

VOLUME: 5 No.1

March 2020

ISSN : 2455-5398

National Journal of Research In Marketing, Finance & HRM



National Journal of Research in Marketing, Finance & HRM

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Dr. D. 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
rohandahivale@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:

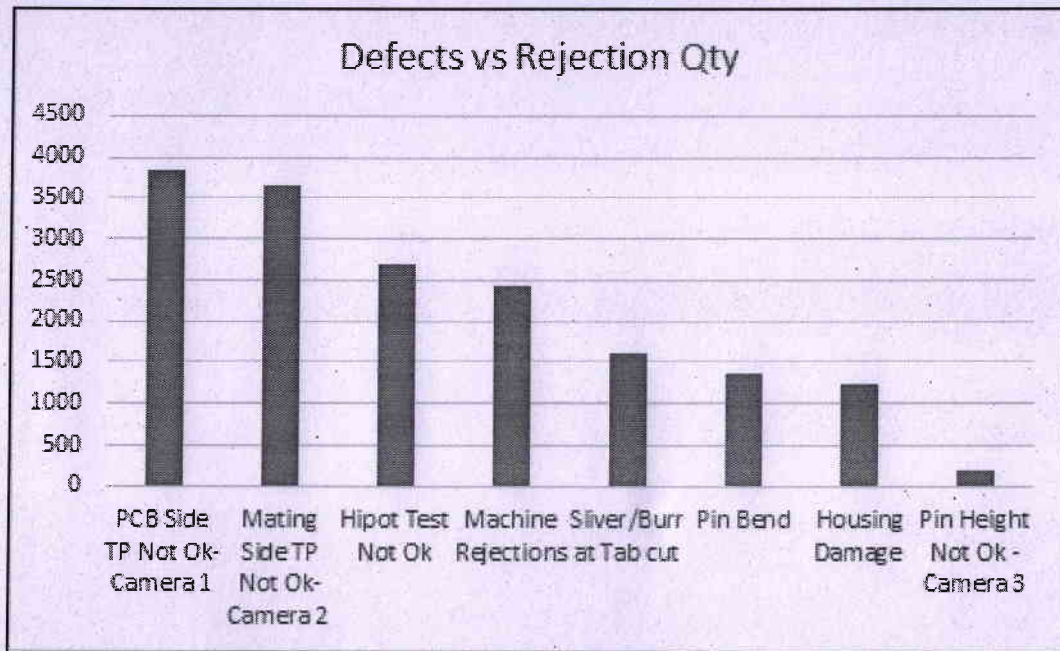
- Data was collected through the defect record sheet (CII-DRS-81).
- Preventive Maintenance Check Sheet (CII-PM-005)
- Start Up Check Sheet (CII-SC-12)
- First Part Inspection Check Sheet (CII-FPI-009)

5] Data Analysis

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

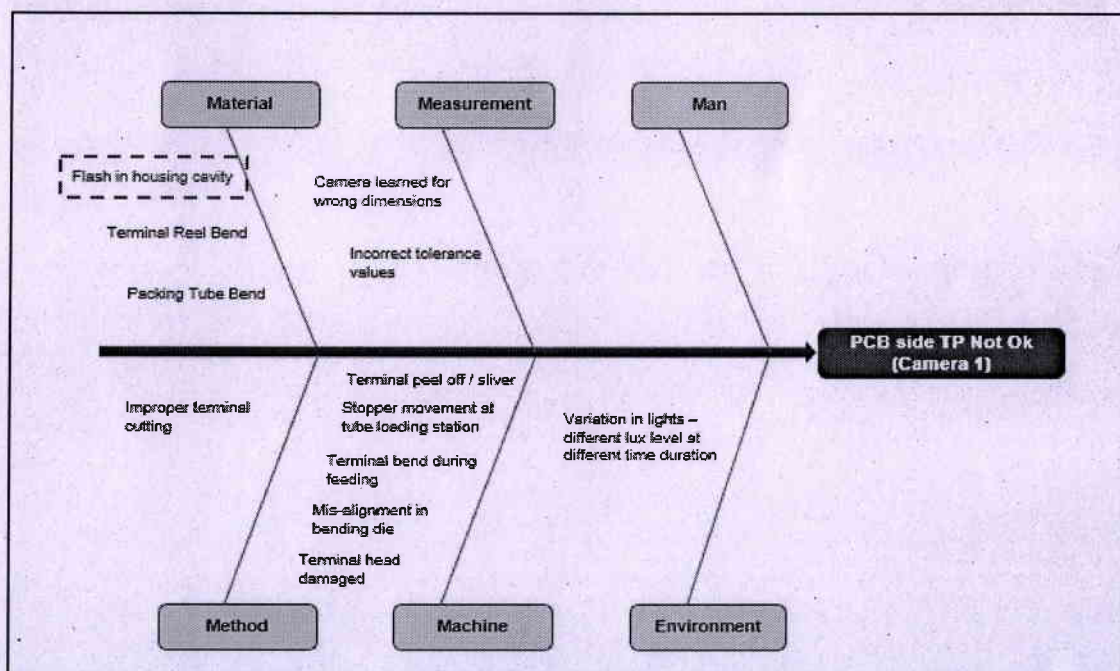
20P SHORT PIN Rejection Details - Dec, Jan, Feb 2020		
Defect	Rejection Qty	% Rejections
PCB Side TP Not Ok- Camera 1	3839	23%
Mating Side TP Not Ok- Camera 2	3653	21%
Hipot Test Not Ok	2701	16%
Machine Rejections	2433	14%
Sliver/Burr at Tab cut	1605	9%
Pin Bend	1365	8%
Housing Damage	1230	7%
Pin Height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



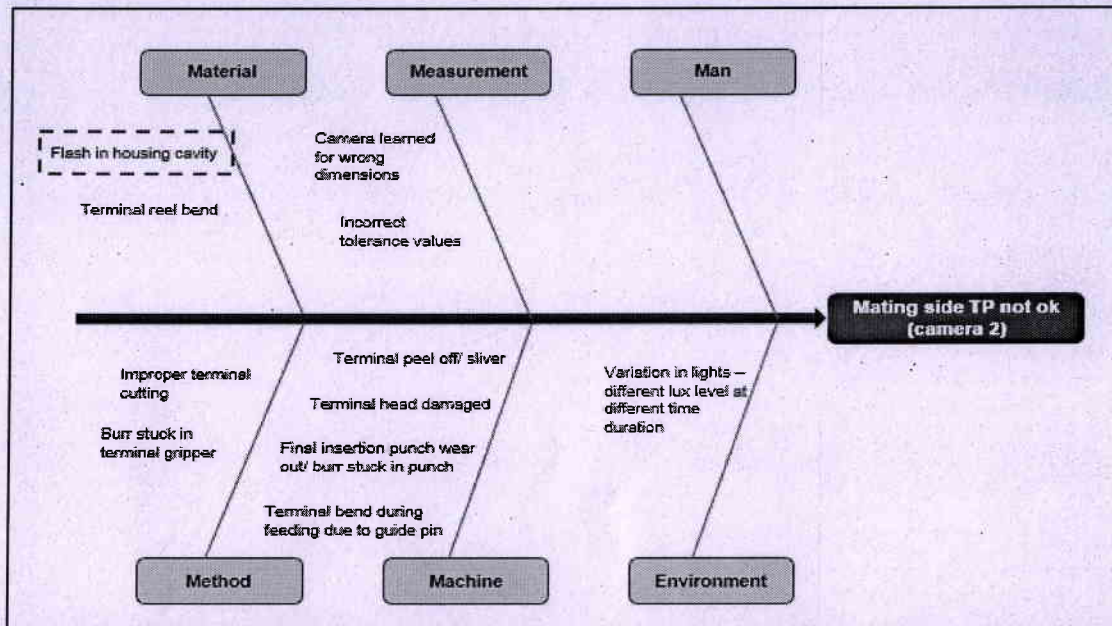


From the above Graphs, we have taken top 2 defects contributor for Analysis through Ishikawa Diagram.

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.

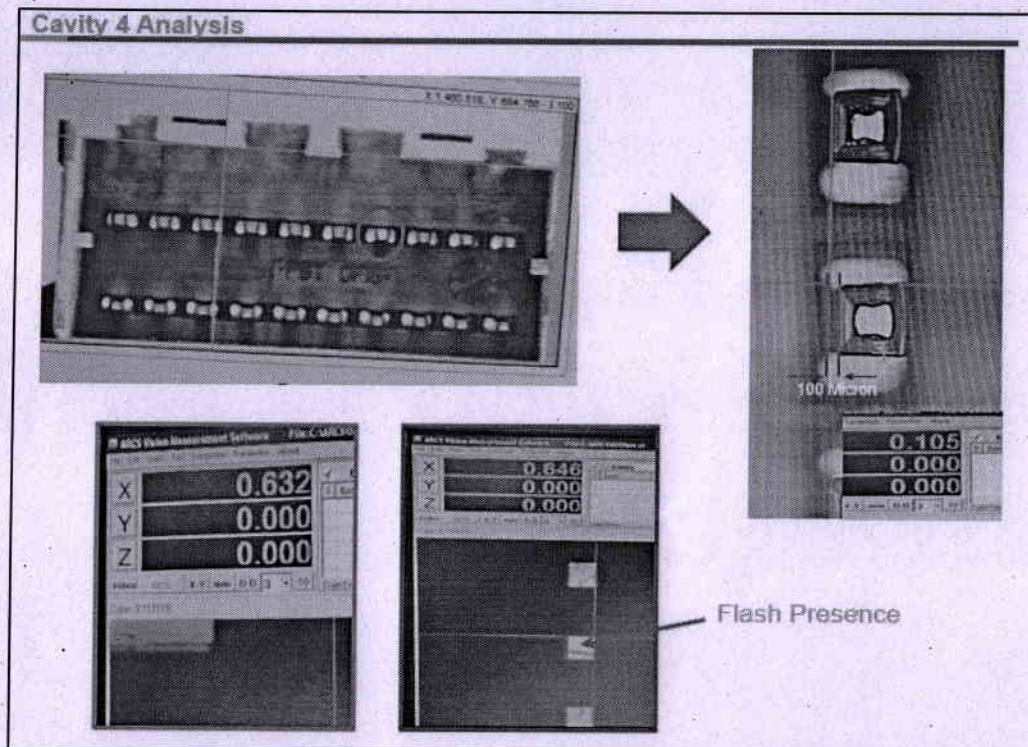
Further Analysis is done for the cavity wise review of the housings for the Flash

20 P – Cavity-wise Analysis

Housing	No of parts checked	Pin height	PCB side (Camera 1)	Mating side (Camera2)	Test Fail	Scrap	% Scrap
Cavity 1	570	3	0	14	8	25	4%
Cavity 2	560	3	6	9	11	29	5%
Cavity 3	486	0	2	32	2	36	7%
Cavity 4	590	0	6	40	6	52	9%

Table shows Cavity 3 & 4 has major rejection trend 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



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www.Researchinventy.com
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- 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.

madhurikakade1990@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 wallet 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 Pathanamthitta 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.



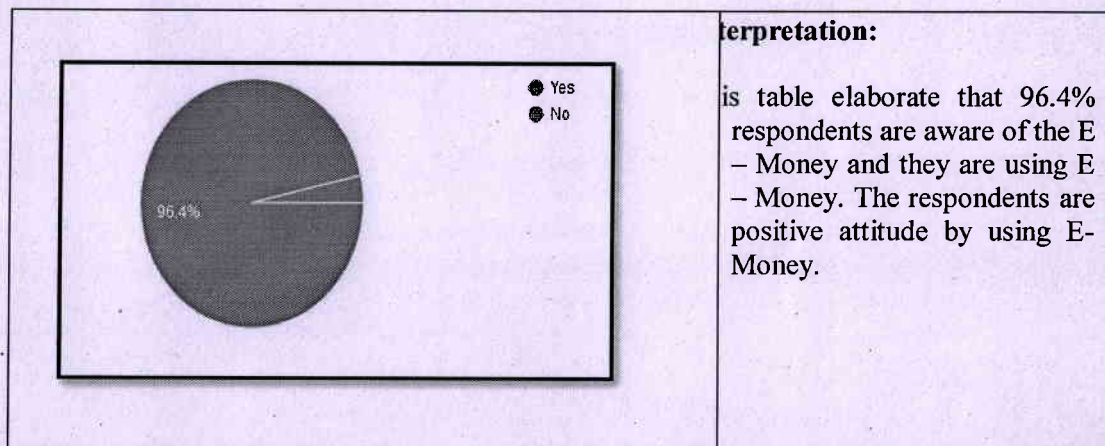
4. RESEARCH DESIGN:

- 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.

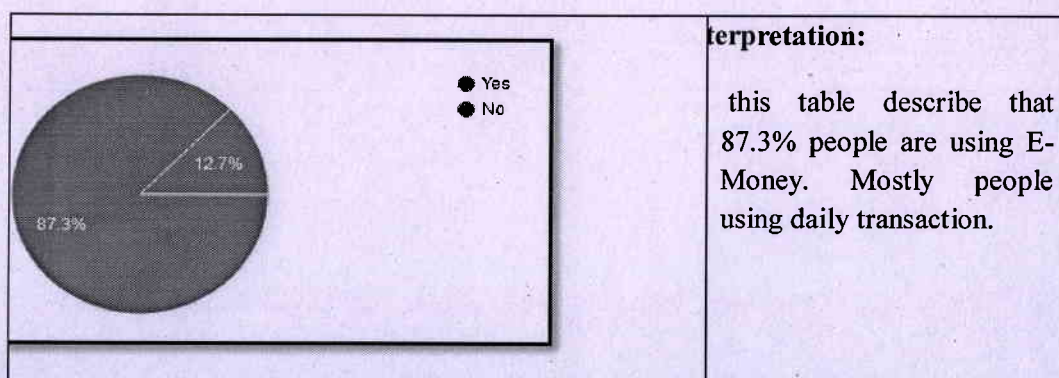
5. DATA ANALYSIS:

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

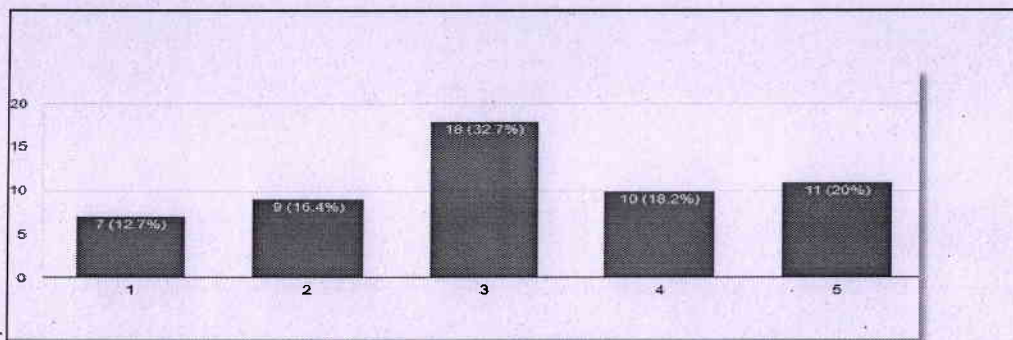
1. Are you aware of E – Money?



2. Are you using of E – Money?



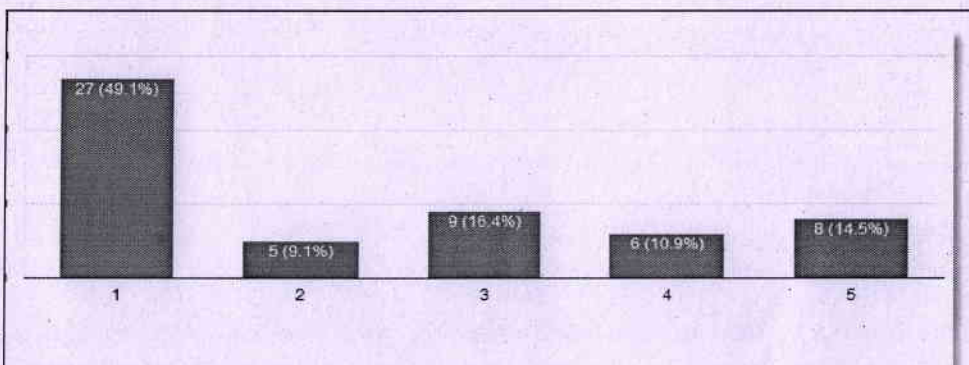
3. I feel there are security problems in digital money.



Interpretation:

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

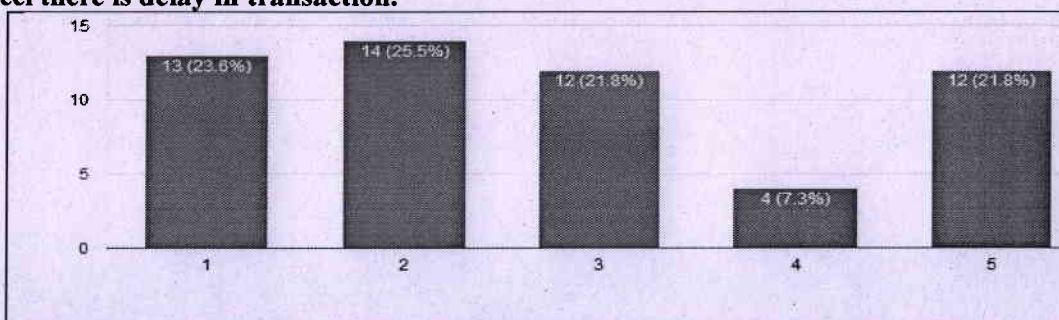
4. I don't know procedure to use.



Interpretation:

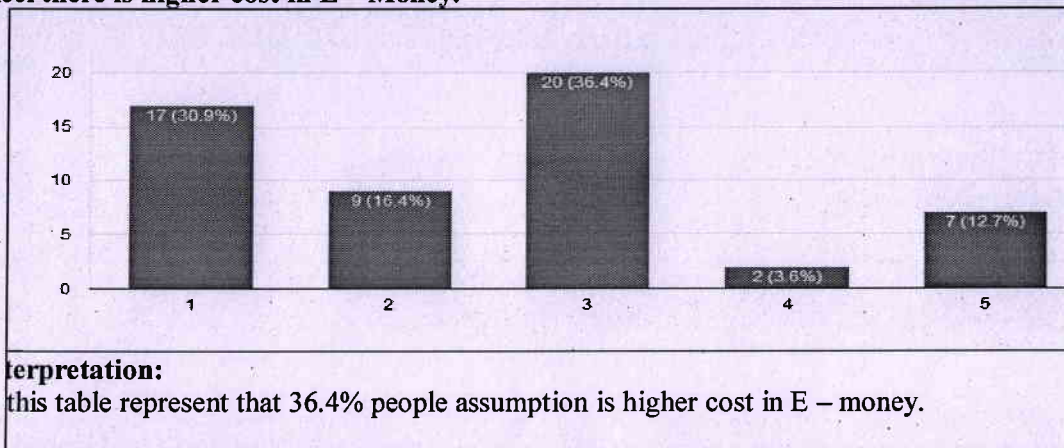
This above table represents that 49.1% of people know this process. Now a day's people are using smart phones so they are known this procedure.

5. I feel there is delay in transaction.

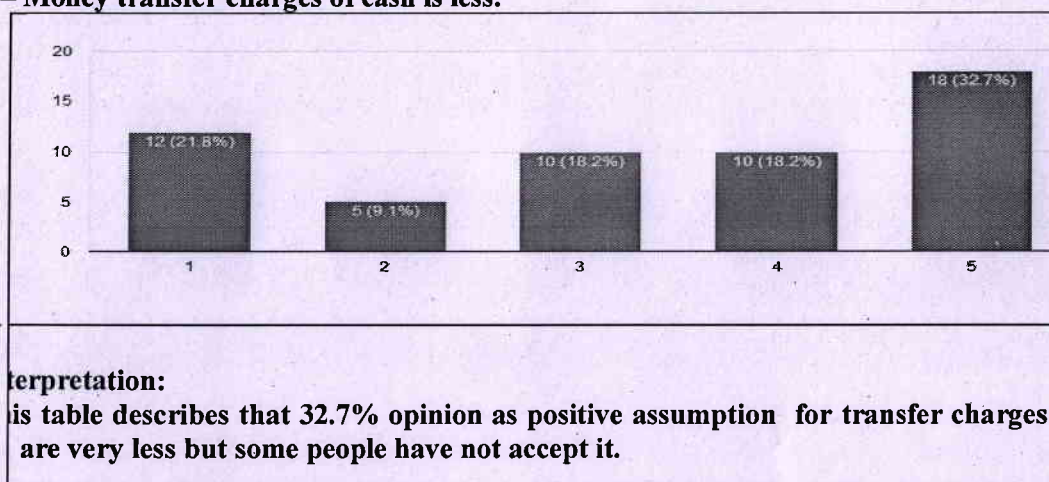


Interpretation: The above table elaborates that 25.5% of people's opinion is as delay in transaction but 21.8% of people's assumption is that there is no delay in transaction. So some people support him but some aren't using this app.

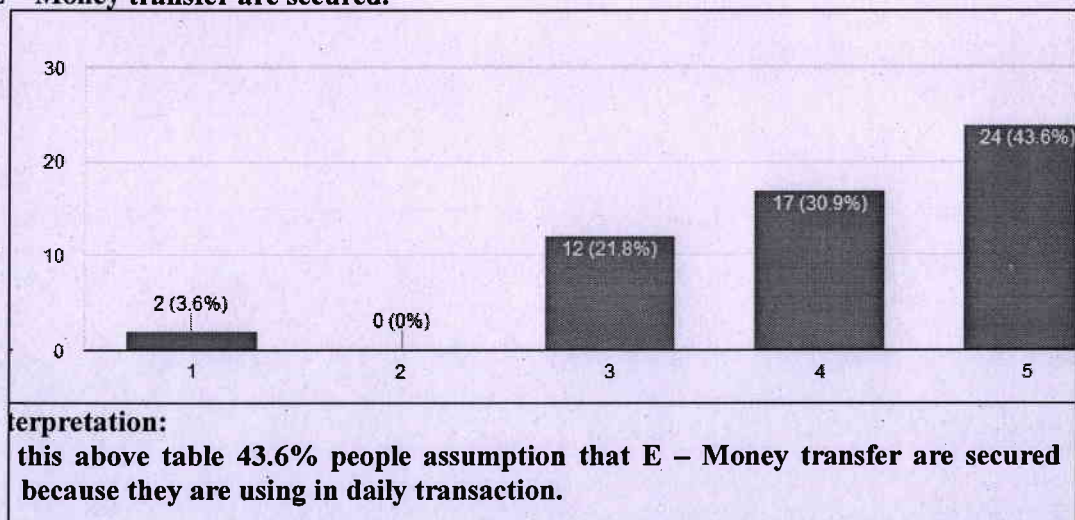
6. I feel there is higher cost in E – Money.

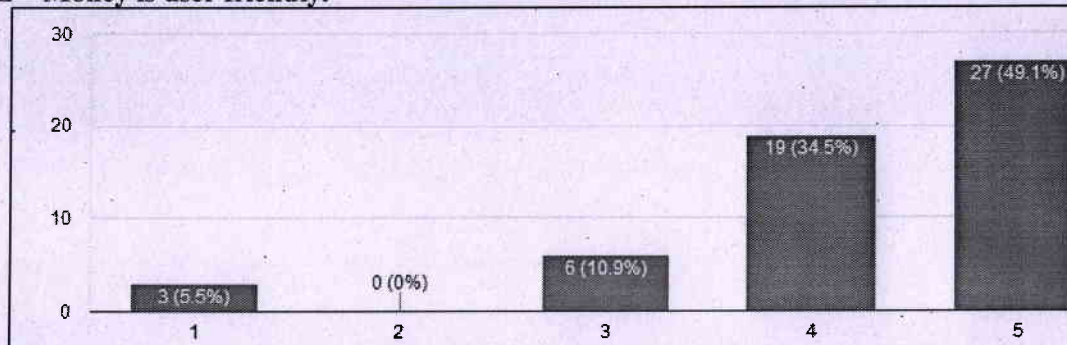


7. E – Money transfer charges of cash is less.

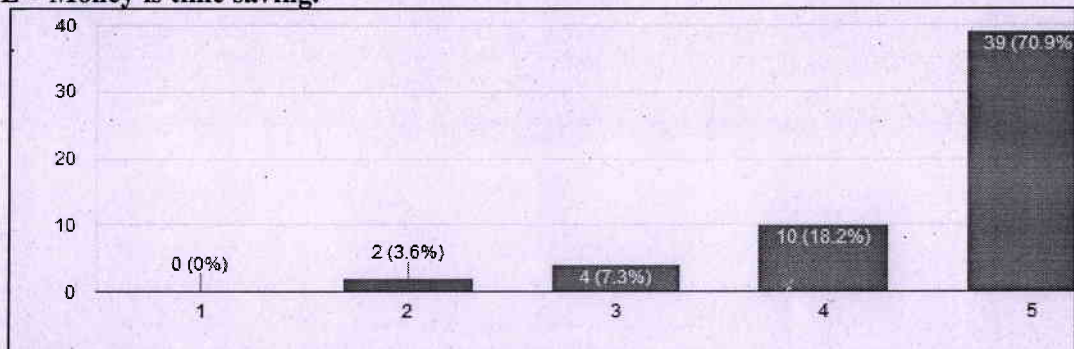


8. E – Money transfer are secured.



9. E – Money is user friendly.

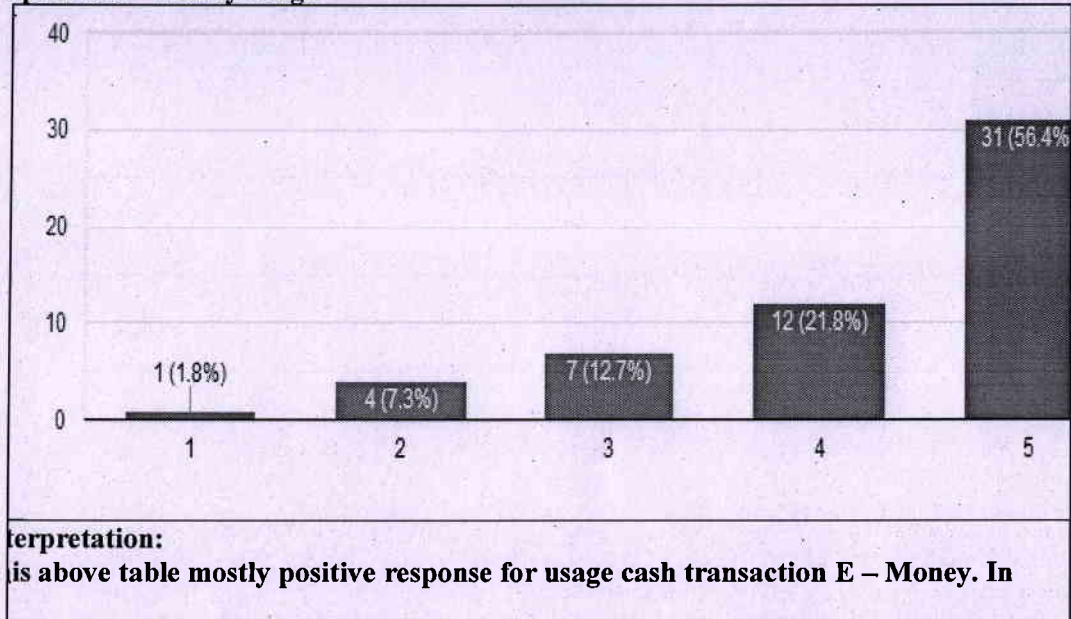
Interpretation: This table elaborate that 49.1% people can user friendly E – Money because mostly people can using smart phone so they familiar to E – Money.

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 reaming 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 perception 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. *IJRAR- International Journal of reasearch and Analytical Review* , 5 (4).
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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

A) Introduction to social media marketing

Social media marketing is the use of social media platforms and websites to promote a product or service.ⁱ 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.ⁱⁱ

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."

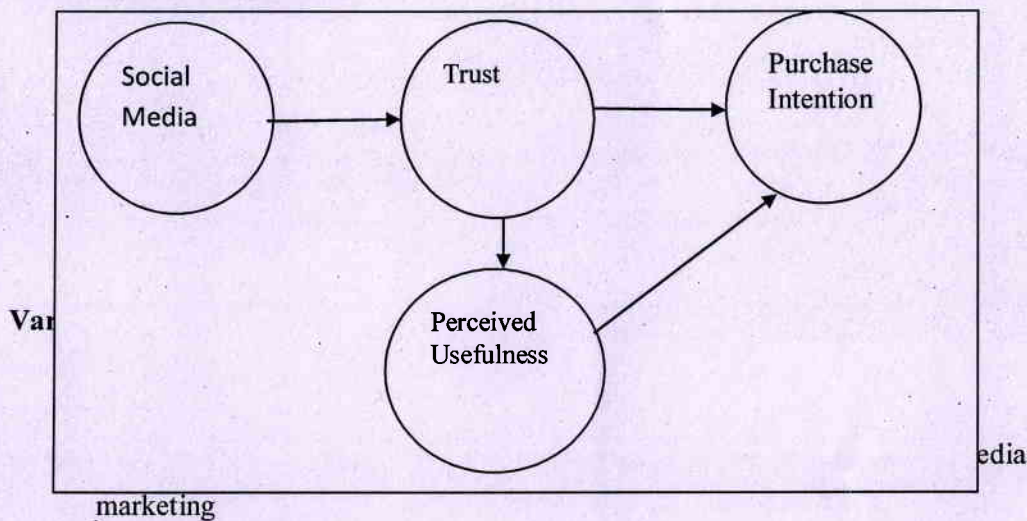
When using social media marketing, firms can allow customers and Internet users to post user-generated content (e.g., online comments, product reviews, etc.) which is also known as "earned media," rather than use marketer-prepared advertising copy.

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

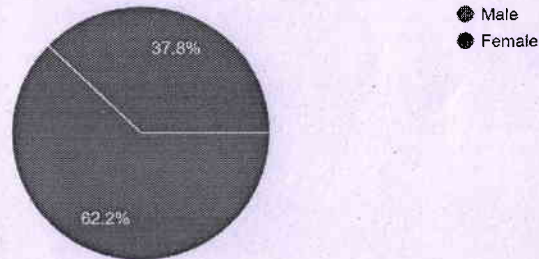


6	Secondary sources	Books, Journals
7	Data interpretation	Though Graphs
8	Sample Size	37 (Pilot Study)
9	Sampling Technique	Convenient Sampling

E] Data analysis & Data Interpretation

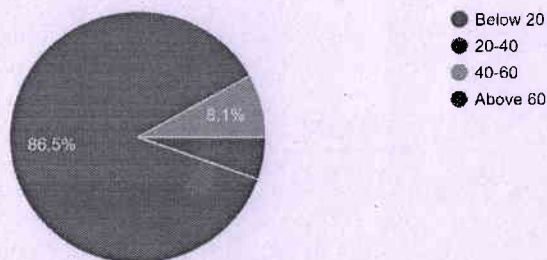
Gender

37 responses



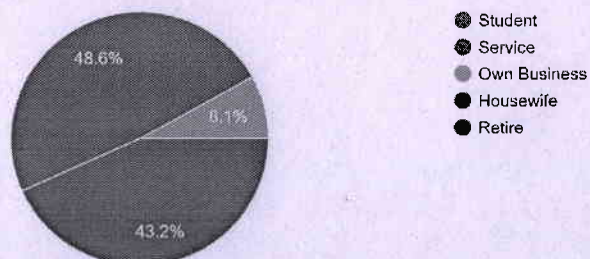
Age Group

37 responses



Occupation

37 responses



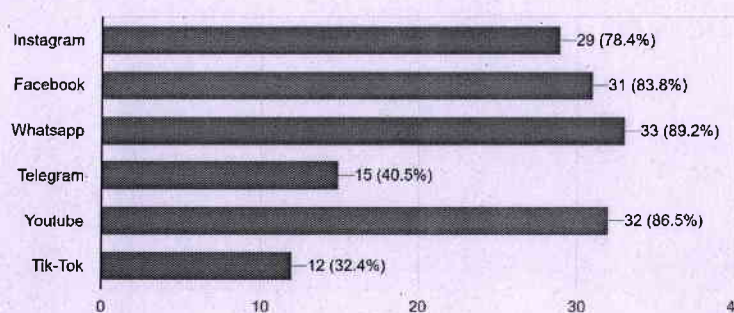
Are you using Social Media?

37 responses



Which social media you are using?

37 responses



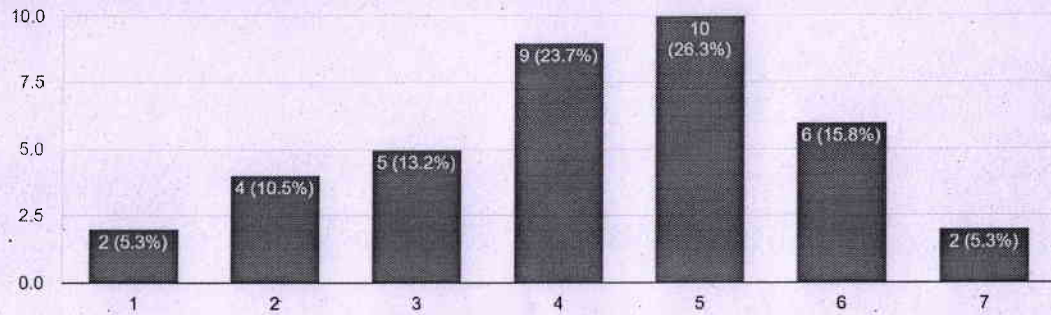
Have you noticed advertisements on social media?

38 responses

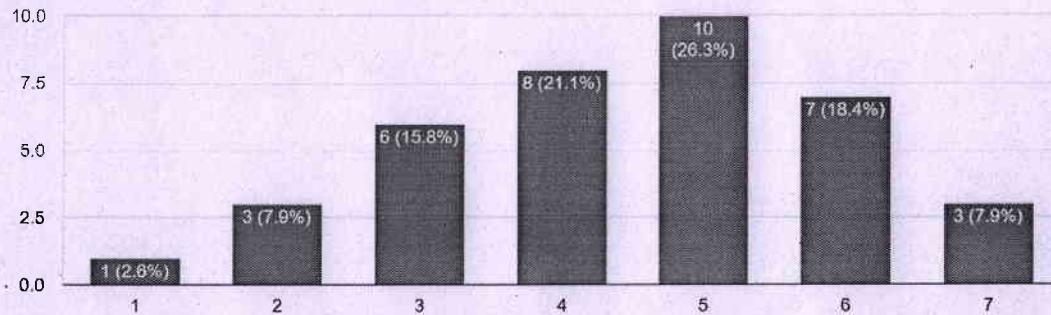


I trust advertisements on Social Media

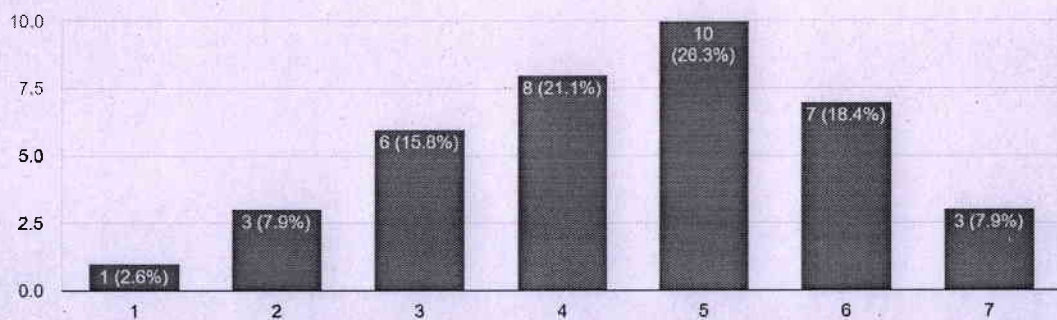
38 responses

**I feel genuine products & services are available on social media**

38 responses

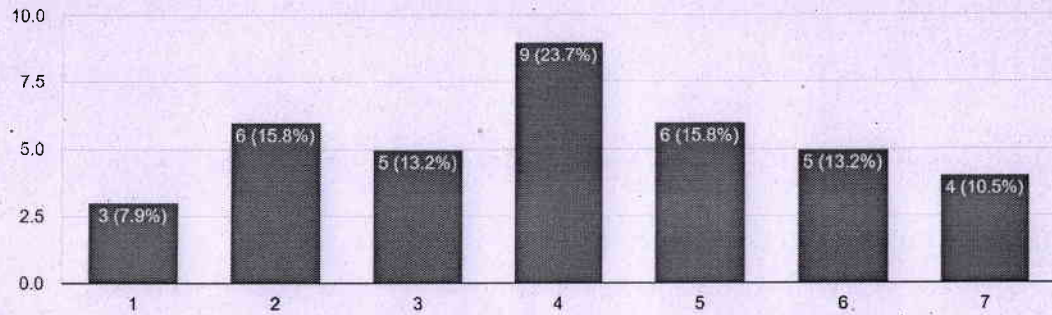
**I feel genuine products & services are available on social media**

38 responses



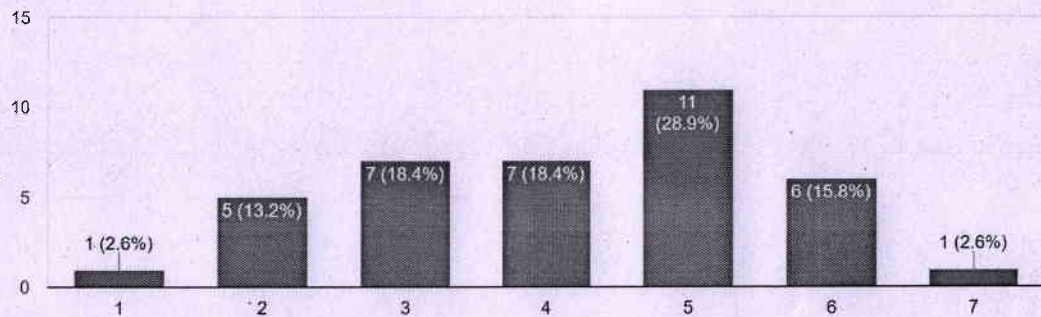
I feel products available on social media are as shown in advertisements or pictures

38 responses



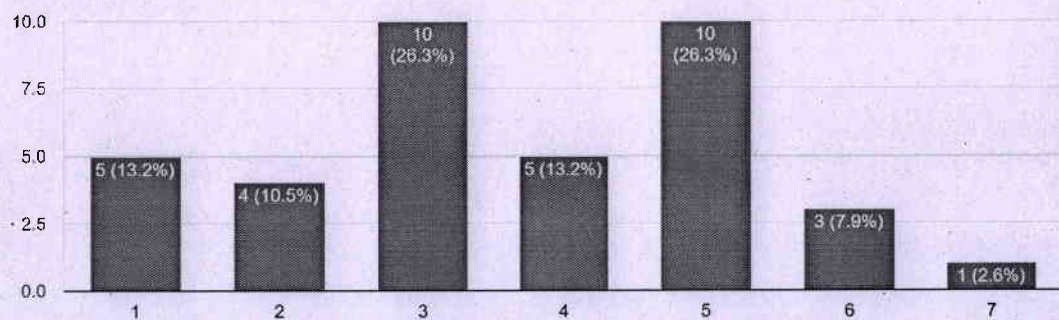
I trust brands endorsed on social media

38 responses



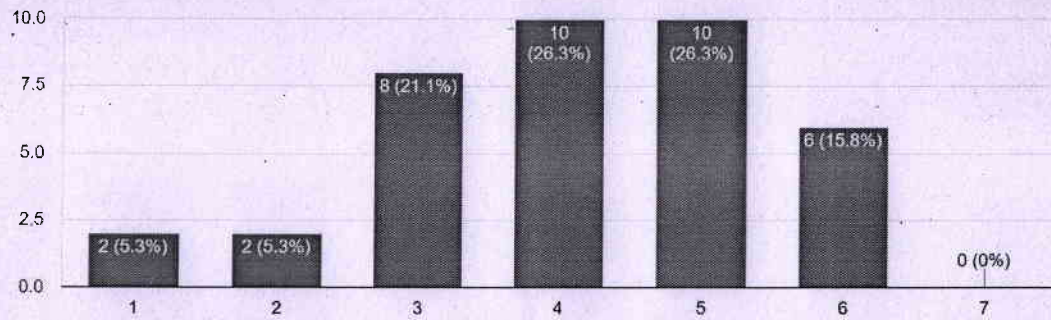
I feel only useful products are available on social media

38 responses

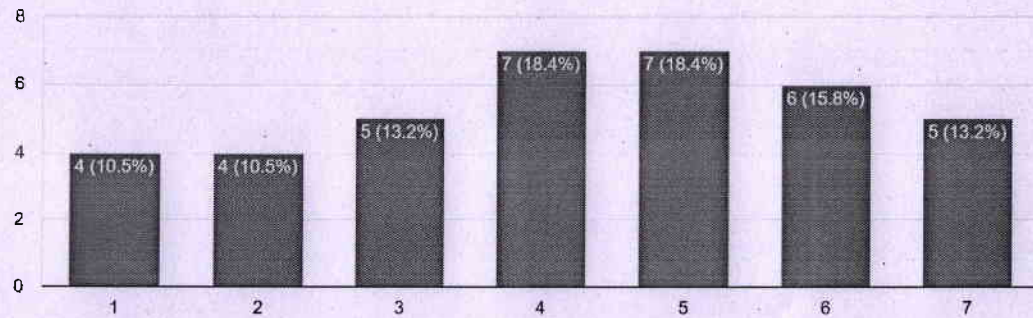


I feel quality products are available on social media

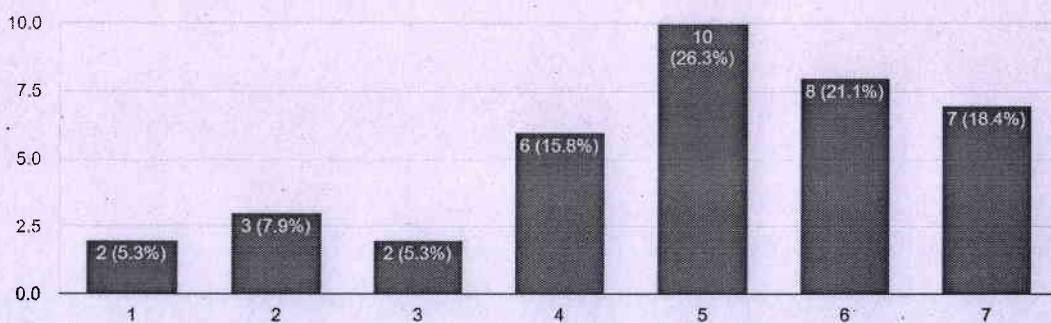
38 responses

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

38 responses

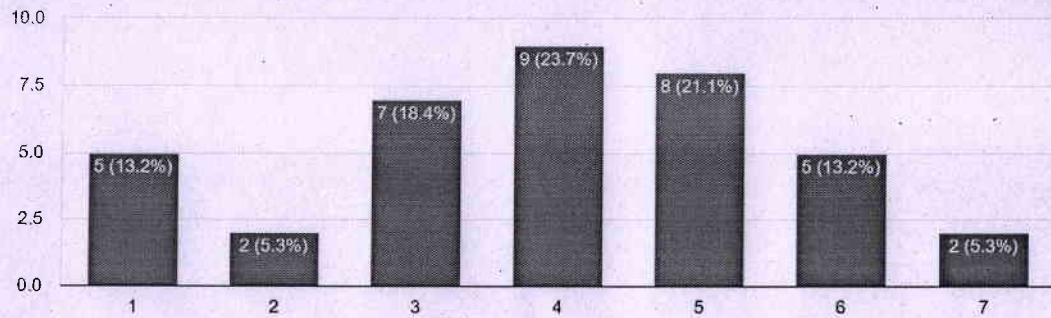
**I feel a large variety of products are available on social media are than offline markets**

38 responses



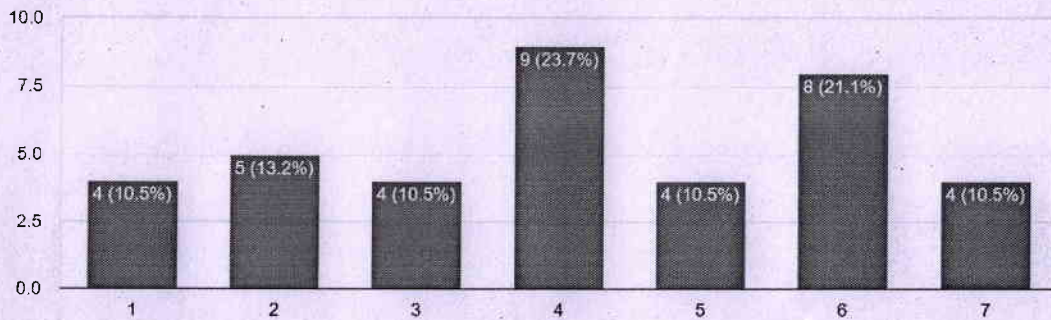
I usually buy products after the influence of social media advertisements

38 responses



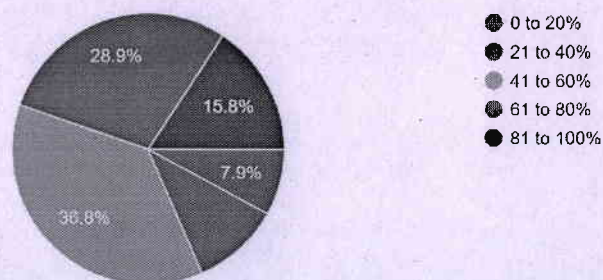
I recommend products to friends after seeing the advertisements on social media

38 responses



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

38 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.

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A STUDY AND IMPLEMENTATION OF PRODUCTION PLANNING AND CONTROL

Mr. Bhupendra Kumar Kelam

Student, Rajgad Institute of Management Research Development, Dhankawadi, Pune
bhupendra.kumar@rediffmail.com

ABSTRACT

Production planning and control practices are an important task of Production Manager. It has to see that production process is properly decided in advance and it is carried out as per the plan. Production is related to the conversion of raw materials into finished goods. This conversion process involves a number of steps such as deciding what to produce, how to produce, when to produce, etc. These decisions are a part, of production planning. Merely deciding about the task is not sufficient. Both planning and control of production are necessary to produce better quality goods at reasonable prices and in a most systematic manner. Production planning is the function of looking ahead, Control facilitates the task of manufacturing and sees that everything goes as per the plans.

1] INTRODUCTION

A study has been made in a software company, and The production planning and control incorporates the following elements, **Routing:** It is about selection of path or route through which raw materials pass in order to make it into a finished product. **Loading and scheduling:** Loading and Scheduling are concerned with preparation of workloads and fixing of starting and completing date of each operation. **Dispatching:** Dispatching is the routine of setting productive activities in motion through the release of orders and instructions. **Expediting / Follow-up:** It is a control tool which brings an idea on breaking up, delay, rectifying error etc., during the progress of work. **Inspection:** Inspection is to find out the quality of executed work process. **Corrective:** At evaluation process, a thorough analysis is done, and corrective measures are taken in the weaker spots.

Production Planning & Control is done in three stages namely, **Pre-Planning:** Under this phase of production planning, basic ground work on the product design, layout design and work flow are prepared. The operations relating to the availability scope and capacity of men, money materials, machines, time are estimated, **Planning:** This is a phase where a complete analysis on routing, estimating and scheduling is done. **Control:** Under this phase, the



functions included are dispatching, follow up, inspection and evaluation. It tries to analyze the expedition of work in progress. This is one of the important phases of the Production Planning and Control.

2] INDIAN SOFTWARE INDUSTRY

The Indian software sector displays many unusual features from an Indian perspective. The most obvious one is its export orientation, accounting for 65% of the, total software revenue. There are important qualitative differences between the export market and the domestic market) The first relates to different types of software developments which, gives the composition of the domestic and export software development and services market, domestic market has a higher proportion of revenues from the sale of software packages and products. Whereas products accounted for nearly 40% of the domestic market, they account for a little under 10% of exports. Over 80% of exports are software services including custom software development, consultancy and professional services.

The second difference between the domestic and export sectors relates to the stages of software development as described earlier, Indian firms usually provide low-level design, coding and some types of testing services for export. For domestic clients the industry provides a wider range of services that usually spans the entire lifecycle of software development.

3] OBJECTIVES OF THE STUDY

1. To deliver quality goods in required quantities.
2. To ensure maximum utilization.
3. To maintain optimum inventory levels.
4. To prepare production schedule.
5. To produce effective results for least total cost.

4] RESEARCH DESIGN

S N	Parameter	Description
1	Type of research	Explorative Research
2	Research Instrument	Structured Questionnaire



3	Survey period	January 2019 to December 2019
4	Type of Industry	Software Industry
7	Sampling Method	Simple Random Sampling
8	Primary sources	Productivity Control Reports, Historical Data
9	Secondary sources	Books, Journals, Articles, Magazines

DATA ANALYSIS AND INTERPRETATION

A) Age of the software companies

1-5 Years: 61%, 6-10 Years : 28%, 11-15 Years : 9%, >15 Years : 2%

Interpretation: We can find maximum of the companies within 10 years age, these can be selected for various application.

B) Application of the Companies

Finance % Accounting: 58%

Commercial & Service: 45%

Educational & Training: 45%

Government Adm: 34%

Telecom: 34%

Manufacturing: 36%

Only 7.8% are specialized in one field

Interpretation: Various companies are available with multitasking with a very few specialized in one activity.

C) Types of Projects

Outsourcing (60%)

Others (25%)

Commercial (10%)

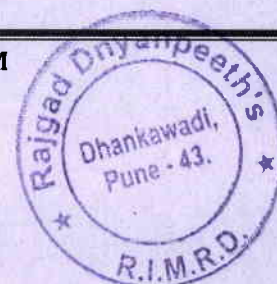
Build to Order (5%)

Interpretation: Maximum of the activities happen in outsourcing.

D) Human Resource Involved

Whole Life Cycle of the Project: 100%

Planning: 24%



Analysis & Design: 29%

CODING Stage: 57%

Testing Stage: 31%

Deploying Stage: 48%

Documentation stage: 25%

Maintenance Stage: 25%

Interpretation: Maximum of the manpower is required in the Coding and deployment stage.

E) Project Duration

< 3 Months (11%)

3-6 Months (31%)

6-9 Months (20%)

9-12 Months (10%)

12-18 Months (11%)

18-24 Months (8%)

>24 Months (9%)

Interpretation: Maximum of the project durations remain in the period of 3 months to 9 months.

F) Cost of the Project

64% did not exceed their initial Budget.

7% had cost more than 150% over the planned Budget

G) Customer Involvement in Planning & Control

Customer Involvement in Planning

High: 58.8%

Average: 38.8%

Low 2.5%

Customer participation in Functional Department

High: 56.6%

Average: 6.4%

Low: 19.2%



H) Project Managers Efforts

Project Managers Efforts

Higher than Previous: 59%

Same as Other projects: 38%

Lower than others: 4%

CONCLUSION

Production planning and control is a Pre-Production Activity. We should put the emphasis of production control change to meet the challenges of the different technological and market context. The author's opinion and the discussion in this paper have indicated that PPC systems need to change so that the emphasis of PPC will be on how to design and manage manufacturing operations for responsiveness, globalization and supply chain issues, taking in view the planning regarding the Age, type, Human resource, project duration, customer involvement and Costs.

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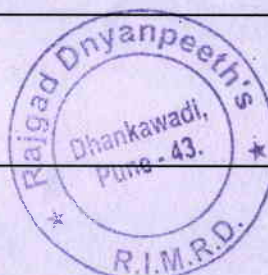
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Volume: 6 No.1

March 2021

ISSN: 2455-5398

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AN IMPLEMENTATION OF TRACEABILITY IN PRODUCTION PLANNING SYSTEM

Dr. Rohan P. Dahivale

(Associate Professor)

Rajgad Institute of Management Research & Development, Pune - 43

rohandahivale@gmail.com

Datta K. Satpute

(Student)

Rajgad Institute of Management Research & Development, Pune 43

datta.stpute@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 framework 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

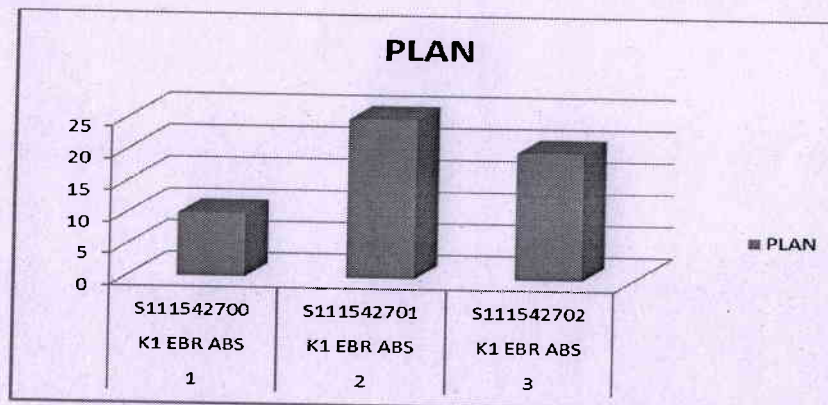


& Email alert, with respect to parameters status show and report generate.

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

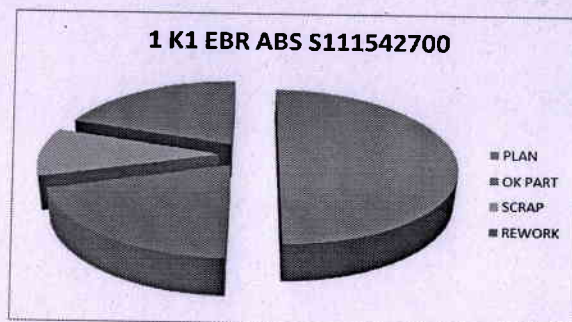
Above table 1 shows production side cover today's production plan 10 part morning shift target.



Graph 1: Shift wise production K1 EBR Model

Side cove 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.



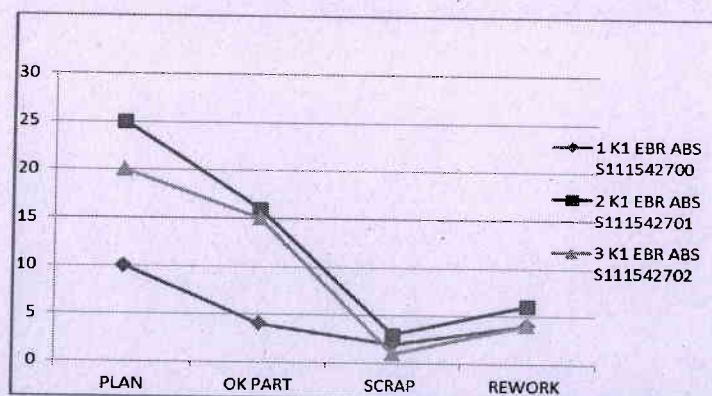


Graph 2: Pie Chart Shift wise production K1 EBR Modal

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.

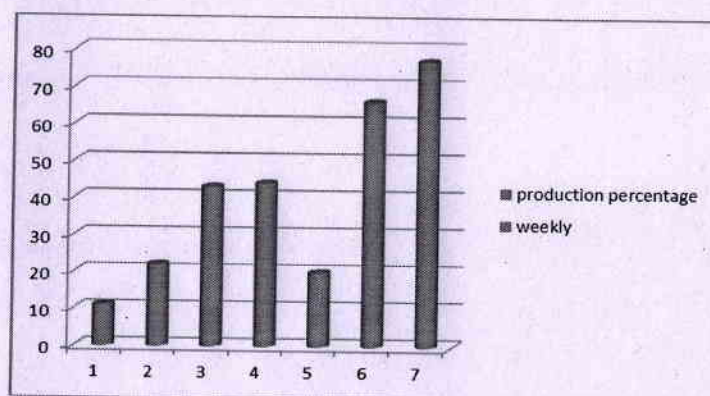


Graph 3: Line Chart Shift wise production K1 EBR ABS Modal

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.

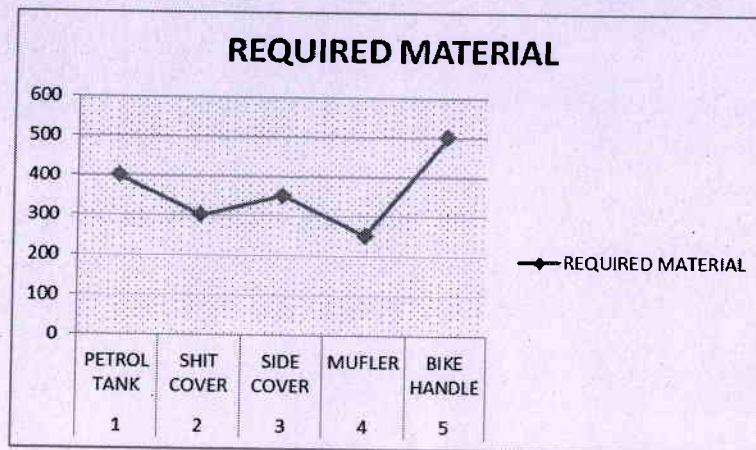
Weekly production efficiency data collected company:

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.

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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-II(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 ecommerce 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. Ecommerce 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 (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. 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 ecommerce 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 a cannabis 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. ATG 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: Bossgoo B2B marketplace established in China.
- 2004: DHgate.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 ecommerce 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, Saavn, 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 companies 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.



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

Mr. Hrushikesh Mahindra Lokhande

hrushikeshlokhande77@gmail.com

Rajgad Institute of Management Research and Development Pune - 411043

Dr. RohanDahivale

(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 any 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.

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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 (Vasantha, 2019) that results of employees perception towards the challenges in

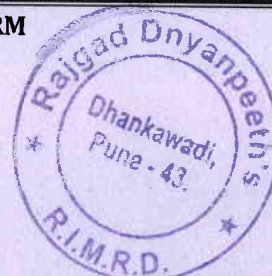


aviation cargo shows “lack of skilled manpower are identified as major challenges in aviation cargo operations” the main challenges in customs clearance and documentation is shortage of proper offers at right time. it is observed that the cargo packaging and handling are affected the operations and services 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.

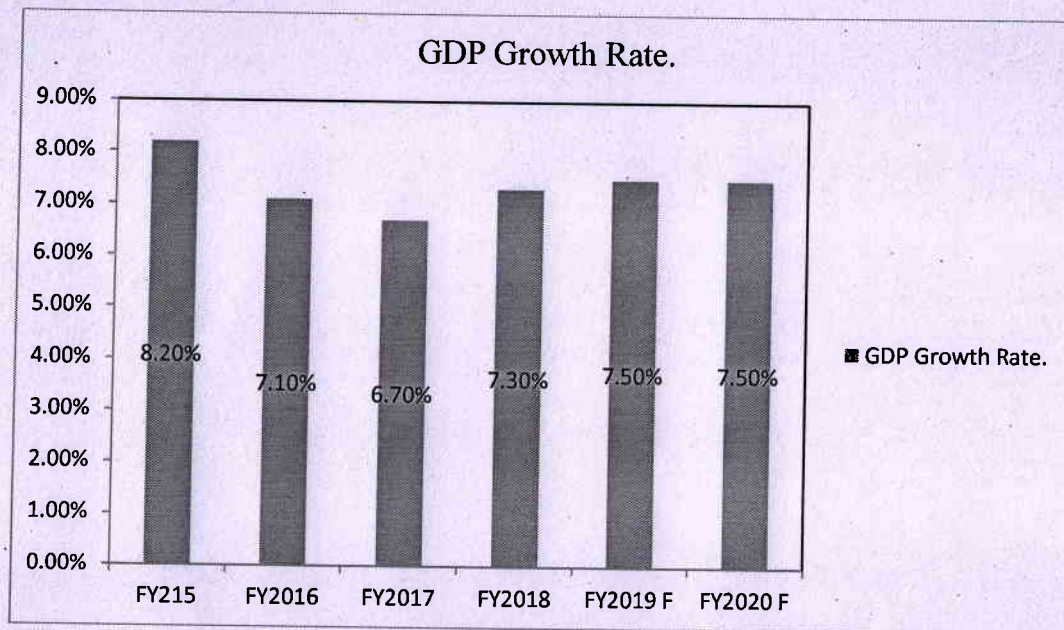
According to (Quang, 2017) Air cargo transport and air cargo services are two major factors that create the value of logistics in the air transport sector. It not only contributes directly to national income, but also contributes indirectly through the promotion of other sectors of the economy, especially 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 facilities 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.

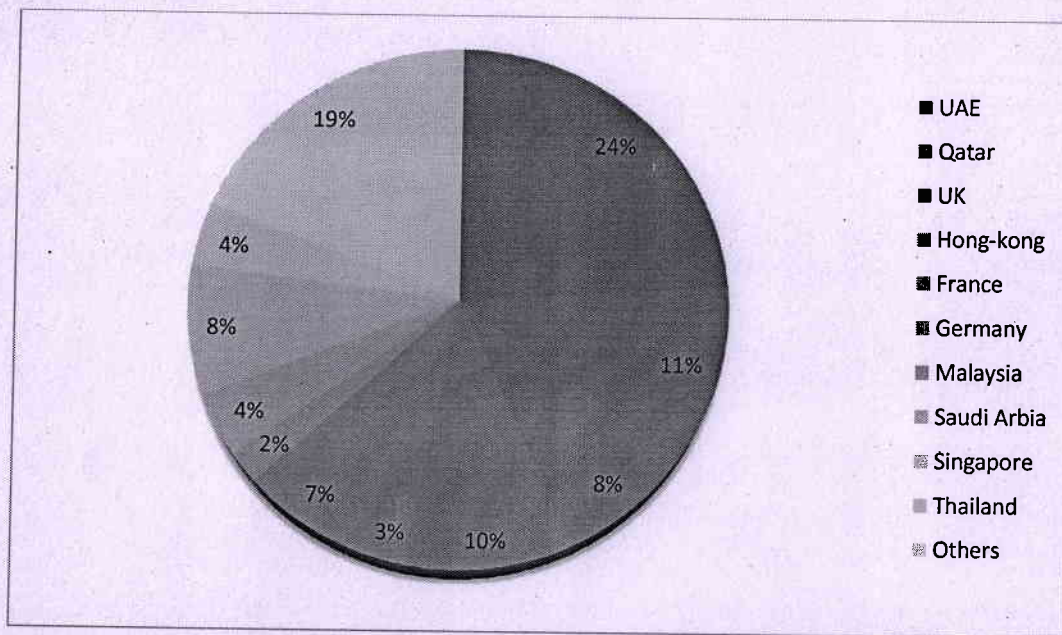
The strong and sustained outlook is on the back of robust private consumption and strengthening investments. The World Bank said that India's growth potential is of 7% in the medium-term and is currently growing above it. This can be attributed to the major economic reforms and fiscal measures taken by the government. In the World Banks' 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

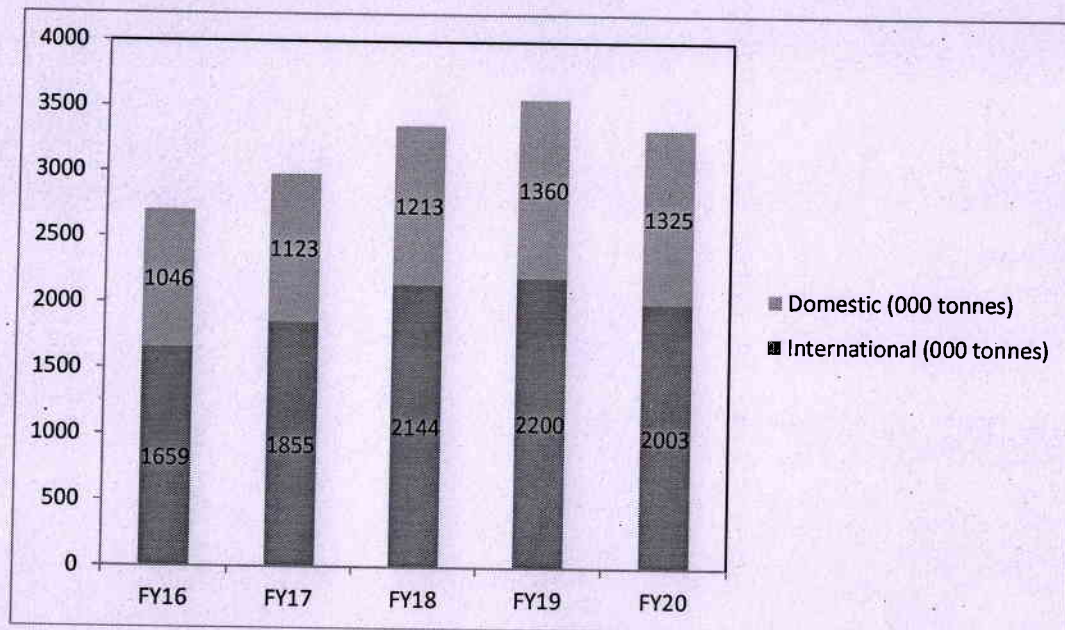
Interpretation:

- 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 of 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/EDS 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.

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VOLUME: 4 No.2

October 2019

ISSN : 2455-5398

National Journal of Research In Marketing, Finance & HRM



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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 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.

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With warm regards,

Dr.S.G.Walke

Editor-in-Chief

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National Journal of Research in Marketing, Finance & HRM

Volume: 4 No.2

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ISSN: 2455-5398

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AN EMPIRICAL STUDY OF EMERGING BENEFITS IN MOBILE WALLET APP WITH REFERENCE TO CUSTOMERS' PERCEPTION

Prajakta Pandurang Khutwad
khutwadprajakta@gmail.com

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

Abstract

In present world mobile play an important role in our daily life. In India, the growing adoption of Smart-phones and mobile phone has given a boost to the mobile wallet industry. The main aim of this paper is to identify benefits and analyze the perception of people towards mobile apps usage. The paper provides information about usage pattern of mobile apps and their impact on day to day activities of people. The research subject is important in the context of analyzing the relationship between different mobile applications and user engagement. Relationship between these two terms will be identified in terms of the responses provided by respondents. The data was collected from 100 respondents through a pre-tested and a well structured questionnaire. Besides that, perceptions of them towards mobile apps are also presented in order to understand the importance and selection of mobile apps in the canvas of the mind of people while using apps.

Keywords: *mobile wallet, digital money, e-commerce*

Introduction

A mobile wallet is a way to carry your cards information in a digital form on your mobile device. It is a form of e-commerce model that is designed to be used with mobile devices due to their convenience and easy access. There is need to provide information about usage pattern of mobile apps and their benefits. Research should be carried out to know the customer awareness and perception on adoption of digital mode of payment. All should know customer preferences towards mobile apps in order to understand the importance and selection of mobile apps in the canvas of the mind of people while using apps. The research subject is important in the context of analyzing the relationship between different mobile applications and user engagement.

Concept of Mobile Wallet

A mobile wallet is a facility provided by various e-wallet companies that allow users to make instant payment and various other transactions through their mobile application.

Mobile wallet provides a lot of benefit to wallet holders. There is a huge boost to the business



due to mobile wallets as it enables customers to make transactions at various merchants. Essentially, customers store money in their digital wallet that they use for various payments. The bank accounts of individual users are linked with their digital wallet. Digital wallets are not used only for online purchases but also for authentication of user.

Types of Payment Modes:

There are many modes of transacting through mobile wallets. Few of them are:

- 1) **Mobile Number Payment:** Sender enters receivers' phone number who is with the same mobile wallet service provider and adds the amount to transact. (e.g., VIPs wallets, Mobikwik, Free charge, Airtel money etc.)
- 2) **QR payment:** Sender scans the receiver's unique QR code which was generated by the service provider to make the payment. This is mostly used in stores.
- 3) **NFC Payments:** This works when two NFC chip enabled devices are placed next to each other exchange data.(e.g. Google Tez, Ultracash etc.)
- 4) **UPI Payments:** This works with service providers registered with National Payments Corporations of India. Users can transact by entering VPA (Virtual Payment Address). This service is mostly provided by banks and a few wallets.

Types of Wallets

Telecom Backed Wallets: Telecom Service Providers have their own mobile wallet. An initial service offered was mobile recharges. These providers are getting the payments bank license from the RBI. Airtel was the first mover in the market.

Wallets by banks: Major Banks are developing mobile wallets for their customers to have a direct interaction between buyer, seller and banks.

Statement of Research Problem

Mobile wallets are growing in INDIA as the consumers relying upon the digital lifestyle to make things convenient and faster. Mobile wallet providers should focus on following things to keep themselves competitive in the market and increase the customer base. Marketing planning helps you develop products and services in your business that meet the needs of your target market. Good marketing plan helps your customers understand why your product or service is better than others in the competition.

Objectives of the Study

- 1) To evaluate the benefits and merits of mobile payment system.



- 2) To find out the awareness and perception of the users towards digital wallets.
- 3) To recognize the leading factors needed to identify and analyze the relationship between different mobile applications and user engagement.
- 4) To assess the importance and selection of mobile apps in the mind of people while using mobile apps.

Research Design

SN	Parameter	Description
1	Type of research	Descriptive & Exploratory Research
2	Research Instrument	Structured Questionnaire
3	Survey period	July to September 2019
4	Type of product	Mobile Wallet
5	Primary sources	Structured questionnaire, observation
6	Secondary sources	Book, Journal, Articles, Magazines
7	Data interpretation	Though Graphs

Data Analysis and Interpretation

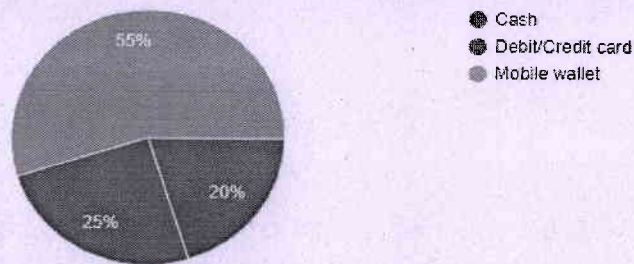
Demographic Profile of respondents

Gender		
1	Male	54%
2	Female	46%
Age		
1	Below 20	88%
2	20-40	7%
3	Above 40	5%
Qualification		
1	Below graduate	23%
2	Graduate	44%
3	Above Graduate	33%
4		
Occupation		
1	Student	17%
2	Employee	55%
3	Business	17%
4	Housewife	11%
5	Retired	00%



Q.1. Which mode of payment do you prefer the most?

100 responses

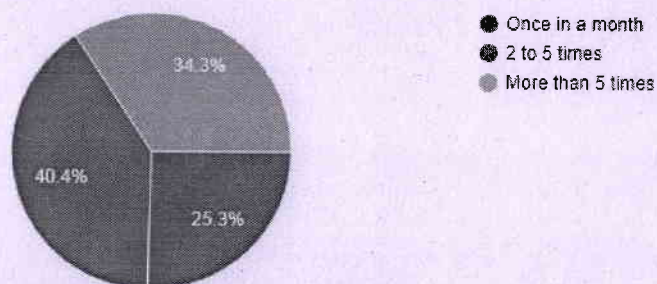


Graph 1: Analysis of mode of payment

Interpretation: After collecting and analyzing the above information, researcher interprets 55% responses are for Mobile Wallet.

Q.2. How often do you use mobile wallet in a month?

99 responses

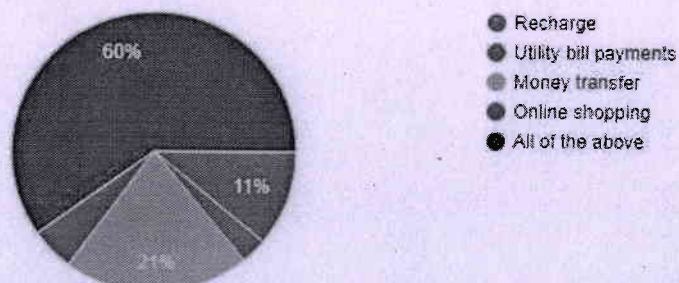


Graph 2 Analysis of mobile wallet use in a month

Interpretation: After collecting and analyzing the above information, researcher interprets 40.4% responses are for 2 to 5 times, 34.3% responses are for more than 5 times and 25.3% responses are for once in a month.

Q.3. You prefer using M-wallet mostly for transactions of___?

100 responses



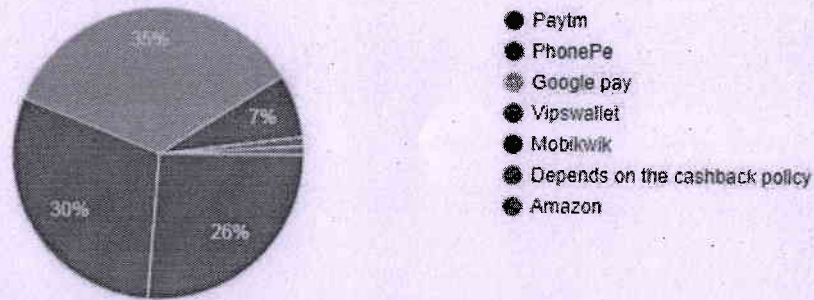
Graph 3 Analysis of transactions done using M wallet

Interpretation: From the above graph, researcher interpret 60% responses are for all of the above, 21% responses are for money transfer, 11% responses are for recharge and very less response for utility bill payments and online shopping.

Graph 4 Analysis of mostly prefer mobile wallet

Q.4. Which mobile wallet do you prefer the most?

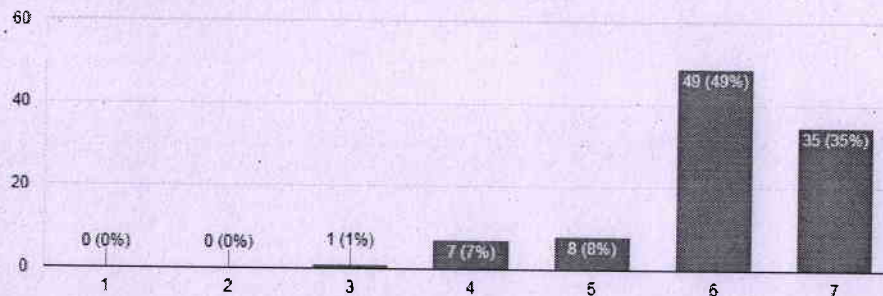
100 responses



Interpretation: From the above graph, researcher interpret 35% response is for Google pay, 30% response is for PhonePe, 26% response is for Paytm and 7% is for Vipswallet. Also 2% responses are for others specifying amazon and depends on the cashback policy.

Q.5. Rate the mobile wallet application that you have used.

180 responses

**Graph 5 Rating of mobile wallet app**

Interpretation: The study also looked for satisfaction rate of customer using mobile wallet. From the above graph, researcher interpret 35% people are highly satisfied with service provided by mobile wallet providers whereas 0% that is no one is dissatisfied with the use of mobile wallet.

Q 6) Rate the following M-wallet benefits: Access to all required payment services:
Total 100 responses:

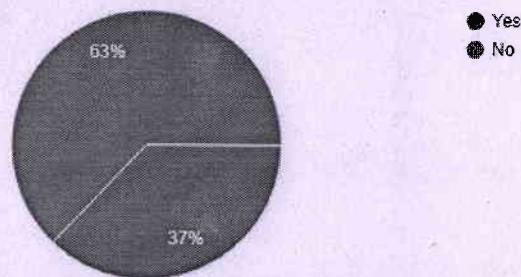
No. of responses

Graph 6 Access to all required payment services

Interpretation: The above table indicates 28% of respondents strongly agree that access to all required payment services is considered as one of the benefits of mobile wallet followed by 44% respondents agree to it and 3% respondents disagree.

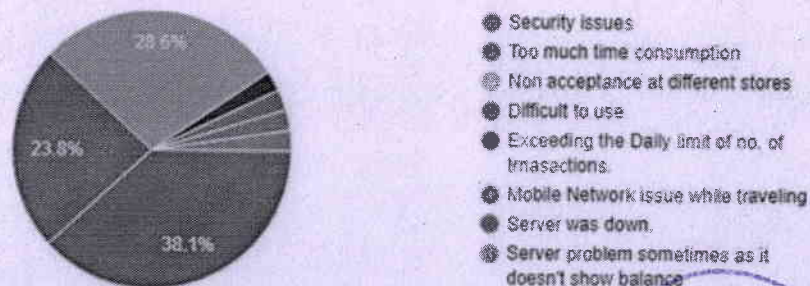
Q.7. Did you come across any obstacle while using mobile wallet?

100 responses



Interpretation: From the above graph, researcher interpret that 63% people have come across an obstacle and 37% people have not while using mobile wallet. This shows that maximum people are facing some problems when using mobile wallet.

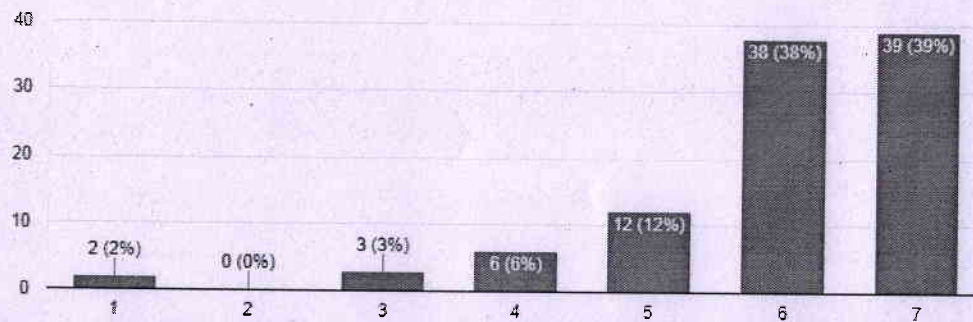
Q.8. If yes, what kind of obstacles you face the most?



Interpretation: From the above graph, researcher interpret 38.1% responses are for security issues, 28.6% responses are for non acceptance at different stores, 23.8% responses are for too much time consumption. Also some people have faced other obstacles like exceeding daily limit of no. of transactions, mobile network issue while traveling and server problems.

Q.9. Would you prefer to continue using M wallet?

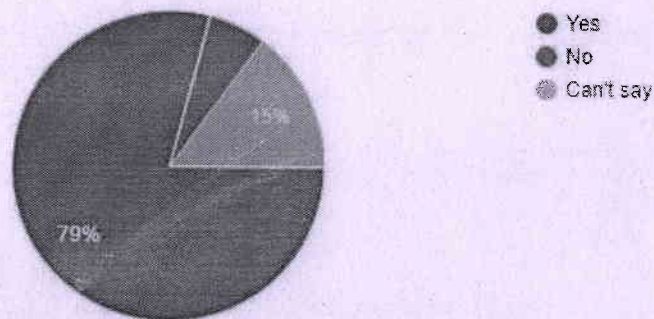
100 responses



Interpretation: From the above graph, researcher interpret 39% people are very likely interested to continue using M wallet whereas 2% are not likely interested.

Q.10. Do you think M-wallet should be widely available in India?

100 responses



Interpretation: From the above graph, researcher interpret 79% responses are for yes, 15% are for can't say and remaining 6 % are for no. This clearly shows that maximum people think M wallet should be widely available in India.

Findings of the Study

- The preferences for using mobile wallet payment services are high.
- The Availability, Convenience, Service acceptance, Security and Reward points are the major factors which influences most of the respondents to use mobile wallets.



- A large number of the respondents are satisfied with the service provided by them whereas a few number of the respondents are highly satisfied with the service used.
- Majority of the respondents have not come across any obstacle while using mobile - wallet and major problem faced by some of the users is security issues.
- As security is a major issue, most of the respondents fear of digital-wallet provider sharing the confidential information with other companies, misuse of information if phone stolen, rise in the number of cyber crimes and virus being installed on the phone.
- Security, necessity, time and services used are the factors which influence the preferences of the respondents.

Conclusion

The study was accomplished to explore consumer perceptions and willingness to use mobile wallets. Specifically the study explored awareness, usage, and likelihood of using smart phones for completing the monetary transactions. With the increased penetration of internet connectivity and smart phones has led to an increase in the number of digital wallet users.

Mobile-wallet is getting more and trendier among the consumers. As per the findings of the study, digital-wallet is getting popularity among the young lots such as students and employees. When a user is making an online payment via digital-wallets, the respondents are affected by various assorted factors. One of the main obstacles is security issues, due to which the users get anxious about his or her confidential information which may get disclosed. Therefore the mobile-wallet providers need to understand and meet the users trust and expectations. Mobile-wallets are growing in India as the consumers are relying upon the digital life style to make things convenient and faster and the consumers are embracing digital-wallet with open arms.

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A STUDY & IMPLEMENTATION OF 5S IN A MEDIUM SCALE ORGANIZATION: A CASE STUDY

Swapnil Patil

swapnilpatil048@gmail.com

Dr. Rohan P. Dahivale

(Associate Professor),

Rajgad Institute of Management Research & Development, Pune 43

rohandahivale@gmail.com

Abstract

5's practice is one of the techniques to improved quality environment, health and safety at the workplace. In this organization there is highly qualified staff is hired for each and every department. But, company still struggling to achieve a curtain bench mark; this is set by management. Normally, this improvement has been achieved through implementation of best practices, which are chosen to meet a particular objective. With increasing of the competition in the business market, two major challenges are in front of our organizations' managers: First, in this competitive environment, managers have to make the best decisions and choose the best methods to achieve their objectives and not to lose very finite opportunities. Second, lack of knowledge is one of the most important problems of managers about familiarity with an appropriate method to improve the performance of organization, successfully. 5S practice is one of the techniques to improve quality environment, health and safety at the workplace. Evaluation of 5S practice can be done through implementation of 5S audit at each division in the company

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

1] Introduction of 5S

5S system is a method using for set up and keeps quality of working environment in an organization. Such organization can organize and manage companies which require less space, human effort, time, quality and capital to make products with less faults and make a workplace well ordered, disciplined and clean .5S is a system to decrease wasting and optimize quality and productivity via monitoring an organized environment and use visual evidences to obtain more firm results.

The columns of 5S are sort (Seiri), set in order (Seiton), shine (Seiso), standardize (Seiketsu), and sustain (Shitsuke). In routine activity of every organization, daily works that support company and neatness are fundamental to an efficient activities flow. 5S is an idea that reshapes how you think about a workplace and provides a foundation for significant improvement but it is not simply about cleaning up a shop floor. The initial stage in 5S is deciding what is essential in the work environment and what is not. The second stage is put



the things where they provide the best support for the functions. The third stage is inspection, repairing and cleaning things to find and remove the root causes of damage and dirt. The fourth stage is team working and the members must have consensus on normal and new way of work. The fifth stage is personal discipline to follow the standards and to perform the personal characteristics, cleanliness and neatness of the organization. Regarding the importance of 5S implementation in today's organizations, this study aims to review previous studies about benefits of 5S implementation and its efficiency in organizations.

2] Literature review

Mr. Amit Jadhav (2011) Mr. Amit Jadhav. Implementing 5S within a Japanese context in sintered Pvt. Ltd. 2011 has implemented the principles of 5S in kihin fie manufacturing company in order to organise the tools, improving the work environment and efficient productive process. He introduced 5S methodology at kihin fie Company for addressing the problems like messy environment, inefficiency, wastage of time and money. The study revealed that 5S implementation led to reduction in time wastage by 49% and provided more productive time to meet the customer demands along with good profits.

Mr. Ramkumar Gupta et. al. (2012) have presented experience of 5S implementation and closely examined the effects of its implementation. They study focused on planning and issues from the manager's and employee's perspectives. They have discussed the short and long term consequences of implementing the 5S program. They found that 5S concept strengthens and facilitates team work, discipline, productive environment, ongoing commitment and maintain excellent service with involvement from top to bottom level management.

Rajesh and Qureshi (2013) have reported that in Indian economy, small scale industries play a significant role in employment and industrial production with 33.33% of export revenue. It is important to implement the basic lean tool (5S) in small scale industries for their development. They concluded that implementation of 5S in (SMES) bring vital improvement of 88.8% in production system within sequential weeks.

Khanna and Gupta (2012) have reported that Mayur Equipment Pvt. Ltd. Company situated in Jaipur (India) have improved the bad condition of the company with practice of 5S in the plant. The company image was totally changed with huge benefits and thereby helped the company to receive the Forbes Asia top 200 under billion awards in November 2012.

3] Objectives of the Study

- 1) To study the basic concepts of 5s and to understand its importance.
- 2) To increase the Productivity using 5s implementation.
- 3) To reduce the Material waste in an Organization.
- 4) To use the best practices and continuously improve them.



- 5) To understand the problem faced by the organization in implementation of 5S.

4) Research Design

- I. **Primary data:** Discussion with the Management level employees in Organization.
- II. **Secondary data:** Secondary data was collected on the basis of organization file, official records, management books, and website of the Organization .the main source of information was internet and the Organization brochures.
- III. **Type of research:** exploratory research
- IV. **Nature of research:** Qualitative research
- V. **Survey Period:** September 2019 to January 2020

5) Data Analysis and Interpretation

5.1] Time Analysis of Implementation of 5S

Time analysis or Time comparison play an important role in a company or industry to improve working and productivity efficiency. Time analysis nothing but comparison of operation time means how much time take by the process, manufacturing of product, searching of tools and materials, etc. We have implement 5S in this company, what is effectiveness after implementation of 5S we have recorded and compared it with old record, effectiveness of 5S before and after implementation is given below Table.

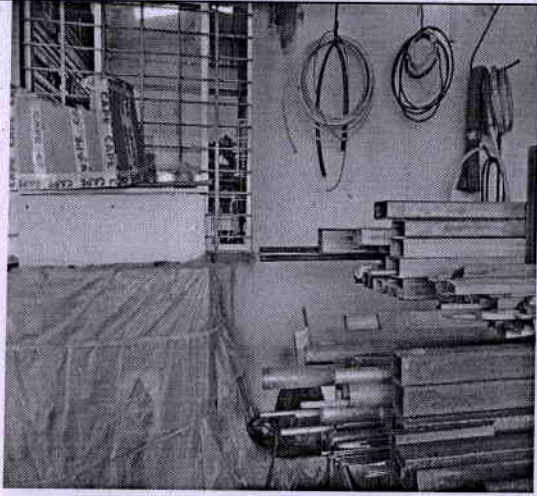
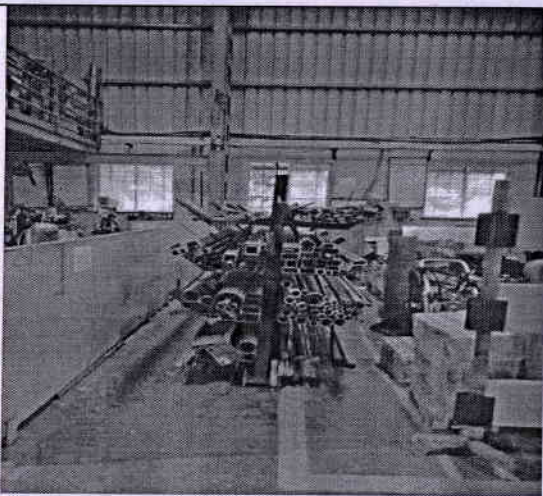
Since effectiveness reading is given out of 1,for example effectiveness of material searching is taken 1 out of 1 before implementation of 5S now after it is 0.5 out of 1, similarly the effectiveness reading is given to other processes. From that comparison we conclude that overall change is 75% means we have increased it up to 20% after implementation of 5S. Since it also increase productivity.

5.2] Processes effectiveness after and before implementation of 5s

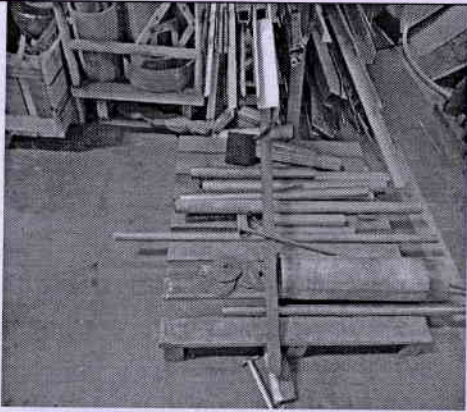
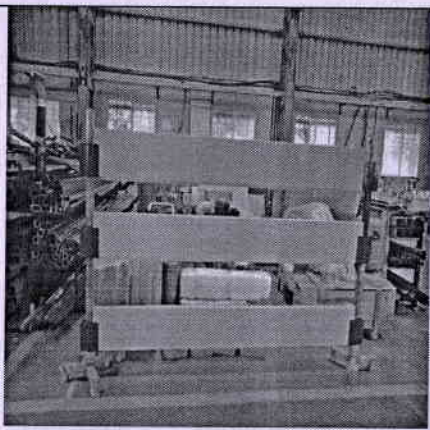
Sr. No.	Processes	Before (Hrs)	After (Hrs)
1	Material Searching Time	1	0.5
2	Tool Arrangement	1	0.5
3	Tool Sequence	1.5	0.3
4	Material Arrangement	1.5	0.5
5	Process Path Cleaning	1.5	0.8
6	Working Environment	1	0.3
7	Safety	1	0.5
8	Working Efficiency	1.5	0.7
9	Overall Time	10	4.1



5.3] Before & after implementation of 5S situation**1's (sorting) raw material storage in store area**

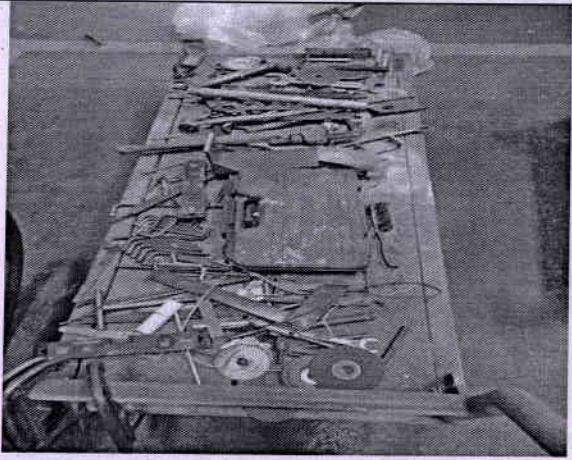
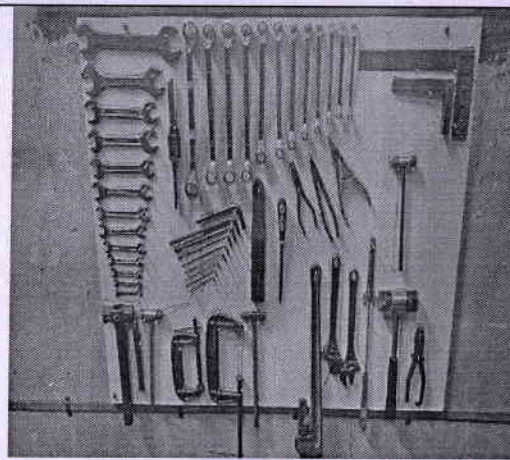
BEFORE	AFTER
	
Raw material storage was near of wall & there is no spaces for material keeps / remove from rack. Thus material handling was difficult.	We changed the position of raw material rack, space provided from both sides of rack. Now it is easy to remove / keep the material on rack.

2's (set in order) store's material inward area

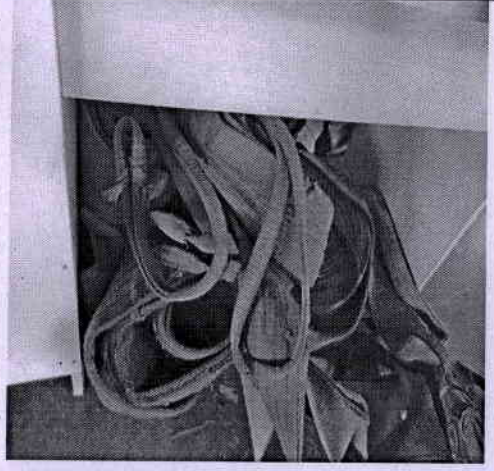
BEFORE	AFTER
	
In store material inward area there was no partition between production & inward material place. Thus production peoples through the end pieces in of raw material in inward material area.	We provided specific area for inward material in store area with yellow marking & provided partition between inward material area & production. Also provided rack for production raw material. Now peoples are keeping material on production raw material rack.



2's (set in order) tools management

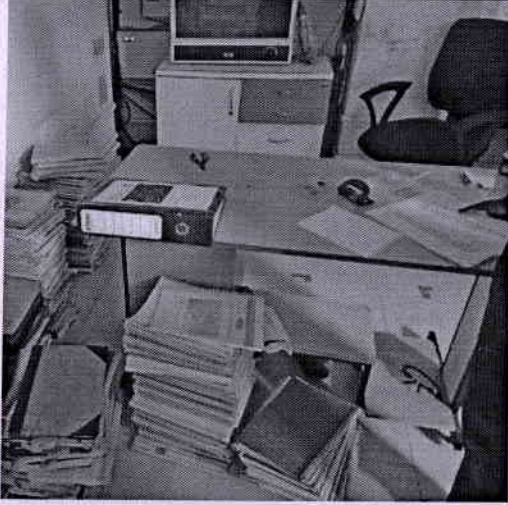
BEFORE	AFTER
	
There was no provision to keep the assembly tools & tackles. lot of time was wasting for searching the tools & tackles	Now for tools & tackles we provided boards with shadow & sizes. Now there is no need to searching of tools & tackles, and it is easily visible.

3's (Shine) lifting belt storage management

BEFORE	AFTER
	
We were keeping the lifting belts in a cupboard. Belts finding is very difficult which is required.	Now we provide stand with hooks. Now it is very easy to get the proper sizes belt & restore.



4's (standardization) product manual storage

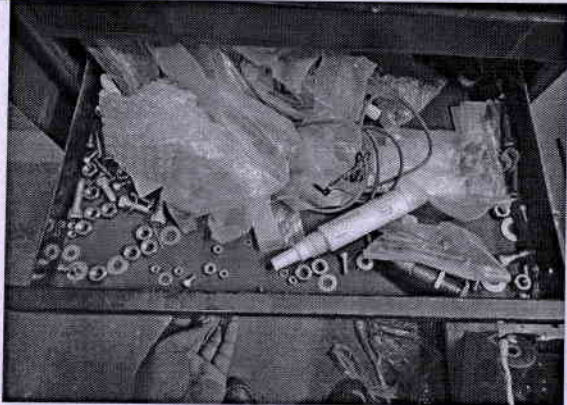
BEFORE	AFTER
	
There was no rack for product manual storage. Lot of time was wasting for searching the required manual.	Now we provide proper rack and numbering & project coding for each & every manual. Now there is no need to searching of manuals and it is easily visible.

4's (standardization) helmet storage management

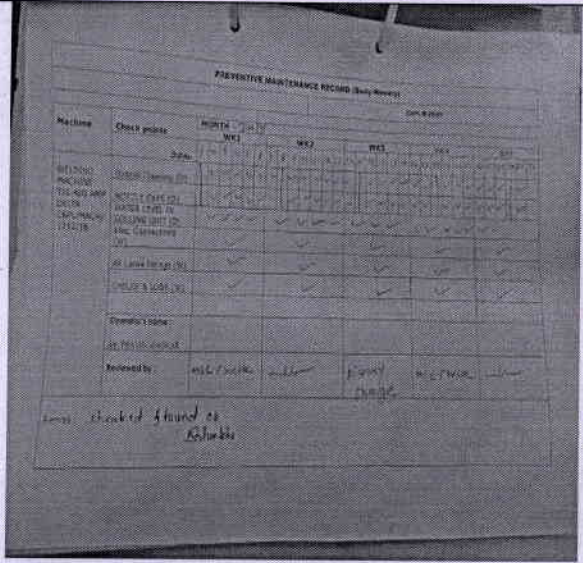
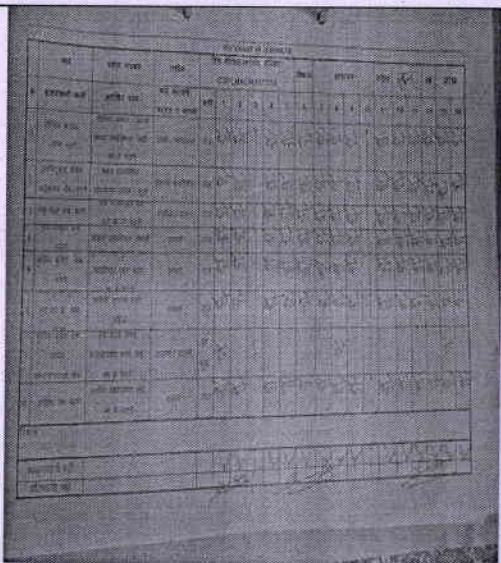
BEFORE	AFTER
	
There was no provision for helmet storage. So people were keeping anywhere on shop-floor and machines.	Now we provided hangars for keeping the helmet. Now everybody keeps helmet on provided place.



4'S (STANDARDISATION) PROJECT MATERIAL MANAGEMENT

BEFORE	AFTER
	
There was no partition in trolley drawer. People were keeping material like above shown photo. Thus lots of time take to search the required materials.	Now we provide proper partition in the trolley drawer for each different sizes material with identification stickers. Now there is no need to searching of hardware and it is easily visible.

5'S (SUSTAIN) MAINTENANCE

BEFORE	AFTER
	
Old format of preventive maintenance, it is in English & there was only tick mark doing on chart & it is difficult to operator for filling so they doing tick mark only. There are some only major check points.	Provided am chart in Marathi & it is easy to read for all operators & they put remark in Marathi. now we added all major & minor points in this sheet so covered the all points.

6] Suggestions

- i. The Organization should do 5's Audit on regular basis at least once in a month.
- ii. The Organization should try to provide proper knowledge regarding their 5'S Audit, even to people who don't know about such Program and their benefits especially in Ground level worker or Helper.
- iii. The work area is cleaned daily but cleaning tasks and cleaning Inspection Checklist have to implement for better result.
- iv. There is a strong correlation between proper training and successful 5's system. Without the proper tools and training employees can feel less engaged into the system. So, provide proper training to the all employee about 5's implementation.
- v. To achieve effective benefit of 5's taken the time to time reward your staff or teams that are outperforming others. This not means of rewarding employee for doing their job, but rather pointing out those that go above and beyond level of standards you layout.

7] Conclusion

The 5S is an effectiveness to manage tools and materials which can improve housekeeping, environmental conditions and health and safety standards and increase productivity and quality. 5S sort stage eliminates unused, unwanted material from the storage room which reduces clutter. Set in order allocates space for components, due to this it give more space for storing more material and tools and results in reduction in searching time. 5S reduce the searching time and improve the production and quality of the products and employees and organization become self disciplined.

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