



A STUDY ON CUSTOMER SATISFACTION LEVEL TOWARDS E-COMMERCE

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Abstract

E-commerce growth is the talking point today. Almost everyone you know shops online and prefers instant delivery to their doorstep. The purpose of the study was to assess the level of customer satisfaction towards e-commerce platforms by determining the factors affecting consumer and evaluating the same in terms of satisfaction. As competition among online retailers intensifies, the need to understand customer expectations and perceptions for achieving long term success is increased. This study is concentrated on the different determinants of website usability, product quality, pricing, delivery, payment security, customer service as well as return. These elements are significant determinants of the consumer's attitude and buying behavior. The aim of the study is to examine the relationship between and the impact of the above factors on the customer satisfaction and determining which factor is the most important in the online shopping. Survey and questionnaire-based data collection is done adopting an organized method to get consumers who are frequently shopping from e-commerce. The collected data is analyzed using the required statistical tools to measure satisfaction levels and relationship of each variable. This allows to thoroughly understand customer behavior in the online marketplace. The study's findings are hoped to highlight which factors dominate customer satisfaction and help e-commerce players improve their offerings. By meeting the expectations and improving important areas, online platforms can develop a trust, enhance customer loyalty and edge ahead of competition. Contributions from this research help understand that customer satisfaction is multi-dimensional in nature when it comes to e-commerce and make recommendations to improve the experience.

Key Words: Customer Satisfaction, E-Commerce, Online Shopping Behavior, Consumer Experience, Website Usability, Product Quality, Delivery Service, Payment Security, Customer Service, Consumer Loyalty

CHAPTER 1 INTRODUCTION

The digital revolution has altered consumer behaviour to interact with businesses in a way that is different from before, and e-commerce is arguably the most significant of the changes to have ever happened in retail. Online shopping has been just a supplementary purchasing option for most of the

past ten years, but now it has become the dominant and preferred choice for millions of customers worldwide. The transition to the digital market has been facilitated by factors such as technology advancement at a fast pace, more people having smartphones, better knowledge of the Internet, easy payment methods, and even logistics by road or air. Ecommerce is not just an instrument for transactions in today's market but rather a complete shopping system that is customer-driven and depends on the quality of the service, trust, and personalized digital interactions.

The customer is the center of this system. A difference is that in a traditional store, customers get to see and touch the products and get help immediately, while in e-commerce, everything is done through virtual interfaces and service processes at the back end. So, e-commerce becomes extremely vulnerable to factors that are interrelated such as store usability, product clarity, payment security, delivery reliability, packaging quality, return policies, complainthandling efficiency, communication transparency. A single point of failure in this digital chain can lead to dissatisfaction, cause trust to be lost, and drive customers towards competitor platforms. E-commerce customers can switch to another platform anytime and hence, it is very difficult to keep them satisfied but if a company fails to do so, it is the end of e-commerce business in that company.

Besides, e-commerce customers have mixed factors to decide on and those factors can be either functional or emotional. From the functional perspective, consumers evaluate convenience, speed, ease of navigation, availability of choices, and service efficiency. From the emotional perspective, trust, security, brand reputation, as well as the feeling of being valued as a customer, play a role of the same magnitude. Those psychological factors are very important because online shopping is actually an uncertain thing—customers can't really check the products, they must rely heavily on reviews and descriptions, and platforms also have to be trusted with customers' personal and financial information. So, it becomes very important to know this because only then can companies improve their service and hence customer satisfaction.

The role of customer satisfaction is more prominent in the Indian e-commerce context. With digital infrastructure rapidly expanding, India has seen a large number of first-time online shoppers, particularly in Tier-II and Tier-III cities. These consumers have different preferences, expectations, and levels of digital literacy. The industry has experienced tremendous growth but has also encountered challenges like inconsistent delivery experiences, inadequate postpurchase support, misleading product listings, and payment failures—issues that directly impact satisfaction. The competition between Amazon, Flipkart, Meesho, Ajio, and other platforms in attracting sellers and consumers indicates the need for companies to create unique customer experiences as a means of differentiation.

The need to study customer satisfaction in e-commerce also comes from the fact that digital expectations are always changing. What satisfied customers a few years ago—like a website that simply works and delivery within a day or two—wouldn't satisfy them now. Modern consumers want devices to be user friendly, they want their purchases to be recommended to them using advanced algorithms, they want exact locations of their orders in real time, they want their orders to be delivered on the same or next day, they want their payments to be made through secure methods and they want issues to be resolved fast and efficient. Since technology keeps evolving with AI-driven personalization, chatbots, data analytics, and automation, customer expectations are also constantly changing. This means that academic and managerial insights should be able to adapt to these changes as well in order to understand which factors have the biggest effect on satisfaction nowadays.

Another crucial point is that most of the studies concerning e-commerce satisfaction focus only on certain aspects such as usability of the website or delivery performance. However, actual customer experiences go through different stages—from product discovery to post-purchase service. Fragmented recognition of these phases can lead to neglect of the holistic nature of satisfaction. Thus, this work concentrates on the in-depth evaluation of numerous factors that contribute to customer satisfaction, recognizing that satisfaction is the result of interactions accumulated throughout the customer journey rather than just a single-touch experience.

1.1 Need for Studying Customer Satisfaction in E-commerce

The necessity for this research originates from the rising influence of customer satisfaction on business continuity in the digital market. Happy customers are prone to loyalty towards a platform, they will be purchasing from the same platform again and again, henceforth, they will be promoting the platform through the medium of word of mouth and will be showing a higher tolerance for minor failures in the service. On the other hand, unsatisfied customers are more likely to abandon carts, discontinue using the platform, and write negative reviews.

Besides that, customer satisfaction in e-commerce leads to the following strategic outcomes:

Customer Retention: Holding customers is cheaper than having to look for new ones. So, satisfied customers will willingly come back without requiring extra promotional efforts.

Brand Reputation: What people say online in terms of reviews and rating have an impact on new buyers. Satisfaction is the main factor behind digital reputation.

Competitive Differentiation: When there are many platforms that mostly provide the same things, then the level of customer satisfaction becomes the main factor separating one from the others.

Operational Efficiency: Knowing where customers are unhappy allows companies to spot the parts that are causing problems in logistics, customer service, or website that they have to work on.

Revenue Growth: Greater satisfaction is correlated with a greater frequency of purchase and a higher value of the purchase. Considering how fiercely competitive online markets are, slight improvements of satisfaction levels can bring quite a few advantages to a company and its ecosystem partners.

1.2 Research Objectives

This study has been shaped by these necessities and is concerned with research objectives, which are the following:

Learning what the major factors are that influence customer satisfaction when shopping online through different e-commerce websites. Measuring the effect that various contributing factors have on consumer satisfaction in online purchases. These goals will lead the researchers into the layers of aspects that form the multidimensional nature of e-commerce satisfaction and will help to uncover the dominant determining factors.

1.3 Research Contribution

This study is a significant contribution in many ways:

It synthesizes different aspects of customer satisfaction—quality of website, delivery efficiency, customer service, trust, perceived value, and user experience—into one comprehensive evaluative framework. It delineates how these factors, in aggregate, drive customer perceptions and behaviors regarding online purchases. By incorporating redefined consumer expectations and recent technological innovations into the conceptualization of satisfaction, it extends scholarly debate further. It supplies the practical know-how that is needed by the e-commerce businesses in order to enhance user interface design, streamline backend operations, optimize delivery channels, and improve the customer support function. It serves as a source of new empirical evidence that decision-makers can use in devising customer-centric strategies amid the intensifying competition of the digital market.

CHAPTER 2 LITERATURE REVIEW

Satisfaction of customers in the e-commerce area has been the subject of research to a great extent in the different regions of the world, but the results have come to the point that technological, psychological, and service-related factors have a significant impact on it. The present literature review summarizes the principal factors that have attracted the attention of the researchers and explains what effect the usability of the website, the performance of the logistics, the price, the trust, and the service of the customer have on the satisfaction level of customers in the online shopping environments.

1. Eid (2011) – Determinants of E-commerce Satisfaction, Trust & Loyalty:

Eid's milestone research explores the complex interplay between satisfaction, trust, and customer loyalty in online contexts. The paper, based on structured questionnaires and SEM analysis, reveals that elements like website design, information quality, and perceived security enhance trust, which in turn is the link between satisfaction and loyalty. The work argues that, in the absence of a physical check, consumers depend heavily on the visual and informational cues provided. Therefore, functioning websites, trustworthy security indicators, and clear policies are not only instrumental in customer satisfaction but also in its facilitation. According to this research, trust is the main psychological factor that influences satisfaction in digital shopping contexts.

2. Asia-Pacific Management Accounting Journal (2023) – Determinants of Customer Satisfaction in E-commerce:

The objective of this work is to analyze how the quality of the user interface, the correctness of the information, the privacy steps, and the support of the customer affect the satisfaction level of the customer. After conducting consumer surveys and running regression models, the writers find that a user-friendly and attractive interface is the major factor in improving customer experience. In addition to that, customers cannot do without the accurate product descriptions and the smoothness of the checkout procedure. Privacy, as the study suggests, is a matter of utmost importance in the e-commerce industry, hence, secure payment methods are the source of satisfaction as online fraud is rising. The main arguments presented in the article are that the technological and informational parts are both significant contributors to customer satisfaction in e-commerce.

3. Maharshi Dayanand University Research Journal (2020) – Determinants of Online Shopping Satisfaction:

The present paper is centered on the factors that depend on the operation and the services provided and include things such as pricing, the speed of delivery, the reliability of the product, and the return of the goods. The survey analysis reveals that the delivery performance and the authenticity of the product have the strongest impact on customer satisfaction. Customers expect the products to be as described online, and if there is a discrepancy, they will be dissatisfied. What is more, the study points out that good return policies and transparent pricing will, without a doubt, increase the consumers' trust in online transactions. The paper goes to great lengths to show that the road to retaining customer loyalty runs through the reliability of the carrier and the provision of good service.

4. Suastiari et al. – User Satisfaction & Purchase Intention (ResearchGate):

The authors in their research consider website usability, perceived usefulness, trust, and security as factors leading to customer satisfaction, and also the study of how satisfaction leads to purchase intention. Through SEM, the work determines that perceived usefulness and ease of navigation directly contribute to customer satisfaction. To induce purchase intention, trust especially plays the leading role, which reveals that a customer's psychological comfort is what will lead to a subsequent purchase. The paper showcases that satisfaction, besides being an end, is actually a behavioural trigger in the online world. Therefore, to elevate user perceptions, platforms should not only deliver an easy-to-use interface but also reliable and up-to-date information.

5. Rahmayanti et al. – Factors Impacting Customer Satisfaction in E-commerce:

The authors discuss the impact of the factors such as the quality of the website, the quality of the product, the fairness of the price, and the safety of the transaction on satisfaction. Their findings reveal that price fairness and product reliability are the key factors that drive satisfaction, mainly in markets where consumers are sensitive to prices. Customers expect that products will be accurately represented, and they feel dissatisfied when the products differ from the photos and the descriptions. Furthermore, the research uncovers that a secure payment process can instil trust in customers and this makes a major contribution to their overall satisfaction. The article communicates the point that ensuring high-quality standards for product listings and pricing strategies is of utmost importance for the success of e-commerce.

6. IJBMI (2019) – Customer Satisfaction in E-commerce Websites (Oman):

This paper is an in-depth investigation of satisfaction factors that consider interface usability, transaction convenience, website speed, and payment security. The results emphasize that the greatest factors in enhancing the trust required for transactions in digital repositories are the checkout process's efficiency and the presence of secure payment gateways, which is characteristically significant for markets with digital trust issues. Slow performance of the website is one of the reasons for customer dissatisfaction as customers are always asking for quick, easy, and non-problematic transactions. The research ends up with the idea that the platforms need to not only take care of the technical side, but also the security aspect in order to be on par with what their customers want.

7. ResearchGate Compilation – Customer Satisfaction Towards Online Shopping:

The compilation deciphers the data from various research papers to find out the major causes that influence the customer's trust; delivery accuracy, website usability, and the quality of customer service are the main factors that lead to the customer's satisfaction. It explains that satisfaction is a complex concept that is developed through different stages of the customer's journey. The review also points out that emotional factors like trust and perceived value are sometimes at the same level with the functional factors. Such a broader view is in line with the thought that e-commerce satisfaction is an aggregated and experience-driven one.

8. IJCRT (2024) – Satisfaction Toward Online Shopping (Coimbatore):

The research provides insights into Indian consumers' perceptions of online shopping platforms, with a spotlight on aspects such as price attractiveness, delivery service, customer service responsiveness, and product authenticity. Through the implementation of descriptive and inferential statistics, the paper concludes that consumers highly appreciate fast and accurate delivery. Furthermore, it emphasizes that worries about counterfeit products significantly influence the levels of customer satisfaction. The study is instrumental in shedding light on consumer expectations in emerging markets, where product trust is still a major concern.

9. SDNBVC (2023) – Customer Satisfaction Towards Amazon Online Shopping:

This paper assesses the service elements of Amazon, which include user interface, product assortment, fulfillment efficiency, and customer support. The findings reveal that streamlined delivery systems and flexible return policies of Amazon are the primary drivers of high customer satisfaction. The study also points out that by focusing on customer-centric policies, such as quick complaint handling and order tracking, Amazon is able to set itself apart from its competitors. It illustrates how operational excellence at the core level can bring about customer satisfaction quite directly.

10. Mavelikara Taluk Study – Customer Satisfaction in Online Shopping:

The focal point of this research is the degree of customer satisfaction among the online consumers who are the residents of the rural and the semi-urban areas of Mavelikara Taluk. The study conducted through structured questionnaires and descriptive analysis reveals that the three main factors that attract people to buy online are convenience, affordability, and cash on delivery. According to the research, customers who live in such areas are deprived of access to large retail outlets. Therefore, online shopping is very much appealing to them. Also, it unveils that logistics problems like delayed delivery and limited courier coverage cause dissatisfaction in a significant manner. Furthermore, the article refers to the fact that the digital literacy rate is different from one person to another, and thus trust and clear communication are two vital aspects that guarantee a positive customer experience. The results shed light on how demographic and infrastructural factors differently effect in non-metropolitan areas and thus ecommerce strategies must be different in every region.

11. IJEAS (2024) – Factors Influencing Customer Satisfaction in E-commerce:

This research paper focuses on various operational as well as communication-related factors that result in customer satisfaction. Among these factors are considered to be order accuracy, delivery timeliness, customer engagement, and real-time tracking. Quantitative survey-based analysis in the paper suggests

that one of the most important factors helping to keep customer satisfaction is transparent communication during the order cycle, especially if the unexpected delay takes place. Platforms providing customers with SMS alerts, shipping updates, and estimated delivery times as well as offering quick responses to customer inquiries make customers feel more confident and satisfied. Moreover, the paper states that the main factors that contribute the most to customer satisfaction are also stipulate in a correct order accompanied by the well-packaging of goods, while mistakes and the bad treatment of goods cause a significant decrease of customer trust and loyalty to the brand. Customer satisfaction, according to the research uncovered, is mainly influenced by the combination of logistics efficiency and constant communication.

12. Pasaribua (2022) – Impact of Service Quality on Customer Satisfaction:

Pasaribua measures service quality through regular SERVQUAL attributes: reliability, responsiveness, assurance, empathy, and tangibles. The author of this research through SEM analysis discovers that reliability - getting the right product at the right time - is the factor that leads to customer satisfaction the most. Also, the customer care team's responsiveness like receiving prompt answers and the solving of grievances accelerates customer satisfaction. Moreover, empathy during the service interaction makes the customer feel special and henceforth, the emotional satisfaction gets increased. This research poses that online shopping portals should not only rely on their operational performance but should also see to it that the human contacts - support agents, helpdesks, and return processes - are efficient, personalized and trustworthy. The results confirmed that service quality is still a major factor of satisfaction even in technologically advanced online environments.

13. IMBA Project – Customer Satisfaction and Online Purchasing Service:

This scholarly endeavor through primary data evaluates the usability of the website, the convenience of payment, and the effectiveness of the support system. It proves that customers would highly appreciate a platform that offers a user-friendly interface with easy navigation, products view, and the checkout process being less than 3 steps. The research shows that services which load faster and provide accurate information can help the customers by alleviating the mental stress which is inherent in online shopping. Furthermore, card payments, UPI, and cash- on-delivery are some of the secure and flexible payment methods that have altered a user's perceived safety to a great extent. The customer support team's effectiveness, mainly during the return and refund periods, plays a major role in the formation of customer satisfaction. The research comes to the point where it is said that the highest possible level of satisfaction can result from a technological solution that is easy to use and subsequently, a responsive human support service.

14. JATIT (2021) – Customer Satisfaction & E-commerce Loyalty Programs:

This research explores the impact of loyalty programs on customer satisfaction with a focus on variables such as information quality, platform usability, reward attractiveness, and ease of redemption. Employing a quantitative technique, the paper uncovers that loyalty initiatives bring about satisfaction through providing a user with both tangible and intangible benefits like grant points, special discounts, and exclusive offers. Nevertheless, the main debate in the study is that the success of loyalty programs hinges on openness and simplicity. Difficult redemption procedures or ambiguous terms frequently lower the value of such programs and negatively affect satisfaction. The results indicate that loyalty systems designed in an excellent manner promote customer engagement and emotional bonding with the platform which in turn leads to loyalty in the long run.

15. ResearchGate Literature Review – Customer Satisfaction on Flipkart:

This literature review presents the main points of several works done on Flipkart's service quality dimensions that include app interface, delivery speed, product availability, and return convenience. The review singles out two of the most important factors for customer satisfaction - correct product descriptions and easy return processes. Indian customers frequently complain about product mismatch problems, thus making quality checks the most crucial step. The literature also underlines the importance of push notifications, constant updates, and various payment options in terms of customer satisfaction. Besides that, the review argues that delivery and customer support response inconsistencies highly lower the level of customer satisfaction. In general, the paper argues that the performance of Flipkart relies on a combination of technological efficiency and strong backend operations.

16. Formosa Publisher (2022) – Key Drivers of Customer Satisfaction in E-commerce:

In this research, the written sources of online shoppers were examined to find out what leads to customer satisfaction. Researchers identified website performance, order accuracy, delivery dependability, and pricing transparency as the primary factors of customers' happiness. The study results indicate that consumers are mostly concerned with the standard of performance over several transactions. On occasions when delivery time or product accuracy is affected, customers' satisfaction is lowered, even if the platform was previously working well. The study points to the significant role played by the implementation of quality and predictable services in the trust- building process. Besides that, some factors like transparent pricing, free shipping, and a fair return are the ones that contribute most to the perceived value of customers. The paper ends with a claim that ongoing satisfaction is primarily dependent on stable and reliable services rather than times of extraordinarily good services.

17. FEFS Journal (2023) – Service Quality, Trust & Customer Satisfaction:

This paper is a comprehensive examination of interrelations in the three variables: service quality, trust, and satisfaction, by means of structural equation modelling. The main results show that among the factors that create trust in a platform are: quick and effective solutions to the problems, the helpfulness of customer service representatives, and the proactive nature of problem resolution. The trust gained leads to a positive effect on satisfaction and future endeavors of purchasing. Furthermore, the authors argue that customer transparency during bad times, e.g., being informed of stock shortages, getting refunds late, or needing to wait for replacement, is very important to them. A company that not only informs but also provides good solutions is considered a trustworthy one. The article points out that trust formation takes a long time and is the main factor leading to customer satisfaction in the context of online shopping.

18. IFMR/Krea Working Paper (2022) – Global Trends in Online Shopping Satisfaction Research:

This document looks into the changes in the e-commerce research sphere over the last ten years. It singles out delivery reliability, website design, and secure payment as the top variables that have been studied most often. However, the paper also talks about the rise of new determinants to the research such as efficient by-the-books talking to soldiers (chatbots), perfecting to officer-to-officer conversations (personalization algorithms), excellent user experience for mobile apps, and easy integration for digital wallets. The review points out that today's consumers want a smooth, tech-savvy experience that can be done on any device. It also discusses shortcomings in the research such as very few studies on new FAQs like voice search, eco-friendliness, and social commerce trends. This document is a forecast that

dissatisfaction research cannot stand still but has to keep up with the technological future.

19. BOHR Publishing (2021) – Customer Satisfaction in E-commerce:

This paper studies how demographic variables like age, income, education, and digital experience influence the concentration of factors, namely, satisfaction, attributes like speed, convenience, and innovative features such as live order tracking are most appealing to young consumers, whereas older users weigh up trust, clarity, and ease of use more heavily. Digital literacy plays an important role in raising the level of satisfaction as users who are aware of platform features are more likely to have smooth navigations. Moreover, at the same time, the article points out that the income brackets influence expectations of the quality of a product and luxury delivery services. These data highlight that satisfaction is not a single phenomenon that is evenly distributed among different demographic segments, which facilitates the necessity of specially designed user strategies.

20. IJCRT Review – Recent Literature on Customer Satisfaction in E-commerce:

The present review covers various pieces of research conducted in recent years and mainly deals with issues such as delivery delays, product mismatch, logistics inefficiencies, app bugs, and customer support delays. It underscores that despite the progress made in the field of technology, logistical failures continue to be the major cause of customer dissatisfaction worldwide. Customers desire platforms to the extent that provide predictable delivery times, transparent tracking, and fast issue resolution. The review is also aware that mobile app usability, bug-free performance, and user-friendly return processes attract customers' loyalty. In general, it tells us that, although customers are very much dependent on digital interfaces, they evaluate platforms mostly on the basis of the performance of the backend and fulfillment reliability.

RESEARCH GAP

Through extensive research on customer satisfaction in e-commerce, the authors have also identified some research gaps that still exist in literature, thus necessitating further investigations. In most of the studies done, only single factors such as website usability, delivery performance, pricing, trust, or customer service have been considered. Nevertheless, customer satisfaction with online shopping is a concept consisting of several factors that depend on the simultaneous influence of technological, psychological, and service-related factors. Limited research has been done to the effect of these different factors integration into one framework. The absence of a comprehensive framework enables a very limited understanding of the interplay of the factors leading to overall satisfaction.

Besides, the differences in the findings of studies conducted in different regions and among various demographic groups constitute another gap. The literature studies mentioned mainly target metropolitan populations or digitally advanced markets, and that is why they miss predicting the expectations of consumers in semi-urban or rural areas, where digital literacy, delivery accessibility, and trust levels are at quite a different level. Consequently, the existing research works do not mirror the heterogeneity of e-commerce users, particularly in developing or emerging markets such as India. Moreover, the majority of these studies are limited to specific contexts, i.e., they concentrate on singular platforms like Amazon or Flipkart, and hence, their results are less applicable to the broader e-commerce ecosystem.

A methodological gap can also be identified. The issue is that while some pieces of research deploy cutting-edge statistical methods like SEM, others are heavily dependent on descriptive

analysis, thus, they offer shallow insights. Also, by far, most research works are silent about the possible roles of mediators or moderators such as trust, perceived value, convenience, service quality, even though these variables have been identified to have a complex influence on satisfaction. Further, there is a dearth of studies adopting a longitudinal approach which records the changes in the factors of determinants of satisfaction over time notwithstanding such a fast evolution of the e-commerce industry, technology adoption, and consumer expectations.

The rapid technological advancements in the digital marketplace have been a significant source of another large discrepancy. Growing aspects such as AI-powered personalization, chatbot performance, mobile app experience, digital payment innovations, and real-time customer engagement are gradually becoming the main elements of user satisfaction, however, they are still scarcely researched. Most of the present studies concentrate on fundamental aspects of a website or conventional service quality dimensions and thus, they miss explaining how modern users engage with smart recommendations, automated services, and omnichannel experiences.

Moreover, the literature is less concerned with the post-purchase experience, primarily with the return handling, refund transparency, replacement processes, and after-sales support—elements that significantly influence satisfaction but are often overshadowed. Furthermore, the impact of logistics efficiency, last-mile delivery performance, and communication during the delays on customer satisfaction is not adequately addressed despite these being the crucial parts of online shopping experiences.

To sum up, the existing studies offer valuable insights but are still fragmented, geographically limited, or technologically outdated. Thus, there is an urgent need for a thorough, up-to-date, and holistic investigation of the main factors that determine customer satisfaction in the present-day dynamic e-commerce environment. Bridging these gaps will facilitate the development of a more accurate understanding of what really triggers customer satisfaction and will, therefore, allow e-commerce platforms to strategically tailor their activities to meet the changing consumer expectations.

Chapter 3: Research Methodology

3.1 Introduction

The chapter discussed research methodology used in “A Study on Customer Satisfaction Level Towards E-Commerce”. Research methodology refers to the process of creating and conducting research study. It includes process of collecting or gathering information, analysis and its interpretation. The research method enhances the credibility and accuracy of the research project considerably. The main objective of this chapter is to systematically present the tools and techniques that were used in the study. It encompasses research design and sampling, sampling technique and size, source of data, research instrument, data collection procedure, measurement of variables, tools for analysis and ethical consideration.

The methodology has been designed as per the objectives set for the study which include: indicating the factors affecting the satisfaction level of customers related to e-commerce and measuring the impact of these factors on consumer behavior. The study highlights the major dimensions like quality, price, delivery service, website usability and support, which influence the overall satisfaction level of customers. The primary data was collected through a structured questionnaire. Thus, the research is empirical. The survey includes demographic questions and Likert-scale items to measure customers’

perception and experience while using e-commerce. The data is organized, coded, and analyzed with the help of statistical tools like Microsoft Excel, SPSS, etc. to get meaning out of customer satisfaction.

3.2 Research Design

The current study has adopted a quantitative research design which is suitable for analysing customer satisfaction through measurable and numerical data. Quantitative research helps researchers get opinions, behaviours and relationship between variables in a quantifiable form. So, it is best suited for the studies concerning opinion and satisfaction of customers. The nature of the study is both Descriptive and Analytical. This study is descriptive in nature as it aims to describe the characteristics of the respondents aged, gender, occupation and online shopping behaviour. It also focuses on customers' views on various components of e-commerce platforms.

While it is analytical, the study analysis the relationship between independent variable and dependent variable i.e. customer satisfaction.

In addition, the research implements a cross-sectional survey design whereby data is collected from respondents at a specific point in time, rather than throughout a long period. This is useful in gaining insight into the attitudes, perceptions and experiences of customers regarding e-commerce platforms. The research design enables the researcher to systematically collect data, analyze the data and interpret the results to meet the research objectives. It guarantees that the results are valid and dependable.

3.3 Size of Sample and Sampling Technique

The study cites a sample of 224 who had earlier experience of buying products online from e-commerce websites. The selection of respondents is crucial as it directly affects the research outcomes' authenticity and dependability. This study used a convenience sampling technique that was not probability. This method selects respondents on the basis of their accessibility, availability, and willingness to participate in a survey. This sampling method is often employed in studies concerning consumer behavior, particularly when time and resource constraints are involved.

Convenience sampling is suitable for exploratory and descriptive research studies. This is because the aim of most of these studies is not to draw inferences for the whole population. But to gain customer perception and measure customer satisfaction. The selected sample size is adequate for executing various forms of statistical analysis, which include percentage analysis, descriptive statistics, and correlation analysis. This allows firms to make sense of customer feedback and act accordingly to enhance satisfaction.

3.4 Sources of Data

The study is based on both **primary and secondary sources of data**, which together provide a comprehensive understanding of the research problem.

Primary Data

Primary data is the main source of information for this study. It is collected directly from respondents using a structured questionnaire. The primary data includes:

- Demographic information such as age, gender, occupation, income level, and frequency of online shopping
- Customer perceptions regarding product quality, pricing, delivery services, website usability, and customer support

- Overall satisfaction levels and purchase behavior

Primary data is highly reliable as it is collected firsthand and is specifically tailored to meet the objectives of the study.

Secondary Data

Secondary data is collected from various existing sources such as:

- Research journals and academic articles
- Books related to marketing and consumer behavior
- Websites and online reports
- Previous research studies on e-commerce and customer satisfaction

Secondary data helps in building the theoretical foundation of the study and supports the analysis and interpretation of primary data.

3.5 Research Instrument

The primary research instrument used in this study is a **structured questionnaire**, which is designed to collect relevant and accurate information from respondents.

The questionnaire is carefully structured into different sections to ensure clarity, logical flow, and ease of understanding for respondents. It consists of both demographic questions and perception- based questions measured using a Likert scale.

Structure of the Questionnaire Section 1: Respondent Profile

This section includes demographic questions such as:

- Age group
- Gender
- Occupation
- Income level
- Frequency of online shopping

Section 2: Product and Pricing Factors

This section measures customer perception regarding:

- Quality of products received

- Variety of products available
- Reasonableness of pricing and discounts

Section 3: Delivery and Service Factors

This section evaluates:

- Speed and timeliness of delivery
- Condition of product packaging
- Ease of return and refund process
- Ease of navigation on the website
- Availability of payment options
- Security and privacy of transactions
- Overall satisfaction with e-commerce platforms
- Likelihood of repeat purchase
- Willingness to recommend the platform

All perception-based questions are measured using a **5-point Likert scale**, ranging from *Strongly Disagree (1)* to *Strongly Agree (5)*, which allows for easy quantification and analysis of responses.

3.6 Measurement of Variables

This study surveyed e-commerce platforms as well as their customer satisfaction using both demographic and analytical variables. The independent variables dependent control classification variables have been set up to reconstitute and reason doubtlessly and unmistakably.

Variables that are independent.

Independent variables are factors that influence or determine customer satisfaction in online shopping. The following independent variables have been identified in the study.

- **Product Quality** – Refers to the accuracy, durability, and reliability of products delivered through e-commerce platforms.
- **Pricing** – Includes the affordability of products, availability of discounts, and perceived value for money.
- **Delivery Service** – Covers aspects such as delivery speed, timeliness, and condition of products upon

arrival.

- **Website Usability** – Relates to the ease of navigation, user interface design, loading speed, and overall convenience of using the website or application.
- **Customer Support** – Includes responsiveness, problem resolution, and effectiveness of customer service provided by the platform.

In context of e-commerce, these variables are considered crucial factors influencing customer satisfaction.

Dependent Variable

The dependent variable in this study is:

- **Customer Satisfaction** – It refers to the overall level of satisfaction experienced by customers after using e-commerce platforms. It includes satisfaction with products, services, and overall shopping experience.

Customer satisfaction is influenced by the independent variables mentioned above and is measured to understand how these factors contribute to consumer behavior and loyalty.

Control / Classification Variables

Control variables are used to classify respondents and understand variations in customer satisfaction across different groups. These include:

- Age
- Gender
- Occupation
- Income level
- Frequency of online shopping

These variables help in segmenting the data and analyzing how different demographic groups perceive e-commerce services.

Measurement Scale

The study uses a **5-point Likert scale** to measure respondents' perceptions and satisfaction levels. The scale is structured as follows:

- Strongly Disagree – 1
- Disagree – 2
- Neutral – 3
- Agree – 4

- Strongly Agree – 5

Each variable is measured using multiple statements in the questionnaire, and respondents indicate their level of agreement based on their experience with e-commerce platforms.

3.7 Tools Used for Analysis

The researcher checked the data collected for the study using Statistical Package for the Social Sciences (SPSS) as they are widely used to check survey data and for performing advanced statistical analysis. SPSS is very powerful tool to manage and code data and we can apply many statistical techniques on it to make important conclusions.

To reach the aims of the study we used the following statistical tools and techniques.

Descriptive Statistics

Descriptive statistics give an overview of data without going into much detail. This information is presented in a straightforward way. This technique provides a summary of selected demographic characteristics of respondents and how they answered certain questions in the questionnaire.

We'll use the following measures.

- Frequencies And Percentage – were used to describe demographic variables such as age, gender, occupation, income and frequency of online shopping.
- Mean and Standard Deviation - used to determine the responses' tendency regarding the customer satisfaction related to the variable environmental friendly.

Descriptive statistics present and summarize data in a way that is meaningful and useful.

Percentage Analysis

Percentage analysis is used to logically interpret the varying distribution in responses. The study helps to study on perceptions of e-commerce services and their attributes.

Through percentage analysis:

- The rate of respondents agreeing or disagreeing with the same is identified.
- Customer satisfaction trends and patterns are shown.
- It is easier to compare different response categories.

This technique is simple yet effective at presenting survey findings in a clear and concise way.

Statistical Test

Test between categorical variables using chi square test. Give example from the book which the check.

It assists in finding out if the demographic variables and customer satisfaction variables are significantly related.

In this study, the Chi-square test is applied to:

- Analyze the relationship between demographic variables (such as age, gender, income) and satisfaction levels
- Test whether observed differences in responses are statistically significant

The Chi-square test can help us check if differences in customer satisfaction is related to specific demographics.

Correlation Analysis

Correlation analysis measures the strength and direction of the relationship between independent variables and dependent variable.

In this study, correlation analysis is applied to examine relationships between:

- Quality of the product and satisfaction of the customer.
- Prices and customer satisfaction.
- Delivery process and client satisfaction.
- Website efficiency and client gratification.

The correlation coefficient shows whether the relationship is positive or negative and how strong the relationship is. It helps to identify main factors that affect customer satisfaction.

Regression Analysis

In regression analysis, we find out how the independent variable affects the dependent variable i.e. customer satisfaction.

In this study, regression analysis helps to:

- Explore the most impactful criteria on customer satisfaction.
- Assess the degree to which price, quality, delivery, usability, etc., affect levels of satisfaction.
- Forecast consumer contentment in light of the values of independent variables.

Regression helps you understand how and why things happen. It also helps in finding the most influential variables among all the large variables.

3.8 Ethical Considerations

Research integrity and credibility are impacted by the ethical considerations of the selected study. The

following ethical principles were followed in this study:

- Respondents voluntarily participated in the study.
- Participants were given information on the purpose and nature of study.
- The information of the respondents was kept confidential.
- The collected data was utilized for academic and research purposes.
- The final report did not disclose the personal identity of respondents.
- Responses were analyzed in aggregate so as so not identify any individual response.

Such ethical practices help develop trust in the respondents while guaranteeing the sustainability of the research process.

3.9 Summary

Aspect	Summary of Research Methodology
Chapter Title	Research Methodology
Research Topic	A Study on Customer Satisfaction Level Towards E-Commerce
Research Design	Quantitative, descriptive and analytical, cross-sectional survey design
Nature of Study	Empirical study based on primary survey data

Study Objectives	Learning what the major factors are that influence customer satisfaction when shopping online through different e-commerce websites. Measuring the effect that various contributing factors have on consumer satisfaction in online purchases. These goals will lead the researchers into the layers of aspects that form the multidimensional nature of e-commerce satisfaction and will help to uncover the dominant determining factors.
Population	Customers who use e-commerce platforms for online shopping
Sampling Technique	Non-probability convenience sampling
Sample	224 respondents who have experience in online shopping through e-commerce platforms
Source of Data	Primary data collected through a structured questionnaire and supported by secondary data
Research Instrument and Tools	Structured questionnaire with demographic and Likert-scale items and SPSS/Excel
Questionnaire Sections	Section 1: Respondent Profile; Section 2: Product and Pricing Factors; Section 3: Delivery and Service Factors; Section 4: Website and Convenience Factors; Section 5: Overall Customer Satisfaction
Demographic Variables	Age, Gender, Occupation, Income Level, Frequency of Online Shopping
Data Preparation	Coding, data cleaning, tabulation, and creation of composite variables for analysis
Statistical Techniques	Descriptive statistics, percentage analysis, chi-square test, correlation analysis, regression analysis
Ethical Considerations	Voluntary participation, confidentiality, academic use only, no individual identification
Chapter Outcome	Chapter 3 provides a comprehensive methodological framework for analysing customer satisfaction towards e-commerce platforms

CHAPTER 4: DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter includes the analysis and interpretation of data that has been gathered from the questionnaire survey from respondents belonging to diverse backgrounds. The objective of the study is to analyse the customer satisfaction level towards e-commerce and various other factors. Besides this, it emphasizes determining and analysing the reasons that affect the consumer behaviour for online purchasing by the customers.

The dataset collects demographic details like age group, sex, profession, income, and the frequency of online shopping by the consumer. Moreover, this survey also includes answers related to quality, price, delivery service, website usability as well as customer support which are vital elements of e-commerce. These variables play a crucial role in determining customer satisfaction and their perception of online shopping sites.

Also, the questionnaire has responses that measure overall customer satisfaction, repurchase intention, and willingness to recommend e-commerce to other customers. The usefulness of the e-commerce services and the extent of consumer loyalty can be assessed with the help of these indicators.

Different statistical tools were used to analyse the gathered data. The demographic profile of the respondents has been summarized through the application of descriptive statistics while percentage analysis has been used to establish the pattern of customer responses. Moreover, chi-square tests, correlation and regression analysis were also used to study the relationship between different factors and customer satisfaction. The results of these analyses allow for valuable insights into customer preferences, as well as areas of e-commerce improvement to improve customer satisfaction and retention.

4.2 Descriptive Analysis

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Gender	224	1	2	1.44	.498
Age_Group	224	1	5	3.38	.973
Education_Level	224	1	4	2.45	1.262
Occupation	224	1	5	3.01	1.358
Monthly_Income	224	1	5	2.69	1.372
Area_Residence	224	1	3	2.04	.736

Online_Shopping_Years	224	1	4	2.18	1.114
Shopping_Frequency	224	1	4	2.06	1.061
Preferred_Platform	224	1	6	3.18	1.615
Monthly_Spending	224	1	4	2.30	1.103
Valid N (listwise)	224				

Table 1 Descriptive Statistics

Interpretation:

The table of descriptive statistics summarizes the demographics and online shopping behaviours of the respondents involved in the study. Out of a total of 224 responses received, all responses were valid without any missing values (Valid N = 224). Variable Gender has a mean value 1.44 and standard deviation 0.498. Implying that the sample consists of the respondents of two gender categories. Further, respondents belonging to the category coded as “1” have a slightly higher proportion. The distribution of genders is not very variable. The Age Group variable has a mean of 3.38 and a standard deviation of 0.973, implying that respondents average towards the middle- age group. This indicates that the survey captures the views of younger to middle-aged people who are more likely to shop online. Regarding education level, the mean is 2.45 and standard deviation is 1.262, which reflects quite a good diversity in the education level. The participants in the sample studied possess a range of educational qualifications, from low to high. The average and standard deviation of the Occupation variable is 3.01 and 1.358 respectively which shows the respondents belong to different occupational groups. Monthly Income similarly produces a mean of 2.69 and standard deviation of 1.372. This tells us the income distribution is moderate in nature. Further, there is a significant difference in income of respondents. The average value of Area of Residence is 2.04, indicating that most respondents are from semi-urban or urban areas. This is an outcome of the e-commerce platform service being more widely used in these regions. Neutral online shopping behaviour results reflects that for online shopping years, the mean is 2.18 and for shopping frequency, the mean 2.06. This implies that the respondents have moderate experience and also shop online occasionally. The standard deviations show a reasonable spread in experience and frequency. The variable preferred platform shows a mean of 3.18 with a higher standard deviation of 1.615. It means that respondents are utilizing variety of e-commerce platforms. Thus, it shows a healthy competitive environment. Finally, online spending was measured on a scale of 1 to 5. The items had a mean rating of 2.30 with a standard deviation of 1.103. This shows that most consumers do not spend large sums of money on online shopping. In all, the descriptive statistics provide a reliable backdrop for analysis as it shows that the sample used had a similarity in demographics and online purchasing.

4.3 Percentage Analysis

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	125	55.8	55.8	55.8
	Male	99	44.2	44.2	100.0
	Total	224	100.0	100.0	

Age_Group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.4	.4	.4
	18â€œ25	45	20.1	20.1	20.5
	26â€œ35	76	33.9	33.9	54.5
	36â€œ45	71	31.7	31.7	86.2
	46â€œ55	31	13.8	13.8	100.0
	Total	224	100.0	100.0	

App_Visual_Appeal

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	29	12.9	12.9	12.9
	2	49	21.9	21.9	34.8
	3	63	28.1	28.1	62.9
	4	56	25.0	25.0	87.9
	5	27	12.1	12.1	100.0
	Total	224	100.0	100.0	

Easy_Navigation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	23	10.3	10.3	10.3
	2	47	21.0	21.0	31.3
	3	67	29.9	29.9	61.2
	4	50	22.3	22.3	83.5
	5	37	16.5	16.5	100.0
	Total	224	100.0	100.0	

Checkout_Simple

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	23	10.3	10.3	10.3
	2	71	31.7	31.7	42.0
	3	50	22.3	22.3	64.3
	4	55	24.6	24.6	88.8
	5	25	11.2	11.2	100.0
	Total	224	100.0	100.0	

**Product_Info_Clear
Payment_Secure**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	27	12.1	12.1	12.1
	2	62	27.7	27.7	39.7
	3	52	23.2	23.2	62.9
	4	60	26.8	26.8	89.7
	5	23	10.3	10.3	100.0
	Total	224	100.0	100.0	

OnTime_Delivery

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	29	12.9	12.9	12.9
	2	55	24.6	24.6	37.5
	3	59	26.3	26.3	63.8
	4	54	24.1	24.1	87.9
	5	27	12.1	12.1	100.0
	Total	224	100.0	100.0	

Product_Match_Desc

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	26	11.6	11.7	11.7
	2	71	31.7	31.8	43.5
	3	42	18.8	18.8	62.3
	4	56	25.0	25.1	87.4
	5	28	12.5	12.6	100.0
	Total	223	99.6	100.0	
Missing	System	1	.4		
Total		224	100.0		

Return_Process_Clear

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	22	9.8	9.8	9.8
	2	51	22.8	22.8	32.6
	3	53	23.7	23.7	56.3
	4	67	29.9	29.9	86.2
	5	31	13.8	13.8	100.0
	Total	224	100.0	100.0	

Competitive_Pricing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	24	10.7	10.7	10.7
	2	54	24.1	24.1	34.8
	3	58	25.9	25.9	60.7
	4	70	31.3	31.3	92.0
	5	18	8.0	8.0	100.0
	Total	224	100.0	100.0	

Discount_Value

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	26	11.6	11.6	11.6
	2	57	25.4	25.4	37.1
	3	58	25.9	25.9	62.9
	4	48	21.4	21.4	84.4
	5	35	15.6	15.6	100.0
	Total	224	100.0	100.0	

Overall_Satisfaction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	26	11.6	11.6	11.6
	2	51	22.8	22.8	34.4
	3	67	29.9	29.9	64.3
	4	50	22.3	22.3	86.6
	5	30	13.4	13.4	100.0
	Total	224	100.0	100.0	

Interpretation:

Age group

According to the age distribution, most respondents were of age 26, 35 which is 33.9% followed by 36, 45 which 31.7% and 18, 25 was 20.1%. Only 13.8% fall under the category of 46–55. So, from this, it can be inferred that mostly the respondents are younger or middle-aged people, who are generally tech-savvy and frequent users of e-commerce platforms. The results of the study are largely representative of the active online consumers in the market, which has led to the e-commerce growth in Pakistan.

Gender

Among the survey respondents, there were significantly more females than males, at 55.8% and 44.2%, respectively. This shows that more women than men participated in the survey. The discrepancy is not that big which suggests reasonable representation of both genders. This well-rounded approach enhances the understanding of customer satisfaction by examining it across gender groups. Greater female involvement may also imply that women are more active buyers or are more willing to take part in the e-commerce survey.

App Visual Appeal

The feedback concerning the appearance of the application shows that most respondents take neutral (28.1%) and agree (25.0%). But a significant proportion also disagrees (21.9%) and strongly disagrees (12.9%) Just 12.1% are in complete agreement that the app is visually appealing. There seems to be a difference in opinion about the visual design of e-commerce websites. Although a good portion of users are already pleased, it can be improved aesthetic and UI design-wise to better the shopping experience.

Easy Navigation

The ease of navigation has neutral response at 29.9 percent while agree response at 22.3 percent and strongly agree at 16.5 percent. Yet, 21.0% don't agree and 10.3% strongly don't agree. As such, while many users view these platforms as manageable, a fair number of users still found them difficult to navigate. Findings reveal that e-commerce sites must enhance usability by simplifying navigation features for a hassle-free and easy-going experience for all customers.

Product Info Clear

According to the result 30.8% respondents agree that product information is clear and informative and 21.0% are neutral. In contrast, 23.2% disagree and 12.9% strongly disagree. A mere 12.1% fully agree. This indicates many customers are satisfied with the product information. A notable proportion also experiences issues with the clarity of product information. Updating product descriptions, specifications, and detailed information will boost customer confidence and decrease uncertainty in online purchases.

Checkout Simple

According to the results, 31.7% of respondents disagree and 22.3% are neutral on whether the checkout is simple. Approximately 24.6 percent agree and 11.2 percent strongly agree. This suggests that a

significant amount of users have found the checkout process difficult or cumbersome. The findings show that the e-commerce site was most affected by the checkout process. Therefore, it revealed ways to reduce the checkout steps to spur faster transactions.

Payment Secure

Perception of security of payment is somewhat neutral with 26.8% and 23.2% neutral. On the contrary, 27.7% disagree and 12.1% strongly disagree. A mere 10.3% are in strong agreement. It means that while some individuals trust the payment systems, a considerable number do not. Online sellers must enhance security and build faith in online transactions by safe payment gateways and proper mechanisms.

On-Time Delivery

26.3% of respondents remain neutral, while 24.1% agree and 12.1% strongly agree on the timely delivery timeframe. Nonetheless, 24.6% of the people disagreed and 12.9% other strongly disagreed. people are not totally happy with the delivery performance Some customers are nice while others have to wait. In e-commerce, streamlining logistics efficiency and consistent delivery time improves customer satisfaction significantly.

Product Match Description

Based on the results, 31.7% of the respondents disagree that the delivered products are what they saw online. On the, other hand, 25.0% of the respondents agree with the statement while 12.5% strongly agree with the statement. Approximately 18.8% have no feeling toward the content. It shows that many customers receive something different from what they expected when they order. Mismatches like these can lower trust and satisfaction. Thus, e-commerce platforms must keep the accuracy of the product and get better images and descriptions.

Return Process Clear

Almost one-third of respondents agree that the return process is easy to understand with 29.9% agreeing and 13.8% strongly agreeing. Nonetheless, a percentage of 23.7% is neutral, while 22.8% disapprove and 9.8% strongly disapprove. This means many customers find the return process easy, but a lot of customers find it confusing. It would facilitate and facilitate customer satisfaction for an easier return process with instructions.

Competitive Pricing

Most respondents (31.3%) agree that prices are competitive whereas 25.9% are neutral. Approximately 24.1 percent disagree and 10.7 percent strongly disagree while only 8.0 13 strongly agree. While pricing seems competitive to many, it also appears that a significant amount of customers are not satisfied. E-commerce firms must introduce better prices along with clearly mentioned discounts to strengthen perceived value.

Discount Value

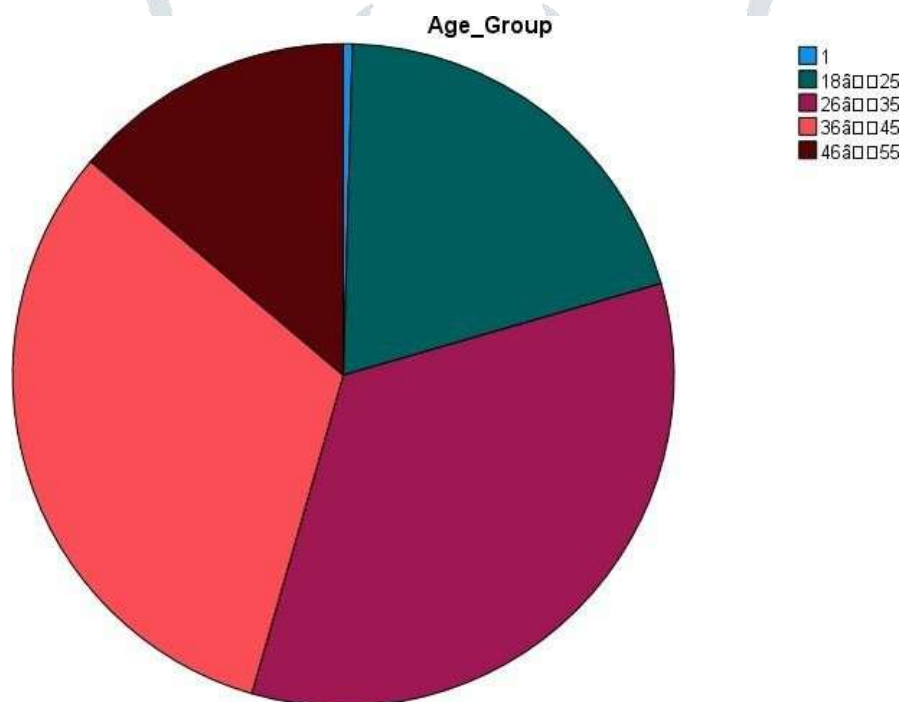
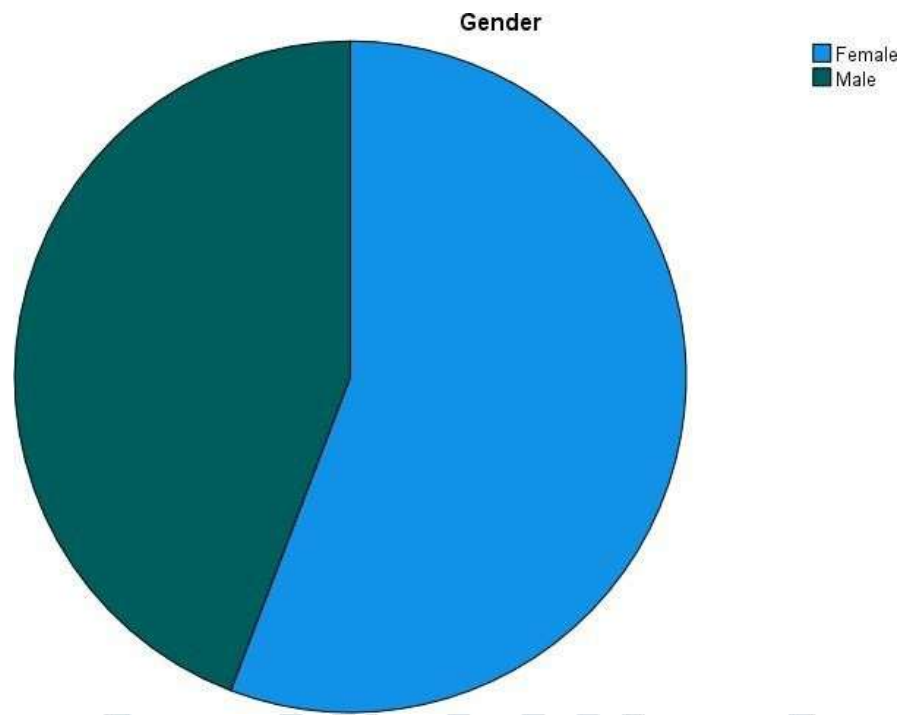
The responses indicate that 25.9% are neutral, 25.4% agree, and 21.4% strongly agree that discounts have good pricing value. 25.4% disagree and 11.6% strongly disagree. This shows that customers are

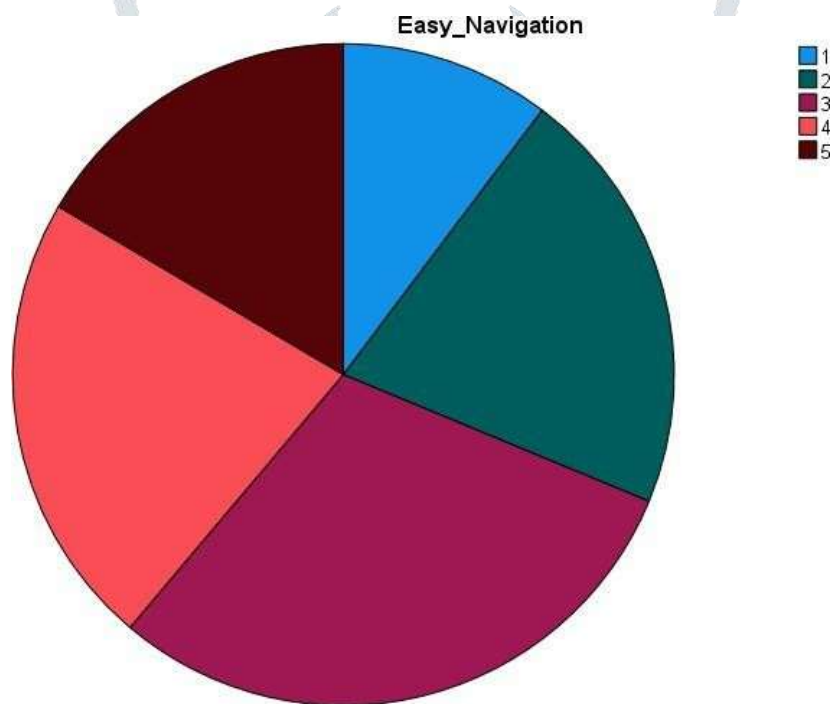
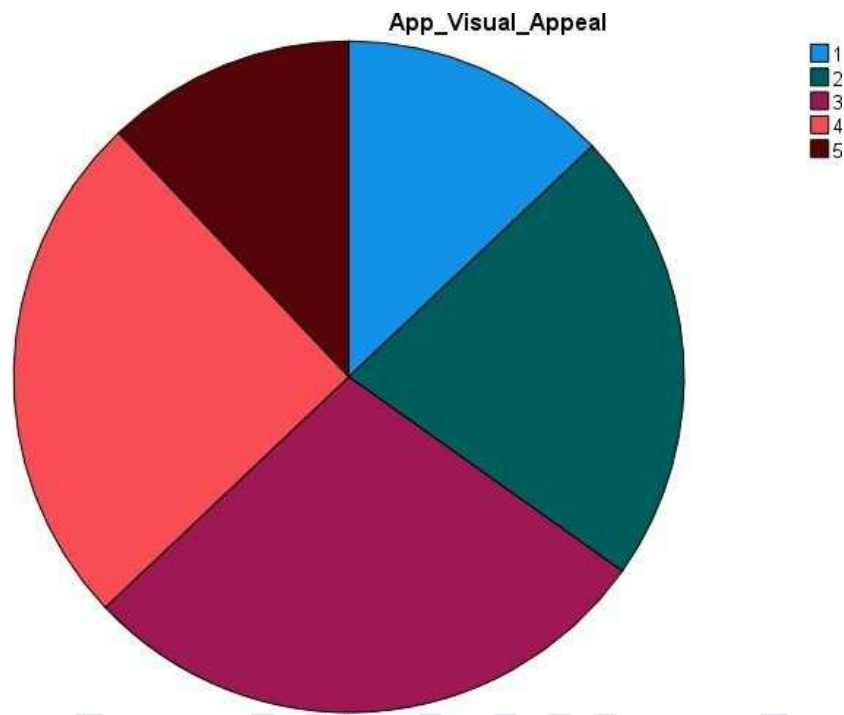
not sure about discounts and offers. Some people find discounts useful. Some people feel that the discounts are not substantial. Enhancing promotional offers' attractiveness and transparency can lead to greater customer satisfaction.

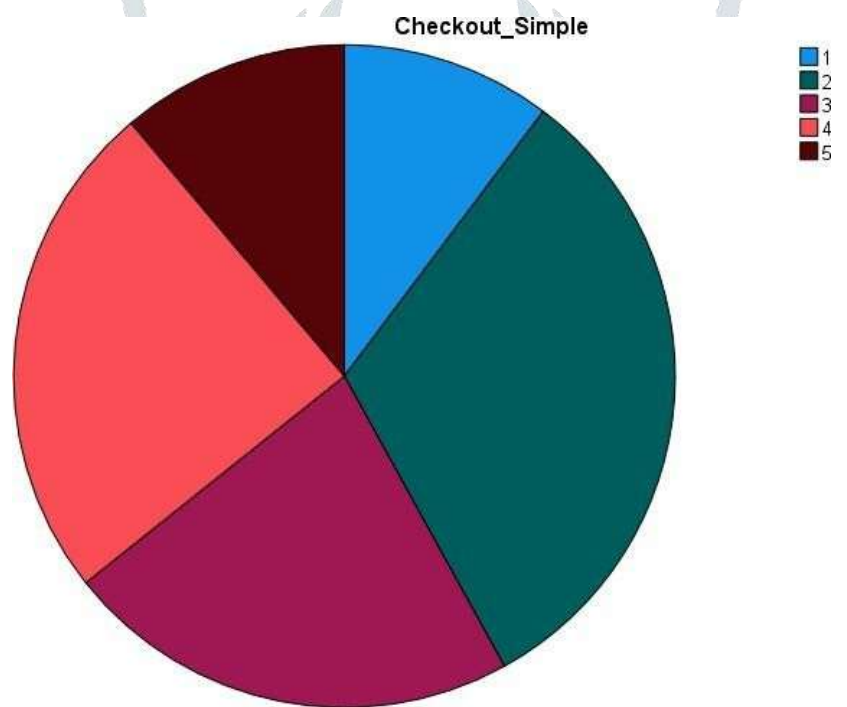
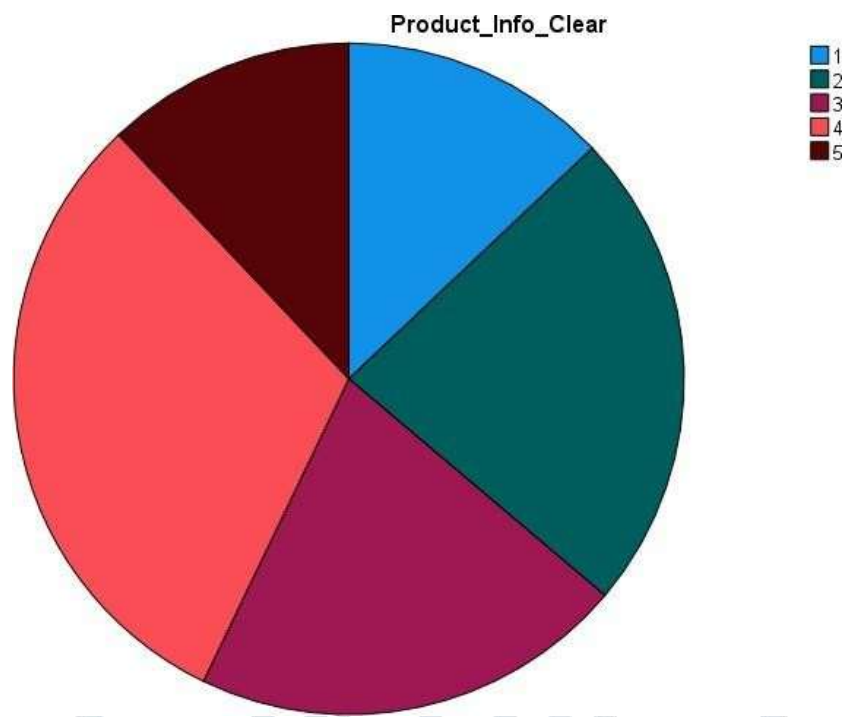
Overall Satisfaction

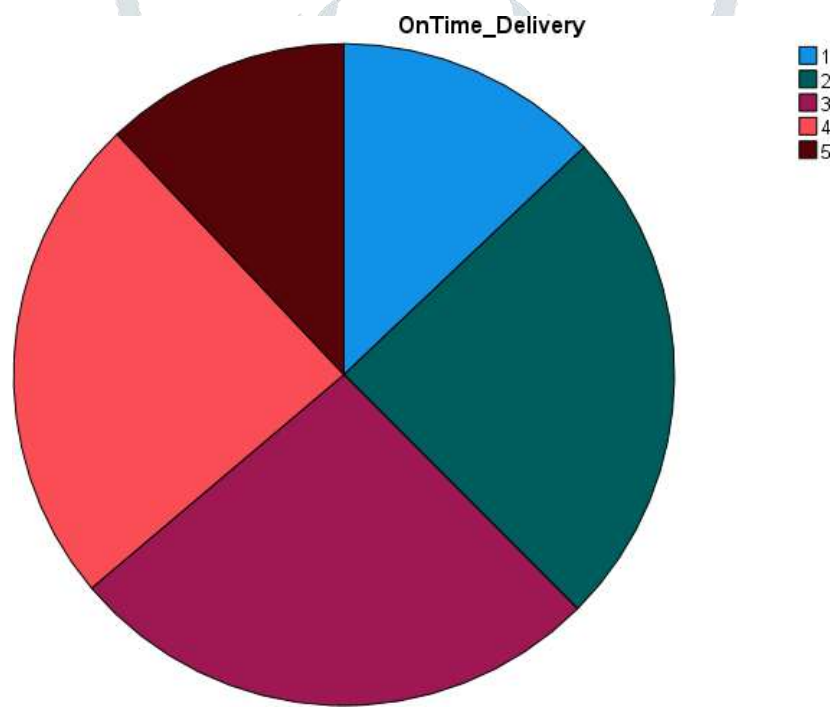
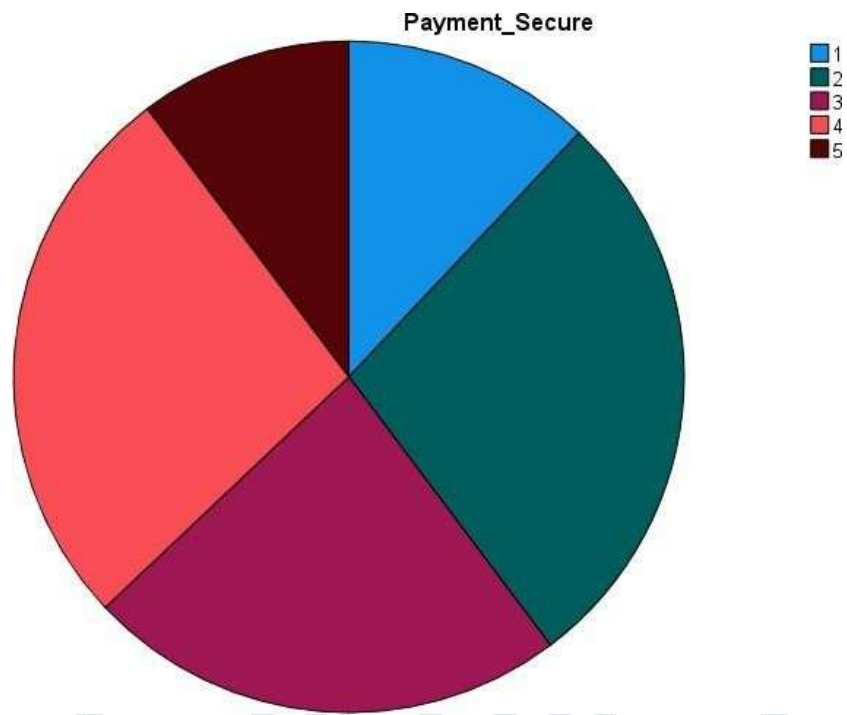
According to the overall satisfaction results, 29.9% of respondents are neutral, 22.3% agree, and 13.4% strongly agree. Nonetheless, 22.8% disagree and 11.6% strongly disagree. This shows that customers are moderately satisfied with e-commerce platforms. Some customers are satisfied but many are neutral or dissatisfied. Most banks need to work on it. This indicates the need for improvements in factors such as service quality, price, delivery, user experience, and so on for overall satisfaction.

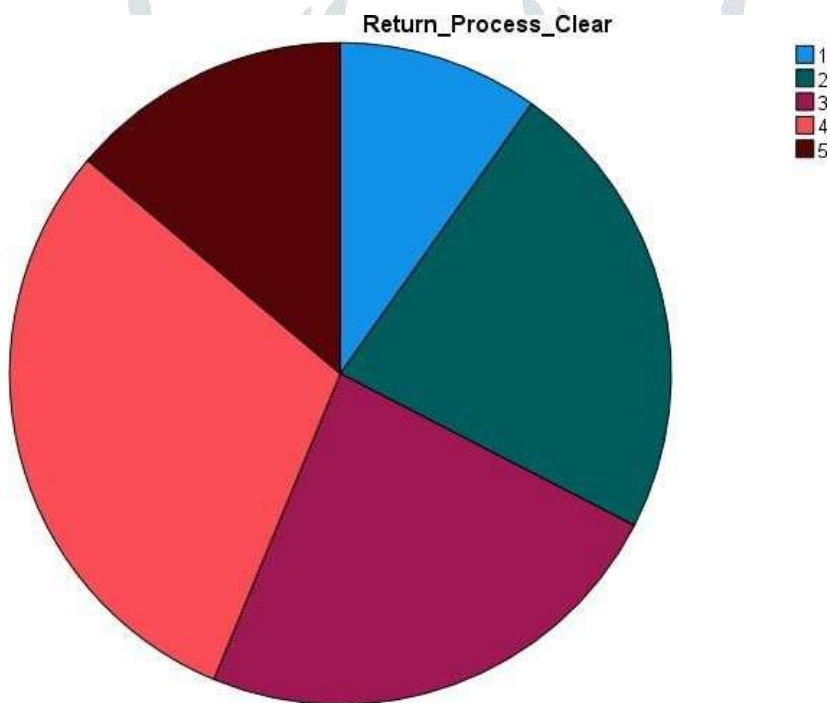
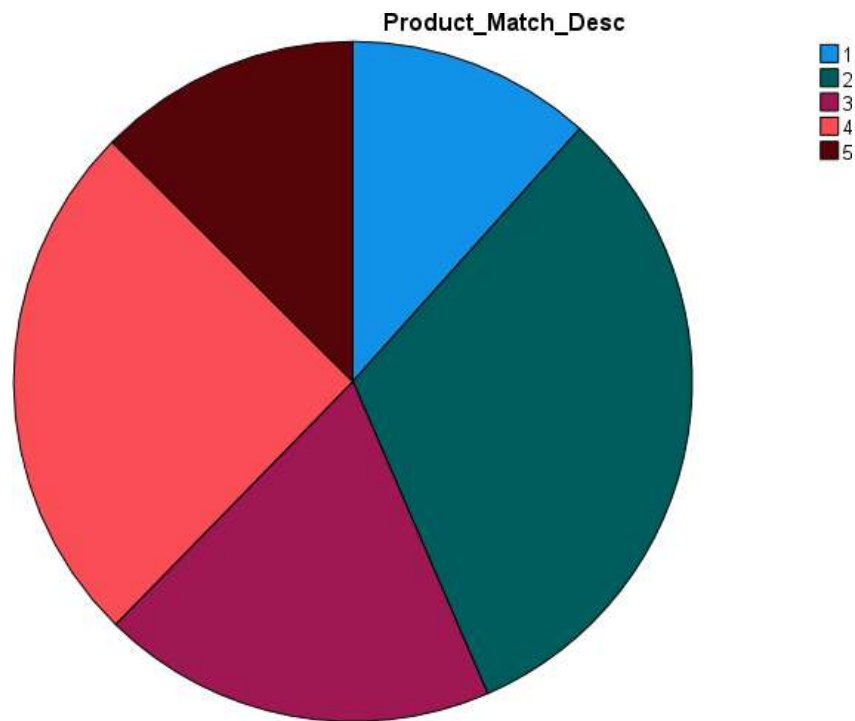


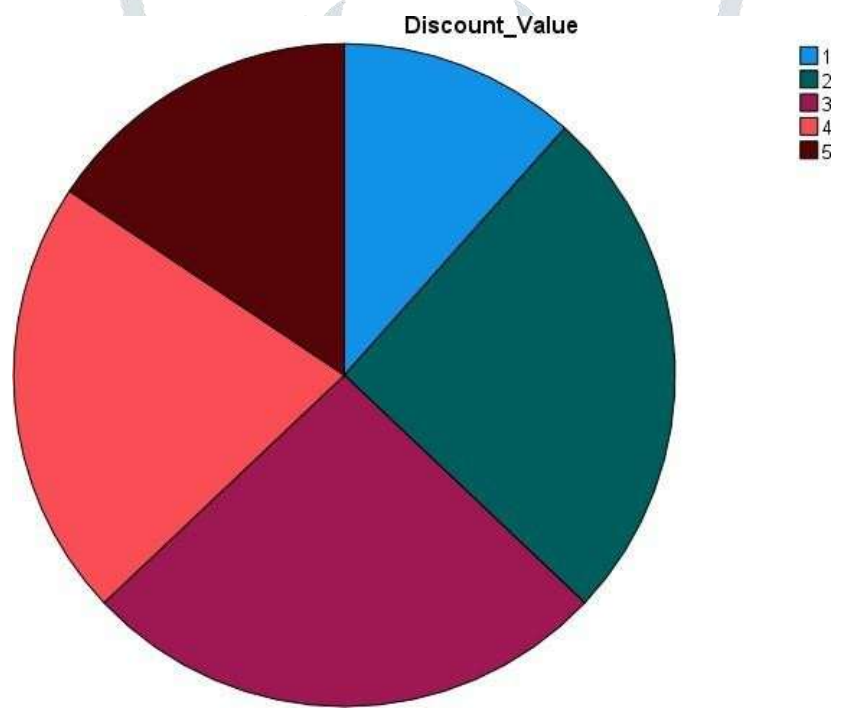
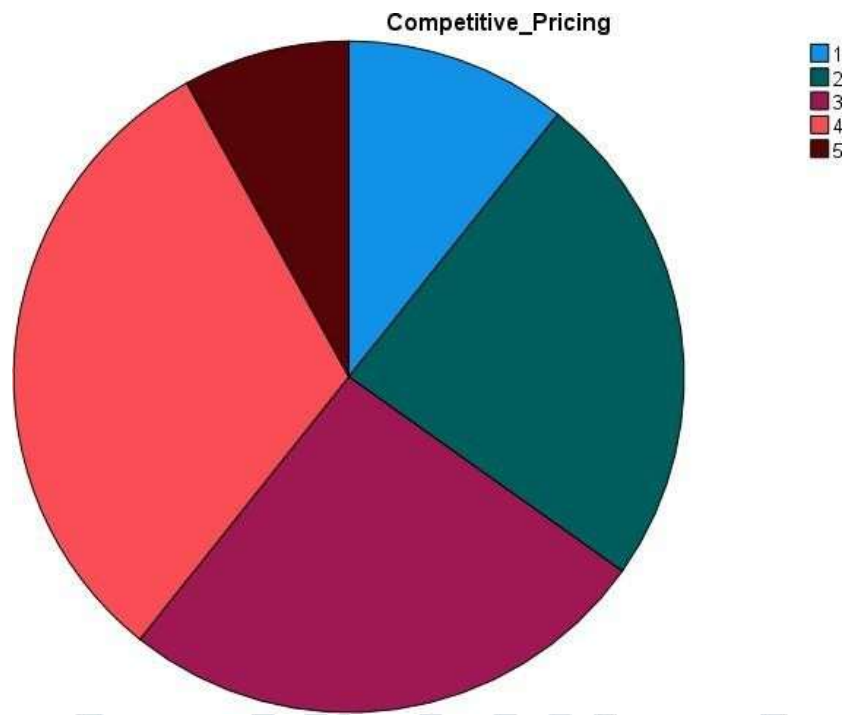


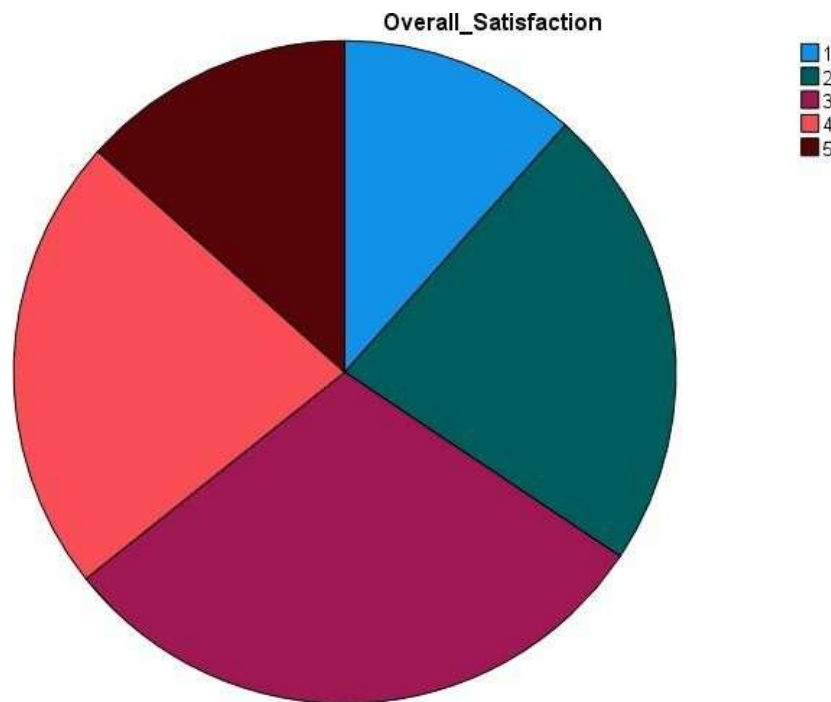












4.4 Chi-Square Test

Case Processing Summary

	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender * Overall_Satisfaction	224	100.0%	0	0.0%	224	100.0%

Gender * Overall_Satisfaction Crosstabulation

			Overall_Satisfaction					
			1	2	3	4	5	Total
Gender	Female	Count	13	30	40	27	15	125
		% within Gender	10.4%	24.0%	32.0%	21.6%	12.0%	100.0%
		% within Overall_Satisfaction	50.0%	58.8%	59.7%	54.0%	50.0%	55.8%
	Male	Count	13	21	27	23	15	99
		% within Gender	13.1%	21.2%	27.3%	23.2%	15.2%	100.0%
		% within Overall_Satisfaction	50.0%	41.2%	40.3%	46.0%	50.0%	44.2%
Total	Count	26	51	67	50	30	224	
	% within Gender	11.6%	22.8%	29.9%	22.3%	13.4%	100.0%	
	% within Overall_Satisfaction	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.432 ^a	4	.839
Likelihood Ratio	1.431	4	.839
Linear-by-Linear Association	.105	1	.746
N of Valid Cases	224		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.49.

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
Age_Group * Overall_Satisfaction	224	100.0%	0	0.0%	224	100.0%

Age_Group * Overall_Satisfaction Crosstabulation

			Overall_Satisfaction					Total
			1	2	3	4	5	
Age_Group	1	Count	0	0	0	1	0	1
		% within Age_Group	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
		% within Overall_Satisfaction	0.0%	0.0%	0.0%	2.0%	0.0%	0.4%
	18â€²25	Count	4	9	13	12	7	45
		% within Age_Group	8.9%	20.0%	28.9%	26.7%	15.6%	100.0%
		% within Overall_Satisfaction	15.4%	17.6%	19.4%	24.0%	23.3%	20.1%
	26â€²35	Count	5	20	23	19	9	76
		% within Age_Group	6.6%	26.3%	30.3%	25.0%	11.8%	100.0%
		% within Overall_Satisfaction	19.2%	39.2%	34.3%	38.0%	30.0%	33.9%
	36â€²45	Count	9	17	22	13	10	71
		% within Age_Group	12.7%	23.9%	31.0%	18.3%	14.1%	100.0%
		% within Overall_Satisfaction	34.6%	33.3%	32.8%	26.0%	33.3%	31.7%
	46â€²55	Count	8	5	9	5	4	31
		% within Age_Group	25.8%	16.1%	29.0%	16.1%	12.9%	100.0%
		% within Overall_Satisfaction	30.8%	9.8%	13.4%	10.0%	13.3%	13.8%
	Total	Count	26	51	67	50	30	224
		% within Age_Group	11.6%	22.8%	29.9%	22.3%	13.4%	100.0%
		% within Overall_Satisfaction	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	14.140 ^a	16	.588
Likelihood Ratio	12.699	16	.695
Linear-by-Linear Association	3.268	1	.071
N of Valid Cases	224		

a. 7 cells (28.0%) have expected count less than 5. The minimum expected count is .12.

Case Processing Summary

	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Monthly_Income * Monthly_Spending	224	100.0%	0	0.0%	224	100.0%

Monthly_Income * Monthly_Spending Crosstabulation

		Monthly_Spending				Total	
		â€¢'1,000 â€¢â€¢â€¢ '3,000	â€¢'3,001 â€¢â€¢â€¢ '5,000	Above â€¢ '5,000	Below â€¢ '1,000		
Monthly_Income	â€¢'20,001 â€¢â€¢â€¢ '40,000	Count	17	11	14	13	55
		% within Monthly_Income	30.9%	20.0%	25.5%	23.6%	100.0%
		% within Monthly_Spending	25.4%	16.4%	31.1%	28.9%	24.6%
	â€¢'40,001 â€¢â€¢â€¢ '60,000	Count	21	22	11	4	58
		% within Monthly_Income	36.2%	37.9%	19.0%	6.9%	100.0%
		% within Monthly_Spending	31.3%	32.8%	24.4%	8.9%	25.9%
	Above â€¢'60,000	Count	10	15	9	10	44
		% within Monthly_Income	22.7%	34.1%	20.5%	22.7%	100.0%
		% within Monthly_Spending	14.9%	22.4%	20.0%	22.2%	19.6%
	Below â€¢'20,000	Count	9	10	8	8	35
		% within Monthly_Income	25.7%	28.6%	22.9%	22.9%	100.0%
		% within Monthly_Spending	13.4%	14.9%	17.8%	17.8%	15.6%
Not applicable	Count	10	9	3	10	32	
	% within Monthly_Income	31.3%	28.1%	9.4%	31.3%	100.0%	
	% within Monthly_Spending	14.9%	13.4%	6.7%	22.2%	14.3%	
Total	Count	67	67	45	45	224	
	% within Monthly_Income	29.9%	29.9%	20.1%	20.1%	100.0%	
	% within Monthly_Spending	100.0%	100.0%	100.0%	100.0%	100.0%	

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.566 ^a	12	.212
Likelihood Ratio	17.521	12	.131
Linear-by-Linear Association	.631	1	.427
N of Valid Cases	224		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.43.

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
Area_Residence * Shopping_Frequency	224	100.0%	0	0.0%	224	100.0%

Area_Residence * Shopping_Frequency Crosstabulation

			Shopping_Frequency				Total
			Frequently	Occasionally	Rarely	Very frequently	
Area_Residence	Rural	Count	24	15	4	13	56
		% within Area_Residence	42.9%	26.8%	7.1%	23.2%	100.0%
		% within Shopping_Frequency	27.9%	21.1%	11.8%	39.4%	25.0%
	Semi-urban	Count	42	31	23	7	103
		% within Area_Residence	40.8%	30.1%	22.3%	6.8%	100.0%
		% within Shopping_Frequency	48.8%	43.7%	67.6%	21.2%	46.0%
	Urban	Count	20	25	7	13	65
		% within Area_Residence	30.8%	38.5%	10.8%	20.0%	100.0%
		% within Shopping_Frequency	23.3%	35.2%	20.6%	39.4%	29.0%
Total	Count		86	71	34	33	224
	% within Area_Residence		38.4%	31.7%	15.2%	14.7%	100.0%
	% within Shopping_Frequency		100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	17.923 ^a	6	.006
Likelihood Ratio	18.762	6	.005
Linear-by-Linear Association	.305	1	.581
N of Valid Cases	224		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.25.

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
Education_Level * Preferred_Platform	224	100.0%	0	0.0%	224	100.0%

Education_Level * Preferred_Platform Crosstabulation

				Preferred_Platform						
				Ajio	Amazon	Flipkart	Meesho	Myntra	Others	Total
Education_Level	Postgraduate	Count	18	6	21	16	9	8	78	
		% within Education_Level	23.1%	7.7%	26.9%	20.5%	11.5%	10.3%	100.0%	
		% within Preferred_Platform	35.3%	22.2%	42.0%	38.1%	26.5%	40.0%	34.8%	
	Professional qualification	Count	7	5	8	11	7	2	40	
		% within Education_Level	17.5%	12.5%	20.0%	27.5%	17.5%	5.0%	100.0%	
		% within Preferred_Platform	13.7%	18.5%	16.0%	26.2%	20.6%	10.0%	17.9%	
	School level	Count	6	8	9	4	3	4	34	
		% within Education_Level	17.6%	23.5%	26.5%	11.8%	8.8%	11.8%	100.0%	
		% within Preferred_Platform	11.8%	29.6%	18.0%	9.5%	8.8%	20.0%	15.2%	
	Undergraduate	Count	20	8	12	11	15	6	72	
		% within Education_Level	27.8%	11.1%	16.7%	15.3%	20.8%	8.3%	100.0%	
		% within Preferred_Platform	39.2%	29.6%	24.0%	26.2%	44.1%	30.0%	32.1%	
Total	Count	51	27	50	42	34	20	224		
	% within Education_Level	22.8%	12.1%	22.3%	18.8%	15.2%	8.9%	100.0%		
	% within Preferred_Platform	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	16.347 ^a	15	.359
Likelihood Ratio	15.893	15	.389
Linear-by-Linear Association	.115	1	.735
N of Valid Cases	224		

a. 4 cells (16.7%) have expected count less than 5. The minimum expected count is 3.04.

Interpretation:

Gender and Overall Satisfaction

The Chi-square test was done to check the relationship between gender & overall customer satisfaction towards e-Commerce. The Pearson Chi-square value is 1.432, and the value of significance (p-value) is 0.839. The p-value is greater than the standard value of significance (p-value) which is 0.05. This means that gender does not have a statistically significant relationship with overall satisfaction. Male and female respondents are similarly satisfied with respondents in all categories. Thus, in this study, gender does not seem to affect customer satisfaction. This indicates that gender differences in users do not affect e-retailer platform experience score levels significantly.

Age Group and Overall Satisfaction

Chi-square test was conducted to find the association between age group and overall customer satisfaction. The Pearson Chi-square statistic is 14.140 and has a p-value of $0.588 > 0.05$. This shows that age group has no association with customer's satisfaction. Despite differences in satisfaction levels of various age groups, these differences are not statistically significant. Hence, customer satisfaction of e-commerce platforms does not vary by age group. This indicates that the e-commerce services have been accepted by all the age groups and that their level of satisfaction does not vary.

Monthly Income and Monthly Spending

The Chi-square test was done to check the relationship between monthly income and monthly spending on online shopping. The Pearson Chi-square of 15.566 with a significance of 0.212 is greater than 0.05. This shows that income levels and spending patterns are not statistically significantly related to each other. Differences in spending among respondents from different income groups are not significant enough to establish a dependence. This indicates that a consumer's income level does not significantly affect their online shopping spending behavior, as various income-categories consumers tend to spend the same amount on e-commerce platform.

Area of Residence and Shopping Frequency

The Chi-square test was performed to find out whether area of residence was related to the shopping frequency. The Pearson Chi-square was found to be 17.923; p-value = $0.006 < 0.05$. Two variables are statistically significantly correlated to each other. Based on the rural, semi-urban, or urban status of the respondents, online shopping frequency varies significantly, therefore. The geographical location of the shoppers matter, which apparently influences their online shopping behaviour. The accessibility, net availability, and varying lifestyles may influence a shopper's online shopping frequency.

Education Level and Preferred Platform

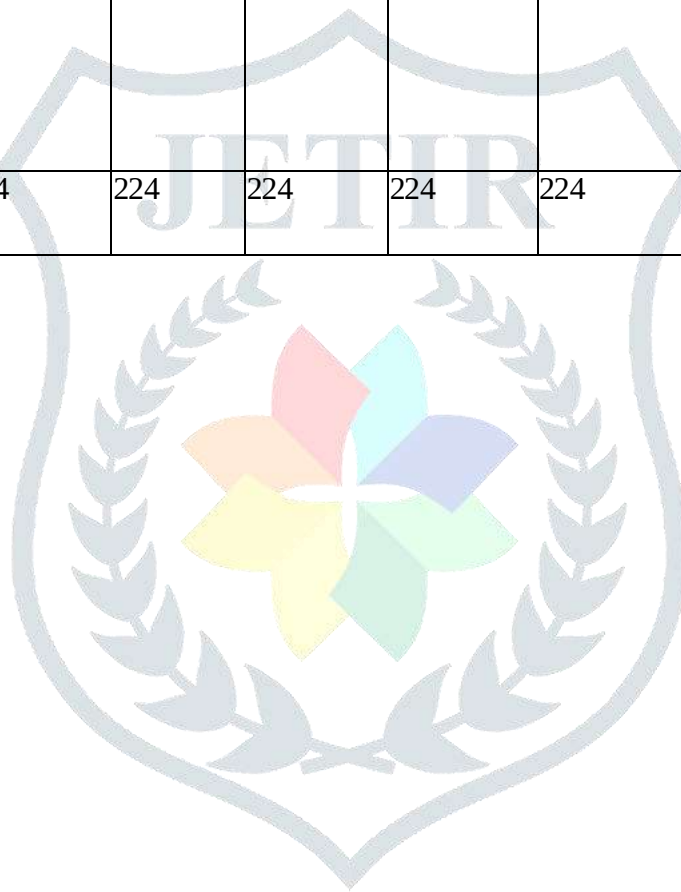
The Chi-square test was conducted to evaluate the relationship between education and preferred e-commerce platform. The Pearson Chi-square value 16.347 is with the p-value of 0.359 which is greater than 0.05. This means that education level and platform preference are not statistically related with each other. Respondents with different educational qualifications tend to use various e-commerce sites without any trend or preference according to education. This shows that the choice of platform is more

likely to be driven by factors such as price, convenience or brand popularity than the education of the users.

Correlations								
		Product_ Info_Clear	Payment_Secure	OnTime_Delivery	Service_Resolution	Competitive_Pricing	Easy_Navigation	Overall_Satisfaction
Product_ Info_Clear	Pearson Correlation	1	.005	.060	-.024	.015	-.038	.071
	Sig. (2-tailed)		.944	.372	.726	.823	.573	.293
	N	224	224	224	224	224	224	224
Payment_Secure	Pearson Correlation	.005	1	.002	.092	.040	.007	.143*
	Sig. (2-tailed)	.944		.972	.171	.554	.914	.032
	N	224	224	224	224	224	224	224

nTime_ Delivery	Pears on Corr elati on	.060	.002	1	-.048	.016	-.037	.089
	Sig. (2- taile d)	.372	.972		.472	.808	.582	.186
	N	224	224	224	224	224	224	224
Service_ Resolutio n	Pears on Corr elati	-.024	.092	-.048	1	.093	-.021	.037
	on							
	Sig. (2- taile d)	.726	.171	.472		.164	.758	.585
Competiti ve_Pricin g	N	224	224	224	224	224	224	224
	Pears on Corr elati on	.015	.040	.016	.093	1	-.066	-.026
	Sig. (2- taile d)	.823	.554	.808	.164		.326	.694

	N	224	224	224	224	224	224	224
Easy_Navigation	Pearson Correlation	-.038	.007	-.037	-.021	-.066	1	.076
	Sig. (2-tailed)	.573	.914	.582	.758	.326		.256
	N	224	224	224	224	224	224	224



Overall_ Satisfaction	Pearson Correlation	.071	.143*	.089	.037	-.026	.076	1
	Sig. (2-tailed)	.293	.032	.186	.585	.694	.256	
	N	224	224	224	224	224	224	224
*. Correlation is significant at the 0.05 level (2-tailed).								

Interpretation:

Correlation analysis was conducted on the factors affecting e-commerce services and customer satisfaction. The results indicate that the majority of the variables have a weaker relationship with overall satisfaction as the coefficients are close to zero. Of all the variables, payment security ($r = 0.143$, $p = 0.032$) is found to have weak but significant positive relation with overall satisfaction at 5% level of significance. As customers consider internet payment more secure, it leads to an increase in overall satisfaction. This shows how secure transaction systems can enhance customer trust and customer satisfaction. The clarity of the product information ($r = 0.071$), on-time delivery ($r = 0.089$), resolution of service ($r = 0.037$) and easy to navigate ($r = 0.076$) other variables showed very weak positive relationships with the overall satisfaction yet none were statistically significant ($p > 0.05$). Likewise, competitive pricing ($r = -0.026$) displays a weak negative correlation, which is also insignificant. Overall, the results show that while many things matter to customers, none has any relationship with each other. Payment security plays a relatively more important role amongst them yet modest. This implies that customer satisfaction in e-commerce is determined by a number of factors rather than one dominating factor.

4.5 Regression Analysis

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Service_Resolution, Easy_Navigation, Product_Info_Clear, OnTime_Delivery, Competitive_Pricing ^b	.	Enter

a. Dependent Variable: Overall_Satisfaction

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.147 ^a	.022	-.001	1.207	.022	.961	5	218	.443

a. Predictors: (Constant), Service_Resolution, Easy_Navigation, Product_Info_Clear, OnTime_Delivery, Competitive_Pricing

b. Dependent Variable: Overall_Satisfaction

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.005	5	1.401	.961	.443 ^b
	Residual	317.776	218	1.458		
	Total	324.781	223			

a. Dependent Variable: Overall_Satisfaction

b. Predictors: (Constant), Service_Resolution, Easy_Navigation, Product_Info_Clear, OnTime_Delivery, Competitive_Pricing

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.256	.467		4.829	<.001
	Product_Info_Clear	.068	.065	.070	1.038	.300
	Competitive_Pricing	-.029	.071	-.028	-.414	.679
	OnTime_Delivery	.089	.066	.090	1.342	.181
	Easy_Navigation	.080	.066	.081	1.208	.228
	Service_Resolution	.047	.067	.047	.697	.487

a. Dependent Variable: Overall_Satisfaction

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.58	3.43	3.03	.177	224
Residual	-2.353	2.282	.000	1.194	224
Std. Predicted Value	-2.552	2.270	.000	1.000	224
Std. Residual	-1.949	1.890	.000	.989	224

a. Dependent Variable: Overall_Satisfaction

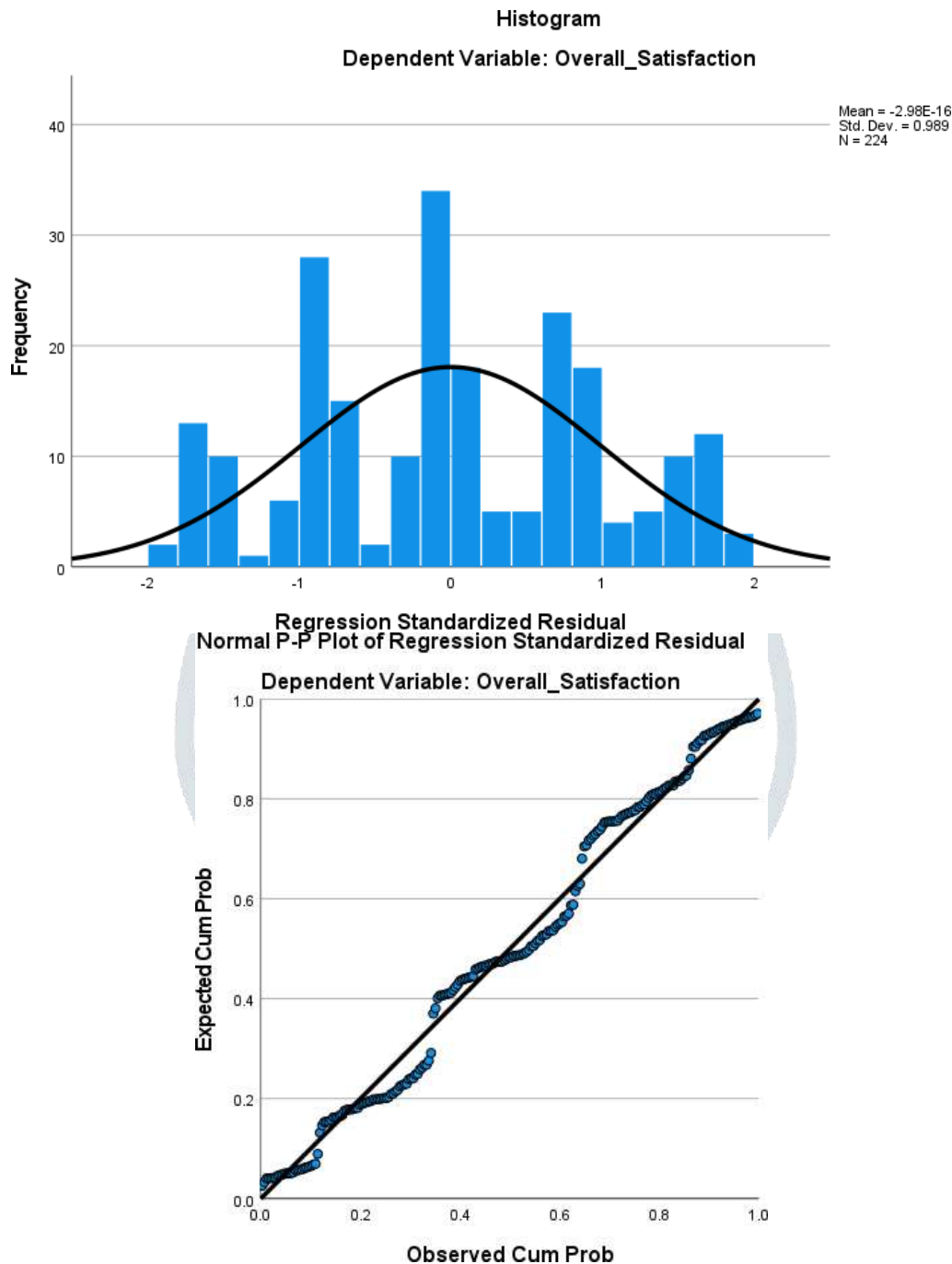
Interpretation:

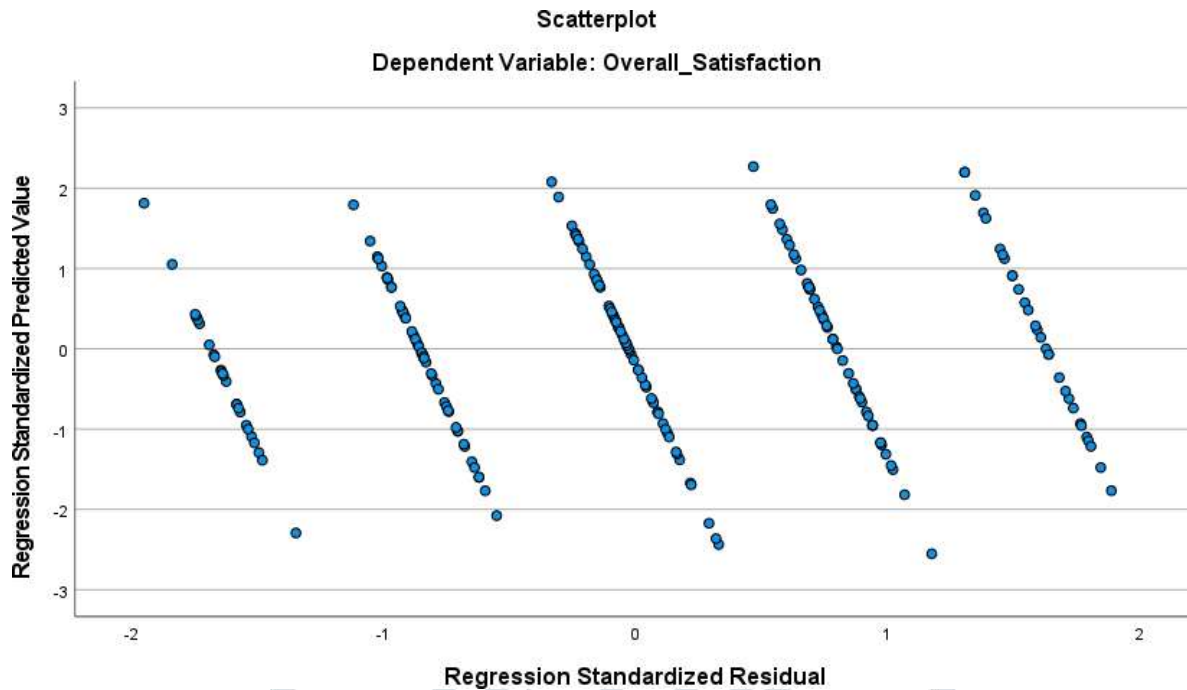
A regression analysis was conducted to investigate the effects of several e-commerce factors on overall satisfaction. Based on the model summary, the relationship between the independent variables and the dependent variables is very weak in nature. This is evident from the correlation value ($R = 0.147$). The R^2 value of 0.022 indicates that only 2.2% of overall customer satisfaction is attributed to the selected factors (clarity of product information, price competitiveness, on-time delivery, ease of navigation, and resolution of issues). The negative value of adjusted R^2 (-0.001) means that model does not add meaningful contribution to the explanation of customer satisfaction.

The results of ANOVA help to support this conclusion since the regression model is not significant with $F = 0.961$, $p = 0.443 > 0.05$. In other words, the independent variables have not significant explained customer satisfaction levels variations in contrast. The predictive relationship between the selected e-commerce factors and customer satisfaction in the overall model is weak.

The coefficients table indicates that customer satisfaction cannot be predicted by any individual independent variable as none were statistically significant with p values greater than 0.05. Among all the variables, on-time delivery ($B = 0.089$) and ease of navigation ($B = 0.080$) have a stronger positive relationship, which means enhancing them can slightly improve customer satisfaction. Likewise, product information clarity ($B = 0.068$) and service resolution ($B = 0.047$) also have weak positive effects. On the other hand, competitive pricing ($B = -0.029$) had a negligible negative effect. Nevertheless, all these impacts are small and not statistically significant, indicating that none of these factors have a meaningful impact on satisfaction.

The residual statistics for predicted values display strong coherence of predicted values with the mean without large deviations suggesting the absence of any major irregularity in the model. In other words, it suggests that customer satisfaction in e-commerce cannot be entirely explained by these variables. Other factors, such as trust, brand image, user experience, or psychological influences, may be more relevant to customer satisfaction.





4.6 Result and Discussion

The outcomes of the study reveal a better understanding of customer satisfaction towards e-commerce with the aid of descriptive research, percentage analysis, chi-square analysis, correlation analysis and regression analysis. The demographic profile reveals that most respondents belong to either the younger or middle-aged group. The gender ratio is also fairly balanced. Besides, there is a presence of varied educational and occupational backgrounds. The majority of the respondents have moderate experience with online shopping and do it occasionally, which suggests that the sample is an active and relevant user. Such a diversity increases the reliability of the study and the results reflect experiences from all types of customers.

A percentage analysis shows that customer perception towards e-commerce services are mostly in the moderate category. A significant number of respondents maintained a neutral stance concerning visual appeal, ease of use, clarity of product information, payment security, delivery time, and returns. A minority of respondents expressed their dissatisfaction with these services, even as a section of people believed that it was satisfactory. This suggests that e-commerce platforms (like flipkart, amazon, etc.) have some basic expectations but do not deliver an outstanding experience. Judging by a large segment corresponding to neutral, customers may not be fully convinced and the offering overall requires improvement in service quality, usability, and user experience.

The findings of the chi-square analysis shows that there is significant association between demographic variables and customer satisfaction with different services. The overall satisfaction, according to the hypothesis test, was not statistically significant in relationship with gender, age group, monthly income and qualification. This means customer satisfaction is fairly consistent across various demographic groups. There is a very significant relationship between area of residence and frequency of shopping. The customers from rural, semi-urban and urban are differ in the frequency of shopping. In other words, even if people have similar shopping habits, the geographical differences in accessibility, Internet and lifestyle will still affect them.

The findings of the correlation analysis indicate a weak association between several service factors and

overall customer satisfaction. Of all the variables, payment security has the most statistically significant but weak positive relationship with satisfaction, indicating its importance for trust. Other elements, such as the clarity of the product information, the promptness of product delivery time, the resolution of service failure, the ease of navigation and so on, show weak positive correlation. Competitive pricing shows a very weak negative correlation. According to these findings, none of the factors alone is strong enough to determine customer satisfaction, rather customer satisfaction is determined by various factors interacting.

The regression analysis indicates that the selected variables explain weakly the outcome. The customer satisfaction model only explains a small share of variation and is not statistically significant. The independent variables do not have a significant effect on satisfaction when considered individually. Nonetheless, delivery timely and ease of navigation show relatively higher positive impact. On the whole, the findings show that customer satisfaction in e-commerce is a complex, multidimensional concept stemming from various factors not included in the model. To enhance customer satisfaction and establish long-term loyalty, it is essential for e-commerce platforms to strengthen security, usability and service reliability simultaneously.

Recommendation

According to the results of the research, it is clear that customer satisfaction from e-commerce platforms can be improved by working on multiple concepts. Among the zones, the one that needs to focus on payment security more is it has a more robust relationship to satisfaction than other zones. E-commerce firms must not slack in the development of their companies in the countries where they expand to reach. Moreover, they have to communicate these security features clearly to customers to earn their trust. If transactions occur transparently and payments issues get resolved quickly, it can further strengthen customer trust and improve satisfaction.

Website usability and service efficiency is another important area for improvement. The customers had mixed responses to ease of navigation, clarity in product information, and simplicity in the checkout process. E-commerce platforms should be made user-friendly so that it is easy to use for all age groups. When you provide clear and detailed descriptions, high-quality images, and accurate information about your products, it can reduce uncertainty and improve the purchase decision. In addition, simplifying the checkout process with fewer steps and multiple payment options enhances the shopping experience. Improving delivery performance ensuring deliveries on time, enhanced communication regarding delays also helps to boost customer satisfaction.

Finally, enhancing customer engagement and value perception must be prioritized by e-commerce players. As many customers showed neutral responses, it is crucial to convert these users into satisfied yet loyal customers. To enhance perceived value, companies should offer meaningful discounts and personalized recommendations. Improving response time, fixing issues, and showing empathy in customer service are other ways to improve customer experience. In addition, regularly soliciting customer feedback, and using such input to make ongoing improvements, will keep businesses in line with customers. Ultimately, providing service quality plus trust and convenience will be vital for customer satisfaction and sustaining long-lasting relationships with customers.

Conclusion

The present study on customer satisfaction towards e-commerce platforms throws light on the major issues related to customer satisfaction towards e-commerce platforms. E-commerce has become integral to consumers' lifestyles due to convenience, variety, and accessibility. Despite all this, the satisfaction level of customers is moderate and not very high, reveals the research. As per the descriptive and percentage analysis, it is revealed that the customers have a varied perception of the overall site usability, information on product, delivery service, pricing and support, etc. Many of the respondents stayed in the middle category which implies that e-commerce platforms meet the basic level expectations but do not exceed expectations in most cases. The chi-square analysis further shows that the demographic variables, across gender, age, income and the education of respondents did not significantly affect customer satisfaction, meaning the respondents were satisfied at almost similar levels. Influence of Shopping Frequency First, it was explored that geographic factors such as area of residence impacted the online shopping frequency. It implies that accessibility and infrastructure matter. An analysis of correlation indicates that nearly all the services factors have a weak relationship with overall satisfaction but the payment security is relatively more important or maybe an important service factor indicating trust and safety. In the same way, regression analysis shows that the selected variables are not significantly useful in explaining customer satisfaction, showing that customer satisfaction is rather influenced by a wider combination of factors which was not included in the study. As per the findings customer satisfaction in e-commerce is a complex, multi-dimensional concept which cannot be explained with the use of single or limited variables. Hence, improving multiple aspects simultaneously like security, usability, service quality, customer engagement, etc., is essential for e-commerce platforms. To enhance satisfaction and create long-term customer loyalty in the highly competitive e-commerce environment, the industry will need an intensification of innovation, better service delivery and a sharper focus on customer-centricity.

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