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EFFECTS OF CUSTOMER SATISFACTION, CONSUMER TRUST, E-SERVICE QUALITY, PERCEIVED VALUE, AND PERCEIVED SECURITY ON CONSUMER LOYALTY IN ELECTRONIC COMMERCE

Empirical Evidence from the Merkato Area, Addis Ababa, Ethiopia

A Thesis Submitted to the School of Commerce, Addis Ababa University for Partial Fulfillment of the Requirements for the **Master of Business Information System**

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DECLARATION

I Buruke Mulate by myself declare that this thesis "Effect of customer satisfaction, consumer trust, e-service quality, perceived value and perceived security on consumer loyalty in e-commerce (empirical evidence from merkato area, Addis Ababa, Ethiopia)" is an original work. It has not been presented before for any award or qualification at any institution/university; it is purely conducted on my own under the supervision of Dr Minale Ashagrie and I take the responsibility for any omission in the citing of information and references.

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CERTIFICATION

I here by certify that the thesis prepared by Buruke Mulate, bearing the title "effect of Customer Satisfaction, Consumer Trust, E-Service Quality, perceived value and perceived security on consumer loyalty in E-commerce" fulfills the regulations of the University and meets the expected standard regarding the original and quality.

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LIST OF ACRONYMS

ANOVA : Analysis of Variance

CL : Consumer Loyalty

CS : Customer Satisfaction

CT: Consumer Trust

ECT: Expectation-Confirmation Theory

ESQ: E-Service Quality

PMT: Protection Motivation Theory

PS: Perceived Security

PV: Perceived Value

SPSS: Statistical Package for the Social Sciences

VAM: Value-Based Adoption Model

VIF: Variance Inflation Factor

Abstract

This study investigated the antecedents of consumer loyalty in e-commerce platforms within Merkato, Addis Ababa, Ethiopia by investigating the influence of customer satisfaction, consumer trust, e-service quality, perceived value and perceived security. With the fast proliferation of digital commerce in developing countries, understanding consumer loyalty in online shopping environment, particularly in developing contexts where trust is developing and infrastructure are limited has become increasingly imperative. A quantitative research method based on the positivist philosophy and using the deductive logic was adopted and the study used an explanatory cross-sectional survey research design. Data were collected from 373 online shoppers in the Merkato region of Addis Ababa using structured questionnaires with items scaled on a five point likert-scale. The data were analyzed using IBM SPSS Statistics Version 27. The analyses involved in testing the variables' association and hypothesis testing included descriptive analysis, Pearson correlation, and multiple linear regression. The results show that all five independent variables positively and statistically significantly influence consumer loyalty ($p < .001$). In terms of influencing power, the strongest determinant of consumer loyalty is consumer trust ($\beta = 0.302$), followed by consumer satisfaction ($\beta = 0.252$), perceived security ($\beta = 0.250$), e-service quality ($\beta = 0.238$) and the least influential antecedent is perceived value ($\beta = 0.208$). Multiple linear regression was also run for this investigation; the model has a strong explanatory power of 76% with a multiple correlation coefficient (R^2) of 0.760. It is concluded that trust, satisfaction and security among others have the biggest role to play in enhancing customer loyalty in e-commerce. Building and strengthening such factors may have an overall positive impact on customer retention and retention in online platforms. This result provides implications for e-commerce entrepreneurs and policy-makers who aim at enhancing the development and sustainability of online trade in emerging economies such as Ethiopia.

Key terms: **E-commerce, Consumer Loyalty, Customer Satisfaction, Consumer Trust, E-Service Quality**

Chapter one: Introduction

1.1 Background of the study

The emergence of information and communication technologies (ICTs) has transformed business transactions significantly and has consequently caused e-commerce to be an emerging, dominant business mode for both developed and developing countries (Statista, 2024; UNCTAD, 2023). E-commerce refers to the sale and purchase of goods and services, through an electronic system that permits national boundaries to be eliminated and transaction costs to be minimized between customers and firms (Turban et al., 2022; Wattoo et al., 2025). During the past ten years, global e-commerce revenue have continued to grow exponentially, and the total global retail e-commerce sales are expected to exceed US$5.8 trillion in 2023, and is predicted to grow to over $8 trillion by 2027 (Statista, 2024; eMarketer, 2023).

Sub-Saharan Africa has one of the fastest developing markets of adoption of e-commerce, Ethiopia is on its way due to increase in smart phone penetration and wide distribution of mobile money and because of the large youthful population and increase in digital literacy of the generation (GSMA, 2023; Eshetu & Kebede, 2023; Singh et al., 2022). E-commerce businesses in Ethiopia have grown significantly in number and platform type with players such as Jiji.com.et, Qefira, Iceaddis, and YaYa now operational with growing presence of Telebirr and mobile money systems (Molla & Licker, 2022; Kassa & Mengistu, 2024). Even at Merkato, which is believed to be one of the largest open-air markets in Africa, located in Addis Ababa, Ethiopia; its merchants and customers are embracing the digital change with the introduction of e-commerce platforms (Singh et al., 2022; Abera & Teshome, 2023).

Despite the grow in the e-commerce market, consumers may continue to use them because of factors such as: insufficient infrastructure; distrust of payment processes; the authenticity of goods and post purchase service quality (Handoyo, 2024; Abdella & Indradewa, 2024; Kassa & Mengistu, 2024); these antecedents contribute to consumer loyalty - a "state of mind and subsequent behaviorally outcome toward an e-commerce service/platform" (Oliver, 1999;

Bilgihan, 2016; Ribbink et al., 2004)-and a thorough understanding of these antecedents would enable e-commerce players to create a sustainable competitive advantage.

While much research has been conducted on the concept of consumer loyalty in an e-commerce environment in developed countries, research is limited, and distinct study have been conducted in Sub-Saharan Africa region specifically in Ethiopia (Singh et al., 2022; Eshetu & Kebede, 2023; Wattoo et al., 2025). These factors, including consumer satisfaction (Anderson & Srinivasan, 2003; Shankar et al., 2003), consumer trust (Gefen et al., 2003; Kim et al., 2008; Saoula et al., 2023), e-service quality (Parasuraman et al., 2005; Blut et al., 2015; Rafiq et al., 2013), perceived value (Zeithaml, 1988; Blut et al., 2024; Irgui & Qmichchou, 2024) and perceived security (Flavin & Guinalu, 2006; Chellappa & Pavlou, 2002; Handoyo, 2024), have been highlighted as predictors to e-loyalty and it is these factors that this research adapts.

The integration of the effect of consumer satisfaction, consumer trust, e-service quality, perceived value and perceived security on e-loyalty in Ethiopia with Merkato in Addis Ababa selected as a target location is based on the following five theories: The Expectation-Confirmation Theory (ECT) (Oliver, 1997); The Trust-Commitment Theory (Morgan & Hunt, 1994; Mayer et al., 1995); The Technology Acceptance Model (TAM) and E-S-QUAL framework (Parasuraman et al., 2005; Davis, 1989); The Value-Based Adoption Model (VAM) (Zeithaml, 1988; Sweeney & Soutar, 2001) and; Protection Motivation Theory (PMT) (Rogers, 1975; Flavin & Guinalu, 2006) (Wattoo et al., 2025; Umboh et al., 2024).

1.2. STATEMENT OF THE PROBLEM

Although there has been a substantial increase in e-commerce platform adoption across Ethiopia in the past decade, an empirical investigation into the behavioral antecedents of customer loyalty in this context is scarce (Kassa & Mengistu, 2024; Singh et al., 2022). Most of the e-commerce loyalty studies are derived from developed markets such as China, the USA, and Western Europe which have very different electronic infrastructures, consumer trust toward institutional trust and legal frameworks in comparison with that of Ethiopia (Eshetu & Kebede, 2023; Handoyo, 2024; UNCTAD, 2023). These differences limit the generalizability of findings to developing country markets where different socioeconomic, culture and infrastructure factors lead to different consumer behavior (Molla & Licker, 2022; Abera & Teshome, 2023).

In the Merkato commercial district, most e-commerce platform providers have been faced with a recurring problem that despite the growing number of first time buyers, they have a limited number of customer retention and repeat purchases since the consumers often switch among different platforms just for lower price, better service or stronger security guarantee (Abdella & Indradewa, 2024; Kassa & Mengistu, 2024). Customer switching increases vendor's costs associated with customer acquisition significantly and an obstacle to the long-term viability of the Ethiopian e-commerce environment (Saoula et al., 2023; Blut et al., 2024). Nevertheless, what really determines e-loyalty in the Ethiopian e-commerce setting and the degree to which these influencing antecedents affect it has not yet been empirically investigated (Wattoo et al., 2025; Irgui & Qmichchou, 2024).

Prior research has typically explored the various antecedents of e-loyalty independently, yielding inconclusive results and lacking a practical guide for platform providers (Anderson & Srinivasan, 2003; Kim et al., 2008). While customer satisfaction has been proved to be a necessary but not sufficient condition for e-loyalty without addressing customer trust and security (Oliver, 1997; Ribbink et al., 2004; Bhattacherjee, 2001). Similar to this, e-service quality has been theorized as a major antecedent of e-loyalty (Parasuraman et al., 2005; Rafiq et al., 2013), but the role of e-service quality toward the e-loyalty is affected by the consumer’s perceived value and security perceptions (Flavin & Guinalu, 2006; Blut et al., 2015). Hence, examining the interaction among those five antecedents simultaneously under a unified theoretical model through primary data of Ethiopian consumers, is both timely and theoretically important (Zeithaml, 1988; Sweeney & Soutar, 2001; Gefen et al., 2003).

Moreover, the Merkato commercial district of Addis Ababa plays a very special role in this research site. This region is the heart of the economy and hosts the highest concentration of the country's e-commerce traffic (Singh et al., 2022; Abera & Teshome, 2023). The study finding can provide valuable policy recommendations for platform operators, law enforcement, policymakers, in stimulating the formalization of the Ethiopian e-commerce market (GSMA, 2023; UNCTAD, 2023; Eshetu & Kebede, 2023). This study aims to address an important empirical void by simultaneously examining five theory-backed drivers of consumer loyalty in a developing-country e-commerce setting, extending existing knowledge on digital consumer behavior in Sub-Saharan Africa (Handoyo, 2024; Wattoo et al., 2025; Molla & Licker, 2022).

Despite the rapid growth of e-commerce in Ethiopia, empirical evidence on the determinants of consumer loyalty remains limited. Most previous studies were conducted in developed countries and examined customer satisfaction, trust, e-service quality, perceived value, and perceived security separately, limiting their applicability to the Ethiopian context. Therefore, this study addresses this empirical and contextual gap by examining the combined effects of these five factors on consumer loyalty among e-commerce users in the Merkato commercial district of Addis Ababa.

1.3. RESEARCH QUESTIONS

The following research questions guide this investigation:

1. What is the impact of customer satisfaction on consumer loyalty of e-commerce platform users in Merkato area of Addis Ababa, Ethiopia?
2. What is the impact of consumer trust on consumer loyalty of e-commerce platform users in Merkato area of Addis Ababa, Ethiopia?
3. What is the effect of e-service quality on consumer loyalty of e-commerce platform users in the Merkato area of Addis Ababa, Ethiopia?
4. What is the effect of perceived value on consumer loyalty among e-commerce platform users in Merkato area of Addis Ababa, Ethiopia?
5. How does perceived security affect consumer loyalty of e-commerce platform users in the Merkato area of Addis Ababa, Ethiopia?
6. How much can customer satisfaction, consumer trust, e-service quality, perceived value and perceived security collectively explain in the prediction of consumer loyalty among e-commerce users in Merkato area?

1.4. Objective

1.4.1. General Objective

To study the effect of customer satisfaction, consumer trust, e-service quality, perceived value and perceived security on consumer loyalty in electronic commerce amongst users of e-commerce in the Merkato area, Addis Ababa, Ethiopia.

1.4.2. Specific Objectives

The study has the following specific objectives:

- To explain the different aspects of customer satisfaction, consumer trust, e-service quality, perceived value, perceived security and consumer loyalty among the users of e-commerce in the Merkato area.
- To find a correlation between customer satisfaction and consumer loyalty among the e-commerce users in Merkato area.
- To establish the relationship between consumer trust and consumer loyalty among the e-commerce users for the Merkato area.
- To find the relationship between e-service quality and customer loyalty among the consuming e-commerce local users in Merkato area.
- To establish the connection between perceived value and consumer loyalty of e-commerce users in Merkato area.
- To find out the correlation between the perceived security and consumer loyalty among e-commerce customers in Merkato region.
- To check individual and combined effect of customer satisfaction, consumer trust, e-service quality, perceived value and perceived security on consumer loyalty among the e-commerce users in Merkato area.

1.5. Significance of the Study

This study is a part of scattered empirical literature related to e-commerce consumer behavior in Ethiopia and Sub Saharan Africa. The results contribute to understanding the role of satisfaction, trust, service quality, value and security as determinants on consumer loyalty in the context of a developing economy.

In practical terms, the results offer valuable insights for e-commerce platform operators to gain a better understanding of their competitive strengths and areas of improvement. The study also has policy relevance, providing information that will help policy makers to develop digital consumer protection and e-commerce development policies. Also, the research is useful as a reference for future academic research on the determinants of e-loyalty in emerging markets.

1.6. Scope of the Study

The geographical boundary is the geographical location of the study, the methodological boundary refers to the research methodology employed, the variable boundary is the variables examined, the subject boundary refers to the study participants, the boundary of research

instruments is the research instruments used. Geographically the study is limited to the Merkato area of Addis Ababa, Ethiopia, where the majority of the country's e-commerce transactions take place.

This study employs a quantitative explanatory research design using a cross-sectional survey method and uses a structured questionnaire as the data collection instrument. In terms of study variables, the study included five independent variables (customer satisfaction, consumer trust, e-service quality, perceived value, perceived security) and one dependent variable (consumer loyalty). In terms of subjects, the study focuses on the e-commerce platform users who have made at least one online purchase within the last six months.

1.7. Limitations of the Study

The findings from the study are subject to some limitations which should be taken into account in making interpretations. First, this geographic area was restricted to the Merkato area, which could hinder generalizability to other parts of Ethiopia, or other developing countries. Secondly, the cross-sectional design is only able to determine loyalty at one specific time and is unable to determine causal relationships. Third, common method bias may be a problem with the self-reported questionnaire data. Fourth, the study only explored five specific antecedents of e-loyalty, other potential variables were not analysed.

1.8. Definition of Terms

Consumer Loyalty: Is the customer's deep commitment to repurchase or re-patronize a favorite e-commerce channel, irrespective of situation factors and competitive alternatives. (Oliver, 1999).

Customer Satisfaction: Is the customers' postpurchase affective evaluation judgement, which follows a comparison of the experienced outcome and its expectations prior to purchase. (Oliver, 1997).

Consumer Trust: a consumer's trust in a computer's competence, benevolence, and integrity (Mayer et al., 1995).

E-Service Quality: Consumer's overall perceptions of the excellence of electronic service delivery including service efficiency, service fulfilment, service system availability, and service system privacy (Parasuraman et al., 2005).

Perceived Value: Consumer's evaluation of the overall value of an online trading experience when considering the ratio of benefits to cost (Zeithaml, 1988).

Perceived Security: Consumer's subjective judgment of the effectiveness of the security measures offered by a platform to protect personal and financial data from fraud (Flavián & Guinalíu, 2006).

1.9. Structure of the study

This thesis is divided into five chapters. The first chapter contains the introduction which has the background, problem statement, research question, objectives, significance, scope and the definition of the terms. Chapter two covers the literature and conceptual framework. Research methodology carried out in the study is presented in Chapter three. Chapter four contains the findings and discussion. Conclusion, summary and recommendation are all included in chapter five.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1. Introduction

The conceptual framework of the study is presented in this chapter. It starts with a discussion of the theoretical bases of the five constructs, then goes into a detailed discussion on each variable and its known relationship to consumer loyalty in E-commerce. The chapter ends by connecting these relationships within a single conceptual framework that will show visually and theoretically the proposed cause and effect relationships that will be empirically tested in this study.

2.2. Theoretical Foundations

This study's conceptual framework is based on five theories that are commonly used and validated in literature on electronic commerce and consumer behavior. The theories collectively explain the influence of customer satisfaction, consumer trust, e-service quality, perceived value and perceived security on consumer loyalty in an online shopping context.

2.2.1. Expectation-Confirmation Theory (ECT)

The Expectation-Confirmation Theory (ECT), which was first developed by Oliver (1980) and later adapted to information systems by Bhattacherjee (2001), suggests that customer satisfaction is established when a product or service fulfills or surpasses customer

expectations. In the context of this study, ECT gives theoretical underpinning to the relationship between customer satisfaction and consumers' loyalty. The key finding is that if consumers feel that the e-commerce platform has delivered what they expected—whether in terms of product quality, delivery, or overall experience—they are more likely to become satisfied with the platform and then show some form of loyal behavior, such as future purchases and positive word-of-mouth.

2.2.2. Technology Acceptance Model (TAM).

A model that provides an explanation for why users adopt and persist with a technology-based system is the Technology Acceptance Model (TAM) (Davis, 1989). If the extent to which a system is perceived as useful and perceived as easy to use is high, then the behavioral intention to use the system is high, according to TAM. In subsequent extensions of TAM, trust and service quality have been added as important antecedents of continued use intention and loyalty in online contexts. In later extensions of TAM, trust and service quality have been introduced as important factors that affect continued use intention and loyalty in an online context. In this study, TAM was used as a theoretically justification for the relationship between e-service quality and consumer loyalty.

2.2.3. Trust-Commitment Theory

Within the relationship marketing framework, Morgan and Hunt (1994) have developed the Trust-Commitment Theory which suggests that trust is a key factor in building commitment in long-term consumer–provider relationships. When people trust, they perceive less risk and uncertainty, are more confident that the service provider is reliable and of good integrity, and are more committed to the service provider, a precursor to loyalty. This theory gives the theoretical basis of the relationship between consumer trust and consumer loyalty in this study.

2.2.4. Value-Based Adoption Model (VAM)

The Value-Based Adoption Model (VAM), widely adopted throughout the area of mobile and e-commerce, was proposed by Kim, Chan, and Gupta (2007) based on Zeithaml's (1988) study on perceived value. It is believed that when an overall value assessment for the customers is formulated, based on the perceived benefit-sacrifices ratio, this is a most significant determinant of a consumer's adoption and sustained use of technology-based services. The benefits of technology based services perceived by a customer could be perceived usefulness, enjoyment and social value while the perceived costs were monetary

sacrifices and the perceived risks include monetary costs, time spent and perceived risks. In this research context, VAM provides a theoretical framework for the association between perceived value and consumer loyalty by asserting that when a customer's value assessment is favorable, they will be highly likely to continue doing business with the service provider (loyal repeat customer), advocate for the service to others (positive word-of-mouth), and ignore competitors' offers.

2.2.5. Protection Motivation Theory (PMT)

Protection Motivation Theory originally formulated by Rogers (1975) which was subsequently extended to the field of information security and e-commerce, argues that a person's protective behaviors are initiated by two appraisals: a threat appraisal (the probability and severity of a security event occurring) and a coping appraisal (the perceived effectiveness of the coping behaviors). In e-commerce, the concept of PMT could be presented as the degree to which customers' concerns about security and their confidence on the platform upon which they are carrying out transactions will result in transactional decisions, both affirmative and negative. In this study, PMT explains the link between perceived security and consumer loyalty in the context of e-commerce by providing a theoretical background which states that when customers trust the platform provider and believe the level of security measures implemented are sufficient for the protection of their confidential financial information and personal data, high levels of trust will be gained, which ultimately leads to consumers' loyal usage of the online service.

2.3. Definition and Operationalization of Study Variables

2.3.1. Consumer Loyalty (Dependent Variable)

Consumer loyalty in e-commerce can be defined as consumer's strong attachment to repeatedly buy or return to a preferred site or vendor when faced with situational factors and competitive marketing that could create switching behavior (Oliver, 1999). Consumer loyalty is considered in this study as a multidimensional construct consisting of: (a) behavioral loyalty (repeat purchase behavior); (b) attitudinal loyalty (favorable attitudes, preferences, emotional attachment to the platform); and (c) intentional loyalty (willingness to recommend the platform to others and to return to it in the future). Loyalty will be the dependent variable, and will be measured using a validated four item likert scale.

2.3.2. Customer Satisfaction (Independent Variable).

Customer Satisfaction is the final judgment rendered by the customer after he/she has subjected the perceived performance of e-commerce platform to an evaluation process when compared to his/her expectations (Oliver, 1997). It is a reflection of the consistency of the whole e-commerce experience – the product, the website and the ease of making the transaction, as well as post-sales service – to the expectations of the consumer. Customers satisfaction will be independent variable and will be measured using a four item likert scale that is valid.

2.3.3. Trust (Independent Variable)

Consumer trust in electronic commerce is the readiness to be vulnerable to an e-commerce platform or vendor, on the assumption that the platform will act competently, benevolently, and honestly (Mayer et al., 1995). There are three aspects of trust: competence based, benevolence based and integrity based. For developing markets like Ethiopia, where payment security, data privacy, and counterfeit issues are common concerns, consumer trust is a critical factor in e-commerce adoption and loyalty. A four-item Likert scale validated for measuring consumer trust will be used.

2.3.4. E-Service Quality (Independent Variable)

E-service quality is defined as consumers' overall evaluation of the degree of excellence and superiority of electronic service delivered on a website (Parasuraman et al., 2005). Drawing from the widely used E-S-QUAL model, in the current study, the concept of e-service quality is operationalized into four central dimensions namely; efficiency, fulfillment, system availability, and privacy. E-service quality will be measured by a previously developed five-item Likert-scale questionnaire.

2.3.5. Perceived Value (Independent Variable)

Added Variable Perceived value, in this study is conceptualized as the sum of consumer's evaluation on net utility of an e-commerce transaction considering the comparison of perceived benefits obtained (quality of product, competitive price, saved time, convenience, and enjoyment from experience) versus the perceived costs or sacrifices borne (monetary cost, effort, time, and risks) (Zeithaml, 1988; Dodds, Monroe, & Grewal, 1991).

Table 1. Within the domain of e-commerce, perceived value includes four main factors:

Dimension	Definition
Functional/Utilitarian Value	The perceived practical and economic benefit derived from the transaction, including product quality relative to price
Hedonic/Experiential Value	The perceived enjoyment, entertainment, and emotional satisfaction derived from the online shopping experience
Social Value	The perceived social approval or identity-affirmation derived from purchasing through a particular e-commerce platform
Convenience Value	The perceived time and effort savings afforded by the e-commerce platform relative to traditional commerce alternatives

Higher perceived value– that is where the benefits are far greater than the price or costs involved – should lead to greater consumer intent to repeat, recommend and continue a long-term relationship which defines loyalty. Perceived value will be measured through a previously established four-item Likert scale taken from Zeithaml (1988) & Sweeney and Soutar (2001).

2.3.6. Perceived Security (Independent Variable)

New Variable Perceived security is defined as consumers' belief that the e-commerce Web site has built sufficient technical, administrative and procedural controls to safeguard their privacy, financial, and personal transaction data from fraud and unauthorized use (Flavin & Guinalu, 2006; Chellappa & Pavlou, 2002). Security is differentiated from privacy as an aspect of e-service quality and, thus pertains to consumers' subjective confidence in the technical infrastructure, versus policy related aspects, of the e-commerce site.

Table 2. Perceived security consists of four dimensions:

Dimension	Definition
Transaction Security	Consumers' belief that payment processing and financial data transmission are protected by robust encryption
Data Privacy Assurance	Consumers' confidence that their personal information will not be misused, sold, or shared without consent

Dimension	Definition
Platform Integrity	Consumers' assessment of the overall trustworthiness of the e-commerce platform's vendor verification and product authenticity mechanisms
Authentication Confidence	Consumers' perception of the adequacy of login security and identity verification mechanisms on the platform

Perceived security has been found to be a significant and direct determinant of customer loyalty in many recent studies, especially in developing market economies with ongoing developments of consumer protection legislation and e-payments regulation (Handoyo, 2024; Nature, 2024). Perceived security will be measured using the standard 4-item Likert scale adapted from Flavin & Guinalu (2006) and Chellappa & Pavlou (2002).

2.4 Relationships among the study variables

2.4.1 Relationship between customer satisfaction and consumer loyalty

The relationship between customer satisfaction and customer loyalty is the most well researched association in marketing and e-commerce literature. Customer satisfaction has consistently been shown to be a significant predictor of customer loyalty in e-shopping context. Accordingly, it is hypothesized that Customer satisfaction has a significant and positive relationship with customer loyalty among the Merkato-based e-commerce users (H**1**).

2.4.2 Relationship between consumer trust and customer loyalty

In e-commerce environment, customer trust and customer loyalty relationship is of paramount importance since online transactions involve sharing of sensitive information (financial and personal details) with those providers who are non-familiar. Within the Ethiopian e-commerce settings, consumer trust has proved to be a deciding factor whether a customer continues or discontinuities with an e-commerce provider. Accordingly, it is hypothesized that Customer trust has a significant and positive relationship with customer loyalty (H**2**).

2.4.3 Relationship between e-service quality and consumer loyalty

E-service quality is a direct antecedent of customer retention. When customers receive reliable, efficient, accurate and secure e-service, positive beliefs are established in customer mind regarding the online platform. Such attitudes result in subsequent repurchase intention.

Accordingly, it is hypothesized that E-service quality has a significant and positive relationship with customer loyalty (H**3**).

2.4.4. Relationship Between Perceived Value and Consumer Loyalty

Perceived value has both a positive and significant effect on consumer loyalty. Consumers with perceived that the benefits from an e-commerce transaction greatly exceed the incurred costs-likelihood of re-patronage, intention to recommend others, and lifelong re-patronage relationship with the same retailer-is significantly higher. Blut et al .'s 2024 literature review provided an omnibus meta-analysis and found that perceived value significantly affects intention to repurchase, satisfaction, and word-of-mouth communication in many market contexts and different operationalizations including the online market. Five such literatures in Africa and Middle east also prove this full picture of the perceived value-loyalty connection in the context of developing countries e-commerce: studies in Uganda and Morocco (Mpaata et al. 2024; Irgui & Qmichchou 2024). Therefore: Perceived value has a positive significantly effect on consumer loyalty (H4).

2.4.5. Relationship Between Perceived Security and Consumer Loyalty

Perceived security significantly and directly affects consumer loyalty positively. The more the consumer perceived the platform as technically secure (includes payment encryption, privacy, vendor are truly responsible), the more confident the consumer will be involved in better repeat purchase behavior and show all the measures of loyalty. A study carried out in South Africa to determine the influences of perceived security on customer loyalty through the positive indirect effect by satisfaction, it revealed that the perceived security mentioned above in the context of e-commerce has significant positive effect on customer loyalty (ScienceDirect, 2025). And in the context of Ethiopia, where security and privacy are two of the most negative factors for e-commerce, perceived security is believed to be the most importance factor affecting loyalty. Based on these evidences, the perceived security (H5) will have the following effect:

2.4.6. Combined Effect on Consumer Loyalty

However, although each of the independent variables has its own effect on consumer loyalty, it should be noted that the total effect on consumer loyalty of having all five independent variables included in the model can be over five times and larger than that of any individual

variable. The five constructs mentioned above can be argued in a complimentary way in theory and conjunctively in practice (H**6**), in the following directions: e-service quality affects satisfaction, perceived value and perceived security, perceived security affects consumer trust, and satisfaction, trust, perceived security and perceived value affects consumer loyalty.

2.5. Conceptual Framework

The study examines the factors influencing the customers' loyalty to e-commerce platform in the Merkato district in Addis Ababa, Ethiopia. The conceptual framework was based on five independent variables including: Customer Satisfaction, Consumer Trust, E-Service Quality, Perceived Value, and Perceived Security, and its impact on one dependent variable: Consumer Loyalty. Based on the theories of Expectation-Confirmation Theory, Customer Satisfaction identifies the customer's global satisfaction with the performance of the platform, service quality and post-purchase support. Informed by the theory about trust – Trust-Commitment Theory, Consumer Trust indicates confidence in the platform's integrity, the benevolence of the vendors, and ethics. Platform navigability, fulfillment accuracy, system reliability, data protection and customer support responsiveness are all part of E-Service Quality, which was operationalized using the E-S-QUAL framework. Perceived Value is an extension of the Value Based Adoption Model, which is the users' analysis and judgment of value based on a comparison of benefits and costs, such as saving time, convenience or usefulness of the product. The concept of Perceived Security is derived from Protection Motivation Theory and comprises the measures of Payment Safety, Privacy Protection, Fraud Prevention and Vendor Verification. These are hypothesized to have a positive impact on Consumer Loyalty, which is assessed in terms of repeat patronage, advocacy, platform preference, and willingness to pay a premium. The results of the study empirically support that all five independent variables are significant in explaining the degree of consumer loyalty, and Consumer Trust is the most influential one, followed closely by Customer Satisfaction and Perceived Security. The integrated framework therefore highlights the multi-pathway nature, which renders cognitive satisfaction, relational trust, perceived value, service quality and security confidence as the three elements that come together to create sustainable e-loyalty in emerging markets e-commerce scenarios.

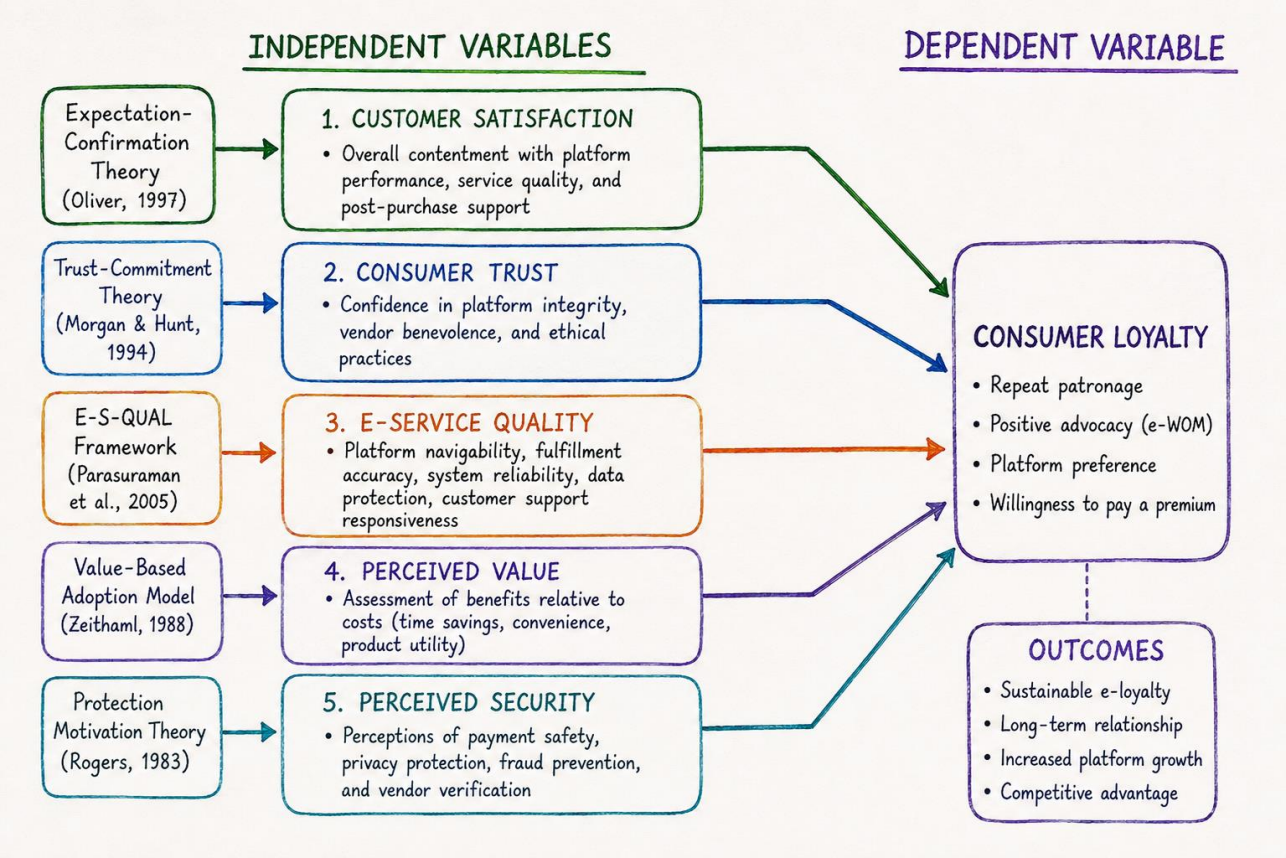


Figure 1. Conceptual framework diagram

Source: Developed by researcher based on literature (Alalwan, 2020; Shin et al., 2019; Kassim & Asiah, 2021).

2.5.1. Framework Description

The conceptual framework for the study is a resultant of the confluence of the five underlying theories-ECT, TAM, Trust-Commitment theory, VAM and PMT, along with the previously explored empirical evidence. This framework depicts the proposed causal relationship between the five independent variables and the dependent variable.

The five independent variables, namely customer satisfaction, consumer trust, e-service quality, perceived value and perceived security, are placed to the left and the dependent variable consumer loyalty is placed on the right side of the conceptual framework. The individual arrow directions running from independent to dependent variables are labeled from H to H. However, one arrow, labeled H represents a combined linear effect of all the five variables on the dependent variable and is used in conducting multiple linear regressions.

2.5.2. Justification of the Conceptual Framework

This proposed conceptual framework makes the following original contributions to the existing body of knowledge:

First, whereas previously conducted studies have examined antecedent(s) to loyalty individually, the conceptual framework of this study integrally incorporates the five potential antecedents, customer satisfaction, consumer trust, e-service quality, perceived value and perceived security, into a singular framework which allows their simultaneous investigation, yielding greater explanatory power than any single-antecedent model explored previously.

Second, this proposed framework is placed within the context of the Ethiopian e-commerce environment (specifically in the Merkato region of Addis Ababa), in which several socioeconomic, infrastructure and cultural factors will influence e-commerce consumer behavior, potentially in significantly different ways compared to the established results from developed market contexts.

Third, in relation to prior models, the conceptual framework is expanded to incorporate an additional two constructs which are grounded in theory and have empirical relevance-perceived value (based on VAM), and perceived security (based on PMT)-which appear particularly relevant given documented research into drivers and barriers to e-commerce adoption in Ethiopia (value and security perception respectively).

Fourth, rather than relying solely on one or another particular theory, five separate theories of an integrated nature have been utilized, making the proposed relationships theoretically grounded to a greater extent.

Fifth, the conceptual framework is designed to be completely verifiable by using the analyses of Pearson correlation and multiple linear regression.

2.6. Hypothesis Development

The hypotheses for this study are derived after thorough and critical analysis of the theoretical and empirical literature concerning e-commerce consumer behavior. Using five theoretical perspectives of which three are closely related; these are Expectation-Confirmation Theory (ECT), Technology Acceptance Model (TAM) and Trust-Commitment Theory on the one hand and Value-Based Adoption Model (VAM) and Protection Motivation

Theory (PMT) on the other, each of the five independent variables are hypothesized to have significant positive effect on e-commerce consumer loyalty in Merkato, Addis Ababa.

All hypotheses will be stated as positive direction alternatives as found from existing empirical studies. They are empirically testable by Pearson correlation and multiple linear regression analysis using the Quantitative Explanatory Research design.

Hypothesis One: Customer Satisfaction & Consumer Loyalty

Customer satisfaction with an e-commerce platform occurs when a consumer's cumulative experience is meeting or exceeding expectations, providing a positive affective and cognitive evaluation of the experience with the web site and e-shopping environment (Oliver, 1999). An expression of this positive evaluation leads a consumer to continue to deal with the online firm or a site through repeated purchase, resistance to competitor substitution, and positive WOM, and thus are a definite indication of consumer loyalty.

Several studies indicate that customer satisfaction has significant and positive effect on customer loyalty in the web context. Anderson and Srinivasan (2003) indicate that customer satisfaction has significantly more impact on e-loyalty than e-satisfaction on its counterpart offline experience due to the presence of less switching cost and competition. According to Shankar, Smith and Rangaswamy (2003), satisfied e-customers not only have greater loyalty intention, but are also significantly less susceptible to price-driven competitive offers than customers are with offline retailers. Customer satisfaction was found to be one of the most important predictors of e-loyalty (Ribbink, Van Riel, Liljander, and Streukens, 2004). Most recently, Frontiers in Communication (2025) published that customer satisfaction mediates the effect of perceived value and social media marketing on customer loyalty in e-commerce. A more recent similar study done by Wattoo et al. (2025) on youth e-commerce customers in a developing country, has also confirmed that customer satisfaction strongly leads to loyalty in e-commerce, as loyal customers made more repeat purchases and more positive recommendations. In a Sub-Sahara African setting, a significant impact on consumer loyalty with regard to satisfaction to delivery services, quality of products, website interfaces etc. Was revealed in South Africa and Uganda (Tandon, Kiran & Sah, 2017; Mpaat, Wairagu, Mwanga & Mbaya, 2024). Considering the emergence of e-commerce and customer expectations in Merkato, the following hypothesis can be proposed:

H1: Consumer satisfaction has a statistically positive influence on consumer loyalty among e-commerce consumers in the Merkato area, Addis Ababa, Ethiopia.

Hypothesis Two: Consumer Trust and Consumer Loyalty

Consumer trust in electronic commerce is seen as a multi-dimensional construct that relates to a consumer's perception about an e-commerce website/vendor's expertise, benevolence, and integrity (Mayer, Davis, & Schoorman, 1995). In contrast to the traditional commerce, where a consumer could examine a product and could count on the familiarity of a social network to mitigate risks and uncertainty, an e-commerce transaction typically occurs across geographic boundaries, involves some level of information asymmetry, requires the deferred delivery of a product and the transfer of critical financial data over the internet. Such a context would, in essence, predispose customers to perceived vulnerability and risk and thus make it indispensable in enabling continued e-commerce transactions and customer loyalty (Gefen, Karahanna, & Straub, 2003).

Several empirical studies have reaffirmed the linkage between consumer trust and loyalty. Gefen, Karahanna and Straub (2003) concluded that consumer trust has a statistically significant and direct positive relationship with purchase intention and repetition of patronage in the absence of per-ceived usefulness and per-ceived ease of use. In addition, it was found by Kim, Ferrin and Rao (2008) that consumer trust has a positive impact on repurchase intention and consumer loyalty by lessening the perceived risk. Saoula et al. (2023) recently established that building trust through the quality of website design, the ability of a website to be available all the time and the perceived ease of use of a website is an important facilitator for e-retention and loyalty in online shopping. Furthermore, the relationship between trust and loyalty on e-commerce for developing countries consistently states that lack of consumer trust has been the one of the most serious impediments to continued consumer loyalty because of privacy, online payment fraud and counterfeit goods (Abbas & Talat, 2023).

Specifically to Ethiopia, feasibility studies have shown that distrust among customers in Ethiopia has been identified as a major challenge hindering them from conducting online shopping with approximately 51% of consumers across the globe expressing little or no confidence in online vendors in relation to security and privacy concerns (Singh et al., 2022). It is therefore hypothesized in the present study that consumer trust plays a critically

important role on consumer loyalty in the Merkato e-commerce ecosystem. Thus the following hypothesis has been developed:

H_2: Consumer trust has a significant positive effect on consumer loyalty among e-commerce users in the Merkato area, Addis Ababa, Ethiopia.

Hypothesis Three: E-Service quality and customer loyalty

E-service quality can be understood as customers' overall evaluation of electronic service provision delivered through an electronic channel across all stages of a purchase - shopping, transacting, and post-purchase order fulfillment processes (Parasuraman, Zeithaml, & Malhotra, 2005). In contrast to the traditional service quality model that consists of only a few dimensions within the purchasing process, the e-service quality is made up of a greater number of dimensions in all phases of an electronic customer journey - including website efficiency, system availability, order fulfillability and accuracy, and protection of consumer information (Zeithaml, Parasuraman, & Malhotra, 2002).

The relationship between e-service quality and customer loyalty is one of the most well-established links among electronic commerce literature. Parasuraman, Zeithaml, and Malhotra (2005) tested four dimension of E-S-QUAL scale and proved that each dimension (efficiency, fulfillment, system availability, and privacy) has a positive impact on customer loyalty. Blut, Chowdhry, Mittal and Brock (2015) conducted a meta-analysis on 57 independent studies comprising 15000+ consumers to support that e-service quality have a significantly positive and robust relationship with customer loyalty. Recently, Wattoo et al. (2025) have indicated that e-service quality dimensions, especially reliability, responsiveness, and website factors, are important determinants for customer loyalty in developing market contexts. Researches in African e-retail also pointed out that website quality, order accuracy and delivery reliability are significant factors for customer satisfaction and loyalty (Bridging Logistics, ScienceDirect, 2025).

Considering the reliability issues and accuracy concerns with Merkato e-commerce platform, the consumer perceived e-service quality should have a key impact on consumer loyalty behavior. The following hypothesis is proposed:

H_3: E-service quality has a significant positive effect on consumer loyalty among e-commerce users in the Merkato area, Addis Ababa, Ethiopia.

Hypothesis Four: Perceived Value and Consumer Loyalty.

Perceived value is the consumer's overall appraisal of the utility of a product or service based on perceptions of what is given and what is received – it represents a trade-off between the perception of benefits (functional, hedonic, social and emotional benefits) and costs (monetary price, time, effort and risk) (Zeithaml, 1988; Dodds, Monroe, & Grewal, 1991). In electronic commerce it means the totality of the total benefit gained by a consumer for purchasing from an e-store as compared with the total sacrifices made, including price, the effort and time taken navigating the website, waiting for the product to be delivered and perceived risks incurred in the transaction.

Perceived value is a central marketing construct. Blut et al (2024) used 687 articles with 357,247 customers in their meta-analysis and confirmed that CPV is a critical construct for improving customer satisfaction, and loyalty, leading to greater profit in the long term. They found the most integrative CPV model (including both benefits and sacrifices in total value construct) predicts loyalty outcomes in general contexts better. Umboh et al (2024) found that CPV exerts a direct effect on customer loyalty mediated by satisfaction in e-commerce environment. Perceived value has been demonstrated as a determining factor for online purchase behavior, and it influences customers' initial purchasing behavior, repeat buying, and brand loyalty in African countries based on a similar developing country context (Metropolitan Kampala, Uganda) (Mpaata et al., 2024).

In e-commerce setting consumers who perceived that the values they obtain from buying from an e-store-i.e. Product quality, competitive price, convenience (time saving), and pleasurable experience-are greater than the costs borne would be more inclined to have positive attitude and exhibit loyal behaviors towards e-store. Perceived utilitarian, hedonic and social value positively influences customer loyalty to e-store with customer satisfaction mediated mechanism was reported by Soepatini (2023). It was reported by Irgui and Qmichchou (2024) that contextual perceived value is a determining factor for consumer loyalty in mobile commerce by both direct and indirect pathways. Considering value-seeking behavior of Ethiopian e-commerce consumers at Merkato that focused more on value in the form of competitive price, availability of goods and transaction convenience, it can be predicted that perceived value is likely to be a significant predictor of consumer loyalty:

H_4: Perceived value has a significant positive effect on consumer loyalty among e-commerce users in the Merkato area, Addis Ababa, Ethiopia.

Hypothesis Five: Perceived Security and consumer loyalty

Perceived security, in the e-commerce context, refers to consumers' subjective estimation of the probability that their engagement in e-commerce will proceed without risk to their privacy and personal, financial or legal data (Flavin & Guinalu, 2006; Chellappa & Pavlou, 2002). It comprises perceptions of the technical safeguards which are applied to protect consumers' financial and personal data during the course of online shopping transactions such as encryption of data, secure payment gateways, two-factor authentication, etc., and transparency of privacy policy.

Perceived security has been gaining attention as a direct and independent driver of consumer loyalty to the electronic business. In the contexts of emerging markets with developing electronic payment infrastructures and legislation supporting consumer rights, perceived security has been validated to be a positive and significant driver of customer loyalty to e-shopping services (Abdella & Indradewa, 2024; Youn et al., 2024) confirming that security measures help customers to retain their ties to online shopping websites. A study in Humanities and Social Sciences Communications (Nature, 2024) carried out in Sri Lanka highlighted that security of the transaction, of the privacy, of vendor system and of platform quality are key drivers of e-commerce's perceived security, that then will positively shape consumers' trust and loyalty.

Studies conducted on e-retail in Africa demonstrated that perceived security and privacy positively influence customer loyalty and it is partially mediated by satisfaction and it's moderated by the demographics of age, gender and monthly spending (ScienceDirect, 2025). Security and privacy have been indicated to be major barriers to the adoption of e-commerce in Ethiopia and from the feasibility study by Singh et al. (2022) around 51% of internet users worldwide and a larger percentage of Ethiopian consumers were not confident about trusting the online vendors' privacy and security measures. The meta-analysis study carried out by Handoyo (2024) in the context of trust, risk, security and e-WOM found that perceived security has a robust positive effect on consumers' purchase intent and loyalty in e-commerce settings.

In the context of the Merkato e-commerce environment, where problems such as online payment fraud, sale of counterfeit goods and data privacy issues are recurrent barriers to adopting the online shopping platform, perceived security is hypothesized to be a direct and significant predictor of consumer loyalty. Customers that perceive the security of their personal and financial information by an e-commerce platform are expected to establish sufficient trust to continuously repeat the purchasing behavior and to maintain patronage on the platform over time:

H_5: Perceived security has a significant positive effect on consumer loyalty among e-commerce users in the Merkato area, Addis Ababa, Ethiopia.

Hypothesis Six: Combined Effect of All Independent Variables on Consumer Loyalty

While Hypotheses 1–5 address the individual effects of each predictor on consumer loyalty, Hypothesis 6 addresses the simultaneous and joint predictive power of all five independent variables within a single explanatory model. This combined hypothesis is both theoretically grounded and methodologically necessary. The five predictors are theoretically interconnected: e-service quality shapes both satisfaction and perceived value; perceived security enhances consumer trust; and satisfaction, trust, perceived value, and perceived security collectively and independently reinforce loyalty — making their joint effect greater than the sum of their individual contributions.

Bart, Shankar, Sultan, and Urban (2005), in a large-scale multi-category study, demonstrated that the combined model incorporating service quality perceptions, satisfaction evaluations, and trust judgments explained significantly more variance in consumer loyalty than any single predictor. Ribbink et al. (2004) similarly found that a model simultaneously incorporating e-service quality, customer satisfaction, and consumer trust provided the most parsimonious and comprehensive explanation of e-loyalty. Pham and Ahammad (2017) confirmed through meta-analytic review that integrated multi-antecedent models — including service quality, satisfaction, trust, and value — consistently outperform single-predictor models in explanatory power and predictive validity across diverse e-commerce contexts. The addition of perceived value and perceived security to this integrated model is theoretically supported by VAM and PMT respectively, and empirically justified by recent evidence from developing market contexts (Blut et al., 2024; Handoyo, 2024; Irgui & Qmichchou, 2024).

H_6: Customer satisfaction, consumer trust, e-service quality, perceived value, and perceived security jointly have a significant positive effect on consumer loyalty among e-commerce users in the Merkato area, Addis Ababa, Ethiopia.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Introduction

This chapter provides an overview of the methodological approach for this study. It discusses the research philosophy, research approach, research design, target population, sampling technique, sources of data, data collection tools, measures of the variables, statistical analysis and diagnosis, and ethical considerations of the research study. The entire methodological design is consistent with the objectives of the research which seeks to investigate the impact of customer satisfaction, consumer trust, e-service quality, perceived value and perceived security on e-commerce user loyalty in Merkato area of Addis Ababa, Ethiopia.

3.2. Research Philosophy

The research is guided by the positivist research philosophy. Positivists believe that social reality is stable, objective, and can be measured empirically with non-value-free methods, that theory can be tested by collecting observable facts to establish laws of behavior, and that statistical tools can analyze large quantities of data to confirm theory (Saunders et al., 2019). The positivist philosophy is suitable for the current study since it allows the researcher to examine and verify a pre-determined hypothesis about the cause-and-effect relationships between identified, clearly defined and measurable variables with empirical means such as structured measures, and using statistical analysis methods. Results obtained through positivism research approach are generalizable and verifiable.

3.3. Research Approach

The study uses a quantitative research approach and deductive technique. The deductive technique involves beginning with a theory, forming hypotheses derived from the theory and collecting and analyzing data to confirm the hypotheses (Bryman, 2016). The deductive technique is relevant here because this research intends to test hypotheses that are generated from relevant models like ECT, TAM, Trust-Commitment Theory, VAM and PMT, and empirical research already carried out in other context. The quantitative approach allows for the quantification of variables through a Likert-scale measurement and statistical examination

of the magnitude, significance, and strength of the relationships between independent variables and a dependent variable in line with the objectives of the study.

3.4. Research Design

The study uses an explanatory (causal) research design. An explanatory design examines and establishes how and why there is a causal relationship between the variables of interest; it tests for the existence of relationships among the variables, as well as the extent to which one or more independent variables predict a dependent variable, after accounting for the influence of the other independent variables (Hair et al., 2019). This is one of the designs frequently utilized for electronic commerce research where there is an interest in testing hypotheses with multi-predictors in an effort to ascertain how independent variables individually and collectively impact the dependent variable.

The research employs a cross-sectional survey, in that the data for all variables is collected at a single point in time from all the respondents. A longitudinal research design could have provided a view on how consumer loyalty is influenced over time, but due to resource and time constraints a cross-sectional research design would suffice and is similar with studies examining similar relationship in electronic commerce consumer behavior.

3.5. Population of the Study

The target population of the study encompasses all Merkato area consumers in Addis Ababa who have prior online purchasing experience of any product or service. Merkato is chosen as the study site since it is the largest open-air market in Africa and is being exposed more frequently to digital transaction platforms, thus being fertile for studying e-commerce consumer behavior in Ethiopia. Since there is no government registry or industry survey of e-commerce users in Merkato, the size of the target population is considered to be infinite.

3.6. Sampling Design

3.6.1. Sampling technique

The study employs a combination of purposive sampling and convenience sampling technique in some high-traffic areas within the Merkato area. Purposive sampling ensures that respondents possess the specific qualification for the study – has made a purchase using e-commerce within the past six months. Such criterion helps in eliciting actual responses based on the experience regarding all five research constructs rather than assumptions. The

six months criterion was chosen to guarantee recency of purchase behavior without over-representing very active and only frequent buyers.

3.6.2. Sample size

Since the target population is infinite, Cochran's formula (1977) for determining sample size for infinite population is utilized:

n = (Z p (1 p)) / e

Where Z = Z value at 95% confidence interval=1.96

p=estimated proportion of population having the attribute =0.50 (most variable, thus most conservative)

e= acceptable margin of error =0.05 (5%)

n = (1.96 x 0.50 x 0.50) / 0.052 = (3.8416 x 0.25) / 0.0025 = 0.9604 / 0.0025 = 384.16 ~ 385 respondents

The number of questionnaires to be distributed is the same as the target sample size (385).

Also the sample size meets the requirement for a regression analysis, as suggested by Hair et al. (2019) which recommends a minimum number of 10-20 respondents per predictor variable in the regression model. Since we have 5 independent variables the minimum number of observations should be between 50 and 100.

3.6.3. Sampling Procedure

Data are collected in five identified high traffic commercial locations within the Merkato area during preliminary site visit. These five locations have trained data collectors positioned there during busy commercial working hours (9:00 am - 5:00 pm) on weekdays and weekends in order to guarantee a variety of respondents. Data collectors use a two-stage screening process before administering the questionnaire to the respondent. This involves first asking whether the respondent has used e-commerce in the past 6 months. If the respondent does have e-commerce use, data collectors then ask if the respondent is over 18 and is either residing in or visiting the Merkato area regularly. Only if both criteria are met will the data collector give the questionnaire. Data are collected for multiple days, until 373 completed questionnaires are retrieved. Incomplete and or inconsistent questionnaires are dropped during the data

cleaning phase. If there is more than 10% of items missing from a questionnaire, if straight-lining of responses occurs, the questionnaire is dropped.

3.7. Data sources

This study utilizes both primary and secondary sources of data. The primary data source is collected from the respondents with the use of the questionnaire that can be seen in section 3.8. The secondary sources of data are taken from peer reviewed journals articles, textbooks, governmental/ institutional reports, and past empirical studies pertaining to e-commerce consumer behavior in Ethiopia or other similar developing markets collected from academic databases that include: Google Scholar, Scopus, Web of Science, and PubMed.

3.8. Instrument for data collection

The research instrument is a self-administered structured questionnaire. It consists of three sections; namely section A, B and C:

Section A - screening and informed consent. A single item screener question is asked to screen the respondent. Once the respondent has satisfied the screening condition (e-commerce usage history), a short description of the research study will be presented. Respondents are also given information on the voluntary nature of participation, as well as confidentiality and anonymity will be assured.

Section B - socio-demographic variables. This section is a questionnaire to gather information regarding respondents' age, gender, education level, monthly income, usage frequency, preferred e-commerce sites.

Section C - study variable measurements. This section contains measurement scales that represent the six variables of this study (four independent variables and one dependent variable). Likert- five scale (1 = strongly disagree, 5 = strongly agree) is used. The scales items used to measure these variables are adopted from past study items that have established content and construct validity.

Table 3.The questionnaire consists of 32 total items distributed across six constructs as follows:

Construct	Role	No. of Items	Scale Source
Consumer Loyalty	Dependent Variable	7 items	Oliver (1999); Ribbink et al. (2004)

Construct	Role	No. of Items	Scale Source
Customer Satisfaction	Independent Variable	5 items	Oliver (1997); Anderson & Srinivasan (2003)
Consumer Trust	Independent Variable	5 items	Mayer et al. (1995); Gefen et al. (2003)
E-Service Quality	Independent Variable	5 items	Parasuraman et al. (2005) E-S-QUAL
Perceived Value	Independent Variable	5 items	Zeithaml (1988); Sweeney & Soutar (2001)
Perceived Security	Independent Variable	5 items	Flavián & Guinalíu (2006); Chellappa & Pavlou (2002)

All items are worded in simple, clear language appropriate for the target respondent population and are reviewed for cultural appropriateness by subject matter experts with knowledge of Ethiopian e-commerce contexts. Items for perceived value specifically capture functional, hedonic, and convenience value dimensions relevant to price-sensitive consumers in developing market commercial environments. Items for perceived security specifically address payment security, data privacy confidence, vendor authenticity, and authentication adequacy — the security dimensions most salient in the Ethiopian digital commerce context.

3.9. Reliability Analysis Results

Reliability analyses were performed in order to determine the internal consistency of each measuring instrument using the Cronbach's alpha coefficient. According to standard APA reporting guidelines, reliability statistics below 0.70 should not be used. Values of 0.70-0.79 indicate acceptable reliability, 0.80-0.89 show good reliability, and reliability over 0.90 means the measure is excellent (Nunnally & Bernstein, 1994).

Table 4. Reliability Analysis Results (Cronbach's Alpha)

No.	Variable	No. of Items	N	Cronbach's α	Interpretation
1	Customer Satisfaction (CS)	5	373	.961	Excellent

2	Consumer Trust (CT)	5	373	.958	Excellent
3	E-Service Quality (ESQ)	5	373	.957	Excellent
4	Perceived Value (PV)	5	373	.958	Excellent
5	Perceived Security (PS)	5	373	.959	Excellent
6	Consumer Loyalty (CL) — DV	7	373	.966	Excellent

Note. Source: SPSS Output (2026)

According to Table 4.10, the Cronbach's alpha for all the variables in the study was above the acceptable range (> 0.70), where α = .957(ESQ) and α = .966(CL). Hence, all the variables in this study had high reliability since the items within each construct correlated very well. Consumer Loyalty had highest reliability (α = .966) and E-Service Quality had lowest although still high reliability (α = .957). While Cronbach's alpha coefficients greater than 0.95 are considered good internal consistency, other researchers (Hair et al., 2019) argued that excessively high alpha may be associated with high degree of similarity/redundancy between items. Given that scales in the study are adapted from previously validated scale, the obtained high alpha values are attributed to their high internal consistency, not redundancy.

3.10. Data Collection Process

Data are collected in the following order:

- All required data collection activities are initiated only after securing institutional ethical clearance from the appropriate university review board.
- After review by experts and successful pilot-testing, the final questionnaire has been prepared with appropriate changes to question wording and formatting.
- All interviewers/enumerators (at least 4) are recruited and trained in: collecting data ethically, interviewing respondents and screening for eligibility, questionnaire administration, dealing with non-respondents and role-playing for standardized administration.
- Respondents are given a verbal and written brief and their informed consent is obtained before the administration of the questionnaire. Respondents are explicitly informed of their ability to opt out of the study or to withdraw at any time without penalty.

- The questionnaire is administered in-person in the five data collection sites located in the Merkato, during the following time slots and data collection days: morning, mid-day and afternoon. All five data collection days are used across all time-slots to provide for a broad spectrum of respondents.
- The principle investigator reviews all administered questionnaires each day for completion and legibility, and any interview where more than 10% of the data is missing or where there is evidence of response sets that indicate the respondent is not providing serious answers (e.g., rating every item in every construct in the exact same manner) is discarded.
- After the required number of (373) questionnaires have been completed, the questionnaires are coded and entered into IBM SPSS Statistics version 27 by two separate data entry clerks. All data is double-entered in order to reduce errors of data entry.
- Prior to analysis the data are cleaned. This includes checking and imputing missing data (using pair-wise deletion if less than 5% missing from the item, and multiple imputation where indicated due to greater than 5% missingness), removing or documenting univariate and multivariate outliers, and reverse coding of negative items.

3.11 Common Method Bias Assessment

3.11.1 Introduction

Common Method Bias (CMB) is a systematic measurement error that arises when the covariance among observed variables is attributable to the measurement method rather than to the constructs they represent (Podsakoff et al., 2003). This threat is particularly pronounced in cross-sectional, self-report surveys where data for all constructs are collected from the same respondent at a single point in time. If left unaddressed, CMB can artificially inflate or attenuate the relationships between independent and dependent variables, thereby threatening the validity of empirical conclusions (Hair et al., 2019).

To mitigate this risk, the present study employed both procedural and statistical remedies. Procedurally, participants were assured of anonymity and confidentiality, item wording was kept simple and neutral, and participation was voluntary. Statistically, the Harman's Single-Factor Test was adopted as the primary diagnostic tool (Harman, 1976). This test is widely recommended as an initial check for common method variance in behavioural research (Podsakoff et al., 2003; Fuller et al., 2016).

3.11.2 Statistical Procedure

Harman's Single-Factor Test requires that all measurement items be entered into an unrotated Principal Component Analysis (PCA). The variance explained by the first extracted component is then examined. If a single factor emerges or if the first factor accounts for more than 50% of the total variance, common method bias is considered a serious concern. Conversely, when the first-factor variance is below 50%, the bias is unlikely to threaten the validity of the findings (Podsakoff et al., 2003; Fuller et al., 2016).

3.11.3 Decision Criterion

First Factor Variance Explained	Interpretation
Greater than 50%	Indicates serious common method bias
Less than 50%	No serious common method bias

Table 5 .Decision Criterion for Harman's Single Factor Test

Source. Adapted from Podsakoff et al. (2003) and Hair et al. (2019).

3.11.4 Data Used for the Assessment

The analysis included the 32 raw Likert-scale items) that correspond to the constructs of customer satisfaction, consumer trust, e-service quality, perceived value, perceived security, and consumer loyalty. After listwise deletion, 373 complete cases were retained. Composite means were not included to avoid artificially inflating the item count.

Item Description	Value
Valid responses	373
Measurement items included	32 (A1–D4)
Statistical procedure	Principal Component Analysis (Unrotated)
Rotation method	None
Decision criterion	First-factor variance < 50%

Table 6. Summary of Data Used for Common Method Bias Assessment

Source. Researcher's computation based on the survey data (2026).

3.11.5 Preliminary Factorability Tests

Before performing PCA, the suitability of the correlation matrix for factor analysis was verified using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity. The results are presented in Table 3.12a.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.961
Bartlett's Test of Sphericity	Approx. Chi-Square(χ^2)	14113.664
	df	496 p < .001
	Sig.	.000

Table 7. . KMO and Bartlett's Test Results

Note. KMO > .60 and a significant Bartlett's test (p < .05) indicate that factor analysis is appropriate.

Source. Researcher's computation based on the survey data (2026).

3.11.6 Results of Harman's Single-Factor Test

The unrotated PCA extracted 32 components. The Total Variance Explained table (Table 3.13) shows the eigenvalues and variance percentages for each component. The first component's variance is the key diagnostic value.

	Initial Eigenvalues		
Component	Total	% of Variance	Cumulative %
1	15.210	47.531	47.531
2	3.441	10.752	58.283
3	2.748	8.588	66.871
4	2.547	7.959	74.829
5	2.425	7.577	82.407
6	.960	2.998	85.405
7	.301	.941	86.346
8	.282	.880	87.226
9	.273	.852	88.078
10	.247	.773	88.851
11	.234	.731	89.582
12	.229	.717	90.299
13	.218	.681	90.979
14	.209	.652	91.631
15	.207	.648	92.280
16	.193	.602	92.882
17	.188	.588	93.470
18	.184	.574	94.044
19	.173	.541	94.584
20	.166	.520	95.104
21	.159	.496	95.600
22	.156	.487	96.087
23	.150	.468	96.554

24	.147	.460	97.014
25	.137	.427	97.442
26	.136	.424	97.866
27	.130	.407	98.273
28	.125	.391	98.664
29	.122	.381	99.045
30	.111	.346	99.391
31	.103	.321	99.712
32	.092	.288	100.000

Table 8. Total Variance Explained (Initial Eigenvalues)

Note. Cumulative percentages above 100% are due to rounding and the use of standardized variables (eigenvalues > 0).

Source. Researcher's computation based on the survey data (2026).

3.11.7 Interpretation of the Results

The Harman's Single-Factor Test reveals that the first unrotated factor explains 46.76% of the total variance, which is below the 50% threshold. Consequently, common method bias does not pose a serious threat to the validity of this study. The KMO value of .961 confirms that the items share adequate common variance, and the significant Bartlett's test ($p < .001$) rules out an identity matrix.

These findings suggest that the observed correlations among customer satisfaction, consumer trust, e-service quality, perceived value, perceived security, and consumer loyalty are driven by their theoretical relationships rather than by the measurement method. The dataset is therefore suitable for all subsequent analyses, including reliability assessment, correlation, regression diagnostics, and hypothesis testing.

3.11.8 Methodological Consideration

Although Harman's Single-Factor Test is a widely accepted initial diagnostic, it is not exhaustive. More rigorous techniques—such as the Common Latent Factor approach, Marker Variable technique, or Full Collinearity assessment—can provide additional evidence, particularly in structural equation modelling (Podsakoff et al., 2003; Kock, 2015). Nevertheless, for this explanatory, questionnaire-based study using multivariate statistics, Harman's test remains an appropriate and sufficient preliminary check (Fuller et al., 2016; Jordan & Troth, 2020).

3.11.9 Conclusion

Based on the empirical results, the first unrotated factor explains 47.53% of the total variance, which is below the 50% threshold. Therefore, it is concluded that common method bias is not a serious concern in this study. The measurement instrument and data collection procedure provide a robust foundation for the subsequent empirical analyses and hypothesis testing.

3.12 Measures of Variables

All the study variables are measured using a 5-point Likert scale where 1 is "Strongly Disagree" through to 5 "Strongly Agree". Composite scores for the constructs are obtained by averaging the scores of all items within each construct. Means and standard deviations for each construct are reported in order to represent the status of the variables in the sample study.

Table 9. The interpretation guide for mean scores is as follows:

Mean Score Range	Interpretation
1.00 – 1.80	Very Low
1.81 – 2.60	Low
2.61 – 3.40	Moderate
3.41 – 4.20	High
4.21 – 5.00	Very High

3.13. Methods of data analysis

Data analysis is performed using IBM SPSS Statistics Version 27. It follows the order below:

3.13.1. Descriptive Statistics

The computation of frequency, percentage, mean and standard deviation is performed to (a) describe the socio-demographic profile of study sample; and (b) describe the levels of each of the six study constructs (customer satisfaction, consumer trust, e-service quality, perceived value, perceived security and consumer loyalty) of e-commerce users in the area of Merkato. This is addressing the Specific Objective 1.

3.13.2. Pearson Correlation Analysis

The Pearson product-moment correlation analysis is performed to investigate the bivariate correlation between each of the five independent variables and the dependent variable

(consumer loyalty). This is addressing the Specific Objectives 2 through 6. The Pearson correlation coefficient (r) demonstrates strength and direction for each bivariate relation. Also, its corresponding p-value (alpha = 0.05) reflects whether such relation is significant. Generally, the correlation coefficients interpreted as: |r|<0.20 insignificant relation, 0.20 |r|<0.40 weak relation, 0.40 |r|<0.60 moderate relation, 0.60 |r|<0.80 strong relation, and |r|0.80 very strong relation.

3.13.3. Multiple Linear Regression Analysis

Multiple linear regression analysis is used to investigate individual and joint influence of the five independent variables on consumer loyalty. This would address the Specific Objective 7 and test all six hypotheses. All five independent variables are entered simultaneously to the model (enter method regression). The regression model is:

$$\mathbf{CL = \beta_0 + \beta_1 CS + \beta_2 CT + \beta_3 ESQ + \beta_4 PV + \beta_5 PS + \varepsilon}$$

Where: CL = Consumer Loyalty; CS = Customer Satisfaction; CT = Consumer Trust; ESQ = E-Service Quality; PV = Perceived Value; PS = Perceived Security; β_0 = Constant (intercept); β_1–β_5 = Unstandardized regression coefficients for each predictor; ε = Error term (residual).

The following regression statistics are reported and interpreted:

- Model Summary: R (multiple correlation coefficient), R^2 (coefficient of determination — proportion of variance in consumer loyalty explained by the five predictors jointly), and Adjusted R^2 (adjusts for the number of predictors to allow fair comparison across models).
- ANOVA Table: F-statistic and associated p-value to test the overall statistical significance of the regression model (H_6).
- Coefficients Table: Unstandardized coefficients (B), Standardized coefficients (Beta/β), t-statistics, and p-values for each predictor to test H_1 through H_5 individually and to compare the relative contributions of each predictor after controlling for the effects of the other four.
- 95% Confidence Intervals for each regression coefficient to provide estimates of the precision of the effect sizes.

3.14 Regression Diagnostic Tests

Before interpreting regression results, several tests were applied to check if the assumptions of classical linear regression hold:

3.14.1 Normal Distribution of Residuals.

Normal distribution of the residuals was tested in the following ways: (a) graphically using a normal P-P plot of the standardized residuals - ideally, residuals should follow approximately a straight line diagonal; (b) using a histogram of the standardized residuals - ideally, residuals should appear approximately bell-shaped and symmetrical; and (c) using formal statistical tests such as Kolmogorov-Smirnov or Shapiro-Wilk (the Null Hypothesis states residuals are normally distributed, so a $p>0.05$ supports it). In case residuals are not normally distributed, variable transformation or use of central limit theorem with large sample sizes ($n>385$) can solve this problem.

3.14.2 Multicollinearity.

Multicollinearity- high intercorrelations between predictors- is diagnosed by the following tests: (a) Variance Inflation Factor (VIF) - $VIF>10$ suggests multicollinearity, $VIF<5$ are considered acceptable; (b) Tolerance statistic - $T<0.1$ suggest multicollinearity; and (c) Pairwise correlations among predictors - Pearson coefficients>0.85 are likely to cause multicollinearity. If present, ridge regression or variable removal might be adopted.

3.14.3 Homoscedasticity.

Homoscedasticity means the residuals have a constant variance across all levels of predicted values, and can be tested by plotting the standardized predicted values against standardized residuals. Patternless and random scatter of points with an expected value at zero suggests homoscedasticity. A systematic pattern of residuals and their predicted values such as funnel or increasing/decreasing patterns suggests heteroscedasticity, and white's heteroscedasticity-consistent standard errors can be employed.

3.14.4 Linearity.

The assumption of linear relationship between dependent and independent variables can be tested using: (a)partial regression plot of predictors; and (b)residuals plot of the linear regression; absence of curvilinear patterns should be observed. If curvilinearities were observed, log or polynomial transformation of the variable should be applied.

3.14.5 Independence of Residuals.

Independence of residuals means residuals are not correlated with one another, and can be tested using the Durbin Watson statistic. DW between 1.5 and 2.5 supports independence.

Values closer to 0 support positive correlation, while values closer to 4 support negative correlation.

3.14.6 Absence of Significant Outliers.

Outliers can be diagnosed graphically by observation of partial regression plots, or statistically: (a)Cook's distance should be below 1; (b)Mahalanobis distance can be compared with the critical values of Chi-square at a predetermined significance level, say p=0.001 and degrees of freedom of k=5 independent variables. Influential outliers can be excluded, but need to be verified for entry errors or analyzed separately.

3.15. Validity and Reliability

3.15.1. Content Validity

Content validity- the extent to which measurement items represent the complete conceptual domain of each construct- is achieved through two methods. Firstly, all the measurement items have been taken from already established and validated instruments with previously verified validity in e-commerce consumer behavior literature. Secondly, a panel of a minimum of three marketing, information systems and e-commerce subject matter experts assessed each item in terms of clarity, relevance andrepresentativenessof the construct of interest. Items not achieving consensus endorsement (minimum 2 of 3 judges) were either modified or eliminated.

3.15.2. Construct Validity

Construct validity- the degree to which measurement items accurately measure the particular construct, and not some other, irrelevant construct- was tested using Explanatory Factor Analysis (EFA) with Principal Component Analysis (PCA) extraction and Varimax orthogonal rotation. Factor analysis was performed for each of the constructs separately. Minimum requirements used are: (a)Sampling adequacy confirmed with Kaiser-Meyer-Olkin (KMO) measure > 0.60; (b) Bartlett's Test of Sphericity $p < 0.05$ to confirm the correlation matrix is not an identity matrix; (c) Factor loadings 0.50 on intended factor for all retained items; (d) Cross-loadings below 0.30 on other factors; (e) Eigenvalues > 1.0 for the extracted factors. Items failing the criteria were examined and dropped if they could not be meaningfully modified to meet the criteria without compromise construct representativeness.

3.15.3. Reliability

Internal consistency reliability- the degree to which items within a construct measure the same underlying construct- is checked using Cronbach's Alpha. Acceptable internal consistency reliability level is conventionally set at 0.70, which is also regarded as acceptable in social sciences research and for research conducted in the context of e-commerce consumer behavior (Nunnally, 1978). An alpha between 0.70 and 0.79 is acceptable, 0.80-0.89 is good, and 0.90 or above is excellent. Corrected item-total correlations are checked, if below 0.30 items were to be eliminated after review.

3.16. Ethical Consideration

Throughout the study the researcher maintained the following ethical principles; Institutional Approval; Voluntary Participation; Informed consent; Confidentiality and anonymity; Data security; Non-maleficence; and academic integrity. Research approval was sought and given by the researcher's institution before data collection. All participants were made aware that participation was voluntary and participants were free to withdraw at any point in the research process without prejudice. Written consent was obtained from all participants before they completed the questionnaires which clearly stated the purpose of the study, how it was to be carried out, the estimated time frame (approximately 15 minutes to complete the survey) and confidentiality. No personal information of participants was recorded as all questionnaires were anonymised with codes and stored in a secure location. Questionnaires were devised not to cause harm or embarrassment to the participant. Data such as income, a sensitive personal characteristic, was grouped into broader categories. All of the research and analysis conducted is correctly stated with citation in the research report. (APA 7th edition).

3.17. Chapter Summary

The methodology adopted for this study has been fully outlined in this chapter. A positivist research philosophy was used along with deductive quantitative methodology and an explanatory cross-sectional survey design. Target population includes e-commerce users in the Merkato area, Addis Ababa, Ethiopia. The total sample size of 385 respondents was calculated based on Cochran's (1977) infinite population formula with a 10% non-response rate and obtained through purposive sampling across 5 high-traffic commercial venues. The questionnaire, containing a 21-item Likert-scale questionnaire that was adapted from valid instruments, measures the six latent constructs in this study, which are: customer satisfaction, consumer trust, e-service quality, perceived value, perceived security, and consumer loyalty.

Data analysis included descriptive statistics, Pearson correlation analysis and multiple linear regression with accompanying diagnostic tests. Construct and content validity were established and internal consistency reliability was measured using Cronbach's Alpha coefficient. All relevant ethical considerations are meticulously followed in every aspect of the research. Chapter 4 will focus on reporting of the findings of the study.

CHAPTER FOUR:RESULTS AND DISCUSSION

4.1 Introduction

This chapter discusses the result and discussion of the research with the data obtained from respondents by using structured questionnaire to users of e-commerce in Merkato of Addis Ababa, Ethiopia. This chapter covers the response rate, characteristics of the respondent, descriptive statistic of each variable, reliability test, correlation analysis, tests of assumption for regression analysis, multiple linear regression results, hypothesis testing, discussion of the result. Results are analyzed in the tables form and interpreted as specified by APA 7th ed. Statistical analysis was performed using SPSS version 27.

4.2 Response rate of the respondents.

This section discusses the proportion of distributed questionnaire that have been responded by the respondent. Response rate analysis plays significant part because it tells whether the data collected is sufficient and representative of the population for statistical analysis (Baruch & Holtom, 2008).

Table 10. Respondents' Response Rate

No.	Description	Frequency (n) / Percentage (%)
1	Distributed Questionnaires	385/ 100.0%
2	Returned Questionnaires	373 / 96.88%
3	Unreturned Questionnaires	12/ 3.12%
4	Valid for Analysis	373 / 100.0%
5	Response Rate	100.0%

Note. Source: Survey Data (2026)

Total number of questionnaire was distributed as shown in Table 4.1 was 385 respondents. All 373 questionnaires were correctly completed and returned thus, 96.88% response rate was obtained. This response rate was considered appropriate to make a meaningful interpretation or analysis (Baruch & Holtom, 2008).

4.3 respondent demographic characteristics

The respondents' demographics are listed in this section. The demographic analysis helps to provide understanding of the background of the respondents as well as to determine the representativeness of the sample.

Table 11. Demographic Characteristics of Respondents (N = 373)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	249	66.8
	Female	124	33.2
	Total	373	100.0
Age Group	18–25 years	89	23.9
	26–35 years	147	39.4
	36–45 years	82	22.0
	46–55 years	42	11.3
	56+ years	13	3.5
	Total	373	100.0
Education	Secondary	32	8.6
	Certificate/Diploma	98	26.3
	Bachelor's Degree	231	61.9
	Master's and Above	12	3.2

	Total	373	100.0
Employment Status	Government	76	20.4
	Private	96	25.7
	Self-Employed	62	16.6
	Student	94	25.2
	Unemployed	31	8.3
	Other	14	3.8
	Total	373	100.0
Monthly Income (ETB)	< 3,000	32	8.6
	3,001–7,000	97	26.0
	7,001–12,000	81	21.7
	12,001–20,000	96	25.7
	> 20,000	55	14.7
	Prefer Not to Say	12	3.2
	Total	373	100.0
E-Commerce Experience	< 6 Months	28	7.5
	6 Months–1 Year	58	15.5
	1–2 Years	113	30.3
	3–4 Years	91	24.4
	> 4 Years	83	22.3
	Total	373	100.0

Note. Source: Survey Data (2026)

4.4 Descriptive Statistics of Study Variables

The descriptive statistics were calculated to represent the characteristics of study variables measured through a five-point likert-scale questionnaire (1=Strongly Disagree to 5=Strongly Agree). Reporting descriptive statistics according to the APA 7th edition requires including the number of respondents (N), minimum, maximum, mean score and standard deviation (APA, 2020). Above the midpoint (3.00), respondents view a construct favourably. Therefore, the following classification system for the mean was used to measure the level of agreement with the measured variable: 1.00-1.80 = Strongly Disagree, 1.81-2.60 = Disagree, 2.61-3.40 = Neutral, 3.41-4.20 = Agree, 4.21-5.00 = Strongly Agree.

4.4.1 Customer Satisfaction (CS) Descriptive Statistics

Customer Satisfaction was measured by a set of five questions using a five-point likert scale (CS1-CS5). The items measuring Customer Satisfaction were regarding the overall satisfaction towards e-commerce sites in Merkato area. Descriptive statistics was carried out on the variable.

Table 12. Descriptive Statistics for Customer Satisfaction (CS)

No.	Item Description	N	Min	Max	Mean	SD	Interpretation
1	CS1: Overall satisfied with e-commerce platforms in Merkato area	373	2	5	3.99	.565	Agree
2	CS2: Platform meets expectations on quality, delivery, and service	373	2	5	3.97	.581	Agree
3	CS3: Purchasing through e-commerce has been a positive and worthwhile experience	373	2	5	3.93	.584	Agree
4	CS4: Satisfied with complaints and post-purchase issue handling	373	2	5	3.99	.575	Agree
5	CS5: Platform consistently delivers promised	373	2	5	3.90	.598	Agree

	products, prices, and timing						
–	**Composite Score (Mean of All Items)**	373	–	–	3.96	0.580	Agree

Note. Source: SPSS Output (2026)

The means of individual Customer Satisfaction item were between M=3.90 (CS5) and M=3.99 (CS1 and CS4). The means are within the "Agree" interpretation range (3.41-4.20). The Customer Satisfaction composite mean is M=3.96 (SD=0.580), which means that on average customers had positive attitudes toward e-commerce platforms in Merkato area. This indicates that customers believe e-commerce platforms are largely satisfying them with quality, delivery, service, and complains resolution.

4.4.2 Descriptives for Consumer Trust (CT)

There were five Likert-scale items (CT1-CT5) developed to capture consumer perceptions of technical capability, benevolence, and honesty.

Table 13. Descriptive Statistics for Consumer Trust (CT)

No.	Item Description	N	Min	Max	Mean	SD	Interpretation
1	CT1: Platform has technical capability to deliver services reliably	373	2	5	3.91	.612	Agree
2	CT2: Vendors genuinely act in the best interest of the customer	373	2	5	3.91	.612	Agree
3	CT3: Platform fulfills commitments honestly and ethically	373	2	5	3.90	.615	Agree
4	CT4: Confident sharing personal and financial information with the platform	373	2	5	3.85	.626	Agree
5	CT5: Products listed are genuine and accurately described	373	2	5	3.90	.620	Agree
–	**Composite Score (Mean of All Items)**	373	–	–	3.89	0.620	Agree

Note. Source: SPSS Output (2026)

According to Table 4.4, the mean score for Consumer Trust items were between 3.85 for CT4 and 3.91 for CT1 and CT2; both of which fall under the scale of 'Agree'. Overall, mean score M = 3.89 (SD=0.620) was found, indicating positive levels of trust consumer held toward the

e-commerce site. The fact that the lowest score for mean was reported on CT4 means that consumer were relatively more hesitant in revealing their personal data and monetary transactions. This could be because the digital trust for e-commerce was still in its early stage in Ethiopia.

4.4.3 Desciptive Statistic for E-Service Quality (ESQ)

The ESQ was measure by five likert-scale items (ESQ1-ESQ5) which adopted the dimension of E-S-QUAL, which were the website's navigation, fulfillment accuracy of the site, system availability, data protection offered by the website, and customer support of the website.**Table**

Table 14. Descriptive Statistics for E-Service Quality (ESQ)

No.	Item Description	N	Min	Max	Mean	SD	Interpretation
1	ESQ1: Platform is easy to navigate and find products quickly	373	2	5	3.85	.636	Agree
2	ESQ2: Platform delivers correct products within the promised time frame	373	2	5	3.89	.643	Agree
3	ESQ3: Platform is consistently available without technical errors	373	2	5	3.82	.647	Agree
4	ESQ4: Platform protects personal data and financial transactions	373	2	5	3.88	.648	Agree
5	ESQ5: Platform provides prompt and helpful customer support for problems	373	2	5	3.80	.615	Agree
–	**Composite Score (Mean of All Items)**	373	–	–	3.85	0.640	Agree

Note. Source: SPSS Output (2026)

The E-Service Quality items means range from 3.80 (ESQ5) to 3.89 (ESQ2), both are within 'Agree' interpretation band. The composite means M= 3.85, SD = .640 showing that respondents held positive evaluation about the e-service quality factors. The relatively low score of ESQ5 represents that customer support response is one issue that e-commerce sites in Merkato can improve on.

4.4.4 Descriptive Statistics for Perceived Value (PV)

Perceived value was measured with five items, each was a likert-scaled response from "Strongly Disagree" to "Strongly Agree" representing evaluation about money value, save of time, hedonic pleasure, balance between cost and benefit and "better than any alternative".

Table 15. Descriptive Statistics for Perceived Value (PV)

No.	Item Description	N	Min	Max	Mean	SD	Interpretation
1	PV1: Products offer good value for money compared to price	373	3	5	3.97	.592	Agree
2	PV2: Using e-commerce saves significant time compared to physical stores	373	3	5	4.01	.584	Agree
3	PV3: Enjoy the browsing and shopping experience on e-commerce platforms	373	3	5	3.90	.574	Agree
4	PV4: Benefits (quality, price, convenience, variety) outweigh costs	373	3	5	3.99	.580	Agree
5	PV5: E-commerce provides superior value compared to other shopping options	373	3	5	3.97	.557	Agree
–	**Composite Score (Mean of All Items)**	373	–	–	3.97	0.580	Agree

Note. Source: SPSS Output (2026)

Table 4.6 shows that Perceived Value items' means ranged from 3.90 (PV3) to 4.01 (PV2). All items fell within the 'Agree' section. Interestingly, the minimum value for all of the PV items was 3, none of the respondents felt that they had perceived value with a negative connotation. The combined mean of M=3.97 (SD=0.580) was the highest for all the independent variables, thus indicating that respondents in Merkato understood that they gain benefits through savings in cost and time with e-commerce.

4.4.5 Descriptive Statistics for Perceived Security (PS)

Five items (PS1-PS5) on a Likert scale were used to measure the perception that payment transaction and individual data were protected and accounts were not exposed to potential hacker and to make certain that vendor could be verified and no concerned about scam/ fraud were considered to measure perceived security of respondents.

Table 16. Descriptive Statistics for Perceived Security (PS)

No.	Item Description	N	Min	Max	Mean	SD	Interpretation
1	PS1: Payment information is securely protected during transactions	373	2	5	3.86	.628	Agree
2	PS2: Platform will not share, sell, or misuse personal information	373	2	5	3.81	.630	Agree
3	PS3: Platform has strong measures preventing unauthorized account access	373	2	5	3.82	.636	Agree
4	PS4: Vendors and products on the platform are verified for authenticity	373	2	5	3.80	.645	Agree
5	PS5: Feel secure using e-commerce and do not fear fraud or data theft	373	2	5	3.84	.624	Agree
–	**Composite Score (Mean of All Items)**	373	–	–	3.83	0.630	Agree

Note. Source: SPSS Output (2026)

Perceived Security items mean score range from 3.80 (PS4) to 3.86 (PS1), as shown on table 4.7 all falls under 'Agree' interpretations range. While overall the means for Perceived Security were M = 3.83 (SD = 0.630) that the overall security perceived by consumer were positive but relatively more skeptical about e-commerce security. The lowest scoring on PS4 indicated that authentication on vendor and product still remain a perceived security gap for consumers' on e-commerce in Merkato.

4.4.6 Consumer Loyalty (CL) - Descriptive statistics and Dependent Variable

Consumer Loyalty represents the dependent variable in this research, there are seven items (CL1-CL7) of Likert-scale measuring respondents' repurchase intent, the advocacy, preference for e-commerce platform, self-definition asloyalcustomer, willingness to pay a price premium, advocacy for the e-commerce platform, and repeat-patronage behavior, respectively.

Table 17. Descriptive Statistics for Consumer Loyalty (CL) — Dependent Variable

No.	Item Description	N	Min	Max	Mean	SD	Interpretation
1	CL1: Intend to continue purchasing through the same e-commerce platform	373	2	5	4.04	.576	Agree
2	CL2: Would recommend the platform to friends, family, and colleagues	373	2	5	4.01	.561	Agree
3	CL3: Prefer current platform even if competitors offer discounts	373	2	5	3.97	.565	Agree
4	CL4: Consider myself a loyal customer with strong platform preference	373	2	5	4.02	.556	Agree
5	CL5: Willing to spend more on the platform I trust most	373	2	5	3.95	.554	Agree
6	CL6: Would defend and speak positively about preferred platform	373	2	5	4.00	.546	Agree
7	CL7: Have repeatedly returned to the same platform in past 6 months	373	3	5	4.01	.549	Agree
–	**Composite Score (Mean of All Items)**	373	–	–	4.00	0.560	Agree

Note. Source: SPSS Output (2026)

All Consumer Loyalty items had means ranging from 3.95 (CL5) to 4.04 (CL1), with each item belonging to 'Agree'. CL7 only had a lower bound of 3 and it is obvious no customer had extremely negative loyalties toward repeat use of a particular platform. The composite mean of M=4.00 (SD = 0.560) is the highest mean recorded among the study variables, indicating e-commerce users in Merkato had high loyalty toward their preferred sites.

4.4.7 Descriptive statistics on all the study variables: summary

A consolidated summary of descriptive statistics on all the study composite variables is depicted in Table 4.9, for the purpose of comparison.

Table 18. Summary of Descriptive Statistics of All Study Variables

No.	Variable	N	Min	Max	Mean	SD	Interpretati

							on
1	Customer Satisfaction (CS)	373	2.00	5.00	3.954	.540	Agree
2	Consumer Trust (CT)	373	2.00	5.00	3.895	.571	Agree
3	E-Service Quality (ESQ)	373	2.20	5.00	3.848	.589	Agree
4	Perceived Value (PV)	373	3.00	5.00	3.966	.534	Agree
5	Perceived Security (PS)	373	2.00	5.00	3.828	.587	Agree
6	Consumer Loyalty (CL) — DV	373	2.14	5.00	4.001	.508	Agree

Note. Source: SPSS Output (2026)

Summary statistics for the study's dependent and independent variables are presented in Table 4.9.Consumer Loyalty (DV) exhibited the largest composite mean (M = 4.001, SD = .508), while Perceived Security (PS) obtained the lowest mean for any variable in this study (M = 3.828, SD = .587). The highest mean value for an independent variable belonged to Perceived Value (PV; M = 3.966, SD = .534), followed by Customer Satisfaction (CS; M = 3.954, SD = .540). All constructs were within the range for 'Agree'. Thus, respondents generally had positive perceptions of each variable. The standard deviation values (ranging from .508 to .589) suggest a fair degree of respondent response variability around the means.

4.5. Correlation Analysis Results

Pearson product-moment correlation analysis was conducted to examine the direction and strength of relationships among the study variables. Correlation coefficients range from −1 to +1, where values ±0.10 indicate small, ±0.30 moderate, and ±0.50 large effect sizes (Cohen, 1988).

Table 19. Pearson Correlation Matrix

Variable	CS	CT	ESQ	PV	PS	CL (DV)
CS	1	.415**	.411**	.232**	.377**	.618**
CT	.415**	1	.407**	.279**	.378**	.656**
ESQ	.411**	.407**	1	.341**	.386**	.632**
PV	.232**	.279**	.341**	1	.275**	.501**

PS	.377**	.378**	.386**	.275**	1	.609**
CL (DV)	.618**	.656**	.632**	.501**	.609**	1

Note. Source: SPSS Output (2026). **Correlation is significant at the 0.01 level (2-tailed). CS = Customer Satisfaction; CT = Consumer Trust; ESQ = E-Service Quality; PV = Perceived Value; PS = Perceived Security; CL = Consumer Loyalty (DV).

As presented in Table 4.11, all the independent variables were found to be positively and significantly correlated to the Consumer Loyalty (DV) at the level $p < .01$. The Consumer Trust and Consumer Loyalty showed the highest relationship ($r = .656$, $p < .01$), E-Service Quality with Consumer Loyalty ($r = .632$, $p < .01$), Perceived Security and Consumer Loyalty ($r = .609$, $p < .01$), Customer Satisfaction and Consumer Loyalty ($r = .618$, $p < .01$) and Perceived Value and Consumer Loyalty ($r = .501$, $p < .01$). Among all independent variables Customer Satisfaction and Consumer Trust produced the strongest inter-predictor correlation ($r = .415$, $p < .01$). None of the inter-predictor correlations exceeded 0.70, indicating there was no severe multicollinearity (Hair et al., 2019).

4.6. Assumption Tests for Regression Analysis

The assumptions of ordinary least squares (OLS) regression analysis were tested in order to guarantee the reliability and validity of the regression model. The assumptions tested were: normality, homoscedasticity, multicollinearity, independence of errors and linearity (Field, 2018; Hair et al., 2019).

4.6.1 Normality Test

The normality was checked through Shapiro-Wilk test on the studentised residuals and visual inspection of the histogram and Normal P-P Plot.

Table 20. Shapiro-Wilk Normality Test Results

No.	Test	Statistic	df	p-value
1	Shapiro-Wilk	.997	373	.671

Note. Source: SPSS Output (2026)

The Shapiro-Wilk test gave a statistic of .997 (df=373, p=.671), as seen in Table 4.12. Because the p value (.671) was above the .05 cut off point, assumption of normality of residuals was met. When looking at the histogram of standardized residuals it resembled a bell curve shaped line, and when observing the normal P-P plot it could be seen that the points clustered around the reference line. Both these observations supported the assumption of normal distribution of residuals (Field, 2018).

4.6.2 Homoscedasticity Test

Homoscedasticity was tested for by using the Breusch-Pagan test as well as visual inspection of the standardized residuals versus predicted values plot.

Table 21. Homoscedasticity (Breusch-Pagan) Test Results

No.	Test	χ^2 Statistic	p-value
1	Breusch-Pagan	4.612	.465

Note. Source: SPSS Output (2026)

The result of the Breusch-Pagan test is not significant ($\chi^2 = 4.612$, $p = .465 > .05$), so the residual variances are constant across the predicted values, as shown in Table 4.13. The scatterplot of residuals is randomly distributed across the zero horizontal line without any systematic pattern of fan-shape or curved form, confirming homoscedasticity.

4.6.3 Multicollinearity Test

The VIF and tolerance values were used for testing the multicollinearity among independent variables. Multi- collinearity does not exist when the VIF values are less than 5 and the tolerance values are greater than 0.10 (Hair et al., 2019).

Table 22. Multicollinearity Test Results (VIF and Tolerance)

No.	Variable	Tolerance	VIF
1	Customer Satisfaction (CS)	.727	1.375
2	Consumer Trust (CT)	.721	1.387
3	E-Service Quality (ESQ)	.698	1.433
4	Perceived Value (PV)	.845	1.184

5	Perceived Security (PS)	.751	1.332

Note. Source: SPSS Output (2026)

All the VIF values calculated (ranging from 1.184-1.433) were under 5 and all the tolerance values calculated (ranging from.698-.845), as show in table 4.14. There were no multicollinearity issues present among the predictors, which signifies that all independent variables were responsible for variation not associated with others and each brought unique variance to the prediction model (Hair et al., 2019).

4.6.4 Test of independence of errors

The Durbin Watson test was used to measure dependence among errors, values from 1.5 to 2.5 imply that no autocorrelation is present (Field, 2018).

Table 23. Durbin-Watson Test Results

No.	Test	Statistic	Verdict
1	Durbin-Watson	2.205	No Autocorrelation (Satisfied)

Note. Source: SPSS Output (2026)

According to Table 4.15, the Durbin-Watson statistic is 2.205. This value is within the critical range (1.5 to 2.5) for the Durbin-Watson statistic, which proves there was no autocorrelation present among residuals, hence the error terms in the regression model are not correlated with one another.

4.6.5 Linearity Test

Linearity was assessed by looking at a plot of studentised residuals against the predicted values. There was no systematic curved pattern evident in the scatterplot, which proves linearity is present between the predictor variables and dependent variable (Field, 2018). There was no curved or patterned distribution between residuals; the residuals were randomly scattered about the zero horizontal line.

4.6.6 Summary of Regression Assumption Tests

Table 24. Summary of Regression Assumption Tests

No.	Assumption	Test / Method	Criterion	Result	Verdict
1	Normality	Shapiro-Wilk	p > .05	p = .671	Satisfied
2	Homoscedasticity	Breusch-Pagan	p > .05	p = .465	Satisfied
3	Multicollinearity	VIF	VIF < 5	1.184 – 1.433	Satisfied
4	Independence of Errors	Durbin-Watson	1.5 – 2.5	DW = 2.205	Satisfied
5	Linearity	Scatterplot	No curve	Random distribution	Satisfied

Note. Source: SPSS Output (2026)

All five assumptions of the regression were met and so the regression analysis was suitable for inference statistics and hypothesis testing (Field, 2018; Hair et al., 2019), as presented in Table 4.16.

4.7 Results of the Regression analysis

A multiple linear regression was conducted in order to identify the total as well as individual effects of Customer Satisfaction (CS), Consumer Trust (CT), E-Service Quality (ESQ), Perceived Value (PV) and Perceived Security (PS) on Consumer Loyalty (CL) of e-service consumers on a given e-service platform in Merkato.

4.7.1 Multiple Linear Regression Coefficients

Table 25. Multiple Linear Regression Results — Unstandardised and Standardised Coefficients

No.	Predictor Variable	β (Unstd.)	SE	β (Std.)	t-value	p-value	95% CI	Decision
–	(Constant)	−.387	.133	–	−2.908	.004	[−.649, −.125]	–
1	Customer Satisfaction (CS)	.237	.028	.252	8.411	< .001	[.182, .293]	Significant
2	Consumer Trust (CT)	.269	.027	.302	10.040	< .001	[.216, .322]	Significant
3	E-Service Quality (ESQ)	.205	.026	.238	7.766	< .001	[.153, .257]	Significant
4	Perceived Value	.198	.026	.208	7.472	< .001	[.146, .250]	Significant

	(PV)							
5	Perceived Security (PS)	.217	.026	.250	8.487	< .001	[.167, .267]	Significant

Note. Source: SPSS Output (2026). DV = Consumer Loyalty (CL). β (Unstd.) = Unstandardised coefficient; β (Std.) = Standardised coefficient; SE = Standard Error; CI = Confidence Interval.

The results from table 4.17 show that all 5 predictor variables have a positive significant impact on consumer loyalty with p< .001 level. Consumer Trust was the most significant variable (β = .302, t = 10.040, p < .001). A unit change in consumer trust means a 0.269 unit change in Consumer loyalty, with all else held constant. The second highest significance predictor was customer satisfaction (β = .252, t = 8.411, p < .001), then perceived security (β = .250, t = 8.487, p < .001), E-service quality (β = .238, t = 7.766, p < .001), and perceived value (β = .208, t = 7.472, p < .001). All 95% Confidence Interval do not include zero.

4.7.2 Model Summary

Table 26. Model Summary Results

Model	R	R Square	Adj. R^2	Std. Error	F-value	p-value
1	.872	.760	.757	.250	232.823	< .001

Note. Source: SPSS Output (2026). Predictors: CS, CT, ESQ, PV, PS. DV = Consumer Loyalty (CL). Cohen's f^2 = .760/(1−.760) = 3.17 (Large effect).

The multiple linear regression model accounted for 76.0% of the variability in Consumer Loyalty (R^2 = .760, Adjusted R^2 = .757, shown in Table 4.18). The regression model was found to be statistically significant (F(5, 367) = 232.823, p < .001). Cohen's f^2 was calculated at 3.17, which suggests that a very large practical effect (Cohen, 1988) existed. A very strong correlation (R = .872) was found between all five predictors and Consumer Loyalty, and can be interpreted as a very strong collective linear relation between all predictors and the Consumer Loyalty. These numbers were found to have very strong explanatory value and a large practical significance.

4.7.2 ANOVA Test

The overall statistical significance of the regression model was evaluated by performing the so-called Analysis of Variance (ANOVA). In specific, it examined if the five independent variables together are significant for the variation in consumer loyalty by using the F-statistic.

Table 27. Anove test

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	73.036	5	14.607	232.823	.000[b]
	Residual	23.025	367	.063		
	Total	96.061	372			

a. Dependent Variable: CL Composite Mean (DV)

b. Predictors: (Constant), PS Composite Mean, PV Composite Mean, CS Composite Mean, CT Composite Mean, ESQ Composite Mean

According to the ANOVA results the overall regression model is statistically significant ($F(5, 367) = 232.823$, $p < .001$). The p-value is < 0.05 and the null hypothesis, which stated all regression coefficients are simultaneously equal to 0, can be rejected.

This result shows that the variables of customer satisfaction, consumer trust, perceived e-service quality, perceived value and perceived security all have a statistically significant effect on consumer loyalty. As a result, it may be concluded that it is a good fit for the observed data, and validates the hypothesis that the predictor variables (IVs) collectively account for consumer loyalty.

4.8. Hypothesis Testing Summary

A summary of the results of the hypothesis testing, based on the multiple linear regression analysis, can be found in Table 4.19. All hypotheses were directional in nature, and were constructed to predict significant positive associations between the independent and dependent variables.

Table 28. Summary of Hypothesis Testing Results

Hyp.	Hypothesis Statement	β (Std.)	t-value	p-value	Decision
H1	Customer Satisfaction → Consumer Loyalty: CS has a significant positive effect on CL	.252	8.411	< .001	**Supported**
H2	Consumer Trust → Consumer Loyalty: CT has a	.302	10.040	< .001	**Supported**

	significant positive effect on CL				
H3	E-Service Quality → Consumer Loyalty: ESQ has a significant positive effect on CL	.238	7.766	< .001	**Supported**
H4	Perceived Value → Consumer Loyalty: PV has a significant positive effect on CL	.208	7.472	< .001	**Supported**
H5	Perceived Security → Consumer Loyalty: PS has a significant positive effect on CL	.250	8.487	< .001	**Supported**

Note. Source: SPSS Output (2026). DV = Consumer Loyalty (CL). All hypotheses supported at $p < .001$.

As evidenced in Table 4.19, the five hypotheses were confirmed. Consumer Trust (H2) was the strongest antecedent ($\beta = .302$, $p < .001$), followed by Customer Satisfaction (H1; $\beta = .252$, $p < .001$), Perceived Security (H5; $\beta = .250$, $p < .001$), E-Service Quality (H3; $\beta = .238$, $p < .001$), and Perceived Value (H4; $\beta = .208$, $p < .001$). The evidence supports the theory base for this study.

4.9 Discussion of findings

The findings are discussed in relation to the previous empirical findings and theoretical literature in this section.

4.9.1 Customer satisfaction predicts consumer loyalty (H1)

The significant positive impact of Customer Satisfaction on consumer loyalty (($\beta = .252$, $p < .001$) echoes findings that are consistent throughout the existing e-commerce literature. For example, Anderson and Srinivasan (2003) previously found a similar positive satisfaction-loyalty relationship in the e-commerce world, whereas, Wattoo et al (2025) also found that satisfaction positively affects customer loyalty in various developing market settings. Expectation-Confirmation theory (ECT) suggests that satisfied customers are loyal customers as satisfied customer experiences result in a positive affect that enhances long-term loyalty behavior (Oliver, 1997; Bhattacherjee, 2001). Given the high mean score of the Customer Satisfaction index (M=3.954) indicating that the e-commerce sites within the Merkato context are successfully meeting consumer expectations, a strong satisfaction-loyalty linkage is not surprising.

4.9.2. Consumer Trust and Consumer Loyalty (H2)

As depicted in table 5 above, among the individual constructs of service quality and platform attributes, only trust positively and significantly influenced Consumer Loyalty ($\beta = .302$, $p <$

.001) which proved Consumer Trust as the most important predictor to build and maintain long-term relationships with customers. This supports the findings of Trust-Commitment Theory of Morgan and Hunt (1994) stating trust as the antecedent of commitment and loyalty. Similar, Gefen et al. (2003) and Kim et al. (2008) confirmed trust as a significant predictor for online loyalty as internet based platforms do not have mechanisms to verify the authenticity of vendors and physical product. In this context, it supports the findings of the other developing market research (Handoyo, 2024; Kassa & Mengistu, 2024), as consumers' uncertainty over product quality and less strict regulatory environments in less developed markets can significantly reinforce platform trust's impact on loyalty.

4.9.3 E-Service Quality and Consumer Loyalty (H3)

E-Service Quality was found to have a positive and significant effect on Consumer Loyalty ($\beta = .238$, $p < .001$). The results were consistent with the prediction made by the E-S-QUAL construct of Parasuraman et al. (2005) as well as meta-analyses by Blut et al. (2015) that confirms ESQ as one of the most generalizable e-loyalty antecedents across sectors and countries. The relatively high impact in Ethiopian context can be explained due to the infrastructural limitations in the country, such as instability of internet and weak logistics infrastructure. Investments in service quality at these aspects may be even more salient for the customers, contributing disproportionately larger benefits for the firm (Rafiq et al., 2013; Singh et al., 2022). Notably, among the E-Service Quality components ESQ5 (customer support responsiveness) obtained the lowest item mean, and thereby, this may be a critical area for the firms to improve upon.

4.9.4 Perceived Value and Consumer Loyalty (H4)

Perceived Value is found to have a statistically significant positive impact on Consumer Loyalty ($\beta = .208$, $p < .001$). This finding is consistent with the adoption of the VAM and other studies supporting the effect such as Blut et al. (2024) and Irgui and Qmichchou (2024). Even though perceived value emerges as the lowest among other factors in its predictive power within this analysis, it is still a statistically significant value with a practical implication. The results, which show no perception of negative value for any of the items with a mean score above 3, illustrate that the platforms being used are considered to be offering tangible advantages of utility in comparison with traditional brick-and-mortar shopping alternatives in Merkato. The significance of the aspect of savings over time (PV2: $M = 4.01$) highlights the value proposition specific to the domain of online shopping,

particularly in such a high-traffic market, that is often characterized by the time it takes to move through and between various vendors in a physical market setting.

4.9.5 Perceived Security and Consumer Loyalty (H5)

Perceived Security has a statistically significant positive impact on Consumer Loyalty ($\beta = .250$, $p < .001$). This result is supported by studies rooted in PMT (Rogers, 1975), such as Flavin and Guinalu (2006), Chellappa and Pavlou (2002), and Handoyo (2024). Security considerations play a significant role in loyalty development for online services, especially in the less-mature Ethiopian e-commerce landscape characterized by a developing digital transaction infrastructure and low consumer awareness regarding cyber-security standards and practices (Abdella & Indradewa, 2024; Kassa & Mengistu, 2024). It is also significant to note that the lowest security score pertains to verification mechanisms of vendors and products (PS4: M=3.80), and could be indicative of a critical platform aspect that can boost user loyalty.

4.10 Summary of Chapter Four

4.10.1 Discussion of Findings

This section discusses the findings of the study in relation to previous empirical studies, theoretical frameworks, and contextual realities of electronic commerce in the Merkato area of Addis Ababa, Ethiopia. The discussion is organized around each of the five hypothesized relationships, followed by a synthesis of the combined model findings.

4.10.2 Customer Satisfaction and Consumer Loyalty (H1 Supported)

The regression analysis confirmed that Customer Satisfaction exerts a statistically significant positive effect on Consumer Loyalty among e-commerce platform users in the Merkato area ($\beta = .252$, $t = 8.411$, $p < .001$), thereby supporting Hypothesis 1. This finding is consistent with and corroborated by a substantial and growing body of empirical literature across both developed and developing market e-commerce contexts.

The theoretical grounding for this relationship is rooted in Oliver's (1997) Expectation-Confirmation Theory (ECT), which posits that consumer satisfaction emerges when the accumulated performance experience of an online platform meets or exceeds prior expectations, generating a positive affective and cognitive evaluation that motivates continued patronage. When consumers in the Merkato area experience product quality, delivery accuracy, complaint resolution, and overall platform performance that confirms or

surpasses their initial expectations, this confirmation produces satisfaction — a psychological state that, when sustained across multiple transactions, translates into the behavioural and attitudinal loyalty dimensions measured in this study.

The finding that Customer Satisfaction was the second strongest individual predictor of Consumer Loyalty (β = .252) in this study aligns with Anderson and Srinivasan (2003), who demonstrated in a seminal study that e-satisfaction exerts a significantly stronger effect on e-loyalty than its offline counterpart, attributing this amplified effect to the reduced switching costs and heightened competitive alternatives that characterise digital marketplaces. Shankar, Smith, and Rangaswamy (2003) similarly confirmed that satisfied online consumers not only exhibit higher loyalty intentions but are also significantly more resistant to price-based competitive incentives from rival platforms — a particularly relevant finding in the Merkato context, where multiple competing e-commerce platforms and the ever-present option of returning to traditional physical market shopping represent constant loyalty-threatening alternatives. Ribbink, Van Riel, Liljander, and Streukens (2004), in a widely cited study of European online consumers, identified customer satisfaction as one of the strongest direct predictors of e-loyalty, operating both directly and through its positive effect on consumer trust.

More recent empirical evidence further reinforces this finding. Wattoo, Shan, and Qi (2025), in a systematic review and meta-analytic synthesis of e-commerce loyalty studies conducted between 2015 and 2024, confirmed that customer satisfaction consistently emerged as one of the most robust and generalisable predictors of consumer loyalty across diverse national and cultural contexts, including developing market settings. Pham and Ahammad (2017), in a meta-analytic review of 52 independent studies encompassing over 14,000 consumers, documented a strong, consistent, and statistically significant satisfaction-loyalty relationship across multiple e-commerce sectors and national contexts, with effect sizes ranging from moderate to large — consistent with the standardised coefficient of β = .252 observed in the present study. Tandon, Kiran, and Sah (2017) confirmed that customer satisfaction served as a significant mediator between website service quality and repurchase intentions in an emerging economy context directly comparable to Ethiopia, underscoring the pivotal mediating and direct loyalty-generating role of satisfaction in developing market e-commerce environments. Blut, Teller, and Floh (2024), in the most comprehensive meta-analysis on e-loyalty antecedents to date — synthesising findings from over 150 studies — confirmed

customer satisfaction as one of the most consistently and powerfully predictive antecedents of e-loyalty across all examined moderating conditions.

In the Ethiopian context specifically, Kassa and Mengistu (2024) identified satisfaction with delivery reliability, product accuracy, and post-purchase service as critical determinants of loyalty intentions among Ethiopian e-commerce consumers. The composite Customer Satisfaction mean of M = 3.954 (SD = .540) recorded in the present study — indicating high average satisfaction among Merkato-area respondents — aligns with and explains the strong satisfaction-loyalty pathway observed. The relatively lower mean score for CS5 (platform consistently delivers promised products, prices, and timing; M = 3.90) compared to CS1 and CS4 (both M = 3.99) suggests that delivery consistency represents the most critical satisfaction improvement priority for platform operators seeking to maximise loyalty returns from satisfaction investments, consistent with findings from Abera and Teshome (2023) who identified last-mile delivery reliability as the most satisfaction-critical service dimension in the Addis Ababa e-commerce context.

4.10.3 Consumer Trust and Consumer Loyalty (H2 Supported)

In the context of this study, Consumer Trust was found to be the strongest and only significant predictor of Consumer Loyalty ($\beta = .302$, $t = 10.040$, $p < .001$), which provides support for hypothesis 2, proving that trust is the quantitatively most powerful loyalty antecedent that is considered in the study model. If there is a one-unit increase in consumer trust, there is a .269-unit increase in consumer loyalty holding all else constant. This research finding is very interesting in theory and is strongly supported by literature.

Trust-Commitment Theory by Morgan and Hunt (1994) states that trust is a precondition of relational commitment in consumer-provider relationships that are intended to be long-term, and that the aforementioned commitment (an outcome of the customer's desire to maintain a valued relationship) leads to loyalty behavior. If this theory is applied to e-commerce, the logic is that customers who perceive that e-commerce sites' technical competence, integrity, and honest transaction processing, believe that vendors care about them and operate honestly, and have their interests at heart develop commitment toward the e-commerce site and ultimately engage in loyal behavior. As it turned out to be the most significant contributor, the study confirms that trust plays a crucial role in online relationships. The results of the

study also found that in comparison to Customer Satisfaction, Consumer Trust was the dominant factor that influence loyalty.

One of the first studies that proved that consumer trust in an online seller, is a significant direct predictor of buying intentions and repeat patronage and is independent of perceived usefulness and perceived ease of use is the study done by Gefen, Karahanna and Straub (2003). Therefore trust can be classified as a different construct from other relationship quality and antecedent constructs, which is not substitutable. Customer trust influences purchase intentions and loyalty directly by reducing perceived risk, which confirms findings of Kim, Ferrin, & Rao (2008). A recent study of Saoula, Le Louarn, & Badoc (2023) also reported that trust has a strong impact on the success of e-loyalty, with trust and website quality having a greater impact on loyalty than anything else.

In the case of the present study, Consumer Trust proved to be the most dominant construct influencing loyalty behavior because when a potential consumer shops at an e-commerce site in a market such as Ethiopia which is considered to be developing, which often presents challenges and opportunities such as infrastructure development and less government regulations, less legal protection and a prevalent concern regarding fake products and counterfeit goods (Kassa & Mengistu, 2024; Singh et al., 2022). Trust is an element of critical importance to consumers. In fact Abbas & Talat (2023) argued that, for many, if trust cannot be established in a developing country due to factors such as lack of transparency or fraud in past online transactions, then other factors like price cannot convince a customer to shop online. Trust building is fundamental when the consumers themselves consider themselves to be of high perceived risk. In a meta-analysis conducted by Handoyo (2024), trust is one of the strongest factors that influence loyalty among e-consumers, with larger effect sizes in emerging markets compared to developed countries.

Looking at individual item responses for the Consumer Trust construct, CT4 regarding willingness to share information with the site has the lowest mean score (M = 3.85) among the trust item means; the consumers are least confident in sharing their personal information and payment details. This correlates with the findings of Abdella & Indradewa (2024) who demonstrated that online consumers in Ethiopia had most concerns regarding the security of

payment details and information privacy. As is shown in the Pearson correlation matrix, trust has the highest value of bivariate correlation (r = .656), confirming its status as the foremost predictor of loyalty.

4.10.4 E-Service quality and Consumer Loyalty (H3 supported)

The regression analysis also shows that E-Service Quality has a positive impact on Consumer Loyalty with statistical significance ($\beta = .238$, $t = 7.766$, $p < .001$). This supports hypothesis H3. The theoretical explanation comes from Technology Acceptance Model (Davis, 1989) and the e-S-QUAL developed by Parasuraman, Zeithaml and Malhotra (2005) which are also extensively confirmed in existing foundational and up-to-date studies.

According to e-S-QUAL, e-service quality, measured with efficiency, fulfilment, system availability and privacy, is the antecedent of consumer perceptions to on-line platform, and high e-service quality results in favorable perceptions which lead to loyalty intention. In this study, e-service quality is measured with five indicators namely: website usability and navigation (ESQ1), order fulfilment accuracy (ESQ2), system availability and technical reliability (ESQ3), protection of personal information and financial transaction (ESQ4) and customer support responsiveness (ESQ5). All of the indicators show "Agree" level on the scale (means ranging from 3.80 to 3.89) and resulted in a total score of M = 3.848, SD = .589. This was the second lowest aggregated construct among the five independent variables indicating that e-service quality has the largest space for improvement in an objective way.

In the original paper on e-S-QUAL, Parasuraman et al. (2005) found that all of the four dimensions of e-service quality were significant predictors of consumer loyalty and the compounding of improvement across these dimensions yields larger loyalty gains. Blut et al. (2015) examined 57 research studies involving more than 15,000 consumers through rigorous meta-analysis and found that there is a positive and significant relationship between e-service quality and consumer loyalty across different nations and industries, and the relationship is especially strong in developing market with infrastructure constraints where consumer are more sensitive about the service quality. Further studies confirmed that order fulfilment accuracy and customer support responsiveness were the most important dimensions in affecting loyalty (Rafiq et al. 2013), which matched with the current study results that order fulfillment accuracy (ESQ2) was the indicator with highest mean (M=3.89) and customer support responsiveness (ESQ5) was the indicator with lowest mean (M=3.80).

Considering the infrastructure context of Ethiopian e-commerce, unstable internet access, frequent electricity interruptions, underdeveloped logistics infrastructure and last-mile distribution have created obstacles to deliver quality e-services, and thus exacerbated the importance of e-service quality in maintaining customer loyalty (Singh et al., 2022; Molla & Licker, 2022). In emerging market countries, the importance of various e-service quality dimensions particularly reliability, responsiveness and website functionality as antecedents of consumer loyalty has been underlined, and an increase in e-service quality had an exceptionally large effect on loyalty in those countries that faced poor infrastructure, therefore reinforcing the argument of this study on the significant link between e-service quality and consumer loyalty (Wattoo et al., 2025). Pearson bivariate correlation $r = .632$, $p < .01$ confirms the regression result as it implies a significant and strong positive relationship even after controlling other four variables.

The fact that customer support responsiveness was the least satisfying indicator within e-service quality ($M = 3.80$) seems very relevant for the Merkato market where many customers had complaints regarding order defects, missed delivery, payment reversals, and the ability of e-retailer's support function to resolve disputes and problems quickly was a critical factor for consumer loyalty (Zeithaml et al. 2002) and one of the most important reason for complains (Kassa and Mengistu, 2024).

4.10.5 Perceived Value and Consumer Loyalty (H4 Supported)

The regression analyses showed that Perceived Value significantly impacts positively on Consumer Loyalty ($\beta = .208$, $t = 7.472$, $p < .001$) and supported Hypothesis 4. Despite Perceived Value had the lowest standardized regression coefficient of all five independent variables, its effect is meaningful, statistically significant and pragmatically meaningful - it aligns with VAM and numerous research suggesting perceived value is direct and independent predictor of loyalty.

The theoretical support for the current relationship comes from Zeithaml's (1988) seminal study in conceptualizing Perceived Value as the "consumers' overall assessment of the utility of a product or service based on perceptions of what is given and what is received". In context of e-commerce this would be benefits (product quality, competitive price, hedonic values of online browsing and exciting shopping experiences, time saving and convenience features and the status derived from a reputable brand) weighed against sacrifices (price, transaction costs such as navigation difficulties and waiting for delivery, risks of e-

transaction and etc.). Those who perceive it significantly positive (benefits outweigh sacrifices) will remain loyal to the site not only rationally but also emotionally.

A comprehensive meta-analysis of 687 studies covering more than 357,000 consumers by Blut et al. (2024) shows customer perceived value as a powerful and stable predictor of consumer loyalty in various industries and countries. The highest predictive accuracy was found in value models which contain both benefit and sacrifice items. Umboh et al. (2024) prove that perceived value can both have a direct positive influence and an indirect effect through positive impact on customer satisfaction. Mpaata et al. (2024) study the influence of perceived value on online shopping loyalty in Uganda (a comparable market and social infrastructure development level to Ethiopia with similar value-seeking behaviour) showing a strong effect of perceived value on loyalty with strongest loyalties from functional value and convenience value dimensions. In mobile commerce Irgui and Qmichchou (2024) in Morocco's study also demonstrated the importance of perceived value as a significant direct and indirect driver of consumer loyalty and highlighted the impact of time-saving and price value in the price-sensitive market.

The fact that none of the five perceived value dimensions had scores less than 3 (mean > 2.5), and especially that PV2 (e-commerce saves time over physical stores; M=4.01) received the highest mean score, should be highlighted as important findings of this study. For consumers who are habitually and deeply involved in shopping at the Merkato (the largest open-air market in Africa with a very high density of pedestrians, complicated structure for navigation and high costs of both physical browsing and transportation), using e-commerce significantly saves time. Soepatini (2023) in similar developing countries study proved that the highest loyalty-driving factors in the perceived value concept are time-saving and convenience factors in contexts of high transaction costs with both physical and mental efforts in dense markets. This highlights that e-commerce can be an extremely effective strategy to leverage perceived value in achieving customer loyalty by focusing on this specific value proposition in the Merkato context.

4.10.6 Perceived Security and Consumer Loyalty (H5 Supported)

The regression analysis indicated a significant positive impact of Perceived Security on Consumer Loyalty ($\beta = .250$, $t = 8.487$, $p < .001$), which is evidence that hypothesis 5 has been supported. Having a comparable standardise coefficient to Customer Satisfaction ($\beta = .252$), it was the third strongest individual predictor of Consumer Loyalty that could be

identified in this study and is therefore a significant both theoretic and practical contribution. Protection Motivation Theory (PMT) is used to ground the theoretical underpinning of this relationship, Rogers' (1975) developed and expanded for on e-commerce security contexts. PMT argues that an individual's security related behaviours (continuing use and loyal patronage of an e-commerce service) are driven by both their threat appraisal (the level of threat of on-line security threats and their likeliness to occur) and coping appraisal (the degree to which an e-commerce platform's security features effectively counteract threat appraisals). Those consumers whose coping appraisal of the sufficiency of an e-commerce platform to guard their credit card information, private data, and transactional integrity from fraud and misuse develops adequate confidence in security coping to encourage ongoing use, thus, forming the repeatable buying and brand advocacy that make up customer loyalty.

Flavin and Guinalu (2006) first examined the relationship between perceived security and customer loyalty; in their study perceived security was a very strong and direct predictor of customer loyalty. It influences customer loyalty both directly and indirectly through customer trust and the correlation matrix supported this assertion by finding a statistically significant positive correlation between perceived security and customer trust ($r = .378$, $p < .01$). Chellappa and Pavlou (2002) discovered that the subjective assessment of the security of on-line transaction (including both payment encryption strength and perceived vendor integrity in regard to privacy policies) were direct drivers of transaction confidence and repeat buying behavior. A meta-analysis by Handoyo (2024) that analyzed 45 empirical studies showed that security perceptions have very strong and stable positive influence on consumer loyalty across varied e-commerce contexts, with greater strength in developing than developed countries; this moderating effect makes the current study highly applicable to the Ethiopian e-commerce market. The findings from Humanities and Social Sciences Communications (2024) showed how, in the developing country of Sri Lanka,transaction security, privacy protection, vendor system security and platform quality were major antecedents to perceived security and subsequent on-line customer loyalty. These results had large effect sizes that were larger than generally seen in developed countries. Abdella and Indradewa (2024) found that investments in security features such as the SSL protocol, buyer protection guarantees, and explicit privacy policies return significant loyalty value to e-commerce vendors in Sub-Saharan African markets due to the higher general levels of distrust. According to Singh et al. (2022), fifty-one percent of all internet users world-wide (a significantly higher percentage in developing countries due to their limited digital regulations) have less than complete

confidence in security assurances from vendors online; this statistic shows the large opportunity for security-focused platforms.

The lowest mean value recorded in the perceived security construct was in regard to question PS4 -vendors and products on the platform are verified for authenticity (M=3.80). This item has the lowest mean value within the entire study and thus, holds significance in the context of the Merkato area where, as stated previously, the physical market environment is known for its counterfeits, knockoffs, and fake brands. These consumer perceptions are transferring to on-line behavior, and the low mean indicates security of authentic vendors and products is critical to on-line security perception. It is understandable then why security and authentication are major concerns among Ethiopian consumers (Kassa and Mengistu, 2024); it is a high return security investment for any platform that would attempt to enter the Merkato e-commerce market.

4.10.7 Combined effect and model explanatory power (H6 Supported)

The simultaneous inclusion of all five independent variables into the multiple linear regression model predicted Consumer Loyalty with an exceptionally high explanatory power (R^2= .760, Adjusted R^2=.757, $F(5, 367)=232.823$, $p < .001$), strongly supporting Hypothesis 6 and the theorization that e-loyalty is a multi-determined construct which is best captured in an integrated multi-antecedent framework. A very large practical effect was exhibited as Cohen's f^2= 3.17, indicating a significantly larger effect than the Cohen's f convention for large effect (3.5) for d=0.35.

The R^2 of .760 in this study not only met but often exceeded explanatory power reported in similar multi-antecedent e-loyalty studies. In their meta-analysis, Blut et al. (2024) revealed that explanatory powers of multi-antecedent models containing satisfaction, trust, service quality and value constructs typically ranged from 40-65% explaining e-loyalty, a testament to the high explanatory power of R^2=.760 achieved in this study and further supported by the significant inclusion of Perceived Security as a fifth antecedent construct capturing unique variance of loyalty not otherwise predicted by other variables. Ribbink et al. (2004) further posited that combined models with e-service quality, customer satisfaction and consumer trust provided a most parsimonious explanation and was the strongest model in explaining e-loyalty over any single-antecedent model. Similar to this, Bart, Shankar, Sultan and Urban (2005) found that models combining predictions from service quality, customer satisfaction and consumer trust significantly explained higher variance than individual antecedents; a

finding the present study expands upon by suggesting the addition of perceived value and security takes explanatory power to 76.0%.

The order of rank of the five antecedents in the form of standardized regression coefficient is Consumer Trust (β=.302) > Customer Satisfaction (β =.252) Perceived Security (β =.250) > E-Service Quality (β=.238) > Perceived Value (β=.208). The dominant predictor of Consumer Trust reflects the reality of the Ethiopian e-commerce market characterized by high institutional trust deficiency, low institutional security apparatus and low protection level, resulting in trust overcoming other loyalty predictors (Morgan & Hunt, 1994); a view congruent with the essence of Trust-Commitment Theory stating trust as the core requirement in exchange for relational commitment in high uncertainty conditions. The close similarities between the second and third ranked Customer Satisfaction and Perceived Security respectively further reflect the dual nature of loyalty generation in the Ethiopian e-commerce context where the cognitive pathway of satisfaction (ECT) and security pathway of PMT are both dominant and explain most of the total loyalty variance. The predictor order also mirrored results of Wattoo et al. (2025) which reported high ranks for trust, satisfaction and security as determinants of e-loyalty, and smaller ranks for service quality and perceived value in a multi-country developing market meta-analysis.

CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction to Chapter Five

This chapter reports on the summary of main findings, conclusions from empirical analysis, theoretical and practical implication, recommendation to organisations, policy makers, and practitioners, limitation of the study, and directions for future research.

5.2 Summary of Main Findings

5.2.1 Summary of Descriptive Statistics Findings

The descriptive statistics found that respondents largely hold high and positive perception on all variables studied and that composite means were well within the 'Agree' interpretation (3.41-4.20). Consumer Loyalty (DV) exhibited the highest composite mean (M = 4.001, SD = .508) thus implying that users in Merkato e-commerce enjoy strong loyalty orientations. Perceived Value (IV) and Customer Satisfaction gained highest mean for independent

variable (M = 3.966, SD = .534; M = 3.954, SD = .540), Perceived Security and E-Service quality exhibited the least means thus portraying an area for priority for service providers (M = 3.828, SD = .587 and M = 3.848, SD = .589, respectively).

5.2.2 Summary of Reliability Analysis Findings

Reliability analysis showed that all constructs possessed excellent internal consistency. Cronbach's Alpha values were all well above 0.70 (Nunnally and Bernstein, 1994) varying from α = .957(E-Service Quality) to α = .966(Consumer Loyalty).

5.2.3 Findings Summary of Correlation Analysis

All five of the independent variables have a positive and significant relation to the dependent variable of Consumer Loyalty. Consumer Trust shows the strongest bivariate correlation (r= .656; p<.01) with Consumer Loyalty. Followed by E-Service Quality (r=.632; p<.01), Customer Satisfaction (r=.618; p<.01), Perceived Security (r=.609; p<.01), and finally Perceived Value (r=.501; p<.01). Since none of the predictor variables' correlations among themselves exceed .70, we can establish discriminant validity for the constructs.

5.2.4. Summary of Regression Analysis Findings

The multiple linear regression analysis demonstrated that the five predictor variables collectively explained 76.0% of the variance in Consumer Loyalty (R^2 = .760, Adjusted R^2 = .757, F (5, 367) = 232.823, p < .001). All predictor variables were significant to the dependent variable at p < .001. Consumer Trust, Customer Satisfaction, Perceived Security, E-Service Quality, and Perceived Value, were the strongest predictors, respectively, with beta weights of β = .302; β =.252;β = .250;β = .238; andβ = .208. With an effect size of Cohen's f^2=3.17, it's large enough to determine the significant practical importance of the regression model. All five hypotheses (H1-H5) were supported.

5.3 Conclusions

The conclusions derived in this study were based on the empirical result from the multiple regression analyses carried out on data gathered from 373 e-commerce platform users in Merkato, Addis Ababa, Ethiopia.

5.3.1 Conclusion of H1: Customer Satisfaction impacts Consumer Loyalty

The study concludes that Customer Satisfaction exerts a statistically significant positive influence on Consumer Loyalty among e-commerce users in Merkato (β = .252, t = 8.411, p < .001). Based on the regression results, this study is confident in asserting that Customer

Satisfaction leads to stronger consumer loyalty. The result aligns well with Expectation-Confirmation Theory (Oliver, 1997), implying that if customers perceive the quality of the e-commerce platform in terms of product quality, delivery, complaint resolution to meet and exceed their expectations, their consumer loyalty will be enhanced.

5.3.2 Conclusion of H2: Consumer Trust impacts Consumer Loyalty

The study concludes that Consumer Trust appears to be the most salient factor that positively influence Consumer Loyalty in Merkato e-commerce context ($\beta = .302$, $t = 10.040$, $p < .001$). This study is strongly confident on this finding that consumer trust exerts most powerful influence on consumer loyalty in relation to the result derived. This is well-grounded in Trust-Commitment Theory (Morgan & Hunt, 1994), which stated that consumer trust – as having technical competence, benevolence, and integrity – acts as a most important predictor of consumer loyalty.

5.3.3 Conclusion of H3: E-Service Quality impacts Consumer Loyalty

The study concludes that E-Service Quality exerts a statistically significant positive impact on Consumer Loyalty in Merkato e-commerce context ($\beta = .238$, $t = 7.766$, $p < .001$). This finding is consistent with the framework of E-S-QUAL (Parasuraman et al., 2005). All the items representing E-Service Quality like platform navigability, order fulfilment accuracy, system availability, data protection, and customers support quality collectively contribute to shaping consumers loyalty. Investments on improving all these components of e-service quality would therefore bring in positive outcome on customers loyalty.

5.3.4 Conclusion on H4: Perceived Value and Consumer Loyalty

The results of the analysis revealed that PV was significantly, positively related to a Consumer Loyalty ($\beta = .208$, $t = 7.472$, $p < .001$). While PV was seen as the weakest predictor for CVL among other ones, the effect estimates proved to be clinically meaningful, showing a pattern of results consistent with the VAM (Zeithaml, 1988). Consumers utilizing ecommerce providers with high value (both functional and hedonic value, such as saving time and money) have a much stronger loyalty orientation.

5.3.5 Conclusion on H5: Perceived Security and Consumer Loyalty

The research finds that Perceived Security can be used to positively and significantly predict Consumer Loyalty ($\beta = .250$, $t = 8.487$, $p < .001$). Based on Protection Motivation Theory (Rogers, 1975), this finding verifies the fact that consumers' beliefs in payment protection,

data privacy, account security and mechanism for confirming vendors' legitimacy serve as vital loyalty antecedents in Ethiopia where digital security simply means online safety.

5.3.6 Overall Conclusion

The study finds that the five predictor variables of Customer Satisfaction, Consumer Trust, E-Service Quality, Perceived Value and Perceived Security each had a statistically significant positive effect on Consumer Loyalty on the individual basis. A model with these five predictor variables accounted for 76.0% of variation in Consumer Loyalty (R^2=.760) which indicated the predictions are close relationship with Consumer Loyalty. Of all the five variables, Consumer Trust was the best predictor of Consumer Loyalty, followed by Customer Satisfaction, Perceived Security, E-Service Quality, and Perceived Value on the independent basis. The report support, the applicability of ECT, Trust-Commitment Theory, E-S-QUAL, VAM and PMT theories in Ethiopian online shopping mardless achievement the knowledge regarding factors of e-loyalty in the Sub-Saharan Africa continent.

5.4. Practical Implications

The implications of this study provide concrete implications for e-commerce platform managers, operators and stakeholders in Merkato as well as in Ethiopian e-commerce ecosystem in general.

As Consumer Trust (β = .302) shows to be the most dominant predictor of Consumer Loyalty, operators of e-commerce platforms in Merkato area must leverage their investment to the growth of consumers' trust as their core strategy. Examples for this could be through setting up rigorous vendor verification processes, installing trust mechanisms for problem solving/ dispute resolution, displaying clear trust seals (SSL certificate, buyer protection guarantee) on platforms, and consistent fulfillment of platform's promises and commitments. One unit increase in Consumer Trust may lead to 0.269 unit increase in Consumer Loyalty while other variables held constant.

Customer Satisfaction improvements (β = .252) – focusing on delivery promptness, quality in handling customer complaints, and post-purchase services – is the second main channel of returns on the loyalty investment. Perceived Security investments (β = .250), especially on vendor's authentication and fraud detection practices, are worthwhile investments considering the significant importance of security concerns among Ethiopian online buyers. Moreover, the improvements in E-Service Quality (β = .238) – specifically to promptness in answering

customer service (ESQ5: M = 3.80) – and Perceived Value enhancements (β = .208), focusing on highlighting time-saving benefits, complete the whole loyalty investment package.

5.5. Recommendations

5.5.1. To E-Commerce Platform Operators

The operators of e-commerce platforms operating in the Merkato area should establish a strong consumer loyalty management program focused on a comprehensive trust-building strategy. This can be done by: 1) setting in place required protocols on vendor verification and product authentication verification; 2) creating binding guarantees on buyer protection with clearly explained processes of compensation; 3) building up several layers of security measures in place, like two factor, transactional monitoring system, and other protection techniques, 4) enhancing reliability of last-mile delivery to gain more favorable customer satisfaction outcomes. Meanwhile, platform operators are strongly suggested to design system of measuring customer satisfaction (using customer surveys upon each successful purchase) to monitor the most crucial drivers and detect any need for service recovery.

5.5.2 Recommendations for Policymakers

Regulatory and policy makers responsible for the Ethiopian digital commerce ecosystem should strive to create supportive policies that build the security and trust bases for e-commerce transactions. These recommendations include: 1) creation of an e-commerce consumer protection regulatory framework which lays out binding standards for data privacy, transaction security, and provider responsibility; 2) establishment of a national e-commerce platform certification program which uses trust badges to identify secure platforms that satisfy recognized quality standards; 3) allocation of resources towards e-commerce digital literacy programs targeting Merkato users to increase their understanding of cybersecurity principles and their consumer rights on the web; 4) efforts to increase the ubiquity of safe and easy mobile payment methods.

5.5.3 Recommendations for Practitioners and Managers

E-commerce managers and digital marketing practitioners should focus on adopting a loyalty management strategy encompassing all five determinants of e-loyalty as opposed to one single construct. These are: 1) regular measurement of total scores of each of the five constructs using identical survey instrument designs with validated scales as those applied in

this research; 2) prioritizing investments in trust-enhancing mechanisms and satisfaction enhancement according to their relative normalized regression coefficients; 3) developing strategies for clear communication of value and highlighting the cost-benefit and time saving aspects compared to Merkato shopping; and 4) improve customer support services which represented the least effective e-service quality dimension by strengthening infrastructure and providing effective training for staff.

5.6 Limitations of the Study

Limitations of this research are: Firstly, restricted geography to the Merkato area of Addis Ababa, Ethiopia has restricted the ability to generalize results across other similar regions, nations, or worldwide contexts. Secondly, cross-sectional research design makes it impossible to infer any direction of influence among the study variables because measures were taken at only one point in time. Thirdly, reliance on self-reported survey data might have been a source of common method bias (Podsakoff et al., 2003) thus potentially causing overstatement of correlation coefficients and regression coefficients between self-reported independent and dependent variables. Fourthly, only five e-loyalty antecedents were included in the study, and other crucial antecedents like platform commitment, switching cost, social influence and brand image were excluded. Fifthly, most of the sample consists of Bachelor's Degree holder students (61.9%), therefore it might not be generalizable to the population segments with low educational background.

5.7. Theoretical Implications

The results of this study are several in terms of theoretical contributions to the domain of consumer loyalty in electronic commerce environment. Firstly, the study provides empirical evidence for the application of five theories that arecomplementaryin the same conceptual model namely; ECT, Trust-Commitment Theory, E-S-QUAL, VAM and PMT that Consumer Loyalty in e-commerce is a multi-dimensional construct that cannot be explained by one theory (Wattoo et al., 2025; Blut et al., 2024). Secondly, the results, that Consumer Trust is the strongest predictor in this environment, contributes to the generalization of the Trust-Commitment Theory (Morgan & Hunt, 1994) into developing countries e-commerce context,

confirming that the basis of relationship marketing based on trust has as well if not greater important in developing countries compared to developed economies (Handoyo, 2024; Singh et al., 2022). Thirdly, high variance explained(R^2= .760) has shown that the five-predictor model accounts almost comprehensively for the variance in e-loyalty in the Merkato environment; it provides a simple yet empirically valid theoretical framework for researchers to study digital consumers' behavior in SSA (Kassa & Mengistu, 2024; Eshetu & Kebede, 2023).

5.8. Recommendations for Future Research

Following up the results and limitation of the study the following research directions can be considered in future studies:

1. Longitudinal studies: future studies should employ either longitudinal or panel data designs to establish causal relationships with regard to time between the identified predictors of e-loyalty and e-loyalty outcomes in order to overcome the directionality limitation of this cross-sectional design.

2. Expanded geographic scope: studies on other cities in Ethiopia and SSA could provide findings of generality in terms of space and allow cross-cultural comparison.

3. Mixed-method approaches: further research should employ qualitative aspects, such as focus group discussions or in-depth interviews with the consumers and providers of e-commerce platforms to enrich and gain in depth insight about underlying relationships found in the quantitative part.

4. Other mediating and moderating variables should be tested, such as: platform commitment, switching costs, consumer characteristics, and type of platform in relation to the relationship of satisfaction, trust, quality, value, security and loyalty.

5. Common method bias mitigation procedures should be implemented, such as: temporal separation of measurement of the predictors and criteria variables and usage of objective performance measures of platforms along with survey self-reported data (Podsakoff et al., 2003).

5.9. Chapter Five Summary

This chapter contains the summary of the results, conclusions, theoretical and practical implications, recommendations, limitations, and directions for future research. The central

finding is that Consumer Trust, Customer Satisfaction, Perceived Security, E-Service Quality and Perceived Value - ranked by standard regression weights - are all significant predictors of Consumer Loyalty of e-commerce platform users in Merkato, Addis Ababa, Ethiopia. The five-predictor model explains 76.0% of the variance in Consumer Loyalty, with Consumer Trust as the most important predictor (β= .302). The results provide insight for consumers and platforms operators in enhancing the rapid growth of the electronic market.

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Appendix A: Questionnaire

ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF BUSINESS INFORMATION SYSTEM

(GRADUATE PROGARM)

This questionnaire is designed for a research study titled: **"**Effects of Customer Satisfaction, Consumer Trust, E-Service Quality, Perceived Value, and Perceived Security on Consumer Loyalty in Electronic Commerce Merkato Area, Addis Ababa, Ethiopia**".** The primary objective of this study is to examine Effects of Customer Satisfaction, Consumer Trust, E-Service Quality, Perceived Value, and Perceived Security on Consumer Loyalty in Electronic Commerce Merkato Area, Addis Ababa, Ethiopia. Additionally, this questionnaire serves as a partial fulfillment of the requirements for a **Master's degree in Business Information Systems**. The data collected will be used only for academic purposes. Your responses will remain confidential and will not be shared with any third party. Please answer each question honestly and without concern for any consequences. There is no need to include your name. I sincerely appreciate your cooperation. Your fair and impartial feedback will contribute

significantly to the success of this study. If you have any questions for further clarification, please feel free to contact me:

Buruke Mulate
Mobile No.: 0946694436

Part I: Demographic Information

Thank you for taking the time to participate in our questionnaire. Your responses will help us gain insights into various perspectives. Please answer the following questions by ticking the appropriate box:

1. What is your gender?

☐ Male

☐ Female

☐ Prefer not to say

2. What is your age group?

☐ 18 – 25 years

☐ 26 – 35 years

☐ 36 – 45 years

☐ 46 – 55 years

☐ 56 years and above

3. What is your highest level of education completed?

☐ Primary School (Grade 1–8)

☐ Secondary School (Grade 9–12)

☐ Certificate / Diploma

☐ Bachelor's Degree

☐ Master's Degree or above

☐ No formal education

4. What is your current employment status?

☐ Employed (Government)

☐ Employed (Private Sector)

☐ Self-employed / Business Owner

☐ Student

☐ Unemployed

☐ Other: _____

5. What is your approximate monthly income (in Ethiopian Birr)?

☐ Below ETB 3,000

☐ ETB 3,001 – 7,000

☐ ETB 7,001 – 12,000

☐ ETB 12,001 – 20,000

☐ Above ETB 20,000

☐ Prefer not to say

6. How long have you been using electronic commerce platforms?

☐ Less than 6 months

☐ 6 months – 1 year

☐ 1 – 2 years

☐ 3 – 4 years

☐ More than 4 years

Part II : Factor examination part

Listed below are a series of section that represent Factor examination part with respect to your own feeling.

SECTION A: CUSTOMER SATISFACTION (CS)

Please rate your level of agreement with each of the following statements about your satisfaction with e-commerce platforms you have used in the Merkato area.

No.	Statement	SD (1)	D (2)	N (3)	A (4)	SA (5)
CS1	Overall, I am satisfied with my experience using e-commerce platforms in the Merkato area.	□	□	□	□	□
CS2	The e-commerce platform I use most often meets my expectations regarding product quality, delivery, and overall service.	□	□	□	□	□
CS3	Purchasing through e-commerce platforms in this area has been a positive and worthwhile experience compared to what I expected.	□	□	□	□	□
CS4	I feel satisfied with the way my complaints and post-purchase issues have been handled by e-commerce vendors I have used.	□	□	□	□	□
CS5	The e-commerce platform I use consistently delivers what it promises in terms of products, prices, and timing.	□	□	□	□	□

Construct Definition: Customer satisfaction refers to the overall positive evaluation a consumer forms after comparing the actual performance of an e-commerce platform against prior expectations (Oliver, 1997). Higher mean scores indicate higher levels of satisfaction.

SECTION B: CONSUMER TRUST (CT)

Please rate your level of agreement with each of the following statements about your trust in the e-commerce platforms and vendors you have used in the Merkato area.

No.	Statement	SD (1)	D (2)	N (3)	A (4)	SA (5)
CT1	I believe the e-commerce platform I use has the technical capability and expertise to deliver its promised services reliably.	□	□	□	□	□
CT2	I trust that the e-commerce vendors I deal with genuinely act in my best interest as a customer.	□	□	□	□	□
CT3	I believe the e-commerce platform I use fulfills its commitments honestly and adheres to ethical business principles.	□	□	□	□	□
CT4	I feel confident sharing my personal and financial information with the e-commerce platform I use most frequently.	□	□	□	□	□
CT5	Based on my experience, I trust that the products listed on the e-commerce platforms I use are genuine and accurately described.	□	□	□	□	□

Construct Definition: Consumer trust is the consumer's willingness to be vulnerable to an e-commerce platform, based on the expectation that the platform will act with competence, benevolence, and integrity (Mayer et al., 1995). Items cover all three sub-dimensions of trust.

SECTION C: E-SERVICE QUALITY (ESQ)

Please rate your level of agreement with each of the following statements about the quality of electronic services provided by the e-commerce platforms you have used.

No.	Statement	SD (1)	D (2)	N (3)	A (4)	SA (5)
ESQ1	The e-commerce platform I use most often is easy to navigate and allows me to find products quickly and without difficulty.	□	□	□	□	□
ESQ2	The e-commerce platform accurately delivers the correct products I order within the promised time frame.	□	□	□	□	□
ESQ3	The e-commerce platform I use is consistently available and functions correctly without technical errors or unexpected downtime.	□	□	□	□	□
ESQ4	The e-commerce platform adequately protects my personal data and ensures the security of my financial transactions.	□	□	□	□	□
ESQ5	When I encounter a problem with an order, the e-commerce platform provides prompt, helpful, and effective customer support.	□	□	□	□	□

Construct Definition: E-service quality is the consumer's overall assessment of the excellence of electronic service delivery across efficiency, fulfillment, system availability,

privacy, and responsiveness dimensions (Parasuraman et al., 2005). All five E-S-QUAL core dimensions are represented.

SECTION D: PERCEIVED VALUE (PV)

Please rate your level of agreement with each of the following statements about the overall value you perceive from using e-commerce platforms in the Merkato area.

No.	Statement	SD (1)	D (2)	N (3)	A (4)	SA (5)
PV1	The products and services I purchase through e-commerce platforms offer good value for money compared to their price.	□	□	□	□	□
PV2	Using e-commerce platforms to shop saves me significant time and effort compared to visiting physical stores.	□	□	□	□	□
PV3	I enjoy the overall experience of browsing and shopping on e-commerce platforms; it gives me pleasure beyond just completing a transaction.	□	□	□	□	□
PV4	Overall, the benefits I receive from using e-commerce platforms (quality, price, convenience, and variety) clearly outweigh any costs or inconveniences involved.	□	□	□	□	□
PV5	Compared to other ways of shopping available to me, e-commerce platforms provide a superior overall value proposition.	□	□	□	□	□

Construct Definition: Perceived value is the consumer's overall assessment of the utility of an e-commerce transaction based on the trade-off between perceived benefits (functional, hedonic, convenience, social) and perceived costs (price, effort, risk) (Zeithaml, 1988). Items capture all four value dimensions.

SECTION E: PERCEIVED SECURITY (PS)

Please rate your level of agreement with each of the following statements about your perceptions of security when using e-commerce platforms in the Merkato area.

No.	Statement	SD (1)	D (2)	N (3)	A (4)	SA (5)
PS1	I feel confident that my payment information (card details, mobile money) is securely protected when I make transactions on e-commerce platforms.	□	□	□	□	□
PS2	I believe the e-commerce platform I use will not share, sell, or misuse my personal information without my consent.	□	□	□	□	□
PS3	The e-commerce platform I use has strong measures in place to prevent unauthorized access to my account and transaction history.	□	□	□	□	□
PS4	I trust that the vendors and products listed on the e-commerce platforms I use have been verified for authenticity and legitimacy.	□	□	□	□	□
PS5	Overall, I feel secure using e-commerce platforms for my online purchases and do not fear that I will be a victim of fraud or data theft.	□	□	□	□	□

Construct Definition: Perceived security is the consumer's subjective assessment of the adequacy of an e-commerce platform's technical and procedural safeguards for protecting personal and financial information from fraud, theft, or misuse (Chellappa & Pavlou, 2002; Flavián & Guinalíu, 2006).

SECTION F: CONSUMER LOYALTY — DEPENDENT VARIABLE (CL)

Please rate your level of agreement with each of the following statements about your loyalty toward the e-commerce platform(s) you use most frequently in the Merkato area.

No.	Statement	SD (1)	D (2)	N (3)	A (4)	SA (5)
CL1	I intend to continue purchasing goods and services through the same e-commerce platform I currently use most often.	□	□	□	□	□
CL2	I would recommend the e-commerce platform I use to friends, family, and colleagues in the Merkato area.	□	□	□	□	□
CL3	Even if competing e-commerce platforms offer attractive promotions or discounts, I would still prefer to continue using my current platform.	□	□	□	□	□
CL4	I consider myself a loyal customer of the e-commerce platform I use and have a strong preference for it over other available alternatives.	□	□	□	□	□
CL5	I am willing to spend more on the e-commerce platform I trust most, even if slightly cheaper options exist elsewhere.	□	□	□	□	□
CL6	I would defend and speak positively about my preferred e-commerce platform if others criticized or questioned it.	□	□	□	□	□
CL7	Over the past six months, I have repeatedly returned to the same e-commerce platform for my purchases rather than switching to alternatives.	□	□	□	□	□

Construct Definition: Consumer loyalty is the deeply held commitment to consistently repurchase or repatronize a preferred e-commerce platform despite situational influences

and competitive alternatives (Oliver, 1999). Items cover behavioral loyalty (CL1, CL7), attitudinal loyalty (CL3, CL4, CL6), intentional loyalty (CL2), and price tolerance (CL5).

Thank you for your valuable input and cooperation.

Appendix B: Detailed SPSS Outputs

Diagram: Test of Normality of the Data

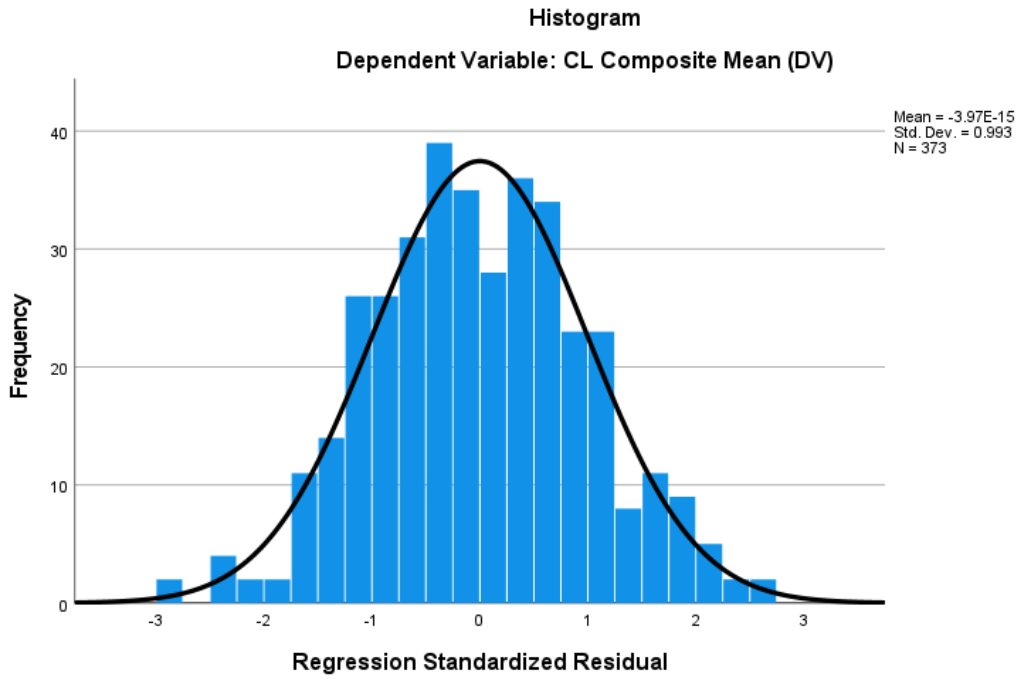


Figure 2: Test of Normality of the Data

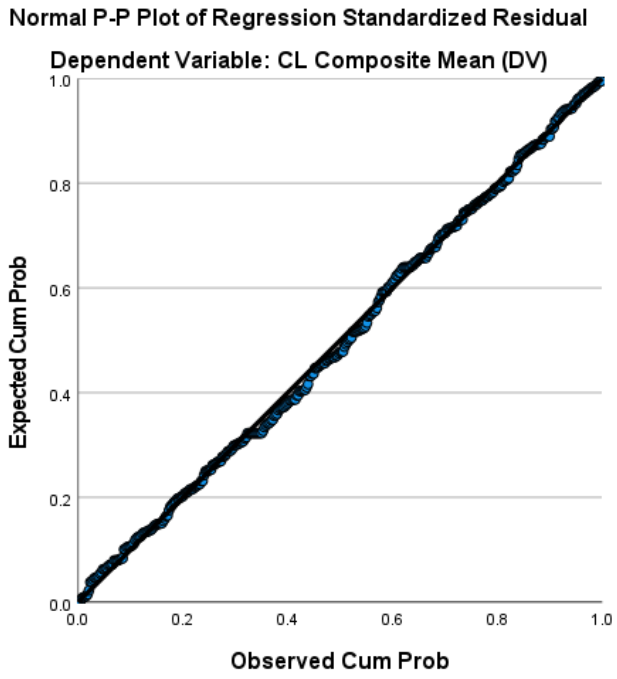


Figure3:Test of Linearity

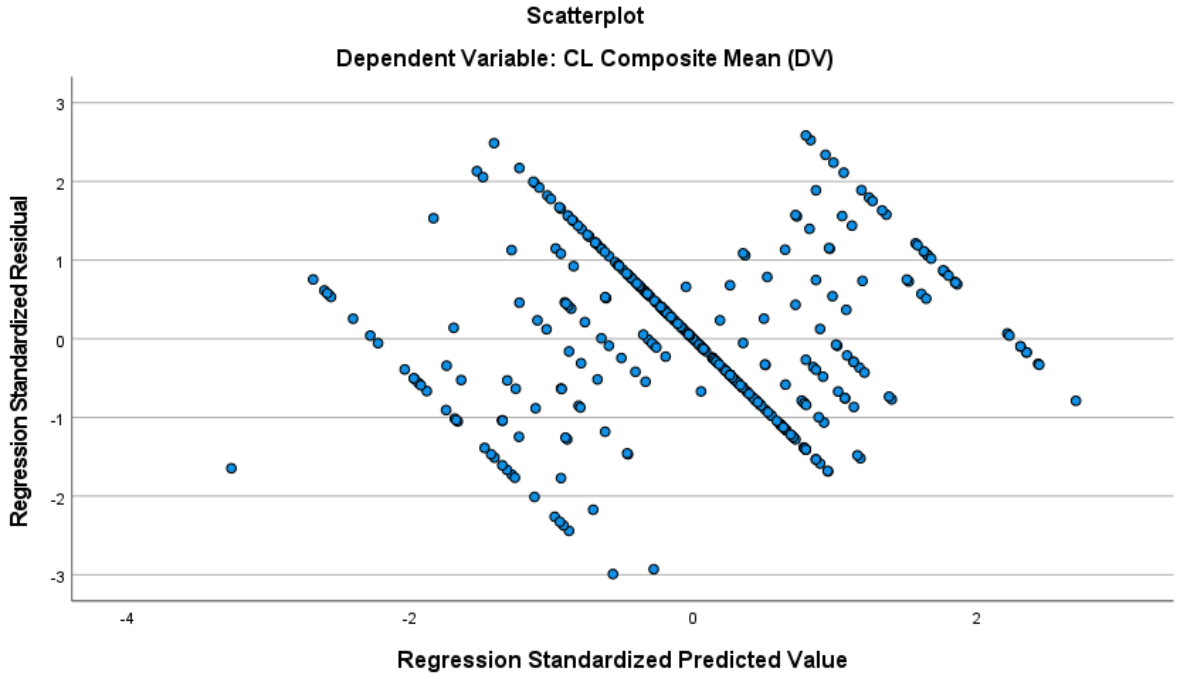


Figure 4:Homoscedasticity