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Assessment of E service Quality and User Satisfaction on Application of E-GSQA Model: Case Study of Federal Ministry of Trade and Regional Integration

A Thesis Submitted to the Department of Public Administration and Development Management (PADM), Addis Ababa University (AAU), School of Graduate Studies in Partial Fulfilment of the Requirements for the Masters of Arts Degree in Public Management and Policy (MPMP)

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DECLARATION

I, Enbel Temesgen, declares that this work entitled "**Assessment on the Implementation of E service Quality and user Satisfaction on Application of E-GSQA Model: Case Study of Federal Ministry of Trade and Regional Integration**" is an outcome of my own efforts and the study and that all sources of materials used for the study have been dully acknowledged. I have produced it independently except for the guidance and suggestion of the Research Advisor. This study has not been submitted for any other University, it is offered for the partial fulfillment of the requirements for the award of Degree of Masters in public management and policy.

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Approval

As members of the Board of Examining the Final MSc, thesis open defense, we certify that we have read and evaluated the thesis prepared by Enbel Temesgen under the title " **Assessment of E service Quality and User Satisfaction on Application of E-GSQA Model: Case Study of Federal Ministry of Trade and Regional Integration"** and recommend that the thesis be accepted as fulfilling the thesis requirement for the **Degree of Master of Art Public Management and Policy.**

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Abstract

The present study delves into the intricate relationship between e-service quality and customer satisfaction within the context of e-government services, focusing on the e-Trade website implemented by the Federal Ministry of Trade and Regional Integration (MOTRI) in Ethiopia, aiming to identify areas for enhancement guided by the E-GSQA (E-Government Service Quality Assessment) model. It adopts a mixed-methods approach, combining quantitative and qualitative data collection techniques, using purposive and simple random sampling to identify participants, analyzed through inferential and thematic analysis. The study reviews theoretical foundations and assesses e-service constructs, evaluating dimensions like design, reliability, responsiveness, security, customization, and, relating them to overall customer satisfaction. The participant pool includes 33 MOTRI employees and 15,000 customers, with a sample size of 390 customers and 33 employees determined by Yemane's formula (1967) and census sampling for employees and an interview of 9 employees, totaling 427 participants. Statistical analyses, including correlation and regression, reveal the impact of e-service quality dimensions on user satisfaction, with design, ease of use, customization, and responsiveness identified as key determinants. Challenges in implementing e-services in developing countries, such as inadequate ICT infrastructure, lack of leadership commitment, insufficient training, poor network connection, and low awareness, were also examined. The study finds a discrepancy in perceived responsiveness and security between employees and customers, emphasizing the importance of these dimensions in user satisfaction and the success of e-government initiatives. It provides recommendations for improving support services, prioritizing key quality attributes, and establishing continuous feedback mechanisms to enhance the e-Trade service, contributing valuable insights for policymakers, e-service providers, and stakeholders to develop more efficient and user-centric e-government services.

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List of Acronyms and Abbreviations

- ANOVA Analysis of Variation
- CI Confidence Interval
- CRM Customer Relationship Management
- DW Derbin Watson
- EGDI E-Government Development Index
- E- GSQA Electronic Government Service Quality
- E-RECS-Q Electronic Recovery Service Quality
- E-SELF-Q Self Service Quality
- E-SQ Electronic Service Quality
- E-S-Q Electronic Service Quality
- G2B Government-To-Business
- G2C Government-To-Consumer
- G2E Government-To-Employee
- G2G Government-To-Government
- HRM Human Resource Management
- ICT Information Communication Technology
- LRM Linear Regression Model
- MOTRI Ministry of Trade and Regional Integration
- NPM New Public Management
- OLS Ordinary Least Square
- SDG Sustainable Development Goal
- SERVQUAL Service Quality
- SERV-PERF Service Performance
- SITE-QUAL Site Quality
- TOT Training of Trainers
- UAE United Arab Emirates
- UN United Nations
- VIF Variance Inflation Factor
- WEB-QUAL Website Quality

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CHAPTER ONE

1.1. Background of the Study

The term ‘e-service’ is widely used across various academic fields, and it finds application in two main domains: e-business (or e-commerce) and e-government (or non-commerce). E-service is also widely used and accessible across a wide range of fields. E-government, or non-commerce, and e-business, or e-commerce, are the two main application areas for e-services. (Kvasnicova et al., 2016).

The goal of e-services, which prioritize the interests of businesses and citizens, is to facilitate simple, amicable, transparent, affordable, and efficient communication between the public and employees of governmental entities. This indicates that people may use e-government to supply the services they need, and they can contact them via the internet and other automated means. This approach satisfies the growing needs of the populace for services that can use improved internal and external facilities (ICT) to enable interaction and unification among many common systems (Kuilboer, 2002).

The term "e-government" has been defined from a variety of angles. It is the application of ICT to enhance public administration processes, according to Tung and Rieck (2005). E-government encompasses three categories of operations where government administrators use ICTs: enhancing internal government processes (also known as government-to-government processes) (Hogeveen 2020). Improving government-to-consumer (G2C) interactions is the main objective of E-Government, according to Lee et al. (2005). This is similar to the function of customer relationship management (CRM) in the corporate sector. E-government, according to Ke and Wei (2004), is the process of using the Internet to facilitate better communication between citizens and government organizations (Gupta et al., 2008).

The increasing importance of e-government in fostering effective, accountable, and inclusive institutions is well-established (United Nations E-Government Survey, 2022). This aligns with Sustainable Development Goal (SDG) 16, which emphasizes the need for though institutions to achieve sustainable development (United Nations, 2015). E-government also used to the broader implementation of the “Sustainable Development

Goals'' (SDGs) by enhancing transparency and citizen participation (United Nations E-Government Survey, 2022).

However, the 2022 United Nations E-Government Survey reveals a significant disparity in e-government development between developed and developing countries. Notably, more than 3 billion people reside in countries with E-Government Development Index (EGDI) scores below the global average. These countries are primarily concentrated in Africa, Asia, and Oceania (United Nations E-Government Survey, 2022). This digital divide is further highlighted by the fact that only 4 out of 54 African countries surpass the global EGDI average (United Nations E-Government Survey, 2022).

In contrast, developed nations are at the forefront of e-governance implementation. According to the 2022 EGDI survey, Denmark, Finland, and South Korea emerge as the top three global leaders in digital governance, boasting exceptionally high EGDI scores. However, the United Nations E-Government Survey (2022) highlights a critical challenge faced by developing countries: their low rate of e-government implementation. This limited implementation hinders progress toward realizing the benefits associated with e-government initiatives (United Nations E-Government Survey, 2022).

Ethiopia serves as a case study of this disparity. According to the 2022 EGDI study, Ethiopia ranks 179th out of 193 countries, with an EGDI score of 0.2865. This score falls considerably below the global average of 0.6102 (Ibid). The data underscore the substantial need for targeted interventions to bridge the digital divide and enhance e-government implementation in developing countries like Ethiopia.

Therefore, the purpose of this research is to investigate the quality of the Ministry of Trade and Regional Integration's e-Trade website and how it affects user satisfaction. By understanding user perception and satisfaction, the research aims to identify how well the e-Trade website meets user needs and potentially reveal areas for improvement. This information can be valuable for policymakers in the Ministry, allowing them to gauge the effectiveness of the e-Trade system and make data-driven decisions for improvement. The organization itself can benefit by understanding user pain points and preferences, leading to a more user-friendly and efficient e-Trade platform. Ultimately, a high-quality e-Trade website can enhance user satisfaction and encourage wider adoption of the electronic service.

1.2. The Federal Ministry of Trade and Regional

The Ministry of Commerce in Ethiopia has long been tasked with supervising and coordinating various governmental institutions involved in business, industry, and investment activities. Recognizing the need to modernize and streamline trade-related processes, the Ministry reestablished the Ministry of Commerce in August 1995, with subsequent proclamations and decrees further delineating its powers and functions. Among these initiatives, the development of the E-Trade App stands out as a significant milestone in facilitating trade operations for businesses across Ethiopia (Motri, n.d.).

According to preliminary informants the E-Trade App serves as a centralized platform for entrepreneurs to manage essential trade-related tasks, including license renewal, termination, and capital increment procedures. Through an intuitive user interface, users can navigate these processes efficiently, reducing bureaucratic hurdles and administrative burdens. Real-time updates and secure authentication mechanisms ensure transparency and accountability in trade management, empowering businesses to track the progress of their applications and maintain compliance with regulatory requirements. The introduction of the E-Trade App carries profound implications for the Ethiopian business ecosystem. By digitizing trade-related operations, the app accelerates processes, minimizes paperwork, and enhances accessibility for entrepreneurs. This, in turn, fosters a conducive environment for business growth and investment, driving economic development across various sectors. Moreover, the E-Trade App underscores the government's commitment to leveraging technology for governance and service delivery, aligning with broader initiatives aimed at advancing digital transformation in Ethiopia.

According to the decree number 1263/2014 issued by the federal government to determine the powers and functions of the executive bodies, the Ministry of Trade and Regional Cooperation has been given the responsibility of monitoring the quality of export and import trade goods, and monitoring the export and import of commercial goods that do not meet the required standards

Controlling whether commercial goods and services with mandatory Ethiopian standards meet the standards, ensuring that mandatory standards implemented by other executive offices are implemented in a coordinated manner, and coordinating executive bodies to implement the country's legal and ethical system are the tasks and responsibilities given to the office. (Motri, n.d.).

Mission

By making the process accessible and competitive, by establishing fair trade, by providing excellent service and support to local investors, by increasing the human and technological capacity of the sector, by establishing an effective system for the producer, consumer and business community.

Vision

To be a globally competitive business and manufacturing industry sector by 2025

Duties and Responsibilities

- Serve with involvement, transparency and accountability,
- Focus on customer satisfaction;
- Strive for the success of local investors,
- Always be ready to learn and change,
- Work for rapid technology transfer and use;
- Standing for environmental protection and care;

According to preliminary informants The Ministry of Trade and Regional Integration at the federal level comprises five essential sectors, each entrusted with specific responsibilities aimed at achieving overarching objectives. These sectors include the State Minister of Trade Relations and Expenditure Trade Promotion, State Minister of Trade System and Licensing, Minister of Trade Quality, Infrastructure Development, and Confirmation, Trade Regional Integration Support Provider, and Trade Regional Integration Branch Offices.

The State Minister of Trade Relations and Expenditure Trade Promotion sector is tasked with enhancing trade relations and promoting expenditure trade. With a workforce of 109 employees, this sector is instrumental in fostering bilateral and multilateral trade agreements, facilitating international trade missions, and promoting the export of domestic products. Additionally, it plays a vital role in analyzing expenditure patterns to devise effective trade promotion strategies (Ibid).

The State Minister of Trade System and Licensing sector, comprising 83 employees, is responsible for overseeing trade systems and licensing procedures. This sector ensures compliance with regulatory frameworks, streamlines licensing processes, and maintains databases pertaining to trade activities. By enhancing transparency and efficiency in trade operations, it contributes to creating a conducive business environment (Ibid).

The Minister of Trade Quality, Infrastructure Development, and Confirmation sector, with 57 employees, focuses on enhancing trade quality standards, developing infrastructure to facilitate trade, and ensuring compliance with international trade agreements. This sector collaborates with relevant stakeholders to improve product quality, modernize trade-related infrastructure, and validate conformity with trade regulations (Ibid).

The Trade Regional Integration Support Provider sector, the largest among the subdivisions, comprises 234 employees dedicated to facilitating regional integration initiatives. This sector works closely with regional economic communities, implements trade facilitation programs, and provides technical assistance to member states. By fostering closer economic ties and harmonizing trade policies, it contributes to regional stability and economic development (Ibid).

The Trade Regional Integration Branch Offices sector, consisting of 151 employees, operates decentralized offices aimed at implementing regional integration strategies at the grassroots level. These branch offices serve as hubs for information dissemination, capacity-building initiatives, and coordination of regional integration activities. By extending the Ministry's reach to remote areas, they ensure inclusivity in regional integration efforts (Ibid).

Prior to 2013, the Ministry of Trade and Regional Integration (MoTRI) at the federal level did not offer any online services for trader registration. This gap was addressed in 2013 with the full implementation of an online registration system. As a result, paper-based registrations ceased entirely at the federal level in that year. The data indicates a significant shift towards online registration, with 25,205 traders registering electronically in 2013. This trend continued in subsequent years, with 25,305 and 25,846 online registrations recorded in 2014 and 2015, respectively (Motri, n.d.).

1.3. Statement of the problem

According to Kim-Soon & Ramayah (2014), in order to supply a service with improved speed and accuracy, the implementation of electronic services appeared to be gaining attention. However, developing countries faced more problems than industrialized ones while implementing E-services. According to Ingram et al. (2018), developing countries implement e-services at a lower rate than projected. Approximately 85% of implementations failed (as cited in to Kim-Soon & Ramayah 2014). Sergio and Sang (2022) also stated that, in comparison to developed economies, underdeveloped countries have numerous challenges when implementing e-governance effectively. As a result, they are still behind in fully embracing all of the modern components of e-governance.

As demonstrated by the empirical results stated above, the degree of implementation is low in developing countries, and implementation is critical for the effective deployment of the tool in a particular setting, thus it must be explored, which is the goal of the intended research. In the study, the researcher assesses the implementation of the Federal MOTRI Bureau's e-trade website electronic service, since it is an important office in government service delivery.

According to E-Spin (2023), the ultimate goal of e-government is to provide citizens with a more diverse portfolio of governmental services in an efficient and cost-effective manner while fostering transparency, accessibility, and accountability. In the topic area of this research, extensive empirical studies have been conducted from various perspectives. To clarify the intended research emphasis and find gaps, the researcher attempted to assess a few more related studies to the issue area of the study.

The study by S M, Uvaneswaran. & Meles, H.W. (2016) titled Challenges in application of ICT in tax administration: A case of Dessie city revenue office, Ethiopia, also assesses the challenges that hinder the application of ICT in the study area. The results showed that ICT benefits included saving time, facilitating efficient tax payment, increasing transparency, and enhancing taxpayer data encoding. Challenges identified were inadequate ICT infrastructure, lack of leadership commitment, insufficient training, poor network connection, and low awareness.

Taking Fitche Town Land Administration as a case study Tesfu (2021) assessed the "Prospects and Challenges of E-Governance in Public Service Delivery". According to the study, e-governance is still in its infancy as a concept in the delivery of public services, particularly in the area of land administration for the town of Fiche.

Further, the study also concluded that e-government contributes to the improvement of service delivery in the sector and increases transparency and accountability in the sector with its limited application. The study raised lack of infrastructure and train manpower as a major factor hindering the success of e-government in the sector.

Sagaro et al. (2020) and Ross et al. (2016) investigated the barriers to sustainable telemedicine deployment in Ethiopia and the factors that influence the implementation of e-health technologies in healthcare settings, respectively. Both studies conducted systematic reviews of reviews in the domain to identify the determinant factors of e-health services. According to the study's findings, the factors were discovered at several levels, including interventions, populations, and locations. Infrastructure and prices were key barriers, and staff resistance was one of the primary determinants.

Tekaleng and Swaminarayan (2022) conducted an analysis of electronic service implementation in Ethiopian higher education institutions and discovered that electronic services in Ethiopian public service universities are weak, with Web presence, interaction, transactions, and networked presence in their early stages.

Kebede (2017) conducted an assessment of e-government implementation in public service delivery, as well as stakeholder/customer trust in e-government services. The study discovered that factors such as ICT infrastructure, human capital, online service communication, risks, and barriers all had a significant impact on the ease of use and usefulness of e-government services. It also found that certain organizations had a higher intention to improve e-government services, although perceived stakeholder/customer trust levels in e-government services were similar across all organizations.

The preceding studies thoroughly evaluated the implementation of e-services at the national level and in particular cases, but none of them assessed the MOTRI Bureau case which is new and fully electronic public service delivery by the government office. Aside from the case differences, the intended research diverges in its focus. While much of the existing literature concentrates on the general implementation level of e-services, factors influencing their implementation, challenges, prospects, and public trust in government.

Yet, the intended study takes a more different look at the implementation of electronic services than the previous one did because it evaluates the overall degree of implementation, customer needs, and preferences, by giving emphasis to the existing relation between the general service quality and customers satisfactions (needs and preference). Beside assessing customers satisfaction and service quality relation the study takes a look on the e-trade service influence on organizational processes, how this new technology service affects the existing work routing and the communication and integration of organization in a single case that the previous study did not attempt. Therefore, the study's goal is to assess the Ministry of Trade and Regional Integration Federal Bureau's e-Trade website implementation by addressing the service quality for users' satisfaction of the available services.

1.4. Objectives of the study

1.4.1. General objective

The general objective of the study is to examine the e-trade website service quality and its impact on users' satisfaction with regard to implementation of electronic service in the Ministry of Trade and Regional Integration.

1.4.2. Specific objective

The following are the specific objectives of the study:

1. To evaluate the quality of the (MOTRI) e-Trade electronic services and impact of e-service quality on user satisfaction by assessing both user experience and user perceptions of specific quality dimensions, including (website design, responsiveness, customization, and ease of use).

2. To analyze the satisfaction of users on the service provided through e-Trade website of Ministry of Trade and Regional Integration.

3. To examine the relationships and the impact of the e-Trade service quality (and its

attributes) on customer satisfaction with in case of e-Trade website implementation to Ministry of Trade and Regional Integration.

1.5. Research Questions of the study

The study is guided by the following questions

1. How do users perceive the overall quality of the Ministry of Trade and Regional Integration's (MOTRI) e-Trade electronic services, encompassing specific dimensions like website design, reliability, responsiveness, security/privacy, customization, information quality, and ease of use?

2. What is the level of e-Trade users' satisfaction with e-Trade website of MOTRI Bureau?

3. What is the relation and impact of e-Trade service quality (and each specific quality dimensions) on customers' satisfaction in case of e-Trade website implementation to MOTRI Bureau?

1.6. Scope of the study

This research strictly examines the quality of services enjoyed by employees and traders who are using the E-Trade website, an electronic service, offered by the Ministry of Trade and Regional Integration. The research goal is to understand how effectively the bureau has deployed this specific website and its impact on internal workflows and user satisfaction on the federal level; using the e GSQA model.

The research adopts a single case study approach, focusing solely on the E-Trade website within the Bureau. This allows for a concentrated examination of this particular e-government service, excluding broader inquiries into national e-government initiatives in Ethiopia or comparisons with similar apps in other government agencies. By narrowing the scope to the E-Trade website, we aim to gain valuable insights into the implementation of e-services within the MOTRI bureau with federal level. This research can identify areas for improvement and inform future e-service initiatives specifically for the bureau. Ultimately, this can lead to a more streamlined and user-friendly experience for those interacting with the MOTRI Bureau using the e-Trade website service.

1.7. Significance of the Research

By investigating E-Trade implementation, users' satisfaction in their experience with the e-Trade service, and organizational process improvement to employees are the expected results. Hence, this research aiming to assess the e-Trade service quality and its impacts on customers' satisfaction can ultimately shape a more streamlined and efficient public service system that benefits all stakeholders.

This research benefits multiple stakeholders. For the bureau itself, the research acts as a roadmap for optimization. The bureau can optimize E-Trade usage for maximum efficiency by identifying areas for improvement in E-Trade usage, they can maximize efficiency gains and transform workflows for a smoother bureaucratic experience. Moreover, it measures the organizational process of the bureau that will benefit for the improvement of the bureau's performance and easy way of working Environment for the employee. E-Trade providers can improve their offerings based on user needs. Thus, customers can benefit from the research.

Policymakers can leverage this research for data-driven decisions. By understanding the impact of E-Trade service quality and users' satisfaction, they can formulate policies for wider E-Trade implementation across government agencies.

Finally, this research can pave the way for future studies on the broader impact of E-Trade Service quality on effective and efficient services to the customers. By investigating implementation, user experience, and process improvement, this research can shape a more streamlined and efficient bureaucratic system for the benefit of all.

1.8. Limitations of the study

As indicated by Hassan (2023), research limitations are factors that can affect a study's results, conclusion, and generalizability. According to him, these limits may arise from the method. As mentioned in the scope of the research, this study used a case study method limited to the Federal MOTRI Bureau's e-trade website implementation assessment, resulting in a lack of generalizability because it will not reflect the other bureau cases. Aside from its generalizability, its applicability to other industries may be limited because it solely discusses Ministry of Trade and Regional Integration bureau experiences.

1.9. Organization of the study

The study was divided into five sections. Background data and the problem statement are covered in the study's first chapter. The second chapter focuses on a review of the relevant literature and theoretical framework. The methodological component of the study is discussed in the third chapter. The fourth chapter cover the study's discussion and data interpretation. The fifth chapter of the study presents a conclusion and recommendations based on the study's findings.

CHAPTER TWO

REVIEW OF RELATED LITERATURES

2.1 Introduction

2.2 e-government Service (e-service)

2.2.1Meaning and Definition

Over the course of the last two decades, e-government has become a popular concept, especially in the late 1990s. Even in countries with poor economies, where it is still developing, e-government has solidified into a mainstream idea despite being viewed as novel at first.

E-government can be viewed as a crucial tool for modernizing the public sector, as it typically encompasses the principles of the NPM (new public management) agenda, which emphasizes processes, management, markets, and monitoring within public sector institutions (Davies and Martin, 2004). However, the precise definition of e-government remains fluid and has undergone some modifications over the years, both within the United Kingdom and on an international scale. According to Curtin et al. (2004), e-government is defined as:

> *. . . the use of any and all forms of information and communications technology (ICT) by governments and their agents to enhance operations, the delivery of public information and services, citizen engagement and public participation, and the very process of governance. P 2*

Various scholars, institutions, and administrations have offered their own explanations of e-government. The following are some notable definitions of individuals, teams, and companies:

E-government, as defined by the UN (2012), is the process of providing citizens with government services and information via means of the Internet and the World Wide Web. This definition places special emphasis on the function of the internet and the delivery of government services to individuals and businesses via web-based platforms.

E-government, according to the World Bank (2012), is the process by which government agencies use information technologies, such as mobile computing, wide area networks, and the internet, to alter their relationships with citizens, businesses, and other government bodies. The objective is to facilitate a more effective government, improve interactions, provide access to information, and improve service delivery.

A commonly used definition of e-government is provided by Gartner (2000, adapted from Cascadis, 2007), which highlights an ongoing change in internal and external interactions within the public sector. The internet-enabled activities, the information and communication technology implementation, and the streamlining of public government, citizen participation, and service delivery all contribute to this transition.

E-government, according to Jeong (2007), is the right use of ICTs and internet telecommunications technologies to raise the effectiveness and efficiency of service delivery by the public sector. E-government is defined by Holden et, al, (2003) as the digital delivery of governmental services, mostly using Internet technologies.

Some perceived e-government as merely a component of a larger e-service. E-business, or e-commerce, and E-government, or non-commerce, are the two main application areas for e-services, according to Kvasnicova et al. (2016). E-services are defined as interactive software-based information systems that are accessed through the Internet by Ruyter, Wetzels, and Kleijnen (2000). E-services are described as resources including data, business procedures, computer power, and applications that are made available online to create new revenue streams and boost productivity (as cited in Kvasnicova et al., 2016). A restricted definition of e-services that are comparable to e-commerce was given.

A broader definition of e-service was provided by Luarn and Lin (2003): "e-service is an interactive, content-centered, Internet-based customer service that is driven by the customer and integrated with relevant organizational customer support processes and technologies in order to improve the relationship between the customer and the service provider." E-commerce and e-government services are both included in the concept of "e-service."

The definition of "e-government" has been approached from several perspectives. Tung and Rieck (2005) define it as the use of information and communication technologies to improve public administration procedures. Three types of operations where government administrators employ ICTs are included in e-government: improving government-to-government (or internal government) procedures (Hogeveen 2020). According to Lee et al. (2005), improving government-to-consumer (G2C) interactions is the primary goal of e-government. This is comparable to the role that corporate customer relationship management, or CRM, plays. Ke and Wei (2004) define e-government as the use of the Internet to improve communication between the public and government agencies (Gupta et al., 2008).

The definitions above demonstrate how similar the idea is. That is to say, even when definitions from various organizations and scholars differ, the fundamental idea—that is, leveraging ICT to improve how government services are given to citizens, companies, and other government agencies—remains the same.

E-government is generally defined as the use of ICT for the benefit of citizens, businesses, and other government branches, as well as the delivery of government services and transactions between various departments via the internet. Therefore, to refer to the same notion in this paper, synonyms such as government e-service, e-public service, or e-government service may also be used.

Specifically, in this paper, the term e-government, e-service, or e-government services are used interchangeably.

This study was in the case of MOTRI in Ethiopia in federal level and conducted to assess the service quality and the customer satisfaction of the e trade website government service beside with organizational process (https://www.motri.gov.et/) availed by the ministry.

2.2.1Classification of e-government Services

The classification of e-government services can be based on the types of users and services offered. According to Backus (2001), these classifications are used to group e-government services according to the user groups that are involved, emphasizing the various kinds of interactions and services offered in each category. Lenk and Traunmuller (2002) that it is important to include all these forms within an extensive definition of e-government. These are:

i) Government to Business (G2B)

Facilitating connections between the government and businesses is the main focus of the Government-to-Business category of e-government services. It entails offering a variety of transactions, information, and services that are especially suited to company operations. G2B services include online tax and fee payments, licensing, procurement systems, and business registration. G2B transactions are defined by Fang (2002) as the sharing of information and services between the public and private sectors of the business community and government. These activities cover a range of services, including downloading application forms, renewing licenses, registering new firms, acquiring permits, and paying taxes, among other things. The dissemination of memos, policies, rules, and laws to the business community is another possible aspect of G2B services.

Academics like Davies (2007) and Metaxiotis & Psarras (2004) highlight how G2B applications can improve the caliber and effectiveness of business-to-government transactions and communication. Enhancing communication and optimizing procedures lead to a more advantageous commercial setting. Effective government-business interactions are critical, as noted by Heeks (2006), especially in developing nations where luring in foreign investment and streamlining bureaucratic procedures are critical to economic progress.

G2B services facilitate convenient information access and transaction completion for businesses by decreasing paperwork and providing digital platforms that are easy to use. These services facilitate business transactions, encourage openness, and aid in the growth of the economy as a whole.

Good business-government connections, made possible by G2B e-government services, are essential to fostering an environment that benefits companies and promotes investments in emerging nations. Transparency and the abolition of corruption can both be enhanced by G2B transactions.

The e-trade website service provided by MOTRI is included in this study's G2B category. Trade name registration and amendment, trade license issuance and renewal, and related transactions are among the services offered. Through the e-trade platform (www.etrade.gov.et), these services seek to expedite administrative procedures and facilitate business transactions.

Exemplary G2C applications, which entail informing the public and providing necessary citizen services, can be found in the MOTRI's e-trade. These services include filing income tax returns and requesting capital increments by attaching birth, death, or marriage certificates, as well as renewing licenses, registering new licenses, replacing licenses, canceling licenses, and asking license renewals.

ii) Government to Citizen (G2C)

The relationship between the government and the general public is the focus of the government-to-citizen category of e-government services. The objective of this approach is to facilitate citizens' access to government services by means of digital platforms by means of public services, information, and transactions. Online tax filing, benefit applications, and government information access are a few examples of G2C services.

G2C applications in e-government are designed to meet the requirements and preferences of private citizens. They place a great priority on providing residents with a range of choices and means of communication when it comes to conducting public transactions, as Al Shihi (2006) points out. G2C applications should prioritize meeting the needs and preferences of citizens by being citizen-centric.

But e-government goes beyond just offering essential services and information online. According to Davies (2007), G2C applications also include a political component that involves improving ties between the public and the government. Because e-government offers online channels for citizen participation, like electronic voting and public consultation, it can help to promote citizen empowerment and engagement. Through these platforms, the public can actively participate in decision-making and influence public policy.

In conclusion, G2C applications in e-government include encouraging citizen engagement and participation in governance in addition to providing citizens with necessary services and information. E-government can promote a more inclusive and participatory democracy by utilizing digital platforms, giving citizens a significant say in public affairs.

iii) Government to Government (G2G)

Information, services, and transactions between various government agencies are referred to as "government-to-government" services. Encouraging interagency collaboration, expediting administrative procedures, and promoting data interchange all depend on these services. G2G services include the sharing of best practices, the building of intergovernmental communication networks, and the exchange of government data.

G2G applications in the context of e-government mostly deal with internal processes and data sharing between government sector organizations. As the foundation of e-government initiatives, this relationship is essential, according to Bonham et al. (2001). According to Heeks (2006), Cost savings, improved strategic decision-making, and promoting the decentralization of power across the many branches of government are the primary goals of G2G applications.

In the context of e-government, the primary subjects of G2G applications are internal processes and data sharing between government sector institutions. This relationship is essential as the cornerstone of e-government initiatives, according to Bonham et al. (2001). According to Heeks (2006), the main objectives of G2G applications are to save costs, enhance strategic decision-making, and encourage the division of authority among the several parts of government. G2G applications put integrated services first and try to create a linked and cohesive government framework. G2G apps improve the efficacy and efficiency of administrative procedures by enabling the sharing of data, databases, resources, talents, and skills between government departments and agencies (Ndou, 2004).

A primary advantage of G2G applications is enhanced inter-agency communication. Governments can reduce redundancy and duplication in information and communication channels, as Evans and Yen (2005) point out, to increase the effectiveness of their communications and avoid wasteful duplication of effort. This enhanced communication and information sharing allows government entities to collaborate more successfully, which leads to greater coordination, streamlined processes, and more efficient decision-making.

To sum up, government agency internal collaboration, data sharing, and communication are all facilitated by G2G applications in e-government. Among their main objectives are reducing costs, enhancing the general effectiveness and efficiency of government operations, encouraging decentralization, and making strategic decisions.

iv) Government to Employee (G2E)

The interactions between the government and its employees are included in the Government-to-Employee category. G2E services are intended to facilitate access to employee-specific information, enhance collaboration, and streamline internal administrative procedures. These services cover a wide range of functionality, including training programs, payroll management, leave applications, and employee portals.

G2E applications in the context of e-government are mainly concerned with building a solid rapport between the state and its workers. According to Ndou (2004), these applications are useful for bringing employees together and promoting information sharing among them. G2E services also include budgeting, human resource management, and strategic frameworks that support the implementation of government objectives, as noted by Riley (2001).

According to Chavan and Rathod (2009), G2E services include government agencies giving services and data to workers while also promoting cooperation between workers and management levels. These services give workers the ability to get information they need, work together with coworkers, and do duties associated with their jobs within the government agency.

An essential component of G2E applications is employee engagement with IT systems and protocols. Simplified communication, effective workflow management, and enhanced coordination between staff members and different internal departments are all made possible by this connection. G2E apps use technology to improve worker productivity, make information sharing easier, and support the government organization's overall operation.

To sum up, G2E applications in e-government concentrate on improving the relationship between the state and its workers. These apps enable collaboration, encourage knowledge sharing, assist HRM, and link staff members with back-end systems and procedures. Government agencies can increase employee engagement, expedite internal processes, and boost overall organizational efficiency by employing G2E services.

Internal e-government, as defined by Millard (2004), is an additional type of e-government that involves using ICT to facilitate internal activities within the government agency. The government employee is the main stakeholder in this situation, and the internal value chain is the value chain that is supported. The integration of back-office technology and processes is a key innovation in this field (Millard, 2003).

2.2.2 Importance of e-Government e-Service

E-services are designed to make it easier, more pleasant, transparent, economical, and efficient for residents and employees of governmental organizations to communicate with each other. They put the needs of businesses and citizens first. This suggests that citizens can use e-government to get the services they require, and they can get in touch with them online and through other automated channels. This strategy meets the public's increasing demand for services that can use enhanced internal and external facilities (ICT) to facilitate communication and system unification across numerous common systems (Chaudhury, A. 2002).

Kim-Soon & Ramayah (2014) stated that the use of electronic services seems to be becoming more popular in order to provide a service with increased speed and accuracy. As stated by E-Spin (2023), the ultimate goal of e-government is to provide citizens with a more diverse portfolio of governmental services in an efficient and cost-effective manner while fostering transparency, accessibility, and accountability.

The majority of governments work to advance the development of information and communication technologies in order to improve service delivery and stimulate the economy, owing to the efficiency and cost-effectiveness of these technologies. However, because the way e-government is executed will have a significant impact on the advantages that arise from such initiatives, the execution of e-government projects necessitates the adoption of tried and tested models. When implementing e-governance initiatives, governments must choose an appropriate model in particular because this will affect the cost and other significant elements, as well as the extent of benefits gained by end users (Andersen and Henriksen, 2006). A solid grasp of e-government is essential, especially familiarity with particular models that apply to the intended audience, to overcome many of the barriers that prevent governments from realizing their full potential (Cham, 2022).

2.3 e-Government service Quality

A significant portion of every economy and a necessary component of our everyday existence is the service sector (Ejigu, 2016). As a result, a key consideration in service management is service quality. A service that meets the demands and expectations of its clients is considered to be of high quality (Sadaf & Rahela, 2019). It is also known as the subjective comparison that clients draw between the quality of the service they expect and what they actually receive. As a result, it is a type of mindset that results from contrasting what is expected with what is really accomplished.

In order to meet and surpass customer expectations, digital government services must prioritize quality of service. The gap between what customers expect from a service and what they think they got was once thought to be a good indicator of service quality (Grönroos, 2001; Parasuraman, 1988).

The degree to which a service meets the needs or expectations of the client was the main emphasis of previous definitions of service quality (Lewis & Mitchell, 1990; Dotchin & Oakland, 1994). It was also defined as consumers' general judgment of how good and bad the service was (Parasuraman, 1990). According to a seminal study by Parasuraman (1985), customers assess the quality of a service based on how well they believe the actual performance compares to their expectations. May be interpreted as the degree to which the customer's expectations and their perception of the service diverge. Accordingly, consumers' overall evaluation of the quality of e-government services in the online environment is referred to as e-government service quality, and it has a big impact on whether or not e-government projects are effective (Bhattacharya, Gulla, & Gupta, 2012). The front-end website or portal and general user satisfaction are also highlighted in the quality of e-government services. When utilizing technology to access services, it is making sure that user needs are met effectively and efficiently.

Khushdil (2018) defined overall, customers' overall evaluation of a service's usefulness based on their impressions of what they receive and receive not only determines the quality of the e-service. "It is customers' judgment about an entity's overall excellence or superiority," according to Zeithaml et al. (2000). It arises from clients contrasting their opinions about the way services are delivered with the final product of a service (Lovelock & Wirtz, 2011). Overall e-service quality, in the words of Narteh (2013), represents a broad, comprehensive evaluation of a service. It is the assessment of the quality of the services clients received based on whether or not they adhere to predetermined criteria.

According to the definitions, providing outstanding e-government services requires meeting or surpassing client expectations. Consequently, governments may raise customer happiness and improve the quality of their e-services by knowing and meeting client expectations.

2.4 Service Quality Dimensions

Parasuraman et al. (1985; 1988) were created the first formal service quality mode. The number of 22 items on the SERVQUAL scale has been determined through many academic and experimental research (Parasuraman et al., 1985; Parasuraman et al., 1988).

The five dimensions of quality that this model measures are tangibles (employee appearance and equipment), responsiveness (customer service on time), assurance (employees' ability to inspire confidence and trust), and empathy (Pay attention to each client personally). This model has been widely used by researchers to assess the quality of services (Parasuraman et al., 1985; Parasuraman et al., 1988). By changing its components, the SERVQUAL model has been implemented by numerous studies to measure e-service. The SERVQUAL model's dimensions must be established in order to be used to e-services; e-services and services differ in three ways:

Traditional and e-services differ significantly in a few important ways. Additionally, self-service and e-service are not the same. The following are the ways that traditional and e-services differ (Surjadjaja, Ghosh & Anthony, 2003). The only individuals involved in the service encounter interface in a typical service are the staff. In contrast, ICT or staff members participate in the interface through the Internet in e-service. Additionally, clients using e-services are limited to hearing and seeing, while those using traditional services are able to use all of their senses to fully engage with the service. Moreover, e-service has significantly eliminated the obstacles of distance and operating hours that impede traditional service. The following factors are related to the distinctions between e-service and self-service (ibid.).

In self-service operations, the client must visit an ICT center—such as a cash point—in order to obtain the service. A customer can easily obtain an e-service at home or in other locations by using the Internet. When compared to self-service, which is limited by geography, e-service offers greater flexibility. Additionally, the ICT capability in self-service is largely tailored with minimal customization. However, with e-service, the ICT's capability is adapted to provide individualized service.

By looking at the differences between e-service and traditional service, the researchers found the SERVQUAL scale is not convenient for applying to e-service quality, there is to need more E-service studies, for measuring e-service quality. Some of the theoretical foundations of e-service quality is reviewed in the table below from the Bhat, S. A., &

Darzi, M. A. (2020). Online Service Quality Determinants and E-trust in Internet Shopping: A Psychometric Approach.

Table 2.1 Review of theoretical foundations of e-service quality

Barnes And Vidgen, 2002	● Usability, Design, Information, Trust, Empathy
Santos, 2003	● Ease of Use, Appearance, Linkage, Structure and layout, Content, Reliability, Efficiency, Support, Communication, Security, Incentive
Wolfinbarger and Gilly, 2003	● Fulfillment, reliability, website design, customer service, and security/privacy.
Ribbnink, van Riel, Liljander and Straukens, 2004	Ease of use, escape (through well-designed website), customization, responsiveness, and assurance.
Lee and Lin, 2005	Website design, reliability, responsiveness, trust, and personalization.
Parasuraman Zeithaml and Malhotra, 2005	● Web site's Entire customer base: Efficiency, Fulfillment, System availability ● Privacy For customers with nonroutine encounters: Responsiveness, Compensation, Contact
Raman, Stephenaus, Alam and Kuppusamy, 2008	● Ease of use, appearance, reliability, customization, communication, and incentive.

Swaid and Wigand, 2009	● Website usability, information quality, reliability, responsiveness, assurance, and personalization.

Zeithaml and Malhotra (2005) found in their study that two different scales should be used for capturing e-service quality, the basic E-S-QUAL scale and E-RecS-QUAL. The basic E-S-QUAL scale is composed of four dimensions: efficiency, fulfillment, system availability, and privacy. E-S-QUAL is relevant for a Web site's entire customer base. E-RecS-QUAL is a subscale of E-S-QUAL and it contains items focusing on handling service problems and inquiries. E-RecS-QUAL is salient only to customers having nonroutine encounters with the sites. It includes three quality dimensions, namely responsiveness, compensation, and contact.

E-GovQual

In Measuring "E – Government Services for Customer Satisfaction (Web Portals)", the following table summarizes the models by different researchers:

Table 2.2 Summery of E Service measuring models
For this study, e-GSQA model was used.

Model	**Year**	**Researchers**
ServPerf	1992	Cronin and Taylor
ServQual	1985 Modified in 1988	Parasuraman, Zeithaml and Berry
e – GovQual	2009	Papadomichelaki and Mentzas
SITEQUAL	2001	Yoo and Donthu
E – S-qual	2005	A. Parasuraman, Valarie A. Zeithaml, ArvindMalhotra
E-RecS-QUAL	2005	A. Parasuraman, Valarie A. Zeithaml, ArvindMalhotra
E- SQ	2008	Swaid
EGOSQ	2007	AnandAgrawal, Pragya Shah and VarunWadhwa
e-GSQA	2012	Syed Faizan Husain Zaidi, FarhiMarir, Sahithi Siva
COBRAS	2011	Osman, Ibrahim H. Anouze, Abdel

		LatefIrani, Zahir Al-Ayoubi, Baydaa Lee, HabinBalc, AsimMedeni, Tunç D. Weerakkody, Vishanth
E – SELFQUAL	2011	David Xin Ding a, Paul Jen-Hwa Hu, Olivia R. Liu Sheng
WEBQUAL	2000	Stuart Barnes Richard Vidgen

2.4 The EGSQA Model

Alanezi, Kamil, and Basri developed a proposal in 2010 to assess the caliber of e-Government services. The examination of numerous scholarly and scientific works in the area of electronic services served as the foundation for the development of this proposal. Based on this research and the SERVQUAL approach of Parasuraman et al. (2005), Alanezi et al. (2010) produced a seven-dimensional proposal. The SERVQUAL five dimensions were modified by Alanezi et al. (2010), who also introduced two additional ones (Sá et al., 2016).

In 2012, Zaidi and Qteishat developed the e-GSQA Framework. Their study's goal was to evaluate services from the perspective of the general public. It is noteworthy that these authors believe that, practically speaking, e-Government and e-Commerce belong in the same area to the extent that they share a service delivery channel. The authors created this Framework by reviewing the literature and conducting many research. They also modified and combined the ISO/IEC 9126 (ISO/IEC, 2001) standard with the E-S-Qual (Parasuraman et al., 2005) and E-GovQual (Papadomichelaki & Mentzas, 2009) models. The following dimensions were developed, modified, and verified in this investigation.: 1) Website Quality; 2) Design; 3) Reliability; 4) Responsiveness; 5) Security; 6) Privacy; 7) Efficiency; 8) Ease of Use; and 9) Citizen Confidence (Sá et al., 2016).

In this study the e-GSQA model was used to assess the quality of the e-Trade service by MOTRI where the following seven dimensions are used to evaluate e-government service quality.

1. Website Design: Technical operation and appearance of the e-Government Website. It goes beyond technical aspects to ensure broad accessibility. This includes features like compatibility across devices, accessibility for users with disabilities, and multiple language options. Easy website access itself contributes to service quality. It also refers to the Website appearance. how the site looks, and it includes the site aesthetics, information structure, color, animation, pictures, text, format, sound and visual design (Poon & Lee, 2012). As noted by Taherikia and Shamsi (2014) all items on a website should be explained in simple language so that it is clear to most users. According to Lee and Lin (2005) the user interface should be visually appealing and tidy to attract customers.

2. Reliability: It is about emphasize consistent performance and fulfilling promises. the contentment derived from receiving the service on schedule. For example, sending the consumer an email or calling them on the phone might boost their confidence that the proper things will be delivered at the right price. Reliability relates to accuracy, speed and constant availability of a service (Muhammad et al., 2014). In the opinion of Narteh (2015) reliability is the ability of the online platform to perform the promised service dependably, consistently and accurately.;

3. Responsiveness: Responsiveness in e-government websites describes how well governments respond to communication and other interaction from citizens (Karkin& Janssen, 2014). It focuses on the willingness and timeliness of service delivery. If the delivered service was truly useful and was not delayed. If the service actually answers questions in a useful and timely manner;

4. Security/Privacy: This refers to how well governments are able to secure public information and maintain the privacy of citizen's personal information and other confidential information (Ha, 2016). The degree of protection that government websites provide for user privacy and security. This dimension is defined by Li and Suomi (2009) as the clients' impression of safety and lack of danger throughout all service supply operations. It needs to prioritize user safety and data protection.;

5. **Customization**: The desire to offer clients specialized treatment and one-on-one attention. This component, known as empathy in the SERVQUAL methodology, is unrelated to electronic services. According to Alanezi et al. (2010), This shift occurs because online services do not require direct communication between the customer and the personnel, claim.

6. Information: The information that the e-Government service offers. It needs to be clear, up to date, and correct. According to Li and Suomi (2009), high-quality information needs to have a few characteristics, including being current, accurate, relevant, and easy to grasp. It places a strong emphasis on giving people information that is easy to understand.

7. Ease of Use: The ease-of-use level of e-Government Websites. Any Website should be user friendly, in order to guarantee his satisfaction. Ease of Use delves deeper than navigation. It considers how users find the information or service they need. This involves clear website organization, user-friendly forms, and readily available instructions. Difficulty in accessing services or information creates a barrier and hinders user experience.

2.5 Customers' Satisfaction and Model

An important factor to take into account when assessing the success and efficacy of electronic government services is customer satisfaction. This is the evaluation made by the client as to whether the service fulfilled their requirements and expectations. A subjective assessment that results from contrasting what was received with what was anticipated is satisfaction. It expresses the client's general viewpoint and attitude regarding a specific service or commodity.

User perception and assessment of various website features are important factors in determining how satisfied users are with a website. It has a substantial impact on both the user's intention to use the service and their actual utilization of it, and it is closely related to their overall experience with the website. Users are more likely to stick with the service when they have pleasant experiences with the website and indicate higher levels of satisfaction. On the other hand, if consumers experience discontent, they can stop using or give up on the service.

Instead of being a specific component of success, user happiness is a comprehensive measure of success. It's a subjective evaluation that shows how satisfied consumers are with the service's ability to meet their demands and expectations. Sustaining customer happiness is essential to keep the service from being discontinued or abandoned. If the service does not meet the needs and expectations of the user, even after it has been originally embraced, it may be discontinued. Therefore, one of the most important factors in guaranteeing the ongoing adoption and use of e-government services is customer satisfaction.

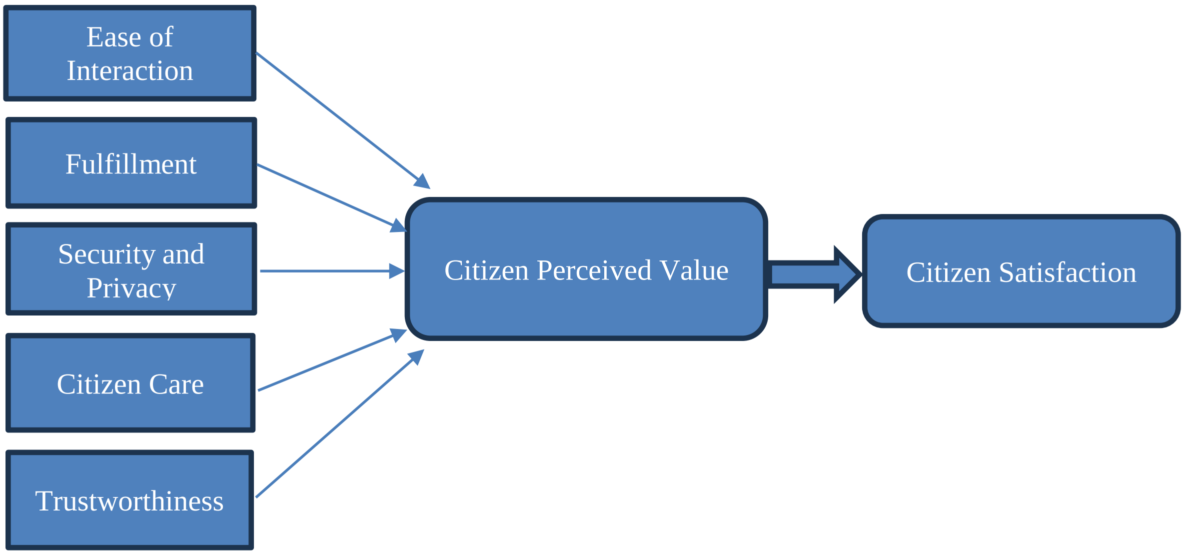
Research has shown that while dissatisfaction can lead to service rejection or discontinuance, customer satisfaction either results in, encourages, or contributes to the intention to utilize the product or service going forward. Disenchantment and replacement are the two ways that discontinuation might manifest. Disenchantment discontinuation happens when an innovation is rejected because of an individual's unhappiness with its performance. Replacement discontinuation occurs when the current service is chosen over a better option. It is imperative that service providers, especially governments, comprehend user perceptions and satisfaction levels in order to evaluate the true value and effectiveness of their e-government offerings.

In summary, user happiness is a critical factor in determining the efficacy and quality of e-government services. Users' opinions and views of the service are included, and it has a direct impact on their intention to use and ongoing use. Enhancing the caliber and effectiveness of e-government services requires consistent tracking and understanding of customer satisfaction levels.

In this study two groups of customers are identified. These are the employees and the external users (the customers). The employees use the system to approve the documents that are uploaded by the customers and respond to their requests, while the customers use the e-service to gain essential citizen services. These services encompass activities such as renewing licenses, new license registration, License Replacement, License Cancelation and Capital Increment process.

Financial institutions allow users to perform financial transactions digitally rather than physically (Amin, 2016). It can increase electronic customer satisfaction and loyalty to boost business profitability (Kotler, 2011; Kotler & Keller, 2006). “Financial institutions must constantly monitor customer satisfaction and loyalty to secure a continued presence in the financial industry. Service quality contributes to customer satisfaction customer satisfaction is regarded as a predictor of service quality.” (Gautam & Sah, 2023).

Cristobal et al. (2007) Researched how perceived quality affected customer satisfaction and website loyalty. “The perceived quality affected customer satisfaction. Raza et al. (2015) considered the site of organization, responsibility, reliability, user-friendliness, and personal need as modified e SERVQUAL model to examine the impact of Internet banking service quality on e-customer satisfaction and loyalty in Pakistan." The findings explained that all dimensions positively and impact customer satisfaction. The below diagram shows that how "Gautam and Sah" used e SERVQUAL model to measure customers' satisfaction (Gautam & Sah, 2023).



According to the above diagram this study used the e SERVQUAL model to inject or mine the questionaries/survey Questions, the study selects this way because e SERVQUAL model is more related with E- GASQA model that is exactly the same with it considering that E-GASQA model adds two more dimensions on e- SERVQUAL. Moreover, e SERVQUAL model is used to inject e service customer satisfaction on "Dhruba Kumar Gautam and Gunja Kumari Sah" research paper and proved that e SERVQUAL model has direct relation and impact on customer satisfaction. (Gautam & Sah, 2023).

In addition to assessing the satisfaction of each user group, their assessment of the service shall be used to triangulate organizational process of the MOTRI.

2.6 Relationship between e-government Service Quality and Customers' Satisfaction

Parasuraman et al (1985) who documented that, the customers' judgments of high or low service quality depends on how customers perceive the actual service performance in the context of what they expected." Zeitharnl etal. (1990), Heskett et al., (1990) found that good service delivery elicits the best outcome in terms of customer satisfaction.

Based on previous studies, website appearance plays a significant role in how customers judge service quality (Cox & Dale, 2001; Santos, 2003; Lee & Lin, 2005; Hongxiu et al., 2009; Khushdil, 2018; Paulo, 2019). The website is the starting point for online customers to gain access to the business organization. It is possible that it can influence customers' perception of a business and attract customers to engage in online services. As such, the websites should be well designed to be visually appealing. However, Raman, Stephenaus, Alam and Kuppusamy (2008) opined that a website with many flash animations, pop-up advertisements and graphic banners would dissatisfy the user. They noted that online customers are only interested in engaging in whatever they want to do rather than seeing animations.

Ease of use has been found to be one of the main determinants of e-service quality (Shirshendu&Sanjit, 2011; Narteh, 2013; Narteh, 2015). However, Yazeed et al. (2014) noted that some users find the instructions on how to perform some operations quite challenging to understand. So, if users feel that a system is easy to use, then the chances of using the system will be greater. A user-friendly e-channel may be important in increasing customers' utility which increases the probability of obtaining loyal customers. On the other hand, when the e-channel is not easy to use, it may prevent users from finalizing the desired transaction and consequently, the users may not revisit the e-channel (Al-Hawari, Hartley & Ward, 2006).

Reliability has been found to be the most significant determinant of e-service quality and customer satisfaction (Narteh, 2013; Mwatsika, 2016; Al-Hawary& Al-Smeran, 2017; Tan et al., 2018). The importance of reliability is based on the premise that customers' perception of e-service quality is likely to increase when the service is performed as promised or expected. If customers cannot use the e-channel when they need the service, they may deviate from using it. Safwan et al. (2010) argued that reliability shows the service provider’s ability to perform services dependably and accurately. Furthermore, it involves doing it right the first time and it is a crucial service component for customers (Messay, 2012).

2.7 Organizational process

The concept of organizational process is fundamentally tied to discussions on e-government service quality and customer satisfaction. Work processes are essentially the steps taken to achieve specific goals. In the context of e-government services, the goal is to deliver efficient and user-friendly services to citizens (Pham et al., 2023). The quality of the e-commerce website directly impacts this efficiency for both government employees and citizens. A poorly designed website can lead to confusion and delays for everyone using the system. Therefore, understanding and optimizing the organizational processes behind e-government services is essential to ensure a high-quality user experience and achieve customer satisfaction (Sachan et al., 2018).

The term 'organization' not only suggests behavior and structure, but it also suggests processes. A'series of acts that lead to the attainment of objectives' is one way to describe them. Processes can therefore be administrative or functional (manufacturing, selling, etc.). (Damachi, 1978). According to Garvin (1998) there are three main approaches to organizational processes. They are best viewed as distinct but related schools of thinking since each focus on a certain process and investigates its own qualities and challenges.

The first is the work process approach, which has its roots in industrial engineering and work measurement, focuses on completing tasks. It all begins with a simple but powerful idea: organizations complete their tasks through linked chains of activities that straddle departments and functional groups. These chains are called processes, and they can be neatly divided into two categories: (1) processes that create, produce, and deliver products and services that customers desire, called "operational processes" New-product development, manufacturing, and logistics and distribution are examples of this processes, and (2) the processes that do not produce outputs that customers want but are still required to run the business "administrative processes." Examples of administrative processes include strategic planning, budgeting, and performance measurement (Garvin, 1998)

The behavioral process approach, which has its roots in organizational theory and social dynamics, focuses on ingrained behaviour patterns. These patterns indicate an organization's distinct ways of operating and interacting; decision-making and communication procedures are examples. The underlying behavior patterns are typically so deeply established and recurring that they are demonstrated by the majority of organizational members (Ibid)

The change process method, which has its roots in strategic management, organization theory, social psychology, and corporate history, focuses on time-based events. These sequences, known as processes, define how individuals, communities, and organizations adapt, develop, and grow. Change processes are clearly dynamic and intertemporal. Unlike the relatively static representations of work and behavioral processes, they aim to "capture reality in flight (Ibid).

The researcher concentrated on the work process for this study, as outlined in the initial chapter, the main objective is to evaluate the impact of technology, specifically e-trade websites, on daily work routines such as efficiency, service quality, and changes in the daily routine. Thus, it emphasizes the work process rather than behavioral and change processes, which typically involve studying ingrained behavior patterns, decision-making, communication processes, and autonomous or induced changes, including stages like unfreezing, changing, and refreezing in organizational change.

2.8 Empirical Review

Kebede (2017) conducted an assessment of e-government implementation in public service delivery, as well as stakeholder/customer trust in e-government services. The study discovered that factors such as ICT infrastructure, human capital, online service communication, risks, and barriers all had a significant impact on the ease of use and usefulness of e-government services. It also found that certain organizations had a higher intention to improve e-government services, although perceived stakeholder/customer trust levels in e-government services were similar across all organizations.

The use of mobile services by people in the UAE (United Arab Emirates): “Service quality dimensions and their impact on user satisfaction”. “Journal of Electronic Government Research International”, 4(3), 1–20. “The aspects of service quality in mobile government services and how they affect customer satisfaction in the United Arab Emirates has the main topics of this study”.

Díaz-Díaz, R., Fernández, I., & Carrasco, J. A. (2013). The role of information in e-Government: An empirical analysis of citizens' perception. Government Information Quarterly, 30(4), 379-388. This study looked at how citizens perceived e-government services in relation to the quality of the information they received, emphasizing how crucial accurate and trustworthy information is to raising satisfaction.

Irani, (2008)., examined how citizen happiness and perceived value were affected by the quality of e-government services, highlighting the significance of quality variables in producing favorable results.

Al-Debe et, al., (2015), The potential effect of online services quality on citizen satisfaction: An empirical investigation in Saudi Arabia. Transforming Government: People, Process and Policy, 9(2), 220-249. The possible impact of online service quality on Saudi Arabian citizens' satisfaction is investigated in this study. It investigates online service quality parameters and their effects on various facets of citizen happiness.

It provides information about how site quality affects user acceptability and happiness. It emphasizes how crucial elements of a high-quality website are in determining consumer happiness in an online setting.

Ahn et, al. ((2007). The impact of web quality and playfulness on user acceptance of online retailing. Although this study focuses on online retailing, it provides information about how site quality affects user acceptability and happiness. It emphasizes how crucial elements of a high-quality website are in determining consumer happiness in an online setting.

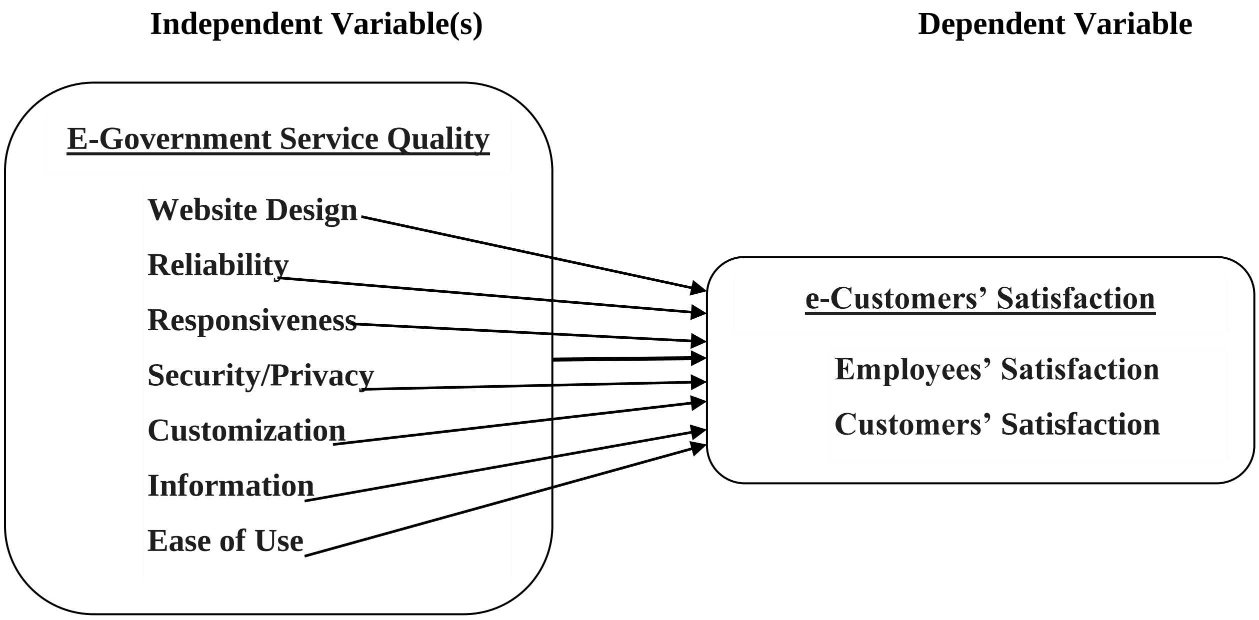
Lai, & Marques, João. (2024). Assessing the quality of e-government services: A citizen perspective. Government Information Quarterly, 34(4), 631-642. This study evaluates e-government service quality from the viewpoint of the citizenry. It looks at how different aspects of service quality affect how satisfied citizens are with their government and offers information on what influences how good people think their e-government services are.

Deng et, al. (2010). Understanding customer satisfaction and loyalty: An empirical study of mobile instant messages in China. International Journal of Information Management, 30(4), 289-300. This study looks at customer loyalty and satisfaction in the context of mobile instant messaging services, but it is not specifically focused on e-government. It offers "perceptions into elements that impact client loyalty and happiness", which may be pertinent in the context of e-government services.

Alhussain, T. (2020). E-government service quality and citizen satisfaction: A literature review and research agenda. Government Information Quarterly, 37(3), 101491. The literature review summarizes the research that has been done on citizen satisfaction and the quality of e-government services. It offers a thorough summary of the subject, points out gaps in the literature, and suggests a course of study for further research in this field.

Cho, M., & Kwon, Y. (2019). The impact of perceived quality of government digital services on citizen trust and satisfaction. This study looks at how public satisfaction and trust are affected by the perceived quality of government digital services. In the context of e-government, it emphasizes how crucial service quality is to fostering public pleasure and trust. These studies highlight several e-service quality aspects and offer insightful information about the relationship between customer happiness and the quality of e-government services. Gaining an understanding of these elements can help to raise customer satisfaction and improve e-government services.

2.9 Conceptual Framework



Based on the theoretical and empirical studies, this study hypothesized that e-government service quality, and each quality dimensions have direct and significant impact on customers' satisfaction.

CHAPTER THREE

Research Methodology

3.1. Research Paradigm

Paradigms are more than just methodologies; they are ways of viewing the world, various assumptions about what the world is like and how we might understand or know about it (Williams, 2020).

The term 'paradigm' refers to an important collection of views shared by scientists, a set of agreements about how problems are to be understood, how we view the world, and how we do research (Rahi, 2017).

A paradigm is a fundamental belief system and theoretical framework that includes assumptions about ontology (defined as the study of the nature of existence or reality). Epistemology (refers to how we come to know something, how we know the truth or reality) and methodology (refer to the research techniques, plans, methods, and procedures employed in a well-planned investigation to discover something) (UGWU et al., 2021). In general, the paradigm refers to our approach to understanding and examining the world. (Rehman and Alharthi, 2016).

According to the literature cited above, a paradigm is a way of interpreting one's worldview. As we know from history, the way we understand the world, or what we see and experience around us, varies depending on the season or general the environment. Certain issues have a broad appeal in society for a specific or extended period of time. As a result, various paradigms come and go in the area of study or knowledge generation, as evidenced by the literature listed below.

Positivism

The rationalistic, empiricist philosophy of Aristotle, Francis Bacon, John Locke, August Comte, and Emmanuel Kant served as the foundation for positivism. It is based on the deterministic idea that causes most likely influence effects or outcomes. (Mackenzie & Knipe, 2006).

Positivism was applied to social science with the assumption that "the social world can be studied in the same way as the natural world, that there is a value-free method for studying the social world, and that causal explanations can be provided" (Mertens, 2005, as cited in Mackenzie & Knipe, 2006). Positivists seek to test theories or explain experiences "through observation and measurement in order to predict and control the forces that surround us" (O'Leary, 2004, as cited in Mackenzie & Knipe, 2006).

The interpretive/constructivist paradigm

Proponents of the interpretive paradigm think that learning a subject inside and out is important, as is expanding one's awareness of the world. People ascribe subjective interpretations to particular items or objects based on their experiences. Constructivism, Social Constructivism, and the Qualitative Research paradigm are other names for this paradigm. Interpretive theory holds that a complete understanding of the subject is necessary to acquire true knowledge. (Rahi, 2017).

The Transformative Worldview

Another set of scholars agrees with the transformative approach's philosophical assumptions. This position emerged during the 1980s and 1990s from individuals who felt that the post positivist assumptions imposed structural laws and theories that did not fit marginalized individuals in our society or issues of power and social justice, discrimination, and oppression (Creswell & Creswell, 2023)

This worldview is not defined by a single body of literature, but it is shared by critical theorists, participatory action researchers, community-based participatory researchers, Marxists, feminists, and racial and ethnic minorities. It also includes those with disabilities, indigenous and postcolonial peoples, and members of the lesbian, homosexual, bisexual, transgender, and queer communities. These researchers in this paradigm feel that inquiry must be linked to political and social issues. This research should include a reform plan that addresses concerns such as empowerment, inequality, oppression, domination, suppression, and alienation (Rahi, 2017).

The pragmatic paradigm

In an effort to end the "paradigm war" between positivists and interpretivists, the pragmatic paradigm was introduced. This paradigm did not arise from philosophers who contended that social reality, as defined by the interpretivist paradigm, could not be determined, nor could the "truth" of the real world be understood by a single scientific method, as promoted by the positivist paradigm. (Kivunja and Kuyini, 2017 as cited in UGWU et al., 2021).

Pragmatists take a different perspective on worldviews. Peirce, James, Mead, and Dewey all contributed to the development of pragmatism. Other authors include Murphy (1990), Patton (1990), and Rorty (1990). A pragmatic worldview has numerous forms, but it is based on actions, situations, and results rather than antecedent conditions (as in post positivism). There is concern with applications about what works and how to solve difficulties (Patton, 1990). Instead of focusing on procedures, researchers concentrate the study problem and inquiry, utilizing all possible approaches to comprehend the challenge (Creswell & Creswell, 2023).

The paradigm allows researchers flexibility of choice. This allows researchers to select the research methodologies, strategies, and processes that best suit their needs and objectives. Thus, pragmatism allows the mixed methods researcher to employ a variety of approaches, worldviews, assumptions, and data collecting and analysis procedures (Creswell & Creswell, 2023).

Therefore, the study adopted a pragmatic approach, prioritizing the research question and the specific challenges it aimed to address. This flexibility, characteristic of pragmatism, allowed the researchers to employ a mixed methods design, utilizing both qualitative and quantitative data collection and analysis techniques. This approach ensured the most effective investigation of the research questions at hand.

3.2. Research approach

The study used both quantitative and qualitative research approach, a mixed research methodology that allows for the collection and analysis of both quantitative and qualitative data in a single study. A significant number of researchers advocate using a mixed method approach to obtain detailed results. The reasoning behind this argument is that because quantification and qualitative analysis each have gaps', mixing is the best way to fill the gap. As a result, in order to obtain detailed results, this research employs a mixed research approach.

According to Cohen et al. (2018), mixed method research methodologies lack a simple and straightforward description. The method's description varies depending on who defines it; some view it as a hybrid of data collection and analysis, while others see it as a holistic approach to knowledge.

According to Leech and Onwuegbuzie (2009), doing MMR (Mixed Method Research) entails collecting data (including quantitative and qualitative), analyzing, and interpreting studies that, individually or collectively, target a specific topic.

Mixed methods research is a method of inquiry that involves gathering both quantitative and qualitative data using a specific procedure or design, combining (or integrating) the two types of data within the design, and drawing conclusions (meta inferences) about the insights that emerge from the combined databases. This definition stresses a techniques viewpoint that focuses on understanding mixed methods research through data collection, analysis, and interpretation (Creswell & Creswell, 2023).

A mixed methods research technique entails collecting data in both quantitative and qualitative forms, combining them, and using distinct designs that may incorporate theoretical frameworks and philosophical presumptions. The basic tenet of this kind of research is that integrating qualitative and quantitative methodologies results in a deeper understanding of a subject than either method alone. (Creswell, 2014).

The field of mixed methods research is relatively recent, with significant development occurring between the mid and late 1980s. Its origins, however, date back further. Campbell and Fisk investigated psychological qualities using a variety of methodologies in 1959, despite the fact that their methods were all quantitative. Their work led others to begin collecting various types of data, such as observations and interviews (qualitative data) with traditional surveys. Early theories on the advantages of many approaches—known as mixed methods—were predicated on the premise that every method had biases and shortcomings and that gathering data that was both quantitative and qualitative countered the shortcomings of each kind of data. Triangulating data sources is a notion that Creswell (2014) suggested as a way to achieve convergence between qualitative and quantitative methodologies. Early in the 1990s, mixed methods began to move toward the systematic convergence of databases that were both quantitative and qualitative, and the idea of integration in a variety of study designs emerged (Creswell, 2014).

n contemporary research, the integration of quantitative and qualitative approaches has gained prominence. Mixed methods research combines the strengths of both paradigms, allowing researchers to explore complex phenomena from multiple angles. In this essay, we discuss why mixed methods are particularly relevant for studying e-trade website quality, customer satisfaction, and employee satisfaction.

This research Used mixed method approach because;

- Generalizability and Sample Size

Quantitative research often relies on large sample sizes to achieve statistical significance. However, e-trade websites may have diverse user experiences, making it challenging to generalize findings from a single method. By incorporating qualitative data (such as user interviews), the researcher can capture individual perspectives and contextual nuances. Triangulating quantitative metrics with qualitative insights enhances external validity.

(Creswell & Plano, 2017).

- Contextualization and Depth

Quantitative data alone may lack depth. Qualitative methods allow researchers to delve into the "why" behind user behavior. By conducting interviews or analyzing open-ended survey responses, the researcher can uncover underlying motivations, concerns, and preferences. This contextualization enriches our understanding of e-trade website quality and satisfaction.

- Credibility and Convergence

Mixed methods enhance the credibility of research findings. When quantitative and qualitative data converge, it strengthens the validity of conclusions. Researchers can compare results, identify patterns, and address discrepancies. (Creswell & Plano, 2017).

For instance, if quantitative data suggest high customer satisfaction scores but qualitative interviews reveal usability issues, the mixed methods approach allows for a more nuanced interpretation. Triangulation ensures that findings are robust and not solely reliant on one method.

3.3. Research design

The research approach used in the study determines the research design. As a result, the study design must be consistent with the mixed research methodology. Creswell and Plano developed three study designs for their mixed methodological research strategy.

Research designs are methods for gathering, analyzing, interpreting, and reporting data in research investigations. They reflect different research models, each with its own name and procedures (Creswell and Plano 2018). The three main mixed methods design are convergent, explanatory sequential, and exploratory sequential (Creswell and Plano 2018).

The explanatory sequential design describes the strategies used to carry out a normal two-phase explanatory design, in which the researcher prioritizes the first quantitative phase and uses the second qualitative phase to help explain the quantitative results (Creswell and Plano 2018).

The exploratory sequential design begins with the collection and analysis of qualitative data, followed by the development and testing of a quantitative technique or tool based on the findings. The exploratory design seeks to develop and deploy quantitative measures, surveys, interventions, digital tools, or new variables based on qualitative data (Creswell and Plano 2018).

Convergent design is a prominent technique to mixed methods design. Scholars first discussed this design in the 1970s (Jick, 1979, as quoted in Creswell and Plano 2018). The convergent design was originally conceptualized as a triangulation design in which two different methods were used to obtain triangulated (quantitative and qualitative) results about a single topic, but it frequently became confused design (previously referred to as the concurrent or parallel design) occurs when the researcher intends to bring together the results of the quantitative and qualitative data analysis so they can be compared or combined (Creswell & Plano, 2018).

Regardless of the name, the convergent design is a mixed methods design in which the researcher gathers and analyzes two different databases, one quantitative and one qualitative, before merging the two databases to compare or combine the results (Creswell & Plano, 2018).

For the purpose of this research the convergent design of the mixed method was utilized. According to John W. Creswell &Plano (2018), one benefit of employing the convergent method is that each sort of data can be collected and evaluated separately and independently, using procedures that are typically associated with each. Thus, in order to gather and analyze both numerical and qualitative data, the researcher employs the design. Because the objective of the research is to assess the implementation of e-services as well as client user preferences, separate collection and analysis of the two data is recommended.

3.4. Target Population, Sample Size, and Sampling Technique of the study

3.4.1. Target population of the study

Research focuses on a population, which comprises people, groups, organizations, human products, events or environments they are exposed to, and so on. In research, these examples do not necessarily have to be human beings; rather, a population is the complete set of cases from which samples are taken (Fox & Bayat 2011, referenced in Tesfu, 2021). Both federal MOTRI agency personnel and clients is the study's target group.

As mentioned in the study's objective, the research evaluates the service's overall implementation level as well as customer need and preference assessments. Thus, customer and employee participation is critical for the research to gather the necessary information.

The size of the target population with regard to employees is 634, while there are around 15000(that the researcher has their name and phone number list) customers who are supposed to use the e-Trade system.

3.4.2. Sample size

The formula developed by (Yemane, 1967) was used to determine the sample size for each group of respondents.

It is calculated as follows:

$$n = N/(1+N(e^2)$$

where n= sample size,

N= Population size,

e= the margin of error (at 0.05 significance level).

For the two group of population the sample size was calculated:

Using customers' population size (N1=15000) the respective sample sizes computed were n1=390

Employees included in the questionnaire is only 33 who has directly relation to the e trade website leading to this fact 28 questionaries returned out of 33 by using census sampling.

A census aims to collect data from every individual or unit in a population. It provides a comprehensive and accurate representation of the entire population (United Nations, 2008).

Therefore, employee's population size (N2=33) and n2=33.

3.4.3. Sampling techniques and procedure

Purposive and simple random sampling was used as a sampling procedure to carry out the study. For the purpose of this research the study was employed purposive and simple random sampling methods. Purposive/judgmental sampling is a type of sampling in which samples are chosen based on the researcher's judgment. According to Riffe, Lacy, and Fico (2005), the approach used to study a specific type of publication or a specific time period may be of interest because these publications were significant or the time period played an important role in history. In this case MOTRI Federal Bureau, this technique is appropriate because periodic evaluation to one's organization's e-service quality is critical for effective service utilization that satisfy customers' expectations. Moreover, Federal MOTRI Bureau was chosen for the study because it is one of major government organizations and the first one to implement fully online services in Ethiopia. In addition to case selection purposive sampling was also used to select the interview informant.

After the purposeful selection of the research area, the participants of the study/employees and customers of the organization is chosen using simple random sampling. It is an extensively used sampling method in scientific research and used for selected a population which are highly homogenous where the members of the research are randomly selected to participate in the research (Noo et al., 2022).

3.5. Data collection method

Quantitative data collection

Questionnaire/Survey

The questionnaire is a popular and useful tool for gathering survey information because it provides organized, frequently numerical data, can be presented without the researcher's presence, and is often very simple to evaluate (Cohen et al., 2018).

Questions must be straightforwardly presented, comprehensible at first glance, concrete, specific, unambiguous, and able to be answered, which implies that assumptions are made that: (a) respondents know the answers and have an opinion; (b) the demand and effort placed on them are not excessive, and that they can articulate their response; (c) their recollection and memory are reliable, and so on. Question types must be appropriate for their intended purpose (Cohen et al., 2018).

The study utilized a sample frame containing phone numbers and detailed information of 15,000 customers, where their phone numbers were available and accessible for contact. Data collection from customers was carried out by calling their phone numbers. This approach was chosen to directly engage with participants and gather their insights on the e-Trade website's service quality and their satisfaction levels.

Qualitative data collection

Interview

According to Hochschild (2009), interviews may do what surveys cannot: they can study issues in depth, understand how and why people frame their ideas in the manner that they do, and create links between ideas, values, events, beliefs, behaviors, and so on. In-depth interviews, as the name implies, are conducted to explore issues, personal biographies, what is meaningful to, or valued by, participants, what they know about a topic, what they have experienced, how they feel about particular issues, how they look at particular issues, their attitudes, opinions, and emotions. They tend to be semi-structured, allowing the flow of the respondents' comments to drive the direction of the interview, though the researcher also has an interview schedule to keep an interview on track, and may use probes to dig further into concerns (Hochschild, 2009).

Interview Data Collection:

1. **Interviewees**:
    - 5 female employees
    - 4 male employees
    - 2 CEOs or officials

From the Ministry of Trade and Regional Integration (MOTRI) Bureau

2. **Interview Duration**:
    - Interviewee 1: 58 minutes and 11 seconds
    - Interviewee 2: 3 minutes and 57 seconds
    - Interviewee 3: 8 minutes and 30 seconds
    - Interviewee 4: 9 minutes and 37 seconds
    - Remaining 5 interviewees were not recorded because of they didn't have the will to be recorded (rely on detailed notes)
3. **Data Collection Method**:

- For recorded interviews:
    - Transcribe the audio recordings.
    - Extract key points, themes, and insights.
- For non-recorded interviews:
    - Review the detailed notes.
    - Summarize responses and identify common patterns.

Language of Data Collection: To ensure clear communication and accurate responses, the interview was conducted in Amharic, and the survey or questionnaire was conducted in English, with assistance and guidance provided by the researcher when needed. This approach was chosen to accommodate the language preferences and proficiencies of the participants, ensuring that language barriers did not affect the quality of the data collected.

3.6. Methods Data analysis

Quantitative data analysis

Inferential Statistics/ Analysis

Inferential statistic is all about making a connection between sample and population. Because we usually do not have access to the whole population, we make some estimations at the level of the sample, like calculating the mean of age in the sample, and would like to be able to say that this estimated value also represents the population. For this purpose we need to know how accurate our estimator is and the sampling distribution would allow us to check this (Farren, 2014).

In inferential statistics, inferences are drawn about the population based on a representative sample. After the data is collected, it is organized and summarized and once this is done, inferential statistics can be carried out in order to analyze the data and draw conclusions and make inferences. Thus, with the help of inferential statistics, inferences can be drawn about the population of the study based on the characteristics of the sample on whom the study was carried out (Salkind & Frey, 2020).

Inferential Statistical tools using frequency distribution, such are mean and standard deviations were used. Inferential Statistical analyses techniques including, one way ANOVA test, correlation analyses, and regression analyses were used to address the research objectives, answer the research questions, and test research hypotheses. The results of the data analyses are presented in tabular format, followed by the interpretation of the test results using 5% (0.05) level of significance.

The Model Specification for the regression analysis is:

$Y=\alpha+\beta1X1+ \beta2X2+ \beta3X3+ \beta4X4++ \beta5X5++ \beta6X6++ \beta7X7+e$

Where, Y denotes the dependent variable Customers' Satisfaction. (CS)

X1 =Website Design (WD)

X2 = Reliability (Rel)

X3 = Responsiveness (Res)

X4 = Security/Privacy (SP)

X5 = Information (Inf)

X6 = Customization (Cz)

X7 = Ease of Use (EsU)

Each βi is the coefficient of its respective Xi, i=1-7)

α= is the intercept factor, which, after all of the independent variables are removed from the equation, yields the mean or average effect on the dependent variable (CS). The average value of CS is what remains after setting all of the specified independent variables to zero, however,

e = is the error term/sampling error.

Qualitative data analysis

Thematic analysis

Surveys, in-depth interviews, field observations, and open-ended questions are examples of qualitative data collection tools. The data collected may include photographs, articles, diaries, blog posts, interview transcripts, web pages, social media posts, and even audio and video recordings. Such data are analyzed as a set, with researchers looking for patterns that run throughout the body as a whole. Thematic analysis is a very valuable qualitative data analysis tool since it often splits texts based on themes, codes small pieces, and then collects them. Thematic analysis is used to examine data pertaining to opinions, thoughts, feelings, and other descriptive statements. Thematic analysis is becoming increasingly popular in social sciences research because it allows researchers to look at a data set acquired from many qualitative sources and extract overarching themes that flow across the data set to make sense (Rohitha, 2023).

3.7. Reliability and Validity

Validity

Validity refers to how well the research's data collection and analysis correspond to the observed facts. In other words, the researcher must ensure the validity of the reactions of those being tested by comparing them to facts that are accurate. (Kothari 2004). It is the most important criterion, which reveals how well an instrument measures what it is designed to measure (Kothari, 2004). Content validity is a method of assessing validity that involves determining if the questions in the manifest variables are acceptable for evaluating the latent concept that the researcher is trying to examine. (Muijs, 2010).

By carefully choosing all of the study's variables and their measurements through a thorough literature search, the researcher attempted to create a content-valid construct for this investigation. The research adviser also validates the measurements to make sure the statements cover the full range of potential objects to be tested in the study.

Reliability

Reliability indicates that a study's operations, such as data gathering processes, may be repeated with the same outcome. The goal is to assure that if a later researcher follows exactly the same techniques as those specified in the earlier research and does the same case study twice, the later researcher will arrive at the same conclusion. (Kothari 2004). (Muijs, 2010).

3.8 Reliability Test

The following table (Table 3.1) presented the reliability analyses on the survey constructs.

Variable Constructs	**Cronbach's Alpha**	**N of Items**
Web Design	.825	9
Reliability	.692	5
Responsiveness	.909	3
Security/Privacy	.897	5
Customization	.900	4
Information	.884	7
Ease of Use	.826	6
Satisfaction	.924	10

As can be seen in the table, the Cronbach's alpha statistic values are above the threshold value (>0.7). Thus, the survey instrument is found reliable to proceed the data analyses.

3.9 Ethical Consideration

As suggested by (Trochim, 2000), the researcher has ensured the strict adherence of the following ethical conducts:

- Respondents participated voluntarily in the research, and data was collected with their agreement.
- Respondents receive explicit explanations of the research goal.

- The researcher kept respondents' information strictly secret and ensured their anonymity throughout the investigation.
- The data collected from respondents is accurate and not distorted.

CHAPTER FOUR

DATA ANALYSES AND PRESENTATION

4.1 Introduction

This chapter presents the data for the research and analyses results in the way it addressed the research objectives. The chapter presented the background information of respondents, the perception of the respondents towards the e-trade service quality attributes and their level of satisfaction. The data analyses were performed using frequency distributions, independent sample t-tests, correlation analyses, and regression analyses along with test of multiple linear regression assumptions.

The results of the data analyses were presented using tables and graphs; followed by interpretations of the results.

4.2 Background of the Respondents

Table 4.1: Characteristics of the respondents

		Gender		Age Category				Educ Level				Freq E-Trade use				
		Male	Female	18-30Yrs	31-45Yrs	46-60Yrs	Above 60Yrs	cate	Firs Degree	Masters	Others	Daily	Weekly	Monthly	Quarterly	Yearly
Employee	No	18	8	14	12	2	0	3	23	1	0	24	0	2	0	0
		69.2	30.8	50.0	42.9	7.1	0.0	11.1	85.2	3.7	0.0	92.3	0.0	7.7	0.0	0.0
Customer	No	216	101	24	147	90	33	155	108	45	21	6	14	66	85	104
		68.1	31.9	8.2	50.0	30.6	11.2	47.1	32.8	13.7	6.4	2.2	5.1	24.0	30.9	37.8
Total	No	234	109	38	159	92	33	158	131	46	21	30	14	68	85	104
		68.2	31.8	11.8	49.4	28.6	10.2	44.4	36.8	12.9	5.9	10.0	4.7	22.6	28.2	34.6

Source: Own survey (2024)

The table-4.1 above described the respondents' background information regarding their gender, age, education level, and the frequency of interaction with the e-trade system.

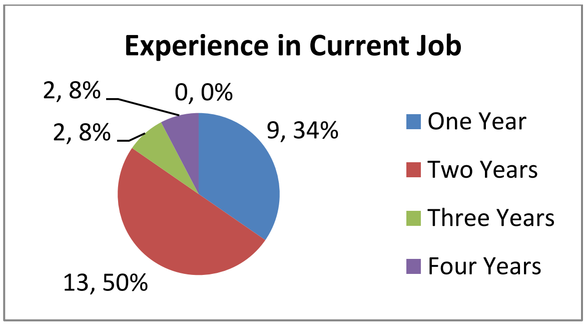
Even though the researcher attempted to distribute 390 customer questionnaires, only 317 of them were returned because of incomplete and delayed responses. Since 317 of the questionnaires represented more than 80% (81.2%) of the sample size, moreover 28 employees questionnaire returned out of 33. the researcher decided to proceed with the timely and accurate responses. Although the sample of the study composed of 28 employees and 338 customers, few respondents have missed to mention background information in the questionnaires. Based on the reported data through questionnaire, majority of the respondents in employees (69.2%) and in the customers (68.1%) were male. The remaining 30.8% and 31.9% from employees and customers, respectively, were female.

Regarding age distribution of respondents, the relative majority of employees were in the age categories 18-30 (50%) and 31-45(42.9%). These groups of respondents were mostly youngsters, and only 7.1% of their group represented age group above 45 years. With respect to customers, majority of the respondents fell in the age group 31-45 (50%), followed by 30.6% under 46-60years of age. The extreme age groups constituted 89.2% (18-30years) and 11.2% (above 60years) in the sample.

The education level of respondents in the table above entailed that majority of employees (85.2%) were first degree holders, where diploma level respondents (47.1%) were the majority in the customers group. First degree level customers were also found from the customers group representing 32.8% among their group members. A relatively good proportion of Master's degree holders in the customers group (13.7%) were found compared to 3.7% of employees with similar education level.

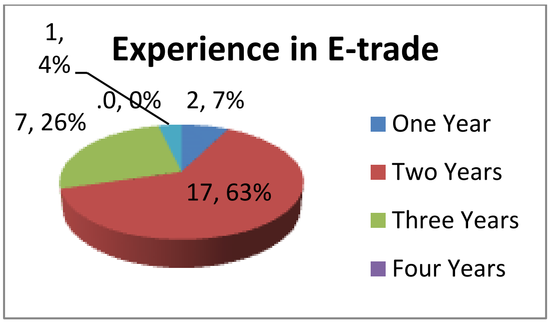
The table above also summarized how frequently these groups use the e-trade system, which is the subject of this study. Employees were found to use the e-trade system in daily basis according to 92.3% of them. Only 7.7% of employees use the system on monthly basis. This is expected response, because the e-trade system serves as one of the technology tools used to automate their daily tasks. As to customers, 37.8% used the system on annual basis, and they have extremely rare interaction and use of the system. Still 30.9% and 24% of customers were found to use the system in quarterly and on monthly basis, respectively. Only 7.3% of the customers were found to have frequent interactions on daily or weekly basis.

Figure 4.1: Employees job experience



Source: Own survey (2024)

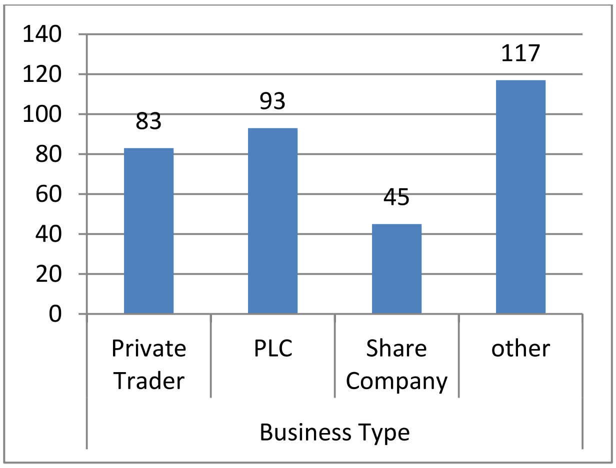
Figure 4.2: Employees Experience with e-trade



Source: Own survey (2024)

As depicted in the above two diagrams, employees have 1 to 4 years of experience working and supporting customers using the e-trade system. The majority were those who served two years (50%) and one year (34%). Customers were also found to have used/experienced the system for two years according to the majority of respondents (63%). There were 26% and 7% of the customers who have three and four years of using the e-trade system. The average years of experience in e-trade job by employees was 1.88 years (23 months) compared to the average e-trade experience by customers, which was 2.30 years (28 months). The result indicated that customers had relatively longer period of experiencing the e-trade system, though they were not using it frequently.

Figure 4.3: Business type of customers



Source: Own survey (2024)

Further background information of the customers group was regarding the type of their organization businesses. Among the participating customers respondents, 93(27.5%) was representing Private Limited companies. Respondents from share companies were 45(13.3%). Private traders, in the sample, constituted 83(25.5%) of the customer. Apart from these three types of business, there were 117 (34.6%) respondents representing other forms of business.

4.3 Assessment of e-Trade Service Quality Attributes

4.3.1. The e-Trade Website Design

The website design features in the e-trade system was assessed by both groups of respondents. Nine statements that fulfilled the reliability in this web design construct were used to evaluate the website design features. As to website address, statement #1, both groups have high level agreement that the website address is easy to remember. However, employees (M=4.39) were more convenient with the website address compared to the customers (M=1.05). This significant difference was also ascertained by F-value =4.92 and p-value =0.027 < 0.05.

Table 4.2: Assessment of the e-Trade website design

		N	Mean	Std. Deviation	95% Confidence Interval for Mean		**ANOVA Test Statistic**	
					Lower Bound	Upper Bound	F-value	p-value
e-Trade site address is easy to remember	Employee	28	4.39	.737	4.11	4.68	4.917	.027
	Customer	335	4.05	.795	3.96	4.13		
	Total	363	4.07	.795	3.99	4.16		
This e- Trade site's sitemap is well organized	Employee	28	4.46	.508	4.27	4.66	3.913	.049
	Customer	338	4.20	.704	4.12	4.27		
	Total	366	4.22	.694	4.14	4.29		
This e- Trade site's structure is clear and easy to follow	Employee	28	4.32	.612	4.08	4.56	0.511	.475
	Customer	338	4.22	.715	4.15	4.30		
	Total	366	4.23	.708	4.16	4.30		
This e-government site's search engine is effective	Employee	28	4.29	.659	4.03	4.54	1.350	.246
	Customer	338	4.12	.752	4.03	4.20		
	Total	366	4.13	.746	4.05	4.21		
It is easy to navigate within this e- Trade service which allows users to go back and forth between pages.	Employee	28	4.29	.600	4.05	4.52	0.145	.703
	Customer	338	4.23	.743	4.15	4.31		
	Total	366	4.23	.732	4.16	4.31		
The e- Trade service loads all texts and graphics quickly and respond to the query made by customers.	Employee	28	4.18	.819	3.86	4.50	0.005	.945
	Customer	338	4.17	.730	4.09	4.25		
	Total	366	4.17	.736	4.09	4.25		
The e-Trade service provides interactive environment to the customers along with effective functionality.	Employee	28	4.18	.723	3.90	4.46	0.004	.951
	Customer	338	4.17	.821	4.08	4.26		
	Total	366	4.17	.813	4.09	4.25		
The e-Trade website used proper color and fonts	Employee	28	4.46	.637	4.22	4.71	12.825	.000
	Customer	338	3.92	.778	3.84	4.01		
	Total	366	3.96	.781	3.88	4.04		
The e-Trade service provides integration to other website of ministries	Employee	28	3.29	1.462	2.72	3.85	23.678	.000
	Customer	338	4.14	.826	4.05	4.22		
	Total	366	4.07	.916	3.98	4.17		
Website Design	Employee	28	4.21	.364	4.07	4.35	0.606	.437
	Customer	338	4.13	.487	4.08	4.19		
	Total	366	4.14	.479	4.09	4.19		

Source: Own survey (2024)

Responding to the e-trade sitemap, Employees and customers agreed respectively with M=4.46 and M=4.20 level of average agreement, which asserted highly organized sitemap as stated in statement #2. Whereas, employees tend to appreciate the site map significantly better than the customers' assessment (F=value= 3.91, p-value=0.049<0.05).

Both groups of the respondents indifferently (p-value =0.475>0.05) that the e-trade site structure is easy to follow, with M=4.23 level of combined average agreement regarding statement #3. It is easy therefore easy to navigate within this e- Trade service which allows users to go back and forth between pages. This statement #5 was highly and indifferently agreed by the two groups of respondents (M=4.23, p=0.703>0.05). Similarly, they were indifferent (p-value =0.246 >0.05) in responding to statement #4 that, the e-government site is equipped with effective search engine. Respondents were at high level agreement (M=4.17, p-value=0.945>0.05) that the e- Trade service loads all texts and graphics quickly and respond to the query made by customers. In addition, they had similar average agreement level to statement #7 that, the e-Trade service provided interactive environment to the customers along with effective functionality.

However, respondents were significantly different in responding to statement #8, although both agreed positively to the statement. Employees rated with M=4.46 level which was significantly higher than the customers rating (M=3.92) regarding color and fonts used in the website (F-value=12.82, p-value=0.000<0.05). Regarding statement #9, similarly significant difference (f-value=23.68, p-value=0.000< 0.05) between employees (M=3.29) and customers (M=4.14) was found

The overall assessment of the website design quality attribute was evaluated with M=4.21 and M=4.13 levels of average agreement, where both groups found indifferent and highly satisfied with the e-trade website design (F-value=0.61, p-value =0.437>0.05). It was aggregately evaluated with M=4.14 average level of agreement.

4.3.2. Reliability

The reliability dimension of the e-trade website assessed with five statements, and independent sample t-tests were made to compare the opinion of employees and users. The t-test result in each statement identified statistically indifferent responses between the two groups (p-values > 0.05). Regarding the availability and accessibility of the website; and its flexibility of access from anywhere was highly rated by both groups. The rating by employees (M=4.14) and customers (M=4.02) were found significantly high-level acceptance to the statement #1; and the combined rating was M=4.03 within the 95% CI range of 3.95-4.11.

Table 4.3: Assessment of the e-Trade service reliability

		N	Mean	Std. Deviation	95% Confidence Interval for Mean		**ANOVA Test Statistic**	
					Lower Bound	Upper Bound	F-value	p-value
This e-Trade site is available and accessible whenever you need it; and offers flexibility to use it anywhere.	Employee	28	4.14	.891	3.80	4.49	0.637	.425
	Customer	338	4.02	.789	3.93	4.10		
	Total	366	4.03	.797	3.95	4.11		
This e- Trade site provides services in time	Employee	28	4.04	.881	3.69	4.38	0.402	.526
	Customer	338	4.13	.772	4.05	4.22		
	Total	366	4.13	.780	4.05	4.21		
Forms on the e-trade site are downloaded and uploaded in a short time	Employee	28	4.46	.637	4.22	4.71	4.773	.030
	Customer	338	4.17	.692	4.09	4.24		
	Total	366	4.19	.692	4.12	4.26		
This e- Trade site works properly with your default browser	Employee	28	4.39	.737	4.11	4.68	0.092	.762
	Customer	338	4.35	.678	4.28	4.42		
	Total	366	4.36	.682	4.29	4.43		
The e- Trade website performs promised services accurately	Employee	28	4.25	.701	3.98	4.52	0.138	.711
	Customer	338	4.20	.753	4.11	4.28		
	Total	366	4.20	.748	4.12	4.28		
Reliability	Employee	28	4.26	.486	4.07	4.45	0.589	.443
	Customer	338	4.17	.560	4.11	4.23		
	Total	366	4.18	.555	4.12	4.24		

Source: Own survey (2024)

The e-trade site was also found highly reliable as it was assessed for its capability to provide the required services in time. The two groups were indifferent (p-value=0.526>0.05) with combined average rating M=4.13 which fell in the high-level reliability range of 95% CI, 4.22-4.71. In addition, the website allows downloading and uploading of forms can be done in reasonably short time... This statement, however, assessed with significantly different opinion between employees (M=4.46) and customers (M=4.17), as the p-value =0.030<0.05 indicated.

Employees (M=4.39) and customers (M=4.35) were found indifferent (p-value =0.762>0.05) rating the statement #4, that the e- Trade site works properly with default browser. The combined rating to the statement was M=4.36that was within the 95% CI range of 4.29-4.43. The result indicated that the website was highly independent of browsers and works with the type of browsers customers used. The accuracy of services provided by the website was also highly acknowledged by the employees (M=4.25) and customers (M=4.20); with combined average rating M=4.20 within the range of 4.12-4.28 interval of 95% confidence.

On aggregate, the reliability quality dimension in the website was assessed with M=4.26 and M=4.17 average agreement level by employees and customers, respectively. The two groups were statistically indifferent (p-value=0.443>0.5) in assuring highly reliable e-trade system with combined average rating of M=4.18 that fell within the 95% CI range of 4.12-4.24

4.3.3. Responsiveness

Responsiveness aspect of the website quality was assessed using three statements as in table. In all the three statements employees and customers reported significantly different agreement level.

Regarding statement #1, employees had M==4.07 average rating compared to the rating by customer, which was M=2.93. The test result with p-value =0.000< 0.05 indicated significant difference of assessment level between the two. The employees had 3.71-4.44 range of 95% confidence that was a high-level agreement confirming the capability of the website in quickly responding to the customers' queries. However, customers have agreed this feature of the website moderately with the 95% CI range of 2.77-3.08.

Similarly, employees (M=4.07) and customers (M=3.13) were found to have different level of agreement to the statement (p-value=0.00<0.05). Employees were found to have high level agreement that, the website offers the availability of an online customer services representative to respond to customer enquiries that was asserted with 3.66-4.48 confidence interval. In contrary, customers have relatively lower-level agreement that fell in the 95% CI range of 2.97-3.28; which asserted the response time only to the moderate level.

Customers were also having moderate level agreement, in the range 2.83-3.18, in evaluating the customer service representatives' skill and experience. However, employees have high level confidence (3.83-4.53) that they are skillful and well-experienced. The test result with p-value =0.000<0.05 assured the significance difference between the two groups regarding statement #3.

Table 4.4: Assessment of the e-Trade service responsiveness

		N	Mean	Std. Deviation	95% Confidence Interval for Mean		**ANOVA Test Statistic**	
					Lower Bound	Upper Bound	F-value	p-value
The e- Trade website responds quickly to customers' requirements	Employee	28	4.07	.940	3.71	4.44	16.141	.000
	Customer	338	2.93	1.483	2.77	3.08		
	Total	366	3.01	1.479	2.86	3.17		
The e- Trade website offers the availability of an online customer services representative to respond to customer enquiries	Employee	28	4.07	1.052	3.66	4.48	10.581	.001
	Customer	338	3.13	1.500	2.97	3.29		
	Total	366	3.20	1.491	3.05	3.36		
The website customer service representatives are skillful and well-experienced	Employee	28	4.18	.905	3.83	4.53	14.123	.000
	Customer	338	3.00	1.633	2.83	3.18		
	Total	366	3.09	1.619	2.93	3.26		
Responsiveness	Employee	28	4.11	.846	3.78	4.44	15.470	.000
	Customer	338	3.02	1.441	2.87	3.17		
	Total	366	3.10	1.433	2.96	3.25		

Source: Own survey (2024)

The overall responsiveness attribute in the website service was computed aggregating the responses of the three statements above. Accordingly, employees were found with high level agreement (M=4.11) that the e-trade site is highly responsive. Customers, however, were found the responsiveness of the website with M=3.02 level that fell in the moderate agreement range of 95% CI (2.96-3.25)

4.3.4. Security and privacy

The security and privacy of the e-trade service quality was assessed by the two groups using five statements. Regarding secured archival of users' documents, employees (M=4.29) and customers (M=3.98) were not statistically different (p-value=0.083>0.05). Both groups have highly agreed with their combined average agreement level, M=4.01 that users' documents are archived securely.

Table 4.5: Assessment of the e-Trade service security

		N	Mean	Std. Deviation	95% Confidence Interval for Mean		ANOVA Test Statistic	
					Lower Bound	Upper Bound	F-value	p-value
Data provided by users in this e-Trade site are archived securely	Employee	28	4.29	.659	4.03	4.54	3.014	.083
	Customer	338	3.98	.905	3.89	4.08		
	Total	366	4.01	.891	3.91	4.10		
Acquisition of username and password in this e-Trade site is secure	Employee	28	4.61	.497	4.41	4.80	7.399	.007
	Customer	338	4.20	.788	4.11	4.28		
	Total	366	4.23	.777	4.15	4.31		
Data provided in this e-Trade site are used only for the reason submitted	Employee	28	4.39	.629	4.15	4.64	2.623	.106
	Customer	338	4.15	.779	4.06	4.23		
	Total	366	4.17	.771	4.09	4.25		
The e- Trade service maintains the confidentiality of the use of personal data	Employee	28	4.39	.629	4.15	4.64	3.463	.064
	Customer	338	4.11	.793	4.02	4.19		
	Total	366	4.13	.785	4.05	4.21		
I found that offered e-Trade service is transparent in the transactions.	Employee	28	4.25	.701	3.98	4.52	0.017	.895
	Customer	338	4.23	.743	4.15	4.31		
	Total	366	4.23	.739	4.16	4.31		
Security	Employee	28	4.39	.421	4.22	4.55	3.936	.048
	Customer	338	4.13	.664	4.06	4.20		
	Total	366	4.15	.651	4.08	4.22		

Source: own survey (2024)

The e-trade system usage is authenticated using login account to each user. In this regard, accusation of username and password was assessed if handled securely. Both groups have high level agreement, but the employee's agreement level (M=4.61) was by far significantly higher than then agreement level by customers, M=4.20. The test result wit p-value=0.007<0.05 identified significant difference between employees and customers regarding the secured user accounts.

As to the privacy of data in the e-trade system, these data are supposed to serve only for its intended and permitted reason. The two groups were indifferent (p-value=0.106>0.05) in their approval to the statement. The combined agreement rating, M=4.17, was high level in the 95% CI range of 4.09-4.25. Moreover, both employees (M=4.39) and customers (M=4.11) were statistically indifferent while approving the high-level confidentiality of personal data being maintained.

Respondents were also found to have high level agreement that the e-trade system offered transparent in handling transactions. Employees and customers had agreed to the levels M=4.25 and M=4.23, respectively. The test result with p-value =0.895 indicated slightly but not significantly difference in the two groups' responses. The combined rating, M=4.23, indicated a high-level agreement in the 95% CI range of 4.16-4.31.

The overall assessment of security and privacy feature of the e-trade system was assessed to high level agreement by the two groups, but were slightly significantly different, (p-value=0.048<0.05). Employees, with M=4.39 average agreement, was relatively higher-level agreement compared to the customers assessment with M=4.13 agreement level.

4.3.5. Customization

Regarding then customization feature in the e-trade system, four questions were identified. The first question was about onscreen support provided in the website. Employees have M=4.29 agreement level which was significantly higher than the customers rating, M=3.96. although both groups have high level agreement that, the e- Trade service provides necessary user support on the website and gives special attention to every user individually, they were slightly significantly different in rating the statement (p-value=0.046<0.05).

Similarly, the two groups were also found to have differed significantly (p-value=0.03<0.05). The result indicated that customers (M=4.38) was found to have relatively higher-level agreement compared to the customers do (M=4.04), that the e-service interface and functionality changes according to the changes in clients' needs.

Tab1e 4.6: Assessment of the customization attribute of the e-Trade service

		N	Mean	Std. Deviation	95% Confidence Interval for Mean		**ANOVA Test Statistic**	
					Lower Bound	Upper Bound	F-value	p-value
The e- Trade service provides necessary user support on the website and gives special attention to every user individually.	Employee	28	4.29	.600	4.05	4.52	3.992	.046
	Customer	338	3.96	.833	3.88	4.05		
	Total	366	3.99	.821	3.90	4.07		
The e-trade site is customized to individual users 'need.	Employee	28	4.32	.723	4.04	4.60	0.456	.500
	Customer	338	4.22	.752	4.14	4.30		
	Total	366	4.23	.749	4.15	4.31		
The e-Trade services are customized according to users' requirements	Employee	28	4.39	.685	4.13	4.66	1.495	.222
	Customer	338	4.20	.832	4.11	4.28		
	Total	366	4.21	.822	4.13	4.29		
The e-service are changed according to changes in clients' needs and	Employee	28	4.04	.999	3.65	4.42	4.763	.030
	Customer	338	4.38	.781	4.30	4.46		
	Total	366	4.35	.803	4.27	4.44		
Customization	Employee	28	4.26	.498	4.07	4.45	0.312	.577
	Customer	338	4.19	.636	4.12	4.26		
	Total	366	4.20	.626	4.13	4.26		

Source: own survey (2024)

however, the two groups were indifferent responding to customized e-trade to individual needs (p-value=0.500>0.05), where they have combined agreement level M=4.21 that was high level agreement, They were also indifferent that the website was customized according to the users' requirements (p-value=0.222>0.05) with their combined average rating M=4.35.

The overall customization feature in the website was assessed in differently (p-value=0.577>0.05) by the employees (M=4.26) and customers (M=4.19). That is, the customization feature in the website was addressed to high-level acceptance of employees and customers...

4.3.6. Information quality

The information dimension of website quality service was assessed with seven statements. As indicated in the test results in the table, employees and customers were indifferent assessment to each of the information aspect of the website. This was attested as the p-values were above 0.05 significance level.

The two groups were in high-level agreement (M=4.09) that the e-Trade provides clear and understandable information to users. They also highly agreed (M=4.29) that the information displayed in this e-Trade site is update and fresh; and witnessed the information displayed in this e-Trade site is appropriate detailed (M=4.22).

The quality of contents in the e-Trade is appropriate, error free, precise and related to the subject according to the user's need. This statement was highly approved by the respondents with combine average agreement level of M=4.19. They also highly (M=4.14) believed that e-Trade service website provides desired information at the right time or in timely manner to the customers.

Information on this e-Trade service website is consistently available for the customers to complete their task according to M=4.27 high level agreement by the respondents. Besides, the respondents believed that e-Trade service website provides helpful instruction for performing my task with M=4.31 average rating.

The overall information quality in the e-trade site was evaluated with M=4.26 and M=4.21 by the employees and customers, respectively. They were indifferent in their level of agreement (p-value=0.698>0.05); and have M=4.22 combined average agreement that attested high level information quality.

Table 4.7. Assessment of the information quality in the e-Trade service

		N	Mean	Std. Deviation	95% Confidence Interval for Mean		**ANOVA Test Statistic**	
					Lower Bound	Upper Bound	F-value	p-value
The e-Trade provides clear and understandable information to users	Employee	28	4.25	.799	3.94	4.56	1.513	.220
	Customer	338	4.08	.695	4.01	4.15		
	Total	366	4.09	.704	4.02	4.17		
The information displayed in this e-Trade site is update and fresh	Employee	28	4.36	.826	4.04	4.68	0.213	.645
	Customer	338	4.29	.769	4.20	4.37		
	Total	366	4.29	.772	4.21	4.37		
The information displayed in this e-Trade site is appropriate detailed	Employee	28	4.39	.786	4.09	4.70	1.646	.200
	Customer	338	4.20	.745	4.12	4.28		
	Total	366	4.22	.749	4.14	4.30		
All the time, quality of contents in e-Trade is appropriate, error free, precise and related to the subject according to the user’s need.	Employee	28	4.14	.651	3.89	4.40	0.136	.713
	Customer	338	4.20	.729	4.12	4.27		
	Total	366	4.19	.723	4.12	4.27		
e-Trade service website provides desired information at the right time or in timely manner to the customers.	Employee	28	4.18	.772	3.88	4.48	0.058	.810
	Customer	338	4.14	.841	4.05	4.23		
	Total	366	4.14	.835	4.06	4.23		
Information on this e-Trade service website is consistently available for the customers to complete their task.	Employee	28	4.18	.723	3.90	4.46	0.436	.510
	Customer	338	4.28	.746	4.20	4.35		
	Total	366	4.27	.743	4.19	4.34		
e-Trade service website provides helpful instruction for performing my task.	Employee	28	4.29	.600	4.05	4.52	0.023	.881
	Customer	338	4.31	.755	4.23	4.39		
	Total	366	4.31	.743	4.23	4.38		
Information	Employee	28	4.26	.526	4.05	4.46	0.151	.698
	Customer	338	4.21	.559	4.15	4.27		
	Total	366	4.22	.556	4.16	4.27		

Source: own survey (2024)

4.3.7 Ease of Use

Table 4.8: Assessment of the ease-of-use feature in the e-Trade service

		N	Mean	Std. Deviation	95% Confidence Interval for Mean		ANOVA Test Statistic	
					Lower Bound	Upper Bound	F-value	p-value
The e-Trade site is easy in its functionality that allows user to browse different pages and does not stuck while using.	Employee	28	4.07	.716	3.79	4.35	0.420	.517
	Customer	338	3.96	.897	3.86	4.05		
	Total	366	3.97	.885	3.88	4.06		
The e-Trade system that enables customers to accomplish tasks more easily and quickly.	Employee	28	4.29	.535	4.08	4.49	1.112	.292
	Customer	338	4.14	.734	4.06	4.21		
	Total	366	4.15	.722	4.07	4.22		
Using the e-Trade service makes it easier to do my task and I can perform number of transactions.	Employee	28	4.25	.701	3.98	4.52	1.087	.298
	Customer	338	4.07	.870	3.98	4.17		
	Total	366	4.09	.859	4.00	4.18		
It is easy to navigate efficiently within the e-Trade website and use e-services.	Employee	28	4.18	.905	3.83	4.53	0.063	.802
	Customer	338	4.22	.745	4.14	4.30		
	Total	366	4.21	.757	4.14	4.29		
Effectively I can use and perform a variety of e-Trade related operations and tasks using e-Trade service.	Employee	28	4.21	.686	3.95	4.48	0.264	.608
	Customer	338	4.30	.816	4.21	4.38		
	Total	366	4.29	.806	4.21	4.37		
The e-trade site provided by MOT is easy to use	Employee	28	4.21	.833	3.89	4.54	0.106	.745
	Customer	338	4.16	.804	4.08	4.25		
	Total	366	4.17	.806	4.08	4.25		
Ease of Use	Employee	28	4.20	.434	4.03	4.37	0.266	.607
	Customer	338	4.14	.622	4.07	4.21		
	Total	366	4.15	.609	4.08	4.21		

Source: own survey (2024)

Employees and customers assessed the ease of using e-trade website using seven statements as in the table. The two groups were indifferent in their rating to each statement (p-value >0.05). Moreover, both respondents have high level agreement to each statement as the Mean value and the respective 95% CIs were all beyond the moderate level agreement, and with interval estimation in the range of high-level agreement.

The e-Trade system was assessed for its high-level capability that enables customers to accomplish tasks more easily and quickly; and was found easy in its functionality that allows user to browse different pages and does not stuck while using. They also claimed that the e-Trade service makes it easier to do task and can perform number of transactions; which is easy to navigate efficiently within the e-Trade website and use e-services. They also assured that they can perform a variety of e-Trade related operations and tasks using e-Trade service effectively.

Both employees and customers highly agreed that e-trade site provided by MOTRI is easy to use. The overall assessment of the ease of use of website was rated with M=4.15 combined mean. Employees (M=4.03) and customers (M=4.07) were indifferent (-value=0.607>0.05) that they highly enjoyed the ease of use in the e-trade system with the 95% CI range of 4.08-4.21.

4.4. Satisfaction

After assessing the e-trade service quality attributes in the previous section, employees and customers' opinion regarding their satisfaction in the overall service provided through the e-trade website is presented here. Their satisfaction was assessed using ten statements as in the table where the average agreement to each statement, and comparison of the responses between and customers were conducted.

In statement #1, employees and customers have M=4.18 and M=4.04, respectively, level of agreement that showed their high-level approval to witness the completeness of the e-trade service, which made them satisfied with the service they got. The two groups were indifferent and have similar level of agreement (p-value=0.350>0.05). The completeness of the system and the respondents' satisfaction was rated with M=4.05 agreement level that was as high as the 95% CI in the range 3.97-4.13. Moreover, the two groups were indifferent (p-value=0.259>0.05) in their high-level assertion that the e-Trade service was effective and efficient. Which was rated with M=4.21 agreement level in the range of

4.14-4.28 interval estimation. Respondents also asserted, with M= 4.25, indifferently that they have experienced the system with its valuable information includes.

Table 4.9: Employees and Customers Satisfaction on e-Trade service

		N	Mean	Std. Deviation	95% Confidence Interval for Mean		**ANOVA Test Statistic**	
					Lower Bound	Upper Bound	F-value	p-value
I found e-Trade service system is competent and I am fully satisfied with it	Employee	28	4.18	.863	3.84	4.51	0.877	.350
	Customer	338	4.04	.752	3.96	4.12		
	Total	366	4.05	.761	3.97	4.13		
Based on my experience I found the e-Trade service as effective and efficient.	Employee	28	4.36	.559	4.14	4.57	1.277	.259
	Customer	338	4.20	.726	4.12	4.28		
	Total	366	4.21	.715	4.14	4.28		
Based on my experience I found e-Trade is valuable and the information includes all necessary values.	Employee	28	4.39	.629	4.15	4.64	1.221	.270
	Customer	338	4.23	.740	4.15	4.31		
	Total	366	4.25	.733	4.17	4.32		
While using e-Trade service I found satisfactory use of it which provides full confidentiality to my information.	Employee	28	4.43	.634	4.18	4.67	3.936	.048
	Customer	338	4.12	.807	4.03	4.20		
	Total	366	4.14	.798	4.06	4.22		
I am satisfied with the support of e-Trade	Employee	28	4.43	.690	4.16	4.70	2.623	.106
	Customer	338	4.15	.875	4.06	4.25		
	Total	366	4.17	.865	4.09	4.26		
The extent which you are satisfied with the e-Trade service related to design and ease of use	Employee	28	4.46	.508	4.27	4.66	2.908	.089
	Customer	338	4.25	.644	4.18	4.32		
	Total	366	4.27	.636	4.20	4.33		
The extent which you are satisfied with the e-Trade service related to reliability and confidence	Employee	28	4.39	.567	4.17	4.61	4.666	.031
	Customer	338	4.06	.808	3.97	4.14		
	Total	366	4.08	.796	4.00	4.16		
The extent which you are satisfied with the e-Trade service related to security during transactions	Employee	28	4.61	.497	4.41	4.80	5.681	.018
	Customer	338	4.29	.696	4.21	4.36		
	Total	366	4.31	.687	4.24	4.38		
The extent which you are satisfied with the e-Trade service related to speed and responsiveness	Employee	28	4.21	.630	3.97	4.46	0.455	.500
	Customer	338	4.10	.873	4.01	4.19		
	Total	366	4.11	.856	4.02	4.20		
The extent which you are satisfied with the e-Trade related to information and contents	Employee	28	4.50	.577	4.28	4.72	3.644	.057
	Customer	338	4.24	.694	4.17	4.32		
	Total	366	4.26	.688	4.19	4.33		
Satisfaction	Employee	28	4.40	.263	4.29	4.50	4.723	.030
	Customer	338	4.17	.550	4.11	4.23		
	Total	366	4.19	.537	4.13	4.24		

Source: own survey (2024)

Employees and customers were also witnessed (M=4.14) that the e-Trade service was satisfactory to them because it provided them full confidentiality of information. Besides, they were highly satisfied (M=4.17) with the available support in the e-Trade service. The result indicated that their satisfaction was related to the responsiveness in the system.

Respondents were indifferent to indicate their satisfaction was influenced by the website design and ease of use. This was attested with M=4.27 agreement level. The reliability and confidence in the system was found to have high level influence to employees and customers as they, respectively, agreed with M=4.39 and M=4.06 level. The test result, however, found significance difference (p-value=0.031<0.05) between the agreement levels of the two (p=value=0.018<0.05) where employees (M=4.61) have relatively higher-level agreement than customers (M=4.29) ascertain that their satisfaction in the e-trade service was related to the level of trust and security in the service.

Both employees (M=4.21) and customers (M=4.10) were indifferent (p-value=0.500>0.05) while they highly claimed that their satisfaction with the e-Trade service related to speed and responsiveness. The quality of the information and contents in the website was also found to have high level influence to their satisfaction on the e-trade services. Which was rated with M=4.26 level of agreement.

Employees overall satisfaction towards e-trade service was to the level M=4.40, which was high level satisfaction. Customers were also having high level satisfaction with e-trade services with M=4.17 level. The two groups, however, were significantly in the level of satisfaction they attained with the system (p-value=0.030<0.05).

4.5. Correlation Analyses

One of the objectives of the study was to assess the significance of the relationships each service quality dimension has with the service satisfaction level. To this end, correlation analyses were performed as the results depicted in the table. As indicated in the table each and every variable of the study was significantly related with one another at 0.001 significance level.

Table 4.10: Correlation Analyses Results

		Web Design	Reliability	Responsiveness	Security	Customization	Information	Ease of Use	Satisfaction
Web Design	R	1	.604**	.202**	.521**	.554**	.597**	.637**	.628**
	p-value		.000	.000	.000	.000	.000	.000	.000
	N	366	366	366	366	366	366	366	366
Reliability	R	.604**	1	.367**	.545**	.524**	.613**	.557**	.524**
	p-value	.000		.000	.000	.000	.000	.000	.000
	N	366	366	366	366	366	366	366	366
Responsiveness	R	.202**	.367**	1	.495**	.278**	.363**	.234**	.298**
	p-value	.000	.000		.000	.000	.000	.000	.000
	N	366	366	366	366	366	366	366	366
Security	r	.521**	.545**	.495**	1	.661**	.715**	.696**	.580**
	p-value	.000	.000	.000		.000	.000	.000	.000
	N	366	366	366	366	366	366	366	366
Customization	r	.554**	.524**	.278**	.661**	1	.726**	.658**	.693**
	p-value	.000	.000	.000	.000		.000	.000	.000
	N	366	366	366	366	366	366	366	366
Information	r	.597**	.613**	.363**	.715**	.726**	1	.743**	.674**
	p-value	.000	.000	.000	.000	.000		.000	.000
	N	366	366	366	366	366	366	366	366
Ease of Use	r	.637**	.557**	.234**	.696**	.658**	.743**	1	.722**
	p-value	.000	.000	.000	.000	.000	.000		.000
	N	366	366	366	366	366	366	366	366
Satisfaction	r	.628**	.524**	.298**	.580**	.693**	.674**	.722**	1
	p-value	.000	.000	.000	.000	.000	.000	.000	
	N	366	366	366	366	366	366	366	366

**. Correlation is significant at the 0.01 level (2-tailed).

Source: own survey (2024)

The dependent variable, satisfaction, was the highest to directly and significantly correlated with ease of use of the e-service at a correlation value, r=0.722., followed by Customization (r=0.693) and information quality (r=0.674). If other variables/factors were unchanged (kept constant), ease of use, customization, and information quality has the power to influence r2=52.13%, 48.02%, and 45.42% of the satisfaction of e-service users.

Website Design, Security and reliability were significantly and directly related with their satisfaction level indicated by correlation values r=0.628, 0.580, and 0.524 respectively with their explanation power r2=39.44%, 33.64 and 27.46%. Among all other independent variables, responsiveness was the least related with service satisfaction (r=0.298), which has 8.9% impact on satisfaction provided other factors were kept constant.

The results of the correlation analyses indicated that users' e-service satisfaction level was directly and significantly related with all the independent variable (the service quality attributes).

4.6. Regression Analyses

4.6.1. Tests of Linear Regression Assumptions

4.6.1.1. Linear Relationship Assumption

This assumption requires the dependent variable has linear relationship with each of the independent variables. This assumption was already found satisfied as indicated in the correlation analyses results.

4.6.1.2. Absence of Multicollinearity Assumption

According to this assumption, the independent variables must not have a strong correlation with one another. An examination of the variance inflation factor was done in order to evaluate the multicollinearity in the regression. One way to gauge the degree of collinearity between the independent variables in a regression model is to use variance inflation factors, or VIFs. The variance inflation factor (VIF) indicates the extent to which collinearity with other regressors has inflated the variance of a coefficient estimate of independent variables, there is no formal VIF value for determining presence of Multicollinearity.

According to Bobbitt (2019), multicollinearity in regression analysis occurs when two or more predictor variables are highly correlated, leading to problems in fitting and interpreting the regression model and Values of VIF that exceed 10 are often regarded as indicating Multicollinearity. The Tolerance statistics also assess the presence of Multicollinearity. Some suggest that a tolerance value less than 0.1 should be investigated further.

Looking into the regression analyses results in following sections (table 4.14), the VIF and tolerance values were found to have satisfied the above VIF and Tolerance criteria. Hence, the assumption of no Multicollinearity has been satisfied.

4.6.1.3. Absence of Auto collinearity Assumption

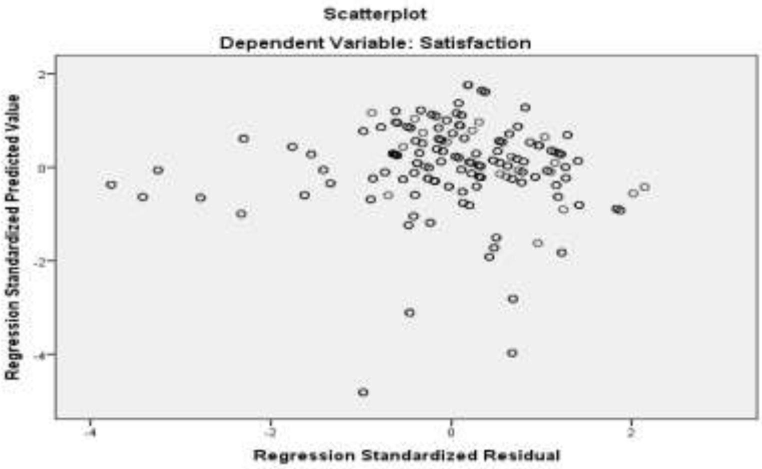
Autocorrelation is one of the basic assumptions in linear regression model (LRM) is that the random error components or disturbances are identically and independently distributed. The Durbin-Watson statistic is a test for first-order serial correlation. The addition of a lagged dependent variable will cause the estimated coefficients to be skewed and inconsistent if the error term is serially correlated, invalidating the estimated OLS standard errors.

More formally, the DW statistic measures the linear association between adjacent residuals from a regression model. The DW statistics ranges from zero to 4. If there is no autocorrelation, the DW statistic will be around 2. A rule of thumb is that test statistic values in the range of 1.5 to 2.5 are relatively acceptable. Field (2009) suggests that values under 1 or more than 3 are a definite cause for concern. In the regression model in the following sections (table 4.12), the resulting DW statistic was 1.893, which is very close to the value 2. Hence the regression analysis was free from autocorrelation problem.

4.6.1.4. Absence of Heteroskedasticity Assumption

When the variance of the residuals is uneven throughout a range of measured values, this is referred to as heteroskedasticity. Heteroskedasticity causes an uneven spread of the residuals (sometimes referred to as the error term) when performing a regression analysis. If there was no his problem, the scatter plot looks like an oval shaped where no pattern is detected. The following scatter plot used to visually inspect any possibility of heteroskedasticity problem.

Figure 4.4: Scatter plot of standardized and predicted values and residuals



Source: own survey (2024)

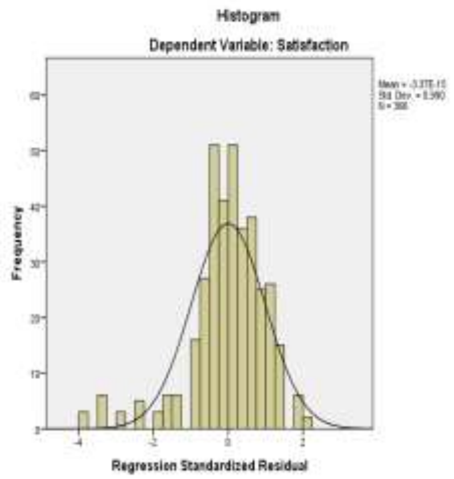
From the diagram above, it is difficult to find clear linear relationship between the residual and the predicted values. A correlation of the standardized predicted values and standardized residuals was also computed, and found not significant (r=0.000, p-value=1.00>0.05). Hence, it is certain to conclude absence of heteroskedasticity problem.

4.6.1.5. Assumption of Normal Distribution of Residuals

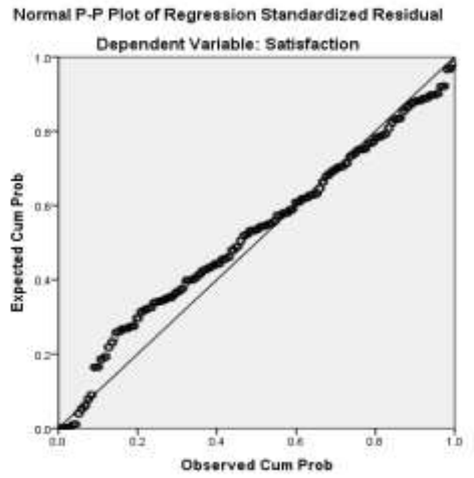
The other regression analysis assumptions are the normality distribution of error terms. To determine if the variance is a constant or regularly distributed, one might examine a residuals histogram. It is likely that the normality assumption is correct when the residual is distributed about zero and has a symmetric bell-shaped histogram.

From the figure 4.5 (left), the distribution looked symmetric around zero but the peak of the histogram seems beyond the normal curve. Moreover, the values of the residuals, represented by the dots, in the figure 4.5(Right) somehow deviated from the normality diagonal line. Hence, the assumption of normality may not be ascertained confidently.

Figure 4.5: Residual Normal Curve



Source: own survey (2024)



Source: own survey (2024)

Further checking of the normality assumption was made using statistical test. The test results are presented in table 4.9. These tests assume the residuals are normally distributed. But according to Kolmogorov-Smirnov test and also Shapiro-Wilk resulted in the p-value=0.000<0.05 contradict the assumption.

Table 4.11: Test of normality

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual	.114	366	.000	.918	366	.000

a. Lilliefors Significance Correction

Source: own survey (2024)

4.6.2. Regression Analyses Results

To assess the significance of the effects of the e-service quality attributes on the users' satisfaction level, multiple regression analysis was performed.

Table 4.12: Regression Model Summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.800[a]	.640	.633	.32546	1.893

a. Predictors: (Constant), Ease of Use, Responsiveness, Reliability, Customization, Web Design, Security, Information

b. Dependent Variable: Satisfaction

Source: own survey (2024)

Table 4.10 depicted multiple correlation, R=0.800, between the e-service quality attributes and satisfaction with service. This result is a coefficient of determination, R2=0.0.640, which indicated the amount of variation in e-service satisfaction that was explained by e-service quality. This indicated that 64% of users' satisfaction was affected as a result the e-service quality.

The ANOVA table tests the significance of the regression model. The test is to ensure that not all the coefficients in the regression model were insignificant. The F-value =90.846 and p-value=0.000<0.05 indicated that the regression model was significant and acceptable.

Table 4.13: Regression ANOVA

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	67.372	7	9.625	90.864	.000[b]
	Residual	37.921	358	.106		
	Total	105.293	365			
a. Dependent Variable: Satisfaction						
b. Predictors: (Constant), EaseUse, Responsiveness, Reliability, Customization, WebDesign, Security, Information						

Source: own survey (2024)

The resulting regression model using the coefficients in table 4.12 was:

Satisfaction = 0.0.659 +0.222* (Website Design) - 0.004(Reliability)

+0.039 (Responsiveness) -0.0084 (Security)

+0.270*(Customization) + 0.087 (information)

+ 0.327* (Ease of Use).

Table 4.14: Regression Coefficients

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	.659	.162		4.077	.000		
	WebDesign	.222	.051	.198	4.359	.000	.488	2.051
	Reliability	-.004	.043	-.004	-.093	.926	.505	1.980
	Responsiveness	.039	.014	.103	2.699	.007	.692	1.445
	Security	-.084	.045	-.102	-1.869	.062	.337	2.963
	Customization	.270	.043	.314	6.339	.000	.409	2.446
	Information	.087	.056	.090	1.541	.124	.297	3.365
	EaseUse	.327	.049	.371	6.745	.000	.332	3.013

Coefficients[a]

a. Dependent Variable: Satisfaction

Source: own survey (2024)

Table 4.12 tests the significance of each regression coefficients. The result showed that only the coefficient of reliability (b=-.004) and security (b=-.084) were negative but insignificant (p-values > 0.05). The information dimension with coefficient b=0.087 was also insignificant. The coefficients for ease of use, customization, website design, and responsiveness were having positive and significant coefficients. This indicated their direct impact on e-service satisfaction equal to the respective coefficients.

The elements with a negative relation to e-service satisfaction in the regression analysis are the coefficients for reliability (b = -0.004) and security (b = -0.084). However, it's important to note that these coefficients were found to be insignificant (p-values > 0.05), meaning their impact on e-service satisfaction is not statistically robust. In practical terms, their effect may not be substantial even if it were statistically significant.

Since not all the quality attributes were significant, and with the intention to efficiently determine users' satisfaction a step-wise regression analysis was performed with the following results.

4.6.3. Reduced Model

Table 4.15: Reduced Regression model coefficients

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
4	(Constant)	.675	.154		4.379	.000		
	EaseUse	.321	.041	.364	7.757	.000	.458	2.181
	Customization	.272	.038	.317	7.217	.000	.523	1.913
	WebDesign	.227	.048	.203	4.770	.000	.561	1.783
	Responsiveness	.031	.012	.083	2.509	.013	.917	1.090

a. Dependent Variable: Satisfaction

Source: own survey (2024)

This reduced model will have similar explanation power, 64%, as was in the full model/equation above. The coefficients in the reduced model indicated that, an improvement in ease of use will improve satisfaction by 32.1%, and similarly improvements in satisfaction amounts to 27.2%, 22.7% and 3.1% improvements of customization, web site design, and responsiveness. The equation for the reduced model was: Satisfaction = 0.0.675+ 0.321* (Ease of Use) +0.272*(Customization) +0.227* (Website Design) +0.031 (Responsiveness).

4.7 Qualitative data analysis

As stated in the third chapter of the study the research utilizes thematic analysis for the qualitative data collected through interview with the selected employee of the organization. Thematic analysis is a powerful qualitative research tool that enables researchers to identify and explain patterns within data sets. While deductive analysis begins with pre-existing theory, inductive thematic analysis is based on qualitative data, allowing researchers to identify patterns and derive key themes and interesting insights without being constrained by preconceived categories or constructs (Hecker & Kalpokas, 2024). Accordingly, the three themes listed below were formed by condensing two or more study questions into one unique theme.

4.7.1. The overall Service Offerings, and its advantages over the old system

As stated, the theme development process involves condensing or collecting related research questions into one broad theme. Therefore, questions under this theme pertain to the availability of services through the website and their role in achieving the various goals of the organization, as well as customer feedback on the overall service quality.

According to the interview, the bureau supplied all of its services online with the exception of a few that required the customer's presence.

Interviewee 1, one of the top managerial level bureau employees, mentioned that almost all services are performed online.

> *About 90% of the total service provided is provided by E-Trade service, which is completely online service, and the service includes issuing and renewing new business license (interviewee 1)*

It is mentioned, that e-trade is the first totally online service delivery system for government offices. It was initially offered as a completely online service system; however, for a variety of reasons, few of the bureau services require a back-office system. Aside from the user's (customer's) insufficient knowledge in the area and the absence of connection with the other office, the main reason for customer presence is system limitation; the system is confined to confirming the audit report requirements for PLC and company organization for license renewal.

> *As I mentioned earlier, the majority of services are available online. However, aside from individual traders, companies and PLCs must use back-office systems since they need to verify the audit report for license renewals, which needs more complex system (interviewee 1).*

The other issue covered in this theme is the impact that e-trade websites have on the organization's service delivery. The major advancements caused by system implementation. Here, the emphasis is placed on comparing the organization's service delivery before and after the deployment of this specific e-service delivery system.

> *When we see what was before the implementation, we were using the Local Area*

Network, so it means that the user needs to come to the location. In the current system, it means that the customer will get the service without having to come here in person, unless it is related to some of the things I mentioned above, i.e. Audit Report and other circumstances (interviewee 1)

The primary shift that occurred following the service's launch was a decline in the number of in-person customers. But now, the number of people coming to the office to use the service has decreased significantly, which has enabled us to provide the service in a better way, in terms of handling people properly, Moreover, it has fast response when it is private business But when it is PLC it needs Tangible documents needs to be fulfilled according to the service that is provided, for instance it needs Tax clearance, balance sheet, Audit Report documents to renew a PLC license and it takes more time than private business to check the documents and to approve (interviewee 3).

Regarding this issue, all respondents gave the same answer. According to them, one of the benefits of implementing e-trade services is a decrease in the number of customers in the office as compared to the past. The number of customers searching for back-office services decreased following system deployment.

The other change brought by the implementation is the change in service standardization.

We have service standards. The time limit for providing services to all the Back Office has been improved with the new system, and the one that used to take 30 minutes to take registration now ends in less than five minutes. In general, it took 11 procedures and 32 days for a person to start a business in the previous system, and the process has been reduced from 3-5 days to 4 days. It also introduced service delivery standardization in a manner that eliminated unnecessary processes for others (interviewee 1)

Previously, the customers would perform all of the work and proclaim the business name in the newspaper, and this has resulted in a shift in the standardization of service delivery by decreasing such time-consuming procedures (interviewee 6).

4.7.2. Impact on service delivery, and employee communication and integration

This theme contains questions about the positive and negative influence of e-trade electronic service delivery on the organization's daily work routine.

According to the data gathered, the majority of respondents highlighted the positive impact of e-trade service implementation by emphasizing how it helps to reduce costs as well as time (which is often interpreted as a cost by business practitioners) for both users, customers, and organizations.

> *In general, the system has been shown to be more effective in terms of cost savings for both the organization and the user. The user has lowered the cost of accessing the service and other associated fees, including printing (interviewee 7).*
>
> *It reduces the cost of transportation for the user. I think it has helped the organization in terms of saving manpower. If it was manual, we probably need more manpower to do the work, but now that it is online, we are able to work better with the available manpower (interviewee 3).*

One of the issues highlighted by the respondent regarding the system's cost-effectiveness is the decrease of printing costs, which are one of the organization's key expenses in service delivery.

> *When we look at it in terms of cost, particularly for the organization, it has saved the cost of the copy. Since the certificate is a secret publication printed by a printing house, the cost required of us was very high, and the new system has reduced this and other printing and associated costs (interviewee 5)*

Regarding cost effectiveness, the respondent brought up the system's contribution to work efficiency as a benefit of the system—even in the situation of a system and power outage.

> *In terms of rapid service delivery, I believe that electronic services played an important part because they allowed us to give service efficiently in a short amount of time (interviewee 2).*

4.7.3. Security and User Experience

Finally, the third theme addresses security concerns, which include the system's dependability with regard to customer personal information, as well as the user's overall experience with the services.

Empirical studies clearly show that the relationship between e-service reliability and security is strongly tied to adaptability, and companies should maintain robust security measures and protect user privacy in order to establish user trust and widespread adoption of the system.

Regarding the user's privacy and other security concerns, all respondents agreed that the system is very trustworthy and has no security problems aside from the general threat of the digital world because most things are managed by the user.

> *From the start, the system is designed to be safe, allowing users to log in with their own passwords and control it independently. Following that, the information provided to the third party is legally supported, which we shall demonstrate here rather than in a paper (interviewee 9)*
>
> *Because people control the system, there is no security risk unless an individual is reckless. Aside from the cyber-attacks related with the digital world, both as a nation and as individuals (interviewee 2).*

When it comes to user experience, the majority of respondents indicate that both system users are satisfied with the system's implementation due to its easy-to-use Aside from the system's ease of use, one of the most important aspects in its adoption is pre-implementation training for employees, and another sector, such as the town's primary internet cafe, makes it easily adaptable and accepted by users.

Regarding the efforts needed by the organization for the better development of the system, the respondent raised some of the organization's future plans, including hardware development, the establishment of a call center to improve organizational communication, and a plan of integration with other government systems.

> *We identified the absence of a call center as a gap, and a movement has begun to*

address this issue in the future. Because it is one of the most significant requirements for an online service (interviewee 1)

The other issue that is being worked on is taking up media space, raising awareness, and establishing links with other government departments (interviewee 5)

Interview results

The data for the study, besides with the quantitative data obtained through questionnaire, was also obtained through interviewing some customers and particularly through extensive discussion made with customer service head officer and employees guided by structured interview questions and There are seven employees in the interview—five female and four males.

The major pointes noted in relation with this research include:

- The accessibility of the system was reliable as customers can interact with the e-Trade from anywhere, ex from their homes.
- Their ultimate goal is to ensure customers' satisfaction which they have improved day by day. They are working on standardization of service by shortening the time to deliver service. For example, registration services that may take 30 minutes are now set to be completed in five minutes through the e-Trade service.
- Reduction in service time was also achieved by eliminating certain requirements that may not be critical to the service provider but take significant customer time. For example, customers are no more required to announce their new name (in case of objection) through newspaper, which otherwise takes 15 days. The service also eliminated the requirement that, customers need to have certification of proficiency in their specific trade area, which was found very time consuming which may take up to 9 months depending of the certification required.
- Overall, they make easy for individuals/institution to make trade in the country as a privilege to citizens. Accordingly, it now takes five days and four steps to start new business compared to the World Bank study that reported 32 days and 11 steps requirement to start trade business.

- The implementation of the e-Trade started in 2011, which was found cost effective to MOTRI as the system operates online without duplication/redundancy of paper documents. That is a single document saved in the e-service database can be accessed by authorized user any time. Even, the ministry saved printed costs that were securely handled by Berhanena Selame Printing press. Now the logo and signatures are available on the e-service system and allowed customers to collect their certificate online, after eligibility checked.
- The officer said, they have trained the employees at national and regional level. Several trainings were made through TOT modalities, and using on job training. They, however, believed possible employees reluctant to serve customers. Though there were no serious incidents, problems come from either the employee/officer/ or the customers themselves coming with incomplete documents every day, they make discussions regarding service provision and have the practice to correct employees in case of unnecessary denial of service to customers.
- Training to customers was delivered to giant companies. But customers should get the relevant training; as there are many customers who can't work with the e-service. Currently, some intermediate employees are serving the customers to use the e-service.
- The officer believed that this e-Trade system is a good experience to the country where digitization is becoming a requirement to all ministries. However, they are no or few government institutions with e-service effort. As a result, the e-Trade system that could better function with integration to other systems is not currently feasible.

The findings from the study clearly indicated some shortcomings in the e-Trade service with regard to its responsiveness.

CHAPTER FIVE
CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the findings, conclusions with regard to the objectives of the study, and forward recommendations.

5.2 Summary of Findings

The One-way ANOVA testes result in chapter four identified the e-trade service quality based on employees and customers opinion. The findings regarding each quality attributes were: it is about differences in opinion between the two group

- Website Design was highly accepted by employees (M=4.29) and customers (M=4.12), without significant difference in their overall opinion (F-value=0.61, p-value =0.437>0.05). Both groups were found highly convenient with the site name and sitemap with structure easy to follow that allows users to go back and forth between pages, and has effective search engine. The e-trade ability that quickly loads all texts and graphics and responds to the query made by customers. The site has interactive environment to the customers.
- The reliability dimension of the e-trade website assessed positively by employees (4.26) and customers (4.17). The availability and accessibility of the website, and provision of in time services that also allows upload and download forms in short period, and its browser independent, and to its capability accurately perform promised services –makes the e-trade service reliable to the users.
- Responsiveness aspect of the website quality was assessed with high level agreement by employees (4.11). Whereas, customers (M=3.01) have only perceived moderate level responsiveness of the e-service. Unlike the employees, customers had reservations on quick response to customers' requirements (M=2.93), customer services representative willingness/ability to respond customer enquiries (M=3.13), and the skill and experience of customer services representative (M=3.09). The interview results also identified similar findings witnessed by the service provider.
- The security and privacy of the e-trade service quality dimension was assessed with M=4.39, by employees, and with M= 4.13, by customers. Employees

perceived more security and privacy features in the e-Trade service compared to the opinion of customers. Respondents opined Data were archived securely, and user accounts were maintained confidentially. There was no fear of misuse of data and trusted the confidentiality of personal data. Moreover, there was high level transparency in the service provision.

- Customization feature in the e-trade system was also attested with high level convenience as reported by employees (M=4.26) and customers (M=4.19). The e-trade service provides online support, and believed to satisfy the individual user's need, that changes/updates as client's requirement.
- Information quality dimension was indifferently assessed by the two groups, with combined agreement level of M=4.22. Clear and understandable information, updated and fresh information, error free, precise and detailed information, and timely provision of services are recognized by the respondents. Moreover, the e-Trade service provides helpful instruction for performing tasks online.
- Ease of Use of the e-service was assessed indifferently by both groups of the respondents with combined agreement level of M=4.15. Users confirmed that they effectively use and perform a variety of e-Trade related operations and tasks using e-Trade service. They can accomplish tasks more easily and quickly. The e-service was easy to navigate and enables customers to accomplish tasks more easily and quickly. This was also supported by the interviewee that it requires one time operation with the system to understand how to use/operate the system.

The overall satisfaction towards the e-service was also assessed by employees and customers:

- Employees (M=4.40) and customers (M=4.17) both have high level satisfaction. The satisfaction level of employees, however, was relatively higher than the satisfaction level of customers.
- They believed that their satisfaction level was related to confidentiality of information, available support, design and ease of use of the system, reliability, information quality, security and responsiveness in the e-service.

The correlation analyses revealed that users' satisfaction on the e-Trade service was found highly, positively and significantly related to each of the quality attributes.

- Ease of use (r=.722), customization (r=.693) and information quality (r=.674) were the highest to relate with e-service satisfaction.
- Website design, security, and reliability were also found to directly and significantly related to satisfaction level with respective correlations r=.628, r=.580, and r=.524.
- Relatively weak, but direct and significant relationship (r=.298) between responsiveness of the e-trade service and the users' satisfaction level.

Regression analyses also depicted the overall impact of e-Trade service quality on the customers' satisfaction level.

- The regression equation resulted in coefficient of determination, R^2=64%. This indicated that almost two-third of the users' satisfaction was influenced by the qualities in the e-service.
- Among others, the coefficients for reliability, security, and information quality were not significant in the full regression model.
- Step-wise regression made was found ease of use, customization, website design and responsiveness were significantly determined the e-service satisfaction of users; and their respective coefficients were, b=.321, b=.272, b=.227, and b=.031.

While further investigation is warranted, several factors may contribute to the higher responsiveness rate of employee results compared to those of customers. My initial interpretation suggests the following reasons,

- **Access and Prioritization:** customers submit data via the website, which may involve additional security checks and validation. Their requests are subject to a different queue, potentially leading to longer processing times.

- **Authentication and Verification:** Additional verification steps (such as confirming account details or validating uploaded documents) are necessary. These steps introduce delays.

- **Document Review and Compliance:** Data submitted by customers must undergo thorough review. Employees ensure compliance with legal, financial, or regulatory standards, which takes time.

"When it is PLC it needs Tangible documents needs to be fulfilled according to the service that is provided, for instance it needs Tax clearance, balance sheet, Audit Report documents to renew a PLC license and it takes more time than private business to check the documents and to approve (interviewee 3)."

- **Communication Channels:** Communication with customers may involve back-and-forth interactions, especially if additional information is needed. This communication overhead affects responsiveness.

- **Load and Workload Distribution:** Peaks in customer submissions (e.g., during promotions or deadlines) can strain the approval process, leading to slower responsiveness.

The higher employee satisfaction compared to customer satisfaction might be attributed to several reasons:

Perception Bias: Employees often have a more positive perception of their workplace than customers. They experience the company culture, benefits, and work environment firsthand, which can lead to a rosier view. Customers, on the other hand, interact with the company during specific transactions and may encounter issues or dissatisfaction more frequently.

Emotional Investment: Employees are emotionally invested in their work and the success of the organization. Their job security, career growth, and personal fulfillment are tied to the company's performance. Customers, while important, don't have the same level of emotional attachment.

Control Over Experience: Employees have some control over the customer experience. They can address issues, provide personalized service, and influence outcomes. Customers, however, often feel powerless when facing service problems.

Sample Size and Selection Bias:

Employee satisfaction surveys typically cover the entire workforce. Customer satisfaction surveys may only capture feedback from a subset of customers. This difference in sample size and selection can skew results.

Organizational Focus: Companies prioritize employee well-being to retain talent and maintain productivity. Customer satisfaction is crucial, but it's sometimes overshadowed by internal concerns.

Even if the researcher puts these interpretations, it is all need an investigation that needs further study by other researchers and MOTRI.

5.3 Conclusions

The general objective of the study is to examine the e-trade service quality and its impact on users' satisfaction and organizational process with regard to implementation of electronic service to the Ministry of Trade and Regional Integration. Based on the findings in the results of data analyses, the following conclusions were made in line with the objectives of the study and providing clear answers to the research questions:

- Employees and customers were found highly satisfied with the e-Trade system of Ministry of Trade and Regional Integration; though employees tend to have more satisfaction level.
- Employees and customers were also found to have high level appreciation of the system in terms of its website design, reliability, responsiveness, customization, security and privacy, information quality and ease of use of the e-service.
- Employees and customers were significantly different in their evaluation of responsiveness and security. Particularly, customers were only moderately satisfied with the responsiveness attribute of e-service quality. Their reservation on the responsiveness attribute was related to the customer service representative as they experienced delayed responses and doubt in the skill of the representatives. Hence, the overall quality of the e-Trade service was high.
- The correlation analyses results indicated that all e-service quality attributes were significantly and directly related to the e-service satisfaction.
- Moreover, the e-service quality attributes were capable of determining 64% of the users e-service satisfaction.
- Moreover, it was found that Ease of use in the e-service, the customization features, the e-service website design, and responsiveness were the most influential quality attributes that have impacted users' satisfaction on the e-service at MOTRI.
- The service provider puts on the interview part that the organizational process of the Bureau has a radical change regarding to cost effectiveness and less input during the process of the task.

In general, it can be concluded that employees and customers have positive perception on the overall quality of e-service, as well as each specific quality attribute. Furthermore, there is crucial change on the organizational process. As a result, the users experienced high level satisfaction in their experience with the e-Trade service, despite some concerns on the responsiveness of the system. In addition, conclusions on direct relationship of service quality attributes with overall e-service satisfaction; where Ease of use, customization, website design, and responsiveness in their respective order contributed to the highest to the lowest level impact on e-Service satisfaction.

The responsiveness of the approval process might depend on factors like access privileges, authentication, compliance checks, communication, and workload distribution. Balancing efficiency while maintaining accuracy is crucial for both employees and customers." But it needs further investigation.

5.4 Recommendations

The following suggestions are made in light of the research's findings and conclusions in order to raise the standard of e-government services offered by the Ministry of Trade and Regional Integration bureau and raise client satisfaction even further:

- Strengthen Support Services: MOTRI ought to make an investment in improving its support services because of how crucial assistance is in determining customer satisfaction. This can be accomplished by offering users thorough support in a timely manner, putting in place efficient routes for communication, and making sure that staff members who are competent and responsive are on hand to handle questions and issues from clients. This involves building a call center service-focused platform that would assist customers with minor issues that arise when their service is being rendered or with information issues that arise from the client. By doing this, you might improve service strength and prevent bad responsiveness.
- The findings support the notion that consumer e-service satisfaction is significantly influenced by the e-Trade service quality aspects of ease of use, customization, responsiveness, and website design. Therefore, in order to improve overall consumer satisfaction with e-Trade services, MOTRI should highlight how important it is to prioritize and improve these dimensions.

- The service provider needs to ensure that its employees are motivated to serve customers with care. Similarly offer its employees with reinforcement training on the e-Trade functionalities and features, as well as customer service management.

- While the regression analysis indicates a negative relationship between e-service satisfaction and the coefficients for reliability and security, it’s important to note that these coefficients were found to be statistically insignificant (p-values > 0.05). Despite this lack of statistical robustness, practical implications remain relevant. Therefore, further investigation and study are warranted to explore the potential inverse impact of reliability and security on e-service satisfaction.

- MOTRI should set up a regular evaluation and feedback system, such as surveys, feedback forms, or focus groups, to continuously gather and examine grievances and recommendations from e-trade consumers. The information acquired can be used to pinpoint problem areas and direct future e-Trade service improvements, guaranteeing optimal client Satisfaction.

- customers perceive responsiveness as lower than employees do, and employees report higher satisfaction levels compared to customers—I recommend conducting in-depth research in the field of online e-service quality. This investigation should focus on understanding the factors influencing employee and customer satisfaction. Specifically:

  Perceived Responsiveness Gap: Investigate the reasons behind the disparity in perceived responsiveness between employees and customers. Identify potential areas for improvement to bridge this gap.

  Employee Satisfaction Drivers: Explore the factors contributing to higher employee satisfaction. Consider aspects such as work environment, training, and communication channels within the organization.

  Customer Satisfaction Enhancement: Analyze the determinants of customer satisfaction in the context of online e-services. Assess service quality dimensions, responsiveness, and user experience.

Comparative Analysis: Conduct a comparative analysis of employee and customer satisfaction levels. Understand how these two groups perceive service quality differently.

Policy Implications: Provide actionable recommendations for policymakers, organizations, and service providers to enhance overall satisfaction levels.

Researchers, including the Ministry of Trade and Regional Integration (MOTRI), should delve into these areas to inform evidence-based strategies for improving e-service quality and ensuring a positive experience for both employees and customers.

Reference

Al-Hawari, M., Hartley, N. & Ward, T. (2005). Measuring banks' automated service quality: a confirmatory factor analysis approach. *Marketing Bulletin, 16*(1), 1-19.

Al-Hawary, I.S., Al-Menhaly, S.M., &Sulieman (2017). The Quality of E-Government Services and its Role on Achieving Beneficiaries Satisfaction. Global Journal of Management and Business Research, 16.

Al-Hawary, S. I. & Al-Smeran, W. F. (2017). Impact of electronic service quality on customers satisfaction of Islamic Banks in Jordan. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *7*(1), 170–188.

Al-Hnaite, Mohammed (2005). E-government and its impact on the electronic service quality: Case study of the income and Sales Tax Department in Jordan Researches and work sheets, business administration conference, Jordan University, faculty of business administration, 155-193.

Backus, M. (2001) E-Governance and Developing Countries, Introduction and examples

Bhat, S. A., & Darzi, M. A. (2020). *Online Service Quality Determinants and E-trust in Internet Shopping: A Psychometric Approach*. *Vikalpa: The Journal for Decision Makers*, 45(4), 207-222.

Barnes, S.J. & Vidgen, R.T. (2002). An Integrative Approach to the Assessment of E-Commerce Quality, Journal of Electronic Commerce Research, vol. 3(3), 114-127.

Beynon-Davies, P. and Martin, S. (2004), “Electronic local government and the modernization agenda: progress and prospects for public service improvement”, Local Government Studies, Vol. 30 No. 2.

Bhattacharya, D., Gulla, U., and Gupta, M. P. (2012), "E-service quality model for

Indian government portals: citizens' perspective", Journal of Enterprise Information Management, vol. 25, no. 3, pp. 246 -271.

Bobbitt, Z. (2019). *A Guide to Multicollinearity & VIF in Regression*. Statology.

Cham, D. (2022) Exploring the efficacy of e-government models through Information Systems Management-case of the Gambia, Munich Personal RePEc Archive. Available at: https://mpra.ub.uni-muenchen.de/113400/ (Accessed: 25 May 2024).

Cohen, L., Manion, L. and Morrison, K. (2018) Research methods in education: Keith Morrison, Lawrence Manion, and Louis Cohen: Free download, Borrow, and streaming, Internet Archive. Available at: https://archive.org/details/research-methods-in-education (Accessed: 30 April 2024)

Congo, Sergio & Choi, Sang. (2022). *Evaluating Public Sector Employees' Adoption of E-Governance and Its Impact on Organizational Performance in Angola. Sustainability*. 14. 15605. 10.3390/su142315605.

Cox, J. & Dale, B. G. (2001). Service quality and e-commerce: an exploratory analysis. *Managing Service Quality*, *11*(2), 121-131.

Creswell, J.W. (2014) Research design: Qualitative, quantitative, and mixed methods approach, Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. Available at: https://study.sagepub.com/creswellrd4e (Accessed: 30 April 2024).

Creswell, J.W. and Creswell, J.D. (2023) Research design: Qualitative, quantitative, and mixed methods approach, Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. Available at: https://edge.sagepub.com/creswellrd5e (Accessed: 30 April 2024)

Cronin, J. J. & Taylor, S. A. (1992). Measuring service quality: a reexamination and extension. *Journal of Marketing*, *56*(3), 55-68.

Curtin, G.C. and Sommer, M.H. et al. (2004), The World of e-government, Haworth

Press, Binghamton.

Damachi, U.G. (1978) *Nigerian modernization: The colonial legacy, AbeBooks*. Available at: https://www.abebooks.com/book-search/author/damachi-ukandi-godwin/ (Accessed: 24 May 2024).

Dereje Tekaleng and Swaminarayan, P. (2022) '*Practice of Electronic Service Implementation in Higher Education Institutions of Ethiopia'*, Journal of Positive School Psychology, Vol. 6, No. 4, 5153 – 5160. doi:http://journalppw.com.

Ejigu, S.N. (2016). E-banking service quality and its impact on customer satisfaction in State Owned Banks in East Gojjam Zone; Ethiopia. Global Journal of Management and Business Research, 16(18), 24-35

Farren, D. (2014). Inferential Statistics [Review of *Inferential Statistics]*. *Inferential Statistic Using Stata*, 14.

Garvin, D.A. (1998) *The processes of organization and Management*, *MIT Sloan Management Review*. Available at: https://sloanreview.mit.edu/article/the-processes-of-organization-and-management/ (Accessed: 24 May 2024).

Gautam, D., & Sah, G. K. (2023). *Online Banking Service Practices and Its Impact on E-Customer Satisfaction and E-Customer Loyalty in Developing Country of South Asia-Nepal*. *SAGE Open*, 13(3), 1-14. DOI:10.1177/21582440231185580

Grönroos, C. (2000). *Service Management and marketing. A Customer Relationship Management Approach.* England, Wiley.

Gupta, B., Dasgupta, S. and Gupta, A. (2008b) 'implementation of ICT in a government organization in a developing country: An empirical study', The Journal of Strategic Information Systems, 17(2), pp. 140–154. doi:10.1016/j.jsis.2007.12.004.

Hassan, M. (2023) *Limitations in research - types, examples and writing guide*, *Research Method*. Available at: https://researchmethod.net/limitations-in-research/ (Accessed: 23 March 2024).

Ha, T. T. (2016). Empirically testing the public value based conceptual framework for evaluating e-government performance in Vietnam. Modern Economy, 7,140–152.

Heeks, R. (2006), "Implementing and Managing e-Government: An International Text", Sage Publication, UK.

Heeks, R. (2006), "Understanding and Measuring eGovernment: International Benchmarking Studies", Paper prepared for UNDESA workshop eParticipation and eGovernment: Understanding the Present and Creating the Future 27-28 July 2006, Budapest, Hungary.

Heskett, J.L., Jones, T.O., Loveman, G.W., Sasser Jr.E.W. & Schlesinger, L.A., (1994). Service-profit chain audit. Harvard Business Review, vol. 72(2), 170-174.

Hongxiu, L., Yong, L. & Reima, S. (2009). Measurement of e-service Quality: an empirical study on online travel service. A Paper presented at the 17th European Conference on Information Systems, 1-13.

Irani, Z., Love, P. E. D., and Jones, S. (2008), "Learning lessons from evaluating eGovernment: Reflective case experiences that support transformational government", *Journal of Strategic Information Systems*, vol. 17, no. 2, pp. 155- 164.

Karkin, N., & Janssen, M. (2014). Evaluating websites from a public value perspective: A review of Turkish local government websites. International Journal of Information Management, 34, 351–363.

Kebede, K., Desta (2017) *Evaluating E-Government Implementation in Public Service Delivery*, *CORE*. Available at: https://core.ac.uk/ (Accessed: 23 March 2024).

Khushdil, C. (2018). Does service quality matter in the context of internet banking? A perceptual analysis of India's internet banking customer's perception regarding service quality, trust, satisfaction and loyalty. *Journal of Commerce & Accounting Research, 7(3),* 52-60.

Kim-Soon, N., & Ramayah, T. (2014). *E-service implementation in developing countries: A case study of Malaysia*. Journal of Internet Banking and Commerce, 19(2), 1-16.

Kvasnicova, T., Kremenova, I. and Fabus, J. (2016) 'From an analysis of E-services definitions and classifications to the proposal of new E-service classification', *Procedia Economics and Finance*, 39, pp. 192–196. doi:10.1016/s2212-5671(16)30282-9.

Lee, G-G. & Lin, H-F. (2005). Customer perceptions of e-service quality in online shopping. *International Journal of Retail & Distribution Management, 33*(2), 161-176

Lenk, K. and Traunmuller, R. (2002), "Preface to the focus theme on e-government", Electronic Markets, Vol. 12 No. 3, pp. 147-8.

Lovelock, C. & Wirtz, J. (2011). *Services marketing*. New Jersey: Pearson.

Luarn, Pin & Lin, Hsin-Hui. (2003). A Customer Loyalty Model for E-Service Context.. J. Electron. Commerce Res.. 4. 156-167.

Mackenzie, N. and Knipe, S. (2006) Research dilemmas: Paradigms, methods and methodology, Available at: https://www.morgan-klaus.com/readings/research-dilemmas.html (Accessed: 30 April 2024).

Muhammad, Y. S., Aslam, S., Afgan, N. & Abbasi, A. M. (2014). Performance evaluation of Automated Teller Machine (ATM) with Fuzzy TOPSIS using sample survey results. International Journal of Business and Social Science, 5(13), 216-231.

Mwatsika, C. (2016). Factors influencing customer satisfaction with ATM banking. International Journal of Academic Research in Business and Social Sciences, 6(2), 26-41.

Narteh, B. (2013). Service quality in Automated Teller Machines: an empirical investigation. Managing Service Quality, 23(1), 62-89.
Narteh, B. (2013). Service quality in Automated Teller Machines: an empirical investigation. Managing Service Quality, 23(1), 62-89.
Narteh, B. (2015). Perceived service quality and satisfaction of self-service technology: The case of Automated Teller Machines. International Journal of Quality & Reliability Management, 32(4), 361-380.

Ndou, V. (2004), "E-government for developing countries: Opportunities and challenges", Electronic Journal of Information Systems in Developing Countries, vol. 18, no. 1, pp. 1-24.

Noo, S., Tajik, O. and Golzar, J. (2022) *Simple Random Sampling*. Available at: https://www.researchgate.net/publication/366390022_Simple_Random_Sampling (Accessed: 30 April 2024).

Papadomichelaki, X. and Mentzas, G. (2009), "A Multiple-Item Scale for Assessing E-Government Service Quality", In EGOV 2009, LNCS Springer, vol. 5693, pp. 163-175.

Parasuraman, A., Zeithaml, V. & Berry, L. L. (1988). SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality. Journal of Retailing, 64(1), 12-40.

Parasuraman, A., Zeithaml, V. & Malhorta, A. (2005). E-S-QUAL: a multiple-item scale for assessing electronic service quality. Journal of Service Research, 7(3), 213-233.
Parasuraman, A., Zeithaml, V. & Malhorta, A. (2005). E-S-QUAL: a multiple-item scale for assessing electronic service quality. Journal of Service Research, 7(3), 213-233.
Parasuraman, A., Zeithaml, V. A. & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. The Journal of Marketing, 49(4), 41-50.

Paulo, R., Tiago, O. & Almira, F. (2019). The impact of e-service quality and customer satisfaction on customer behaviour in online shopping. *Heliyon*, *5*(10), 1-14.

Pham, L., Limbu, Y. B., Le, M. T. T., & Nguyen, N. L. (2023). E-government service quality, perceived value, satisfaction, and loyalty: evidence from a newly emerging country. *Journal of Public Policy*, *43*(4), 812–833. https://doi.org/10.1017/s0143814x23000296

Poon, W. C. & Lee, C. K. (2012). E-service quality: an empirical investigation. *Journal of Asia-Pacific Business, 13*(3), 229-262.

Raman, M., Stephenaus, R., Alam, N. & Kuppusamy, M. (2008). Information Technology in Malaysia: E- service Quality and Uptake of Internet Banking. *Journal of Internet Banking and Commerce, 13*(2), 1- 18.

Rahi, S. (2017) Research design and methods: A systematic review of research paradigms, sampling issues and instruments development Omics International. Available at: https://www.omicsonline.org/open-access/research-design-and-methods-a-systematic-review-of-research-paradigms-sampling-issues-and-instruments-development-2162-6359-1000403.php?aid=87959 (Accessed: 30 April 2024).

Rehman, A.A. and Alharthi, K. (2016) *(PDF) an introduction to research paradigms.* Available at: https://www.researchgate.net/publication/325022648_An_introduction_to_research_paradigms (Accessed: 30 April 2024).

Ribbink, D., van Riel, A.C.R, Liljander V. & Streukens, S. (2004). Confort your online customer: quality, trus and loyalty on the internet, Managing Service Quality, vol. 14(6), 446-456-

Riffe, D., Lacy, S., & Fico, F. G. (2005). Analyzing Media Messages (2nd ed.). New Jersey:

Rosairo, Rohitha. (2023). Thematic Analysis in Qualitative Research. Journal of

Agricultural Sciences – Sri Lanka. 18. 10.4038/jas. v18i3.10526.

Ross, J. et al. (2016) *Factors that influence the implementation of e-health: A systematic review of Systematic Reviews (an update) - implementation science*, *BioMed Central*. Available at: https://implementationscience.biomedcentral.com/articles/10.1186/s13012-016-0510-7 (Accessed: 29 February 2024).

Eba, T. (2021). *The Prospects and Challenges of E-Governance in Public Service Delivery: The Case of Fitche Town Land Administration, North Shoa Zone, Oromia Regional State* (Unpublished master's thesis). Addis Ababa University, College of Business and Economics.

Mehrdad Alipour and Avarzamani, S.K. (2011) *Feasibility Study of E-Servicing on Iranian Municipalities (G2C): A Case Study of Ahwaz Municipality,* Volume NO. 1 (2011), (Issue NO. 10 (December).

Sachan, A., Kumar, R., & Kumar, R. (2018). Examining the impact of e-government service process on user satisfaction. *Journal of Global Operations and Strategic Sourcing*, *11*(3), 321–336. https://doi.org/10.1108/jgoss-11-2017-0048

Sá, F., Rocha, Á. and Pérez-Cota, M. (2016) A literature review on Quality Models for online e-government services, IGI Global. Available at: https://www.igi-global.com/chapter/a-literature-review-on-quality-models-for-online-e-government-services/144024 (Accessed: 25 May 2024).

Sagaro, G.G., Battineni, G. and Amenta, F. (2020) *Barriers to sustainable telemedicine implementation in Ethiopia: A systematic review*, *Telemedicine reports Volume 1.1, 2020 DOI: 10.1089/tmr.2020.0002*. Available at: https://pubmed.ncbi.nlm.nih.gov/35722252/ (Accessed: 29 February 2024).

S M, Uvaneswaran & Melese, Haimanote. (2016). *Challenges in application of Information Communication Techonology in Tax administration.* International Journal of Multidisciplinary Research and Development. 3. 131-139.

Sadaf, F. & Rahela, F. (2019). Service quality to e-service quality: a paradigm shift. Proceedings of the International Conference on Industrial Engineering and Operations Management, Bangkok, Thailand, March 5-7, 1656-1666.

Salkind, N. J., & Frey, B. B. (2020). *Statistics for people who (think they) hate statistics* (7th ed.). SAGE.

Santos, J. (2003). E-service quality: a model of virtual service quality dimensions. Management Service Quality, 13(3), 233-246.

Shirshendu, G. & Sanjit, K. R. (2011). Generic technology-based service quality dimensions in banking: impact on customer satisfaction and loyalty. International Journal of Bank Marketing, 29(2), 168-189.

Swaid, S.I. & Wigand, R.T. (2009). Measuring the quality of e-service: Scale development and initial validation, Journal of Electronic Commerce Research, vol. 10(1), 13-28.

Taherikia, F., & Shamsi, B. (2014). Evaluation and ranking of the factors influencing the quality of e-banking service. *Kuwait Chapter of the Arabian Journal of Business and Management Review, 3*(11), 165.

Tan, S. S., Abdul, R., Zahir, O., Lee, H. S., Arif, J., Parameswaran, S. & Rasheedul, H. (2018). Modelling consumer perceptions of internet retail service quality through structured equation analysis. *Herald NAMSCA, 1,* 1139-1148.

UgwU, C.I., Ekere, J.N. and ONOH, C. (2021) research paradigms and methodological choices in the research process, Journal of applied Information Science and Technology 14 (2)2021. Available at: https://www.jaistonline.org/14vol2/12.pdf (Accessed: 30 April 2024).

United Nations (2012), United Nations Executive summary e-Government Survey 2012, available at: http://unpan3.un.org/egovkb/Portals/egovkb/Documents/un/2012-Survey/unpan048065.pdf

United Nations. (2008). *Principles and Recommendations for Population and*

Housing Censuses: Revision 2. United Nations.

United Nations (2014), United Nation‟s E-government survey 2014 available at: https://publicadministration.un.org/egovkb/portals/egovkb/documents/un/2014-survey/e-gov_complete_survey-2014.pdf

Un E-Government Survey 2022 (2022) *United Nations*. Available at: https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2022 (Accessed: 23 March 2024).

Welcome to Motri | Motri. (n.d.). Www.motri.gov.et. Retrieved June 24, 2024, from https://www.motri.gov.et/

Williams, Ryan. (2020). *The Paradigm Wars: Is MMR Really a Solution? American Journal of Trade and Policy*. 7. 79-84. 10.18034/ajtp. v7i3.507.

Wolfinbarger, M. F. & Gilly, M. C. (2003). ETAILQ: Dimensionalizing, measuring and predicting e-tailing quality. Journal of Retailing, 79(3), 183-198.

World Bank (2004), Building Blocks of e-Governments: Lessons from Developing Countries, available at: http://www1.worldbank.org/prem/PREMNotes/premnote91.pdf

World Bank (2010), Definition of E-Government, available at: http://go.worldbank.org/M1JHE0Z280

Yazeed, A. M., Yazidu, U. & Ibrahim, Y. (2014). Automated Teller Machine (ATM) operation features and usage in Ghana: implications for managerial decisions. Journal of Business Administration and Education, 5(2), 137-157.

Zeithaml, V. A., Parasuraman, A. & Malhotra, A. (2000). A conceptual framework for understanding e-service quality: implication for future research and managerial practice. Marketing Science Institution, Report No. 00-115.

Zeithaml, V. A., Parasuraman, A. & Malhotra, A. (2002). Service quality delivery through websites: a critical review of extant knowledge. Journal of the Academy of Marketing Science, 30(4), 358-371.

Annex

ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDY

DEPARTEMENT OF PUBLIC ADMINISTRATION AND DEVELOPMENT MANAGEMENT

QUESTIONNAIRE TO BE FILLED BY CUSTOMER

Dear respondents;

The purpose of this study is for a partial fulfillment of the requirements for the Masters of Public management and policy at Addis Ababa University, College of Business and Economics. The objective of this questionnaire is to gather information on the impact of e-Trade government service quality provided by MOTRI (Ministry of Trade and Regional Integration) on customer satisfaction. The information supplied by you will be held strictly confidential and shall be used for academic purpose only. On the contrary, the findings of the research may be used to improve the quality of e-Trade service rendered by MOTRI to its customers. You will not be held responsible for anything advising thereof.

Thank you very much in advance for your cooperation!

Please contact me for any questions you might have.

Name: Enbel Temesgen (Student)
Department of public administration and development management
Addis Ababa University
Tel: 09-14-71-12-81
Email: enbeltemesgen1@gmail.com

Section A: Background Information

Please make a tick mark (□) or fill in the blank space.

1. Gender (□) Male (□) Female

2. Age (□) 18-30 years (□) 31-45years (□) 45-60 years (□) above 60 years

3. Educational level

(□) Diploma/ Certificate (□) BA (□) MA (□)Other, please specify_____

4. Your current Business Category:

please specify_____

5. The nature of your business

(□)Private trader (□)P.L.C (□)S.C (□)Other, please specify_____

6. Why you visit MOTRI e-Trade service (select as many reasons)

	Trade License	Commercial Registration	Trade Name
New	□	□	□
Renewal	□	□	□
Replacement	□	□	□
Cancelation	□	□	□
Capital Increment	□	□	□

7. How often do you view or access e-trade.

(□)Daily (□)weekly (□)Monthly (□)Quarterly (□)Yearly

Section B: Provide your E-Trade Service Quality Assessment using your agreement level to the statements under each quality dimension stated under A to F in the following table: ***Note to use the Scale that, 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, and 5=Strongly Agree.***

A	Website Design	1	2	3	4	5
1	e-Trade Website address is easy to remember.					
2	This e- Trade website's sitemap is well organized.					
3	This e- Trade website’s structure is clear and easy to follow.					
4	This e-government site's search engine is effective.					
5	It is easy to navigate within this e- Trade service which allows users to go back and forth between pages.					
6	The e- Trade service loads all texts and graphics quickly and respond to the query made by customers.					
7	The e-Trade service provides interactive environment to the customers along with effective functionality.					
8	The e-Trade website used proper color and fonts.					
9	The e-Trade service provides integration to other website of ministries.					
B	**Reliability**	**1**	**2**	**3**	**4**	**5**
1	This e-Trade site is available and accessible whenever you need it; and offers flexibility to use it anywhere.					
2	This e- Trade site provides services in time.					
3	Forms on the e-trade site are downloaded and uploaded in a short time.					
4	This e- Trade site works properly with your default browser.					
5	The e- Trade website performs promised services accurately.					
C	**Responsiveness**:	**1**	**2**	**3**	**4**	**5**
1	The e- Trade website responds quickly to customers’ requirements.					
2	The e- Trade website offers the availability of an online customer services representative to respond to customer enquiries.					
3	The website customer service representatives are skillful and well-experienced.					
D	**Security/Privacy**	**1**	**2**	**3**	**4**	**5**

1	Data provided by users in this e-Trade site are archived securely.					
2	Acquisition of username and password in this e-Trade site is secure.					
3	Data provided in this e-Trade site are used only for the reason submitted.					
4	The e- Trade service maintains the confidentiality of the use of personal data.					
5	I found that offered e-Trade service is transparent in the transactions.					
E	**Customization**	**1**	**2**	**3**	**4**	**5**
1	The e- Trade service provides necessary user support on the website and gives special attention to every user individually.					
2	The e-trade site is customized to individual users ‘need.					
3	The e-Trade services are customized according to users’ requirements.					
4	The e-service are changed according to changes in clients’ needs and preference.					
F	**Information**	**1**	**2**	**3**	**4**	**5**
1	The e-Trade provides clear and understandable information to users.					
2	The information displayed in this e-Trade site is update and fresh.					
3	The information displayed in this e-Trade site is appropriate detailed.					
4	All the time, quality of contents in e-Trade is appropriate, error free, precise and related to the subject according to the user’s need.					
5	e-Trade service website provides desired information at the right time or in timely manner to the customers.					
6	Information on this e-Trade service website is consistently available for the customers to complete their task.					
7	e-Trade service website provides helpful instruction for performing my task.					
G	E**ase of Use**	**1**	**2**	**3**	**4**	**5**
1	The e-Trade site is easy in its functionality that allows user to browse different pages and does not stuck while using.					

2	The e-Trade system that enables customers to accomplish tasks more easily and quickly.					
3	Using the e-Trade service makes it easier to do my task and I can perform number of transactions.					
4	It is easy to navigate efficiently within the e-Trade website and use e-services.					
5	Effectively I can use and perform a variety of e-Trade related operations and tasks using e-Trade service.					
6	The e-trade site provided by MOTRI is easy to use.					
	Customers' Satisfaction	**1**	**2**	**3**	**4**	**5**
1	I found e-Trade service system is competent and I am fully satisfied with it.					
2	Based on my experience I found the e-Trade service as effective and efficient.					
3	Based on my experience I found e-Trade is valuable and the information includes all necessary values.					
4	While using e-Trade service I found satisfactory use of it which provides full confidentiality to my information.					
5	I am satisfied with the support of e-Trade.					
6	The extent which you are satisfied with the e-Trade service related to design and ease of use					
7	The extent which you are satisfied with the e-Trade service related to reliability and confidence					
8	The extent which you are satisfied with the e-Trade service related to security during transactions					
9	The extent which you are satisfied with the e-Trade service related to speed and responsiveness					
10	The extent which you are satisfied with the e-Trade related to information and contents					

Section C: Please give us your feedback to the following:

1. What are the benefits you have got using the E-Trade website?
____
____
2. What suggestions you may make to the MOTRI in improving the online service?
____
____

Thank You.

ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDY

DEPARTEMENT OF PUBLIC ADMINISTRATION AND DEVELOPMENT MANAGEMENT

QUESTIONNAIRE TO BE FILLED BY EMPLOYEES

Dear respondents;

The purpose of this study is for a partial fulfillment of the requirements for the Masters of Public management and policy at Addis Ababa University, College of Business and Economics. The objective of this questionnaire is to gather information on the impact of e-Trade government service quality provided by MOTRI (Ministry of Trade and Regional Integration) on employees' satisfaction. The information supplied by you will be held strictly confidential and shall be used for academic purpose only. On the contrary, the findings of the research may be used to improve the quality of e-Trade service rendered by MOTRI to its customers. You will not be held responsible for anything advising thereof.

Thank you very much in advance for your cooperation!

Please contact me for any questions you might have.

Name: Enbel Temesgen (Student)
Department of public administration and development management
Addis Ababa University
Tel: 09-14-71-12-81
Email: enbeltemesgen1@gmail.com

Section A: Background Information

Please make a tick mark on the following place (□) or fill in the blank space.

1. Gender **(□)** Male **(□)** Female

2. Age **(□)** 18-30 years **(□)** 31-45years **(□)** 45-60 years **(□)** above 60 years

3. Educational level

(□) Diploma/ Certificate **(□)** BA **(□)** MA **(□)**Other, please specify_____

4. Your Work experience:

(□) 1-5 Years (□) 6-10 Years (□) 11-15 Years (□) above 15 Years

5. How long you have experience using the e-Trade System: __________ Years

6. Please rank the following e-Trade services based on the reason that Traders want to use the e-Trade system. (select at least the top three functions used by Traders in regular basis)

	Trade License	Commercial Registration	Trade Name
New	□	□	□
Renewal	□	□	□
Replacement	□	□	□
Cancelation	□	□	□
Capital Increment	□	□	□

7. How often do you used or access e-trade for accomplish your office duties.

(□) Daily **(□)**weekly **(□)**Monthly **(□)**Quarterly **(□)**Yearly

Section B: Provide your E-Trade Service Quality Assessment using your agreement level to the statements under each quality dimension stated under A to G in the following table: ***Note to use the Scale that, 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, and 5=Strongly Agree.***

A	Website Design	1	2	3	4	5
1	e-Trade Website address is easy to remember.					
2	This e- Trade website's sitemap is well organized.					
3	This e- Trade website's structure is clear and easy to follow.					
4	This e-government site's search engine is effective.					
5	It is easy to navigate within this e- Trade service which allows users to go back and forth between pages.					
6	The e- Trade service loads all texts and graphics quickly and respond to the query made by customers.					
7	The e-Trade service provides interactive environment to the customers along with effective functionality.					
8	The e-Trade website used proper color and fonts.					
9	The e-Trade service provides integration to other website of ministries.					
B	**Reliability**	**1**	**2**	**3**	**4**	**5**
1	This e-Trade site is available and accessible whenever you need it; and offers flexibility to use it anywhere.					
2	This e- Trade site provides services in time.					
3	Forms on the e-trade site are downloaded and uploaded in a short time.					
4	This e- Trade site works properly with your default browser.					
5	The e- Trade website performs promised services accurately.					
C	**Responsiveness**:	**1**	**2**	**3**	**4**	**5**
1	The e- Trade website responds quickly to customers' requirements.					
2	The e- Trade website offers the availability of an online customer services representative to respond to customer enquiries.					
3	The website customer service representatives are skillful and well-experienced.					
D	**Security/Privacy**	**1**	**2**	**3**	**4**	**5**
1	Data provided by users in this e-Trade site are archived securely.					

2	Acquisition of username and password in this e-Trade site is secure.					
3	Data provided in this e-Trade site are used only for the reason submitted.					
4	The e- Trade service maintains the confidentiality of the use of personal data.					
5	I found that offered e-Trade service is transparent in the transactions.					
E	**Customization**	**1**	**2**	**3**	**4**	**5**
1	The e- Trade service provides necessary user support on the website and gives special attention to every user individually.					
2	The e-trade site is customized to individual users 'need.					
3	The e-Trade services are customized according to users' requirements.					
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F	**Information**	**1**	**2**	**3**	**4**	**5**
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7	e-Trade service website provides helpful instruction for performing my task.					
G	E**ase of Use**	**1**	**2**	**3**	**4**	**5**
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2	The e-Trade system that enables customers to accomplish tasks more easily and quickly.					

3	Using the e-Trade service makes it easier to do my task and I can perform number of transactions.					
4	It is easy to navigate efficiently within the e-Trade website and use e-services.					
5	Effectively I can use and perform a variety of e-Trade related operations and tasks using e-Trade service.					
6	The e-trade site provided by MOTRI is easy to use.					
	Customers' Satisfaction	**1**	**2**	**3**	**4**	**5**
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2	Based on my experience I found the e-Trade service as effective and efficient.					
3	Based on my experience I found e-Trade is valuable and the information includes all necessary values.					
4	While using e-Trade service I found satisfactory use of it which provides full confidentiality to my information.					
5	I am satisfied with the support of e-Trade.					
6	The extent which you are satisfied with the e-Trade service related to design and ease of use					
7	The extent which you are satisfied with the e-Trade service related to reliability and confidence					
8	The extent which you are satisfied with the e-Trade service related to security during transactions					
9	The extent which you are satisfied with the e-Trade service related to speed and responsiveness					
10	The extent which you are satisfied with the e-Trade related to information and contents					

Section C: Please give us your feedback to the following:

1. What are the benefits you have got using the E-Trade website?

____

____

2. What suggestions you may make to the MOTRI in improving the online service?

____

____

____

Thank You.

ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDY

DEPARTEMENT OF PUBLIC ADMINISTRATION AND DEVELOPMENT MANAGEMENT

Interview Questions

1. What services does the online system offer? What benefits does this approach seem to have over the old method, in your opinion? Do you have any problems or experiences with the website? What are the main complaints, if any?

2. Does the E-trade website service enhance the timely and effective service delivery?

3. Could you elaborate on how the implementation of the website contributes to cost effectiveness?

4. How does the e-trade website affect employee integration and communication?

5. Does the website offer robust security and confidentiality for user information and documents?

6. How do you feel about the website's overall execution in light of the feedback from staff and clients? Does the customer have any complaints or not? What inquiries are made, if any?

7. Lastly, how successful do you think the e-Trade service is in assisting the Ministry in achieving its various goals? Which enhancement plans do you have for the future? Please respond taking into account any technological restrictions as well as the functionality and features that should be included