

Impact of Digitalization in retail sector – With special reference to Ranchi

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Abstract—Digitalization represents one of the most significant ongoing changes across various business sectors. The Indian retail sector is undergoing a swift digital transformation due to several factors, including extensive internet coverage and the growing use of smartphones. Government initiatives such as Digital India have also contributed to the acceleration of digital transformation within the retail industry throughout India. Consumers are increasingly utilizing e-commerce platforms and various online payment methods, including the Unified Payment Interface, RTGS, NEFT, and card payments, to fulfill their shopping requirements. Digital platforms are posing strong competition to traditional offline retail stores. Many offline retail businesses are enhancing their online presence and developing their digital platforms to attract a larger customer base and improve their financial profitability. This study aims to explore the perceptions of Ranchi customers regarding the impact of digitalization on the retail industry, focusing on aspects such as convenience, delivery time, security, and product quality. The research is exploratory in nature and employs a convenience sampling technique. Primary data is gathered through a questionnaire. The findings indicate that customers appreciate the convenience offered by digital retail. They are also satisfied with the quality of products, and delivery times meet customer expectations to a significant degree. However, concerns regarding scams and fraud remain a primary issue for customers.

Index Terms—Digitalization, Digital transformation, Retail sector, Digital India

I. INTRODUCTION

Retailing is business activity of selling directly to the final consumers for personal and non-commercial use. Digitalization in retail refers to the use of technology by the customers for completing most of retail transactions online. Digital transformation in retail is helping retail businesses in creating a more

personalized shopping for the customers through the use of technology like digital analytics etc. This transformation helps customers in making their shopping experience convenient. As a resultant of this digital transformation customers can now shop anytime and from anywhere as per their convenience. Increased use of mobile phones and internet has also given a boost to the online shopping market. Rewards, offers, coupons etc. given in lieu of digital payments on this online shopping sites have also given a boost to this digital transformation. Credit facilities offered by online shopping portals are also attracting customers towards themselves. Use of UPI payments, online payment apps, Netbanking, Card payments etc have increased the use of digital platforms for online shopping. Customers of Ranchi are also using the digital platforms for shopping to large extent. This study is aimed at understanding their perception about digital transformation of retail and use of digital platforms for their shopping needs. Digitalization in retail has its own set of challenges and opportunities. Some of them are:

Challenges of digitalization in retail sector:

- Logistics and shipping: Customers expect fast delivery. Meeting this expectation of fast and reliable delivery is a challenge of digitalization. For success of ecommerce business, efficiency in supply chain and lower shipping cost are important factors.
- Technology and Expertise: Technology has a big role to play in success of digitalization process of retail. Mastering these ever-changing technologies with trained workforce is a challenge.
- Resistance to change: Retail sector, like all other sectors, has to face internal resistance owing to a change towards digitalization. When a retail company shifts towards a digital system, at the

initial stage, it has to face resistance from its own employees as it is hard to convince them and gain their trust.

- **Cyber security:** Online retailers are more vulnerable to data breaches and cyber attacks as there is large number of online transactions and high storage of customer data. Protecting the privacy of customers is a big challenge for online retailers.
- **High Competition:** Online market is very big and there are number of online players in retail sector. Facing this high completion is a challenge for online retailers. Online retailers must focus on marketing and offering good user experience to the customers, in order to face the competition.
- **Budgetary limitations:** Large amount of money is required in digital transformation of retail industry. Meeting this high budgetary requirement is a challenge for online retailers.
- **Complexity:** Giving customized user experiences, controlling the large supply chain process, vendor management etc. bring lot of complexity in digital transformation of the retail sector. Handling these complex processes and offering smooth experience is a challenge for digital retailers.

Opportunities of digitalization in retail sector:

- **Reach to the global market:** Digital retailing has helped retailers to enter global markets. This presents an opportunity to enhance customer base and increase revenue and profitability. Retailers can now increase their presence even to those areas which might not have been physically accessible.
- **Allow round the clock shopping:** Online retailers are open throughout the week. Customers can shop anytime from anywhere. This increases sales and revenue.
- **Increased Engagement:** Digitalization of retail is focused on giving personalized experience and improved customer service to customers. Online retailers also run number of loyalty programs and promotional offers which increases customer's engagement.
- **Gain more marketing insights:** Various marketing campaigns in retail are based on data collection and the analysis of such data. This

gives retailers an opportunity to gain more marketing insights which can help them further in decision making processes and planning new marketing activities.

- **Personalization of services:** Data analytics has an important role to play in understanding customer's needs and wants. Retailers can use this data in offering customized services to the customers. Using this data, retails can give personalized recommendations, formulate customized marketing plans etc.
- **Efficient management:** Online space offers lots of tools to manage retail business. Using these tools complex retail processes like billing, supply chain etc. can be easily managed. Retail processes become streamlined and smooth which results in enhanced customer's experience.

II. LITERATURE REVIEW

Already, many researches have been conducted in field of digital transformation of retail customers. Deborah Agostino et al. (2022), in their work "Digitalization, accounting and accountability: A literature review and reflections on future research in public services", identified that digitalization process is causing extraordinary changes to public services. Digitalization is also being used to support in decision making and accountability functions. Digitalization is successful at the moment as people are putting their trust into it. Broccardo, Laura, et al. (2022), in their work, "How digitalization supports a sustainable business model: A literature review", concluded that digitalization is a powerful tool for small and medium enterprises as it brings lot of opportunities for them. Ghosh, Gourab (2021) in his work, "Adoption of digital payment system by consumer: a review of literature", concluded that adopting digitalization is very important as it is soon going to be a phenomenon that will be unavoidable. Gill Navdeep Singh (2023) in his article, Digital transformation in Retail Industry – everything you should know concluded that in this era of Smartphones and Internet, users always remain connected online. By making a full use of online and offline space, companies can deliver more values to the customers. They can build long term continuous relationship with customers. Sivathanu (2019) studied on the use of online payment at the time of

demonetization in India to establish a link between demonetization and increased use of digital payment methods. It was concluded that a moderate relation exists between behavioral change of people and use of digital payment methods. Ananth I and Madhava P D (2019), in their paper, studied what impact demonetization has on the growth of small businesses and how this pushes them towards digitalization. This study concluded that digitalization gives businesses lots of scope to grow and increase the scale of the business, thereby increasing profitability and financial gains. Joshi R et. all (2019) in their study of people's perception towards the emergence of digitalization of banks concluded that adoption of digitalization is higher in private sector banks. People consider security as a major factor around this adoption. Raj & Aithal (2018), in their paper "Digitization of India - Impact on the BOP Sector" stressed on the importance of digitalization. Malini & Menon (2017), in their paper "Technological innovations in the banking sector in India: An analysis", concluded that there has been a lot of innovation in banking sector with respect to online payments, easy record keeping, easy payment transactions etc. Joshi and Parihar (2017) in their research paper, "Digitalization and Consumer Understanding of Banking services", focused on easy handling of digital payments. Ravi CS (2017) in his research, "Digital Payment System and Rural India: A Cashless Economy Transaction Analysis", suggested that even in rural economy transformation to digital payments should be empowered. Singh & Grover (2017) in their research report, "Mobile Payment Service Quality in India." concluded that there is a concern among consumers regarding confidence and security of mobile payments. V Ignat(2017), in his research report "Digitisation and global trends in technology", concluded that digitalization and new technologies would affect all sectors of economy. He pointed that change in technology will have a large impact on economic growth.

Objective of the study

This research is conducted to address the following objectives:

- To study the factors that affects the perception of consumers regarding digital transformation of retail sector

- To study the positive effect of retail digitalization.
- To study the issues and concerns related to digitalization of retail.

III. RESEARCH METHODOLOGY

The study was undertaken to study the impact of digitalization in retail sector on consumers of Ranchi and the factors that lead to satisfaction level of online consumers. This study is descriptive in nature. Based on extensive literature review, shopping convenience, timely delivery and product quality, are identified as independent variable whereas satisfaction of customers is identified as dependent factor.

Target population:

The target population for this study was the customers of Ranchi who do online shopping. Total of 120 respondents were included in the study.

Data Collection:

Primary data for the study was collected through a questionnaire.

Questionnaire:

Questionnaire consists of basic questions like name, age, gender and also questions designed to study the satisfaction level of employees. Lickert's 5 point scale was used in some of the questions.

Data Analysis:

Karl Pearson's correlation coefficient is the statistical tool to measure extent of relationship between shopping convenience and customer satisfaction level, timely delivery and customer satisfaction level, product quality and customer satisfaction level. Tables and charts are used as well for representation of data.

Hypothesis

- H₀: There is no significant relationship between shopping convenience and satisfaction level of online customers
- H₁: There is a significant relationship between shopping convenience and satisfaction level of online customers
- H₀: There is no significant relationship between timely delivery and satisfaction level of online customers
- H₂: There is a significant relationship between timely delivery and satisfaction level of online customers

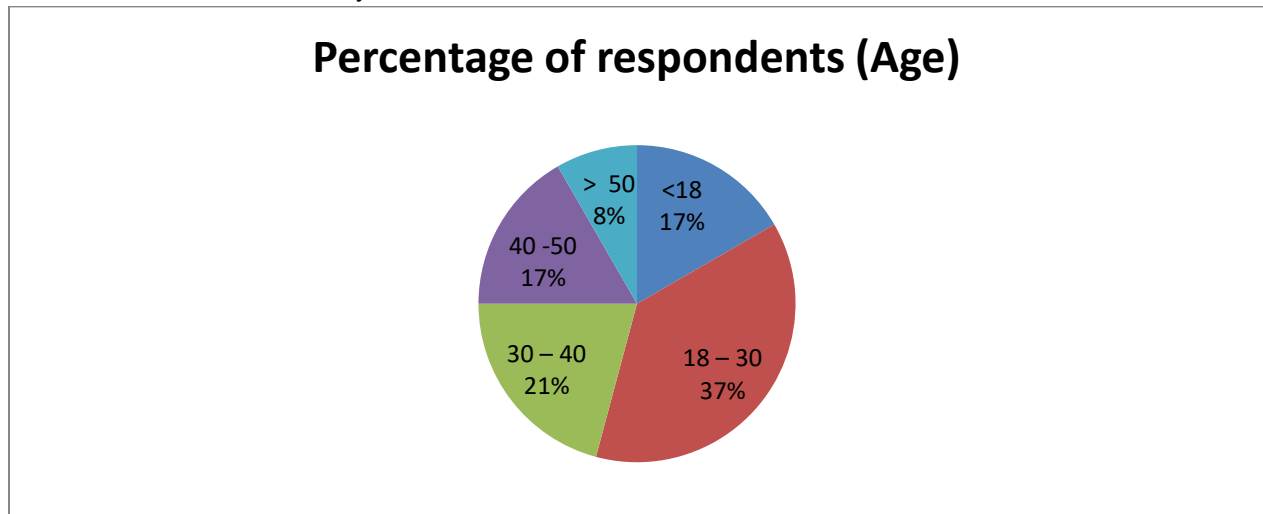
- H_0 : There is no significant relationship between product quality and satisfaction level of online customers
- H_3 : There is a significant relationship between product quality and satisfaction level of online customers

Data Analysis

1. Age

Age	Number of respondents
<18	20
18 – 30	45
30 – 40	25
40 -50	20
> 50	10

Table 1 Data source: Field survey

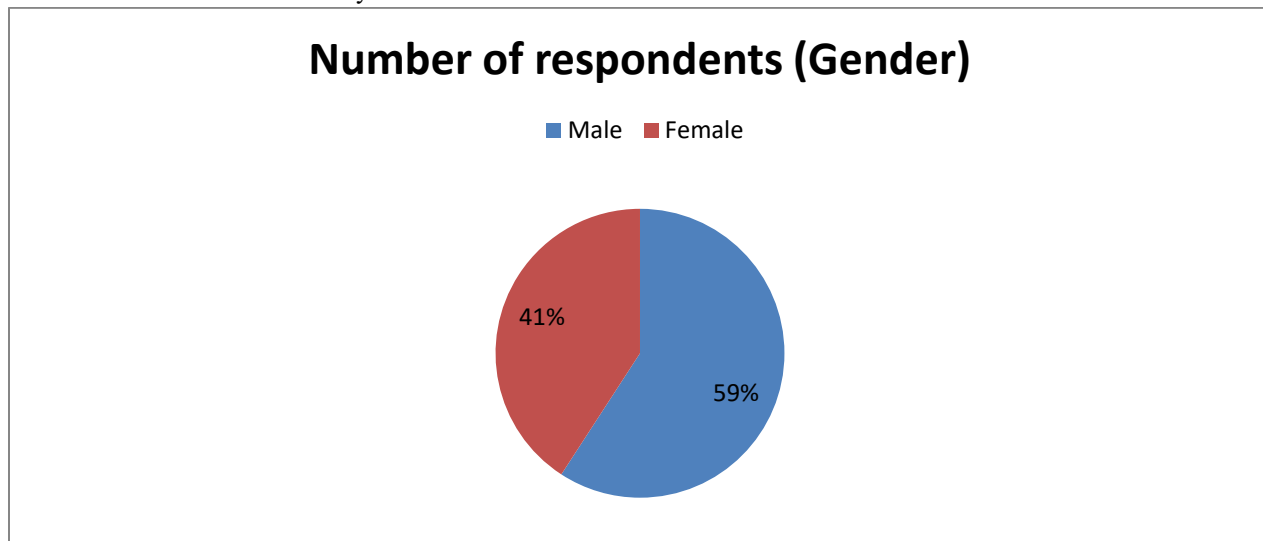


Inference: Majority of online customers (37%) in our study are of age group 18 -30 followed by 30 - 40 (21%).

2. Gender

Gender	Number of respondents
Male	71
Female	49

Table 2 Data source: Field survey



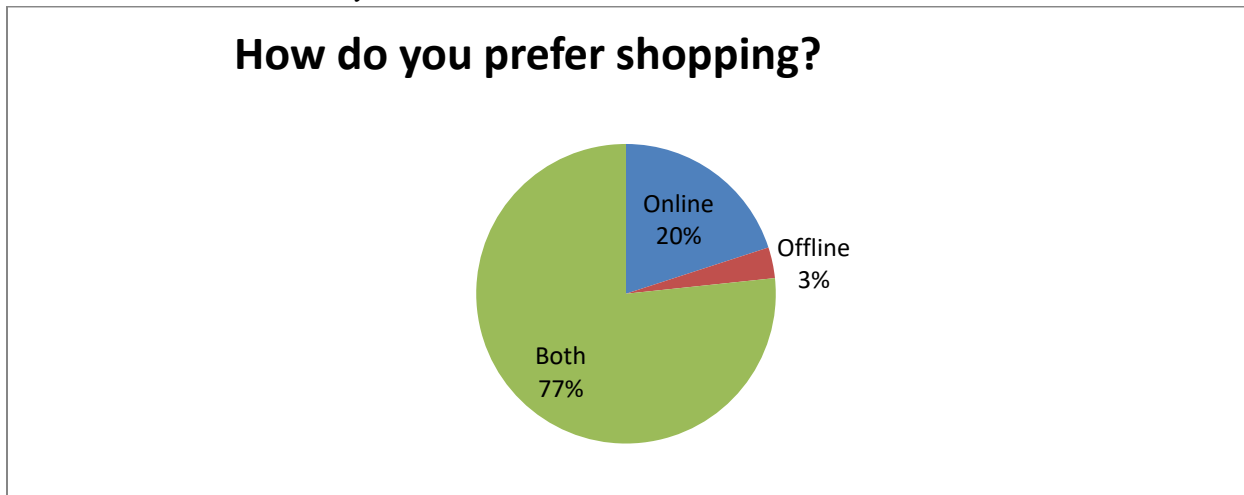
Inference: Majority of customers in this study were male (59%) whereas female respondents were (41%)

3. What do you prefer?

a. Online shopping, b. Offline shopping or c. Both

How do you prefer to shop	Number of respondents
Online	24
Offline	4
Both	92

Table 3 Data source: Field survey



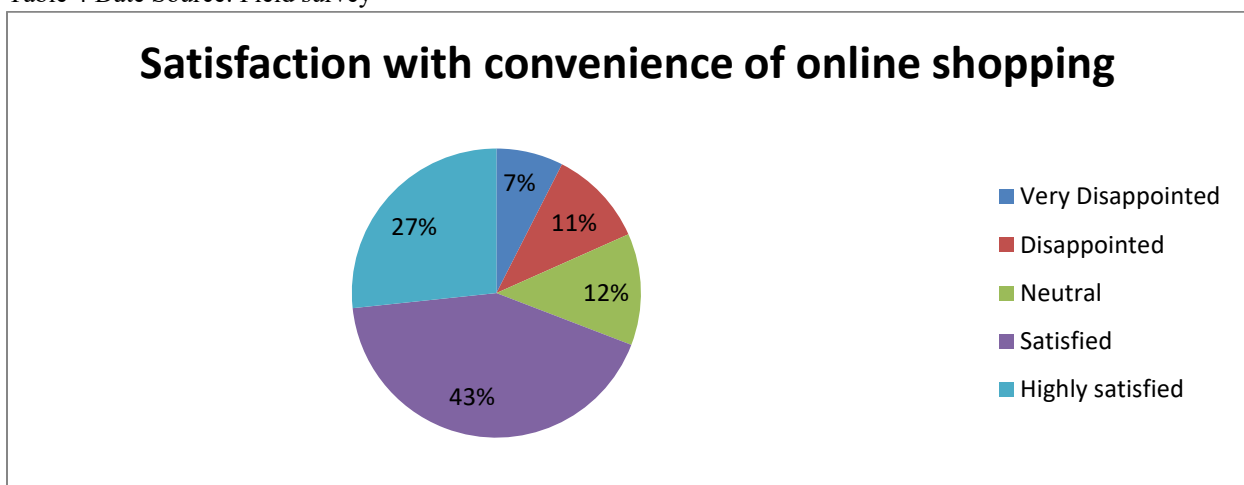
Inference: Majority of respondents (77%) use both online as well as offline shopping followed by 20% respondents who prefer only online shopping. Just 3% prefer offline shopping.

4. How satisfied are you with convenience of online shopping?

a) Very disappointed b) Disappointed c) Neutral d) Satisfied e) Highly satisfied

Satisfaction with convenience of online shopping	Number of respondents
Very Disappointed	9
Disappointed	13
Neutral	15
Satisfied	51
Highly satisfied	32

Table 4 Date Source: Field survey



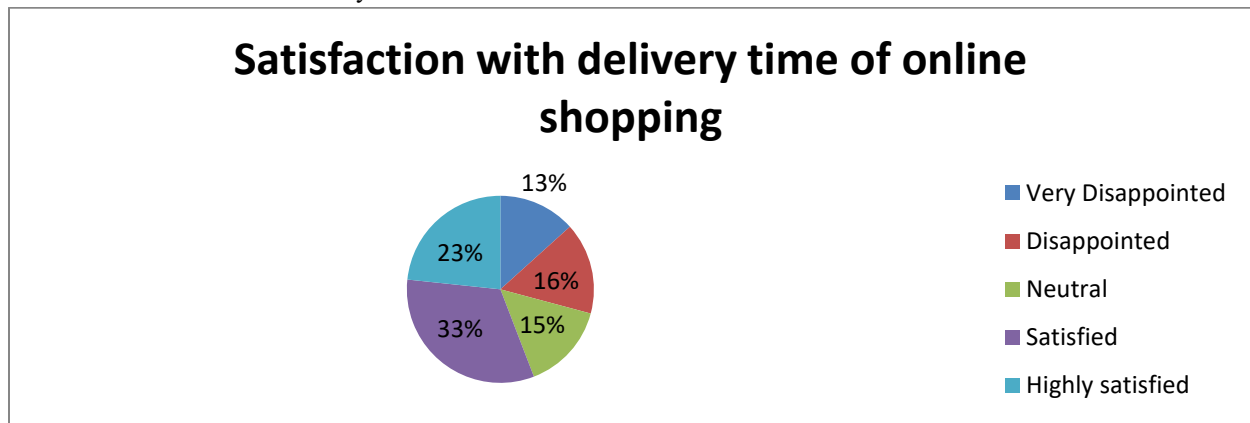
Inference: Majority of respondents (43%) were satisfied with the convenience that online shopping offers followed by highly satisfied customers (27%).

5. How satisfied are you with delivery time involved in online shopping?

a) Very disappointed b) Disappointed c) Neutral d) Satisfied e) Highly satisfied

Satisfaction with delivery time of online shopping	Number of respondents
Very Disappointed	16
Disappointed	19
Neutral	18
Satisfied	39
Highly satisfied	28

Table 5 Data source: Field survey



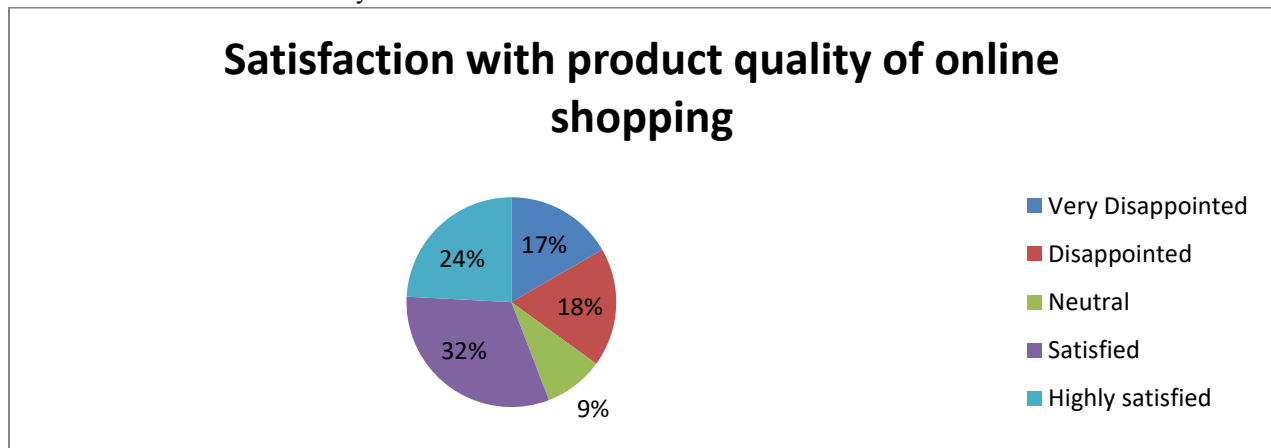
Inference: Most of the customers (33%) were satisfied and 23% of them were highly satisfied with delivery time in online shopping

6. How satisfied are you with quality of product delivered during online shopping?

a) Very disappointed b) Disappointed c) Neutral d) Satisfied e) Highly satisfied

Satisfaction with product quality of online shopping	Number of respondents
Very Disappointed	20
Disappointed	22
Neutral	11
Satisfied	38
Highly satisfied	29

Table 6 Data source: Field survey



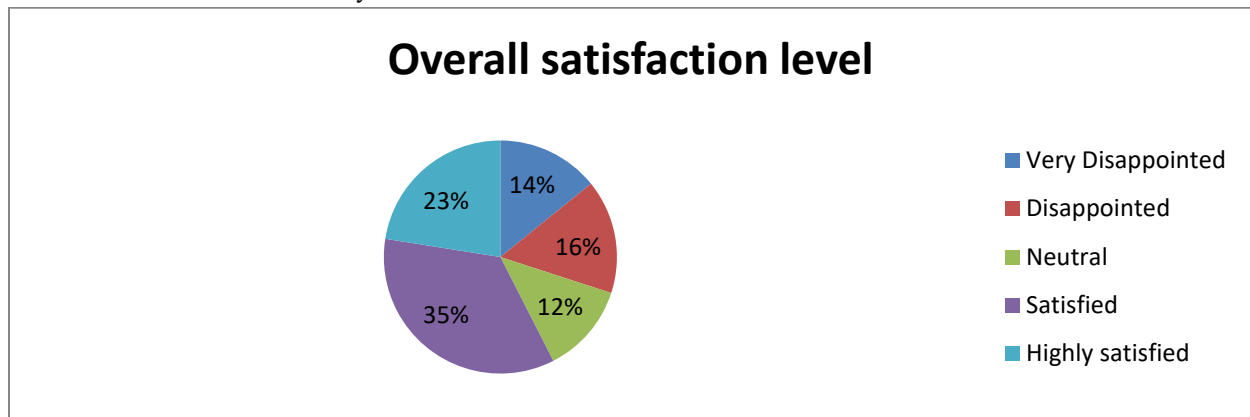
Inference: 32% of the respondent were satisfied and 24% of them were very satisfied with quality of products delivered in online shopping.

7. What is your overall satisfaction level with online shopping?

a) Very disappointed b) Disappointed c) Neutral d) Satisfied e) Highly satisfied

Overall satisfaction level	Number of respondents
Very Disappointed	17
Disappointed	19
Neutral	15
Satisfied	42
Highly satisfied	27

Table 7 Data source: Field survey



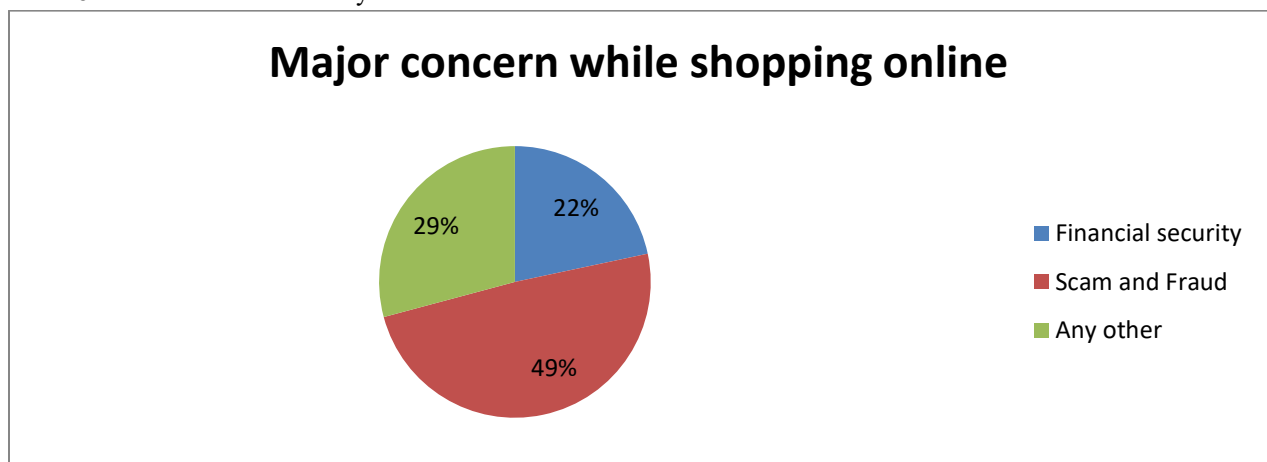
Inference: 23% of respondents were highly satisfied with digitalization of retail, 35% of them were satisfied, 12% respondents had neutral view, 16% respondents were disappointed and 14% of respondents were very disappointed with online retail.

8. What is your major concern while shopping online?

a. Financial Security, b. Scam and fraud, c. Any other

Major concern while shopping online	Number of respondents
Financial security	26
Scam and Fraud	59
Any other	35

Table 8 Data source: Field survey



Inference: 49% respondents feel that scam and fraud is a major concern in online shopping while 29% feel that financial security is an issue.

Hypothesis testing

1. There is a significant relationship between shopping convenience and satisfaction level of online customers.

Karl Pearson's analysis done on Table 4 and Table 7 shows that the coefficient of correlation $(r) = + 0.9733$

According to Karl Pearson analysis, there is a high degree of correlation when the coefficient of correlation is between 0.6 to 1.0 (both positive and negative). Thus, Karl Pearson's correlation coefficient value of $+0.9733$ shows a very high degree of correlation. This means that convenience in online shopping leads to overall satisfaction of customers.

2. There is a significant relationship between delivery time of online shopping and satisfaction level of online customers.

Karl Pearson's analysis done on Table 5 and Table 7 shows that the coefficient of correlation $(r) = + 0.9867$

Based on Karl Pearson's range of correlation, 0.9867 indicates very high degree of correlation between delivery time involved in online shopping and satisfaction level of customers. This indicates that online customers are very much satisfied with the delivery time involved in online shopping.

3. There is a significant relationship between product quality of online shopping and satisfaction level of online customers.

Karl Pearson's analysis done on Table 6 and Table 7 shows that the coefficient of correlation $(r) = + 0.9434$

Based on Karl Pearson's range of correlation, 0.9434 indicates very high degree of correlation between quality of product in online shopping and satisfaction level of customers. This indicates that online customers are very much satisfied with the quality of product delivered in online shopping.

IV. FINDINGS

- Majority of people prefer online as well as offline shopping.
- Convenience provided by online shopping leads to higher overall satisfaction of the consumers
- Majority of customers are satisfied with the delivery time of online shopping.

- Customers are satisfied with the quality of products delivered in online shopping.
- Majority of people (59%) feel scam and fraud is the major concern in online shopping.

Recommendations and Suggestions

- Based on findings in table number 8, it is clear that online customers are most concerned (49%) with scams and frauds that they encounter during online shopping. Digital retailers should consider this a serious concern and work towards eliminating this threat.
- Table number 8 also shows that second most concern (29%) that the online customers have is of financial security. Digital financial transactions should be more strengthened so that the customers feel secure.
- The study suggests that majority of customers prefer offline as well as online shopping. Therefore, retail stores who do not have an online presence can look forward to it and increase their presence on digital platforms.

V. CONCLUSION

Thus, on the basis of this research and other research works done in this area, we can safely say that digitalization of retail has a positive effect on satisfaction of customers. Even in cities like Ranchi, people are shifting towards digital platforms for their shopping needs. It is important for retailers to increase their digital presence and give the best customer service to increase their market share.

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