements from multiple standards using participative goal modelling: a case in the automobile industry. *Requir. Eng.* in press 1–17 (2017) *Information Systems (EMCIS)*, pp. 1–13. , Krakow, Poland (2016)
3. Bretzel, M., Friederichsen, N.: How virtualization, decentralization and network building change the manufacturing landscape: An Industry 4.0 Perspective. *Int. J. Mech. Aerospace, Ind. Mechatron. Manuf. Eng.* 8 (1), 37–44 (2014)



4. Cubero, S., Lee, W.S., Alexos, N., Albert, F., Blasco, J.: Automated Systems Based on Machine Vision for Inspecting Citrus Fruits from the Field to Postharvest— a European Commission: Eurostat Prodcorn - statistics by product, <http://ec.europa.eu/eurostat/web/prodcorn>, Accessed: April 26, 2017, (2015)
5. Jansen-Vollers, M.H., Van Dorp, C.A., Deulens, A.J.M.: Managing traceability information in manufacture. *Int. J. Inf. Manage.* 23 (5), 395–413 (2003)



A STUDY OF IMPACT OF E-COMMERCE ON INDIA'S COMMERCE

Dr. Prajakta Warale, Mr. Umesh Soni

Associate Professor, Rajgad Institute of Management Research and Development, Pune-43

MBA-III (Business Analytics) Rajgad Institute of Management Research and
Development, Pune-43

Abstract:

E-commerce involves an online transaction. E-commerce provides multiple benefits to the consumers in form of availability of goods at lower cost, wider choice and saves time. The general category of e-commerce can be broken down into two parts: E-Merchandise & E-Finance. Many companies, organizations, and communities in India are doing business using E-commerce and also are adopting M-commerce for doing business. E-commerce is showing tremendous business growth in India. Increasing internet users have added to its growth. Despite being the second largest user base in world, only behind China (650 million, 48% of population), the penetration of e-commerce is low compared to markets like the United States (266 M, 84%), or France (59 M, 81%), but is growing at an unprecedented rate, adding around 6 million new entrants every month. The industry consensus is that growth is at an inflection point. India's e-commerce market was worth about \$3.9 billion in 2009, it went up to \$12.6 billion in 2018. In 2018, the e-retail segment was worth US\$2.3 billion. About 70% of India's e-commerce market is travel related. According to Google India, there were 35 million online shoppers in India in 2014 Q1 and is expected to cross 100 million mark by end of year 2019. By 2021, India is expected to generate \$100 billion online retail revenue out of which \$35 billion will apparel sales are set to grow four times in coming years. This paper is outcome of a review of various research studies carried out on Impact of E-commerce on Indian Commerce.

Key Words: E-commerce, E-finance, E-Merchandise, M-Commerce.

INTRODUCTION

India has emerged as one of the major players on the new international business scene. Its unstoppable economic growth since reforms in 1991 has become the focus of attention of researchers in the area of international business and management. The purpose of this paper is to review the impact of e-commerce on Indian Commerce that has been published in top business and management journals, with the aim of knowing what are the most



influential papers, what are the issues that have received the most attention, which are the main findings or what more needs to be done in terms of research

E-COMMERCE

E-commerce is a paradigm shift. It is a "disruptive" innovation that is radically changing the traditional way of doing business. Electronic commerce is a type of business model, or segment of a larger business model, that enables a firm or individual to conduct business over an electronic network, typically the internet. E-commerce is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the Internet. These business transactions are business-to-business, business-to-consumer, consumer-to-consumer or consumer-to-business. The term *e-tail* is used in reference to transactional processes around online retail. E-commerce is conducted using a variety of applications, such as email, fax, online catalogs and shopping carts, Electronic Data Interchange (EDI), File Transfer Protocol, and Web services. It can be thought of as a more advanced form of mail-order purchasing through a catalog. E-Commerce is the movement of business onto the World Wide Web. The effects of e-commerce are already appearing in all areas of business, from customer service to new product design. It facilitates new types of information based business processes for reaching and interacting with customers like online advertising and marketing, online order taking and online customer service.

There has been a rise in the number of companies taking up e-commerce in the recent past. Major Indian portal sites have also shifted towards e-commerce instead of depending on advertising revenue. Many sites are now selling a diverse range of products and services from flowers, greeting cards, and movie tickets to groceries, electronic gadgets, and computers, etc

Historical Development of E-Commerce

A timeline for the development of e-commerce:

- 1971 or 1972: The ARPANET is used to arrange acornbis sale between students at the Stanford Artificial Intelligence Laboratory and the Massachusetts Institute of Technology, later described as "the seminal act of e-commerce" in John Markoff's book *What the Dormouse Said*.
- 1979: Michael Aldrich demonstrates the first online shopping system.



- 1981: Thomson Holidays UK is first business-to-business online shopping system to be installed.
- 1982: Minitel was introduced nationwide in France by France Télécom and used for online ordering.
- 1983: California State Assembly holds first hearing on "electronic commerce" in Volcano, California. Testifying are CPUC, MCI Mail, Prodigy, CompuServe, Volcano Telephone, and Pacific Telesis. (Not permitted to testify is Quantum Technology, later to become AOL.)
- 1984: Gateshead SIS/Tesco is first B2C online shopping system and Mrs Snowball, 72, is the first online home shopper
- 1984: In April 1984, CompuServe launches the Electronic Mall in the USA and Canada. It is the first comprehensive electronic commerce service.
- 1990: Tim Berners-Lee writes the first web browser, WorldWideWeb, using a NeXT computer.
- 1992: Book Stacks Unlimited in Cleveland opens a commercial sales website (www.books.com) selling books online with credit card processing.
- 1993: Paget Press releases edition No. 3 of the first app store, The Electronic AppWrapper
- 1994: Netscape releases the Navigator browser in October under the code name Mozilla. Netscape 1.0 is introduced in late 1994 with SSL encryption that made transactions secure.
- 1994: Ipswitch IMail Server becomes the first software available online for sale and immediate download via a partnership between Ipswitch, Inc. and OpenMarket.
- 1994: "Ten Summoner's Tales" by Sting becomes the first secure online purchase.
- 1995: The US National Science Foundation lifts its former strict prohibition of commercial enterprise on the Internet.
- 1995: Thursday 27 April 1995, the purchase of a book by Paul Stanfield, Product Manager for CompuServe UK, from W H Smith's shop within CompuServe's UK Shopping Centre is the UK's first national online shopping service secure transaction. The shopping service at launch featured W H Smith, Tesco, Virgin Megastores/Our Price, Great Universal Stores (GUS), Interflora, Dixons Retail, Past Times, PC World (retailer) and Innovations.



- 1995: Jeff Bezos launches Amazon.com and the first commercial-free 24-hour, internet-only radio stations, Radio HK and NetRadio start broadcasting, eBay is founded by computer programmer Pierre Omidyar as AuctionWeb.
- 1996: IndiaMART B2B marketplace established in India.
- 1996: ECPlaza B2B marketplace established in Korea.
- 1998: Electronic postal stamps can be purchased and downloaded for printing from the Web.
- 1999: Alibaba Group is established in China. Business.com sold for US \$7.5 million to eCompanies, which was purchased in 1997 for US \$149,000. The peer-to-peer filesharing software Napster launches. AllG Stores launches to sell decorative items for the home online.
- 2000: The dot-com bust.
- 2001: Alibaba.com achieved profitability in December 2001.
- 2002: eBay acquires PayPal for \$1.5 billion. Niche retail companies Wayfair and NetShops are founded with the concept of selling products through several targeted domains, rather than a central portal.
- 2003: Amazon.com posts first yearly profit.
- 2003: Bossgo B2B marketplace established in China.
- 2004: D1gate.com, China's first online b2b transaction platform, is established, forcing other b2b sites to move away from the "yellow pages" model.
- 2007: Business.com acquired by R.H. Donnelley for \$345 million.
- 2009: Zappos.com acquired by Amazon.com for \$928 million. Retail Convergence, operator of private sale website RueLaLa.com, acquired by GSI Commerce for \$180 million, plus up to \$170 million in earn-out payments based on performance through 2012.
- 2010: Groupon reportedly rejects a \$6 billion offer from Google. Instead, the group buying websites went ahead with an IPO on 4 November 2011. It was the largest IPO since Google.
- 2011: Quidsi.com, parent company of Diapers.com, acquired by Amazon.com for \$500 million in cash plus \$45 million in debt and other obligations. GSI Commerce, a company specializing in creating, developing and running online shopping sites for brick and mortar businesses, acquired by eBay for \$2.4 billion.



- 2014: Overstock.com processes over \$1 million in Bitcoin sales. India's e-commerce industry is estimated to have grown more than 30% from 2012 to \$12.6 billion in 2013. US eCommerce and Online Retail sales projected to reach \$294 billion, an increase of 12 percent over 2013 and 9% of all retail sales. Alibaba Group has the largest Initial public offering ever, worth \$25 billion.
- 2015: Amazon.com accounts for more than half of all e-commerce growth, selling almost 500 Million SKU's in the US.

KEY DRIVERS IN INDIAN E-COMMERCE

- Large percentage of population subscribed to broadband Internet, burgeoning 3G internet users, and a recent introduction of 4G across the country.
- Explosive growth of Smartphone users, soon to be world's second largest Smartphone user base.
- Rising standards of living as result of fast decline in poverty rate.
- Availability of much wider product range (including long tail and Direct Imports) compared to what is available at brick and mortar retailers.
- Competitive prices compared to brick and mortar retail driven by disintermediation and reduced inventory and real estate costs.
- Increased usage of online classified sites, with more consumer buying and selling second-hand goods
- Evolution of Million-Dollar startup like Jabong.com, Sauva, Makemytrip, Bookmyshow, Zomato Etc.
- India's retail market is estimated at \$470 billion in 2011 and is expected to grow to \$675 billion by 2016 and \$850 billion by 2020. – estimated CAGR of 10%. According to Forrester, the e-commerce market in India is set to grow the fastest within the Asia-Pacific Region at a CAGR of over 57% between 2012 –2016. India has an internet user base of about 354 million as of June of 2015. Despite being the second largest user base in world, only behind China (650 million, 48% of population), the penetration of e-commerce is low compared to markets like the United States (266 M, 84%), or France (54 M, 81%), but is growing at an unprecedented rate, adding around 6 million new entrants every month. The industry consensus is that growth is at an inflection point. In India, cash on delivery is the most preferred payment method, accumulating 75% of the e-retail activities. Demand for international consumer



products (including long-tail items) is growing much faster than in-country supply from authorized distributors and e-commerce offerings. Largest e-commerce companies in India are Flipkart, Snapdeal, Amazon India, and Paytm

• **Growth Prospects of E-Commerce in India:**

Increasing internet and mobile penetration, growing acceptability of online payments and favourable demographics has provided the e-commerce sector in India the unique opportunity to connect with their customers, it said. There would be over a five to seven fold increase in revenue generated through e-commerce as compared to last year with all branded apparel, accessories, jewellery, gifts, footwear are available at a cheaper rates and delivered at the doorstep, (as per industry body ASSOCHAM). It is noted that the buying trends during 2016 will witness a significant upward movement due to aggressive online discounts, rising fuel price and wider and abundant choice will hit the e-commerce industry in 2016.

- It observed mobile commerce (m-commerce) is growing rapidly as a stable and secure supplement to the e-commerce industry. Shopping online through smart phones is proving to be a game changer, and industry leaders believe that m-commerce could contribute up to 70 per cent of their total revenues. In India roughly 60-65 per cent of the total e-commerce sales are being generated by mobile devices and tablets, increased by 50 per cent than in year 2015 and also likely to continue upwards. It noted that the browsing trends, which have broadly shifted from the desktop to mobile devices in India, online shopping is also expected to follow suit, as one out of three customers currently makes transactions through mobiles in tier-1 and tier-2 cities. In 2015, 78 per cent of shopping queries were made through mobile devices, compared to 46 per cent in 2013. In 2015, the highest growth rate was seen in the apparel segment almost 69.5 per cent over last year, followed by electronic items by 62 percent, baby care products at 53 per cent, beauty and personal care products at 52 per cent and home furnishings at 49 per cent. It revealed that Mumbai ranks first in online shopping followed by Delhi, Ahmedabad, Bangalore and Kolkata. On the mode of payment, almost 45 per cent of online shoppers reportedly preferred cash on delivery mode of payment over credit cards (16 per cent) and debit cards (21 per cent).
- Only 10 per cent opted for internet banking and a scanty 7 per cent preferred cash cards, mobile wallets, and other such modes of payment, it said. Among the above age segments, 18-25 years of age group has been the fastest growing age segment online



with user growth being contributed by both male and female segments. The survey revealed that 38 per cent of regular shoppers are in 18-25 age group, 52 per cent in 26-35, 8 per cent in 36-45 and 2 per cent in the age group of 45-60.

- **Challenges of E-commerce in India**
- India has less credit card population, lack of fast postal services in rural India. Accessing the Internet is currently hindered down by slow transmission speeds, frequent disconnects, cost of Wireless connection and wireless communication standards over which data is transmitted. High-speed-bandwidth Internet connection not available to most citizens of the nation at an affordable rate. In India, mostly people are not aware about the English language or not so good in English language. So that for the transaction over internet through electronic devices, language becomes one of the major factors to purchases, hire and sell a particular product or services. Multiple issues of trust in e-commerce technology and lack of widely accepted standards, lack of payment gateways, privacy of personal and business data connected over the Internet not assured security and confidentiality of data not in place to deploy ubiquitous IT Infrastructure and its maintenance.

- **Conclusion**

- Growth of e-commerce depend to a great extent on effective IT security systems for which necessary technological and legal provisions need to be put in place and strengthened constantly. While many companies, organizations, and communities in India are beginning to take advantage of the potential of e-commerce, critical challenges remain to be overcome before e-commerce would become an asset for common people.
- With the explosion of internet connectivity through mobile devices like Smartphone and tablets, millions of consumers are making decisions online and in this way enterprises can build the brand digitally and enhance productivity but government policies must ensure the cost effective methods/solutions. E- Commerce in India is destined to grow both in revenue and geographic reach. The challenge of establishing consumer trust in e-commerce poses problems and issues that need further research.



REFERENCES:

- Abhijit Mitra 2013. "E-commerce in India- a review", *International Journal of Marketing, Financial Services and Management Research* ISSN 2277- 3622 Vol.2, No. 2, February (2013)
- Alka Raghunath, 2013. "Problem and Prospects of E- Commerce ", *International Journal of Research and Development - A Management Review (IJRDMR)* ISSN (Print): 2319-5479, Volume-2, Issue - 1, 2013 68
- Dr. Sachin Gupta, 2014. "Benefits and Drawbacks of M- Commerce in India: A Review", *International Journal of Advanced Research in Computer and Communication Engineering* Vol. 3, Issue 4, April 2014.
- E-Commerce Companies in India (n.d), <http://companiesinindia.net/top-10-ecommerce-companies-in-india.html> as viewed on 10.02.16
- Electronic Commerce (n.d), <http://www.investopedia.com/terms/e/ecommerce.asp> viewed on 15.03.16
- Gangeshwer, D. K. 2013. " E-Commerce or Internet Marketing: A Business Review from Indian Context", *International Journal of u- and e- Service, Science and Technology* Vol.6, No.6.
- Sarbapriya Ray 2011. " Emerging Trend of E-Commerce in India: Some Crucial Issues, Prospects and Challenges", *Computer Engineering and Intelligent Systems* ISSN 2222- 1719 (Paper) ISSN 2222-2863 Vol 2, No.5, 2011



A STUDY OF EFFECTIVENESS OF AVIATION CARGO LOGISTICS OPERATION IN INDIAN SCENARIO

Mr. Hrushikesh Mahindra Lokhande

hrushikeshlokhonde77@gmail.com

Rajgad Institute of Management Research and Development Pune - 411043

Dr. Rohan Dahivale

(Associate Professor)

rohandahivale@gmail.com

Rajgad Institute of Management Research and Development Pune - 411043

Abstract

Indian aviation cargo industry is a complex and competitive industry with many stakeholders and is ably navigating the ever changing and increasingly complex air freight and cargo environment while implementing new initiatives for its seamless growth, to keep it at par with international standards.

The main purpose is to study the basic activity involved in operations of aviation cargo logistics and various challenges face by aviation cargo logistics chain both are key areas of focus.

Throughput efficiency also will improved by upgrading infrastructure facilities and implementation of fast-track facilities it will also help in reducing dwell time and promote just in time operation process, which is essential to maintain relevant amount of inventories.

Keywords: Aviation Cargo, Logistics Operation

1) Introduction

Modern aviation transport is an essential enabler of global connectivity and serves as a key engine of economic growth of development. Aviation cargo brings in efficiency in movement of material bringing new market closer. Aviation cargo traffic in our country is expected to grow in upcoming years.

The research aims at understanding the problems of aviation cargo operations there are different stages of the process of import and export of the cargo some of the major process are export operations, import operations, air way bill, customer clearance, freight forwarding.



freight transportation. These study gives and overview about problems and challenges in aviation cargo operations. the problems like procedural bottlenecks of customs clearance, congestion at airport cargo terminal, reducing dwell time, insufficient use of belly cargo capacity, forecasting airline cargo capacity and space allocation challenges of handling hazardous cargo and dangerous cargo etc.

Indian aviation cargo industry is a complex and competitive industry with many stakeholders and is ably navigating the ever-changing and increasingly complex aviation freight and cargo environment while implementing new initiatives for its seamless growth, to keep it at par with international standards.

2) Objectives of the Study

1. To study the basic concept of aviation cargo industry and its operations.
2. To study the importance of aviation cargo logistics in the transportation of time-temperature sensitive perishable goods and study the basic concepts related with them.
3. To study the role and contribution of aviation cargo industry in Indian economy.
4. To study Indian airports outline and freight traffic analysis on major airports in India.

3) Research Problem

The aviation logistics industry in the country today is resist with many serious issues like inordinate dwell times, missing and non-traceable cargo, damaged cargo, processing times and queues at the cargo terminal etc. aviation cargo infrastructure in India is frequently designed for medium and long term requirements and woefully inadequate and overloaded. And hence is widely acknowledged that existing process at the airports for cargo act as a stumbling block for growth of industry.

Aviation cargo logistics industry suffering from various challenges is as follows

1. Lack of airport and airline capacity especially during peak hours.
2. Lack of connectivity to rural as well as small town.
3. Cost and government taxation policies.
4. Inefficiency of process leading to high dwell times.

4) Review of Literature

According to (Vasanthi, 2019) that results of employes perception towards the challenges in



aviation cargo shows "lack of skilled manpower are identified as major challenges in aviation cargo operations" the main challenges in customs clearance and documentation is shortage of proper offers at right time. It is observed that the cargo packaging and handling are affected the operations and services in that carelessness of manpower leads damages because of improper and unskilled manpower affects the operations and services the handling of cargo which leads to damage. Also major problem found that major problem in truck lay is airlines are not giving carting order to the trucks at the right time is the main challenges face by respondent.

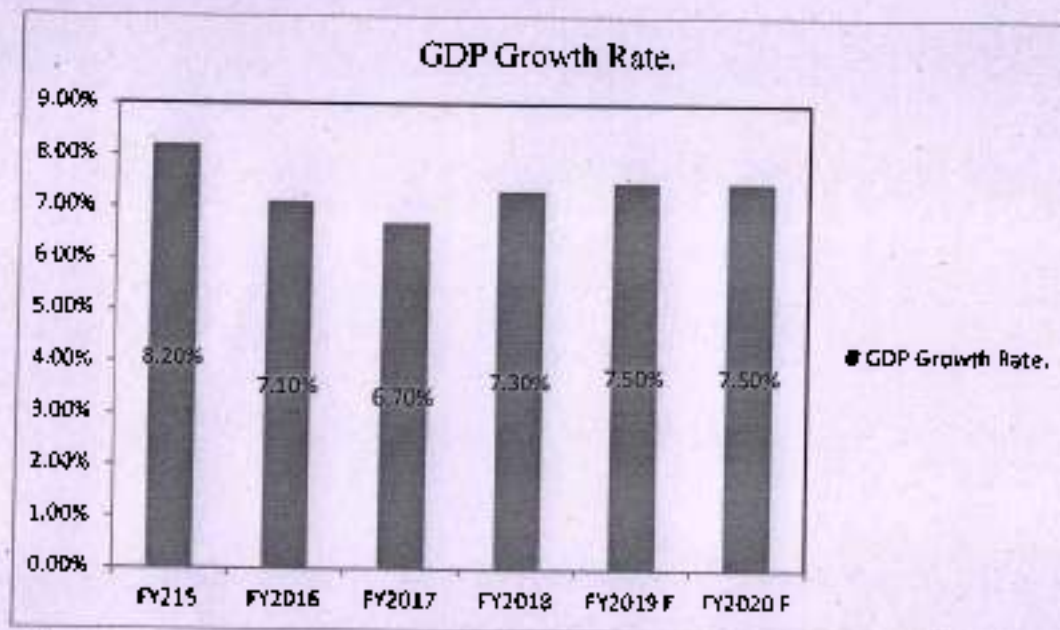
According to (Quang, 2017) Air cargo transport and air cargo services are two major factors that create the value of logistics in the air transport sector. It not only contributes directly to national income, but also contributes indirectly through the promotion of other sectors of the economy, especially the international trade of nations. To see the direct contribution, it is necessary to measure their value in GDP. To accomplish this objective, this study will brief the theoretical basis, build measurement methods, collect and analyzed data from 2011 to 2016. The results of the study will help the Vietnamese aviation industry to see the value of its contribution, the development trend and the development of appropriate policies.

According to (Ministry of Civil Aviation Government of India, Air Cargo Logistics In India, 2012) Air cargo logistics play a vital role in the economic development of nation. Airlines, air cargo terminal operators, ground handling services providers, integrated express service providers, forwarders, domestic cargo transport service providers and custom house agent are the key players in the entire air cargo supply chain. Thus the air cargo industry presents a wide variety of service providers coming together to move goods both domestically and internationally with a single minded purpose of faster and efficient delivery.

These business entities in air cargo logistics industry in turn interact with a number of cross-border regulatory agencies the principal among them is the customs establishment. Speedier services in the air cargo supply chain facilitates larger number of business entities to become more competitive. Globally, more than one-third of the value of goods traded internationally is transported by air and therefore air cargo industry is considered as a barometer of global economic health.



5| Indian Aviation Industry and Its Overview



Graph 1: GDP Growth Rate (Source: World Bank Report)

Interpretation:

Domestic Macro-Economic Overview:

Economic growth is gaining strength in 2018 and even in 2019 India is likely to be the fastest-growing major economy in the world, as per World Bank. Union budget of 2018-19 continued the agenda of fiscal prudence with emphasis on reducing central government's debt to GDP ratio. Union Budget also focused on rural economy through targeted investments.

The short-term cost of temporary disruptions such as demonetisation and the Goods and Service Tax was seen in 2017 when India's GDP growth rate declined from 7.1% in 2016 to 6.7% in 2017. But, the effect is fading as per the latest report by World Bank, where they have maintained the expected growth projections 7.5% for 2019.

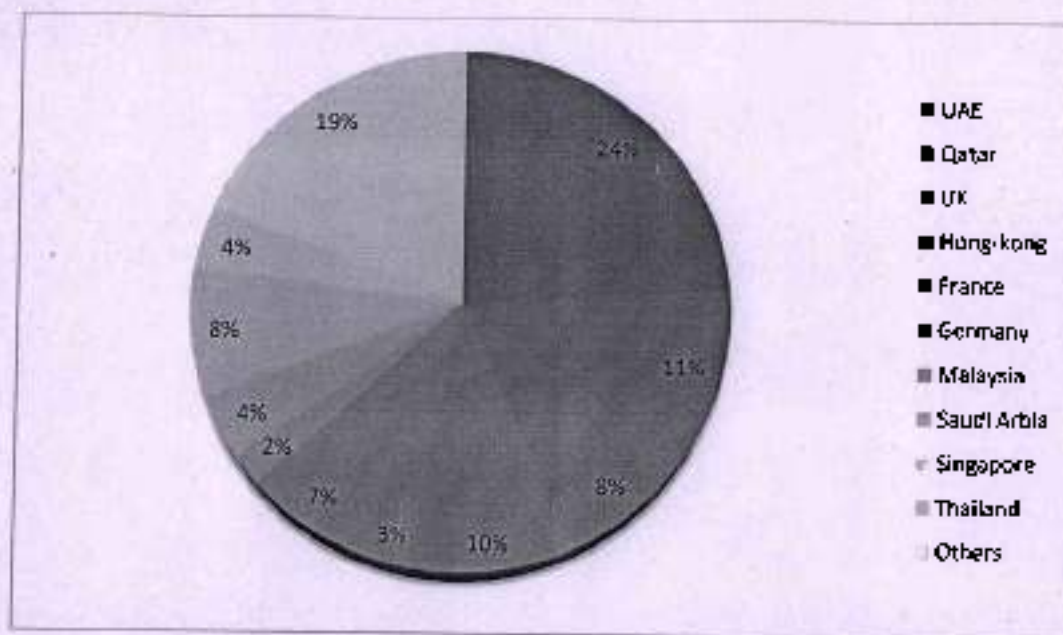
The strong and sustained outlook is on the back of robust private consumption and strengthening investments. The World Bank said that India's growth potential is of 7% in the medium-term and is currently growing above it. This can be attributed to the major economic reforms and fiscal measures taken by the government. In the World Bank's Doing Business Report (2018), India jumped from 130 to 100 ranks. India is among the top five reformers and has been able to improve its score in six out of 10 criteria used by World Bank to measure ease of doing business. This is a positive sign for investors.

While the fundamentals are strong for India, but certain downside risk remain. As per World



Bank, the downside risks include internal possibility of fiscal slippages, delays in reforms to resolve financial vulnerabilities and improve the health of regional banking systems as well as external factors such as faster-than expected tightening in global financial conditions and fear of global trade war. However, at the same time, stronger than expected global growth can lead to increased domestic growth for India.

6) Top Countries for International Air Freight Traffic



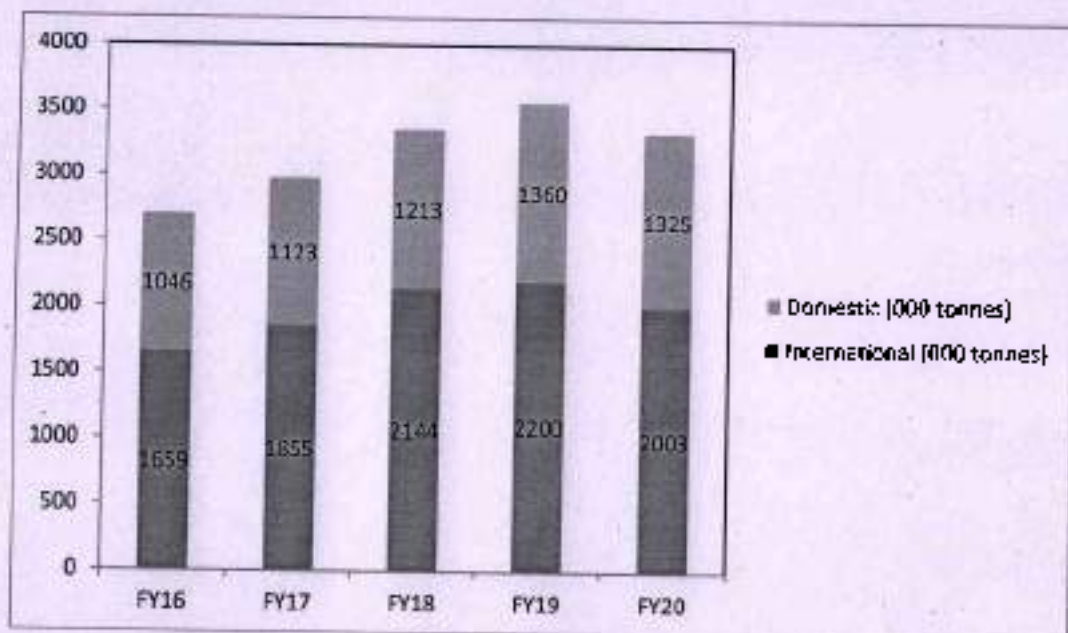
Graph 2: Top Countries for International Air Freight Traffic

Interpretation:

- According to AAI, over 2018-23, the international and domestic air freight is supposed to grow at a CAGR of 8% and 8.5% respectively with an overall growth of 8.2%.
- Considering this trend to continue till 2027, projected international and domestic air cargo will be 3.6 million MT and 2.1 million MT respectively resulting in total air cargo traffic of 6.8 million MT.
- As mentioned in short term goal for India which is set in national air cargo policy, to develop air cargo transshipment hub in India at all major airports by 2025.
- By referring regulatory policies and strategies which will be help to increase international air freight traffic as following:
 - A. Air service agreement and promoting co-operation with international airports
 - B. Cargo community infrastructure

C. Technology and innovation.

7) Freight Traffic Analysis



Graph 3: International and Domestic Freight Traffic

Interpretation:

- In FY20, domestic freight traffic stood at 1.32 MT and international freight traffic was at 2.00 MT
- By 2023, total freight traffic is expected to touch 4.1 MT, exhibiting a CAGR of 7.27% between FY16 and FY23. In addition, international freight is expected to grow at a CAGR of 7.50% and domestic freight traffic is expected to grow at a CAGR 7.13% between FY16 and FY23.
- As we see, there is significant amount of growth in international freight traffic as compared to domestic market due to EXIM policy and Preferential and Free Trade Agreements which is part of regulatory policies and strategy in support of air cargo growth.
- Government also takes initiative to Aligning with International standards to secure and facilitate trade it also helps to do ease of doing business and promote export from India to international market.

Conclusion

Speed of the delivery is a crucial to efficient logistics. Regulatory processes and the regulatory environment play a significant role in the movement of cargo by air and express delivery industry regulatory obligations are required to be fulfilled within a very short delivery timeframe. A simple, transparent and efficient regulatory environment without compromising on regulatory requirements is necessary for enabling faster movement of cargo/LDS by air.

Significant amount of investment made in creating infrastructure would become futile if the regulatory framework does not assist in the full realization of the potential of this infrastructure. As the regulatory environment impacting the air cargo industry spans over various department/Ministries, every wing of the government has to work in a concerted manner to ensure that the overall objective of economic development is advanced without barriers.

Customs administration have taken a number of initiatives toward trade facilitation and there is no denial of that; but what is important is that, today India is poised to become the economic power house of the world being one of the fastest growing economies and therefore needs of such a fast growing economy are different and this requires deeper analysis of problems on hand and a faster durable solution.

References.

1. Aniruddha Chatterjee, Devakar Dhingra. (2019). Efficient Cold Chain Transport using Phase Change Materials. *Researchgate*, 13.
2. manish chheda- Enabling Continued Growth of Air Cargo. (2018). *Enabling Continued Growth of Air Cargo*. ministry of civil aviation. mumbai: Actus Advisor.
3. Ministry of Civil Aviation Government of India. Air Cargo Logistics In india. (2012). *Working Group Report*. public report, Ministry of Civil Aviation., New delhi.
4. National Air Cargo Policy Outline. (2019). *National Air Cargo Policy Outline*. new delhi.: Government of India Ministry of Civil Aviation.
5. s.vasantha.analyze the challesges and problems in air cargo operations. e. n. (2019). analyze the challesges and probnalems in air cargo operations, Chennai, tamil nadu



6. https://www.aircargonews.net/login/?redirect_to=air-cargo-news-archives/
7. *www.Airport Authority of India.* (n.d.).
8. *www.Ministry of Civil Aviation.* (n.d.). Retrieved from <https://www.civilaviation.gov.in/en/aboutus/orgsetup>



VOLUME: 4 No.2

October 2019

ISSN : 2455-5398

National Journal of Research In Marketing, Finance & HRM



National Journal of Research in Marketing, Finance & HRM

EDITORIAL BOARD:

Dr. S. G. Walke
Editor in Chief
walkekkrishna@gmail.com

Prof. S. A. Shah
Member
swapnilshah75@gmail.com

Dr. M. M. Shetya
Editor
mahavirshetya@gmail.com

Prof. Sudam Shinde
Member
shindesudam1@gmail.com

REVIEWER PANEL

Dr. Parag Saraf
Director-MBA
GIOM
Sangamner, Pune

Dr. Yogesh W Bhowte
HOD,
SKNS58M, Pune

Dr. Subhash Jadhav
Director,
Dr. B.V.Hiray College of
Management and Research Centre Nashik

Dr. Preeti Kulkarni
Director,
Navjeevan Institute of Management,
Nashik

National Journal of Research in Marketing, Finance & HRM is biannual research journal.

© October 2019. All Rights Reserved

- No part of this publication may be reproduced or copied in any form by any means without prior written permission
- All efforts are made to ensure that the published information is correct. The organization is not responsible for any errors caused due to oversight or otherwise.
- The views expressed by individual contributions in the journal are not necessarily endorsed by the management.

National Journal of Research in Marketing, Finance & HRM is available against subscription only.

Subscription rate for Individuals/ Institutions	
1 year	Rs. 1000/-
2 years	Rs. 1800/-
3 years	Rs. 2500/-
For International subscription	US \$ 40 per year

Subscriptions:

For subscriptions and related enquiries write to:

The Head,
Subscription Cell,
National Journal of Research in Marketing, Finance & HRM,
Pune - 410505.
+91-02133-272213/14
Email: njr.editor@gmail.com



Dear Readers,

Greetings from Team of "National Journal of Research in Marketing, Finance and HRM"!!!

It is our pleasure and proud to publish the October 2019 issue of "National Journal of Research in Marketing, Finance and HRM" of which is title verified and approved from Registrar of Newspaper of and India and bearing ISSN 2455-5398.

The first and utmost aim of the National Research Journal is to present a scholastic platform to emerging scholars and academicians all over the country to publish their novel, original, empirical and high quality research work in the area of Marketing, Finance and HRM.

I also request on the behalf of editorial team and subscription cell to kindly disseminate this information amongst your Faculty Colleagues, Industry Individuals, Research Scholars and Students who may be interested in research and publication.

This is biannual Research journal and scholars may send their original research papers in the month of Jan-Feb and June-July.

I also appeal to research scholars to go through the guidelines for paper publication so as to submit your research work in correct format and in time.

I shall be thankful, if you could circulate this information among your colleagues and research scholars and motivate them to contribute their research papers.

With warm regards,

Dr.S.G.Walke

Editor-in-Chief

National Journal of Research in Marketing, Finance and HRM



National Journal of Research in Marketing, Finance & HRM

Advisory Board

Dr. E. B. Khedkar

Vice – Chancellor,
Ajinkya D. Y. Patil University.

Dr. Prafulla Pawar

Dean, Faculty of Management Studies,
Savitribai Phule Pune University.

Dr. S. U. Gawade

Ex. Head – Research,
Sinhgad Institute of Management,
Pune.

Dr. Parag Saraf

Director,
NSCT's Institute of Business Management &
Research, Pune.

Dr. A. S. Sarkar

Director,
Mahatma Phule Institute of
Management & Computer Studies,
Pune.

Dr. D. B. Bharati

Director,
Rajgad Institute of Management
Development Research, Pune.

Dr. J. D. Takalkar

Ex. Director,
Pravara Centre for Management
Research & Development,
Pune.

Dr. Pandit Mali

Director,
Indira Institute of Management,
Pune.

Dr. Kishor Jagtap

Professor,
Smt. C.K. Goyal Arts & Commerce College
Pune

Dr. M. K. Ingale

Royal University
Bhutan

Dr. Yuvraj Nalwade

Research coordinator
VIT, Baramati, Pune

Dr. A. A. Deshmukh

Director,
IIMHRD, Pune

