ST. MARY UNIVERSITY

SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF ACCOUNTING AND FINANCE

TELEBIRR'S IMPACT ON ACCOUNTING INFORMATION QUALITY: INSIGHTS FROM ETHIOPIAN FUEL RETAILING OUTLETS

BY AKLESIA KEFELEGN

A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF ST.MARRY UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTERS IN ACCOUNTING AND FINANCE

JUNE 2024

ADDIS ABABA, ETHIOPIA

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SGS/0095/2015A

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Letter of Dedication

This thesis serves as a testament to the profound influence of divine blessings and the unwavering support of my family throughout my academic endeavors. I am deeply grateful to the Almighty God and the Blessed Virgin Mary for their divine blessings and guidance throughout my life's journey.

To my dear parents, Ato Kefelegn Weldesemayat and Wro Mestawot Mame, thank you for your unwavering love, support, and wisom. You have been my constant pillars of strength, instilling in me the values of faith, perseverance, and compassion. I am forever indebted to you for the countless sacrifices you have made to provide me with every opportunity to grow and thrive.

To my beloved husband, Ato Tewodros Yoseph, words cannot express my gratitude for your steadfast love, partnership, and encouragement. You have been my soulmate, my confidante, and my greatest source of comfort and inspiration. Together, we have built a beautiful life, and I am truly blessed to have you by my side.

Finally, to my precious children, Naynan Tewodros and Perasim Tewodros, you are the greatest joys of my life. Your innocent laughter, unconditional love, and boundless curiosity have filled my heart with immeasurable happiness. You are my greatest source of motivation, and I strive every day to be the best version of myself for you.

This academic milestone stands as a testament to the unwavering love and support of my family, whose enduring presence has been a wellspring of strength and motivation. I dedicate this scholarly work to them with deep-seated appreciation and affection.

Statement of Declaration

I, Aklesia Kefelegn, under the guidance of Mohammed Seid (Phd) have undertaken an independent research study titled "Telebirr's Impact on Accounting Dynamics: Insights from Ethiopian Fuel Retailing Outlets" as a component of the requirements for the MBA program in Accounting and Finance. I confirm that this study represents my original work and has not been presented for any academic degree or diploma in this or any other educational institution before.

Aklesia Kefelegn

Signiture

Certification

This is to certify that W/ro Aklesia Kefelegn has successfully completed her thesis work entitled "Telebirr's Impact on Accounting Dynamics: Insights from Ethiopian Fuel Retailing Outlets" under my supervision. In my opinion, her project is suitable for submission as a partial fulfillment of the requirements for the award of a Master's Degree in Accounting and Finance.

Mohammed Seid (Asst. Prof)

Advisor

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Signature

Acknowledgements

I would like to express my sincere gratitude to my advisor, Muhammed Seid, for his invaluable guidance and support throughout the course of this research. His expertise and feedback were essential to the completion of this thesis.

I am also grateful to St. Mary University and all the instructors for providing a supportive learning environment. Their dedication to education has greatly contributed to my academic development.

I extend my appreciation to my colleagues at work for their support in finalizing this paper. Special thanks to W/ro Arsema Hagos and Ato Fikeremariam Girma for their assistance with data collection.

Finally, I am deeply thankful to my husband for his continuous support and encouragement throughout my postgraduate journey and the completion of this thesis.

Thank you all for your contributions.

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Abstract

This study examines the relationship between the quality of accounting information provided by the digital payment system Telebirr and its impact on user satisfaction and overall utility at fuel stations in Ethiopia.Through a survey of 336 fuel stations nationwide and a qualitative approach, the study offers a nuanced examination of how system functionality, information accuracy, and service efficiency interplay to optimize accounting practices within the Ethiopian digital payment landscape. The regression results underscore the pivotal role of multiple quality dimensions in elevating the efficacy of accounting information, emphasizing their significance in driving enhanced business operations and heightened customer satisfaction.The findings suggest that by continuously optimizing and enhancing the use of Ethio Telecom's Telebirr platform, it can streamline accounting practices, enhance fuel station experiences, and drive success in the fuel industry. The study provides valuable insights into the transformative impact of digital payment technologies on accounting information quality and overall performance in the Ethiopian context.

***Key words**: Accounting Information Quality, Delone and McLean information systems success model, Information Quality, System Quality, Service Quality,*

Acronyms

D&M IS Success Model: DeLone and McLean Information Systems Success Model

AIQ: Accounting Information Quality

SQ: System Quality

IQ: Information Quality

SrQ: Service Quality

GSMA: Groupe Spéciale Mobile Association

EPSE: Ethiopian Petroleum Supply Enterprise

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Chapter One

1. Introduction

1.1. Background of the Study

In today's digital age, accounting information is experiencing significant transformations globally (Pargmann, et al. (2023). Traditional approaches are being challenged by the emergence of innovative digital solutions. Notably, the fuel retailing sector has witnessed a surge in the adoption of smart technologies, signaling a shift towards more efficient operations (Albert, 2023).

Ethiopia's heavy reliance on imported petroleum products underscores the critical importance of efficient fuel resource management. Oversight of importation, distribution, and pricing regulations falls under the Ethiopian government's purview, primarily through the Ethiopian Petroleum Supply Enterprise (EPSE) (Regulation No. 265/2012). With a network of over 1,400 fuel stations nationwide, the distribution process involves various intermediaries like Total, NOC, and Oil Libya, facilitating the flow of products from EPSE to retail outlets (Ethiopian Monitor, 2023; Taye, 2022).

To optimize the fuel distribution network, the Ethiopian government has introduced digital platforms like Telebirr. Launched by Ethio Telecom in May 2021, Telebirr aims to streamline payment processes, enhance transparency, and mitigate fraud within the fuel retailing sector (Metasebia, 2021; Tesfaye, 2021). Mandated for adoption in fuel stations since April 2023, Telebirr represents a significant step towards digitizing financial transactions in the industry (Daniel, 2023). Despite this push for digitalization, uncertainties linger regarding Telebirr's effectiveness in supporting fuel stations' accounting information management.

The study is poised to enrich the DeLone and McLean Information Systems Success Model (D&M IS Success Model) by incorporating considerations of information quality criteria.The investigation encompasses various dimensions such as the quality of information provided by Telebirr, the effectiveness of Telebirr's system in delivering accounting information, the service quality of Ethio Telecom Telebirr, the influence on the quality of accounting information obtained, the relationship with user satisfaction levels, and the actual usage of accounting information derived from Telebirr. These dimensions cover a comprehensive analysis of how Telebirr impacts accounting information and user experience in the context of fuel outlets in Ethiopia.

1.2. Statement of the Problem

Telebirr is a pioneering leap into the realm of digital cashless solutions, heralding a new era in Ethiopia's financial landscape. However, alongside its promise, it also poses challenges that need to be addressed.

Since its launch, Telebirr, as reported by Ethio Telecom, has made notable progress in a brief period, evident in its growing subscriber base, transaction volume and increasing integration with international money transfer operators (Ethio Telecom, 2022).

As of the close of 2023, Telebirr boasted a transaction value of ETB 1.7 trillion, handled more than 5 billion Birr in daily transactions, and exceeded its subscriber target by serving 41 million customers out of its 74.6 million total subscribers (Fana Broadcasting, 2024). Telebirr's services are expanding to include advanced mobile financial services such as microcredit, microsavings, P2P transactions, and credit pay (Ethio Telecom, 2022). Users easily deposit money, pay bills, send money, remit internationally, and access instant microcredit using just their mobile phones. Additionally, the platform has recently introduced a new feature called telebirr Engage, which allows customers to engage in transactions, social interactions, and information sharing through text, pictures, QR codes, audio, and video(Ethio Telecom, 2014). This feature aims to simplify digital experiences for both individual and business users on the platform.

Telebirr is casting a powerful spell on the world of fuel retailing, especially as government mandates compel its adoption in fuel stations (Daniel, 2023; Shega, 2023). In compliance with these mandates, fuel retailers are integrating Telebirr into their operations, transitioning from either traditional cash transactions or limited usage of E-payment to fully digital payments and they mainly use Telebirr as means of payment collection for all their sales. While the full impact of this transition remains to be observed, it's evident that Telebirr's adoption is reshaping financial practices within fuel outlets.

Broader studies examining e-payment adoption in Ethiopia have identified various challenges, including language barriers, poor network connectivity, limited understanding, frequent power outages, absence of inter-bank links, resistance to technological changes among customers, and cybersecurity concerns (Mathew, 2016; Worku, G., 2010). Despite its widespread adoption of Telebirr, academic studies are scant, with only a few studies delving into the topic. Furthermore, these studies primarily focus on factors influencing Telebirr adoption and its impact on financial inclusion (Gebremedehin, 2024; Muhaba, 2023; Mohammed, 2023; Atalay Tilahun, 2022; Nicola, 2023). But, there are news reports that have underscored concerns regarding transaction delays

leading to congestion and operational inefficiencies while applying Telebirr (Addis Standard, 2023; Girma, 2023; Ethiopian Monitor, 2023).

However, within the specific context of Telebirr in particular or mobile money in general, there is a notable gap regarding their impact on the quality of accounting information. Addressing this gap, Muhaba (2023) emphasized the necessity of examining Telebirr and mobile money in Ethiopia using diverse constructs to comprehend the real-world implications fully. This study aims to respond to this call by employing the Delone and McLean framework while also exploring new perspectives that integrate technology and accounting.

In summary, based on the limited empirical evidence available, there is a notable absence of research validating the potential benefits promised by Telebirr's impact on accounting systems. The government's enforcement of Telebirr's usage reflects a broader agenda aimed at promoting financial inclusion and digitalization (Shega, 2023). However, the efficacy and challenges associated with this initiative merit further exploration, considering the diverse perspectives and experiences of stakeholders involved. This gap in knowledge leaves a significant void regarding its effectiveness in enhancing financial management practices within fuel retailing outlets.

In essence, accounting information plays a vital role in facilitating transparent financial reporting, informed decision-making, and overall business performance (Berisha Vokshi & Xhelili Krasniqi, 2017; Yigrem, 2023). Technology has historically simplified accounting tasks, with recent literature emphasizing its significant impact on accounting processes across various sectors (Jasim & Raewf, 2020; Minovski et al., 2020; Saheed, n.d.). Ensuring the quality of accounting information is foundational for the satisfaction of fuel retailing industry, facilitating transparency, informed decisions, and operational efficiency.

Given the outlined gaps and challenges, this study aims to address the following research questions:

- How does Telebirr's information quality equate fuel station accounting information quality?
- What is the impact of Telebirr's system quality on accounting information delivery efficiency for fuel stations?
- How does Ethio Telecom Telebirr's service quality affect fuel station accounting information reliability?
- Is there a significant correlation between Telebirr's accounting information quality and fuel outlet user satisfaction?
- Does the accounting information derived from the use of the Telebirr mobile money platform affect the usage of Telebirr services by fuel station businesses?

1.3. Objective of Study

General Objective:

The primary objective of this study is to examine the relationships between Telebirr, the quality of accounting information it provides, user satisfaction, and the actual use of the information, employing the dimensions of Delone and McLean framework.

Specific Objectives:

- Measure the extent of the relatiohship between Information Quality provided by Telebirr and Quality of Accounting Information of fuel outlets.
- Assess the effectiveness of Telebirr's System Quality in delivering improved Accounting Information Quality to fuel stations.
- Evaluate the Service Quality of Ethio Telecom Telebirr and its impact on the Quality of Accounting Information obtained through Telebirr.
- Examine the impact of the Quality of Accounting Information obtained from Telebirr on the satisfaction levels of fuel stations as end-users.
- Investigate whether the Quality of Accounting Information derived from Telebirr significantly improves the use of the platform in fuel outlets of Ethiopia.

1.4. Hypotheses of the Study

The hypotheses aim to examine the impact of Telebirr, EthioTelecom mobile financial service platform, on the Quality of Accounting Information it provides. Additionally, the study seeks to determine whether the Quality of Accounting Information, if influenced, affects user satisfaction and actual usage.

The hypotheses employ the five key dimensions of the D&M IS Success Model- Information Quality, System Quality, Service Quality, User Satisfaction, and Use - among the six dimensions. The study aims to evaluate Telebirr using various dimensions and examine their relationship to the Quality of Accounting Information as defined by IFRS (2018), including aspects such as relevance, reliability, timeliness, verifiability, comparability, understandability and consistency

By formulating the five alternative hypotheses outlined below, researchers explored whether the three dimensions—Information Quality, System Quality, and Service Quality—affect Accounting Information Quality, and in turn, how Accounting Information Quality impacts User Satisfaction and Use Dimension. These hypotheses served as the foundation for empirical research of the study, allowing for the evaluation of Telebirr's role in delivering high-quality accounting information and its overall impact on user satisfaction and utility.

1. **H1**: The Information Quality of provided by Telebirr significantly influences Accounting Information Quality.
2. **H1**: The effectiveness of Telebirr's system has a significant effect on the quality of accounting information.
3. **H1**: The service quality of Ethio Telecom Telebirr plays a crucial role in determining the quality of accounting information.
4. **H1**: The quality of accounting information obtained from Telebirr directly affects user satisfaction.
5. **H1**: The quality of accounting information derived from Telebirr significantly influences its actual use dimension.

1.5. Scope and Limitations of the Study

Telebirr holds particular significance as it represents the foremost digital payment solution implemented by the government within the fuel retailing industry. Consequently, this study focuses exclusively on Telebirr, examining it as the primary digital payment method used by fuel stations. By narrowing the scope to Telebirr, the research aims to provide in-depth insights into its effectiveness, user satisfaction, and impact on accounting information quality in the context of fuel retailing.

It is important to note that the scope of this research is confined to the fuel retailing sector. While the findings may provide insights into the broader applications of Telebirr or other e-payment methods, caution should be exercised when generalizing these results to other sectors

The regions of Tigray and Amhara are intentionally excluded from this study due to the ongoing conflict, which severely disrupts normal business operations and compromises the availability of reliable data. The conflict situation in these regions creates an environment of instability and uncertainty, making it challenging to obtain accurate information and conduct a thorough analysis. As a result, focusing solely on areas unaffected by the conflict ensures the research maintains its integrity and reliability, allowing for more robust findings and conclusions.

While exploring various variables regarding the impact of Telebirr could provide valuable insights, undertaking such an endeavor proves to be intricate and demands significant resources. Thus, the researcher chose to prioritize efficiency, directing attention towards the primary objectives of the study, specifically those related to Accounting Information Quality. This strategic decision ensures

that the research remains focused and enables a more thorough examination of pertinent factors, ultimately enhancing the quality and relevance of the study's findings.

The study's limitation stems from the non-response of certain fuel stations, resulting in a reduced sample size of 336 out of the total population of 1439 fuel stations in Ethiopia. This non-response may introduce bias and potentially affect the generalizability of the findings to the broader population of fuel stations in the country. Moreover, the study could have benefitted from Telecom's involvement in interviews to provide valuable insights. However, due to time and resource constraints, this was not possible. Despite this limitation, alternative methods such as literature reviews and stakeholder interviews were used to gather relevant information.

Additionally, the study focuses on utilizing five dimensions of the 2003 updated D&M IS Success Model: Information Quality, System Quality, Service Quality, User Satisfaction, and Use, while excluding Net Benefit. This decision stems from the recognition that the Net Benefit dimension encompasses broader concepts that may lead to larger frameworks, including decision accuracy rates, speed of decision-making, productivity metrics, task efficiency improvements, cost reduction figures, return on investment (ROI), key performance indicators (KPIs), and the achievement of strategic goals. By narrowing the focus to the selected dimensions, the study can maintain a more targeted analysis, aligning closely with the specific objectives and scope of the research. This approach allows for a deeper exploration of the dimensions directly pertinent to the study's goals, facilitating a comprehensive understanding of the impact of Telebirr on accounting information quality and user satisfaction.

1.6. Significance of the Study

The significance of this study lies in its comprehensive examination of Telebirr's impact on accounting information management within the fuel retailing sector in Ethiopia. Here are some key points regarding its significance:

- **Addressing a Gap in Research:** The study acknowledges the scarcity of empirical evidence regarding the effects of Telebirr on accounting systems, particularly within the Ethiopian context. By filling this gap, the research contributes to a better understanding of the implications of digital payment systems on accounting practices.
- **Policy Insights:** The findings of the study can provide policymakers with valuable insights into optimizing digital payment systems within the fuel retailing sector. This could lead to enhanced operational efficiency, improved financial management practices, and ultimately, better service provision to consumers.

- **Industry Enhancements**: Understanding how Telebirr influences accounting dynamics and user satisfaction can lead to broader industry enhancements. By identifying areas for improvement, such as information quality, system effectiveness, and service quality, the study can contribute to streamlined operations and improved decision-making processes within fuel outlets.
- **Framework Enrichment**: The study aims to enrich D&M IS Success Model by incorporating and integrating IFRS of accounting information quality criteria. This could lead to a more comprehensive understanding of the factors influencing the success of information systems in light of accounting and digital technology such as Telebirr.
- **Practical Implications**: The hypotheses formulated in the study serve as a foundation for empirical research, allowing for the evaluation of Telebirr's role in delivering high-quality accounting information and its overall impact on user satisfaction. The investigation of these hypotheses can provide practical insights for stakeholders involved in the fuel retailing sector.

Overall, the study's significance lies in its potential to contribute to knowledge advancement, policy formulation, industry enhancements, and practical implications for stakeholders, ultimately aiming to improve financial management practices and service delivery within the fuel retailing sector in Ethiopia.

1.7. Structure of the Paper

The paper follows a structured approach, starting with an Introduction in Chapter One that covers the background, problem statement, objectives, hypotheses, scope, limitations, significance, and an overview of the paper. Chapter Two outlines the research methodology, including design, sampling strategy, data collection methods, and analytical approaches. Chapter Three reviews literature on the DeLone and McLean Information Systems Success Model and its relevance to accounting information quality, including empirical studies and theoretical frameworks.

Chapter Four analyzes the impact of Telebirr on accounting information quality, user satisfaction, and usage of the application, beginning with hypotheses and data preparation, followed by descriptive statistics of fuel stations nationwide, and regression analysis to address the research question. The Conclusion and Recommendations section summarizes key findings, provides recommendations, and suggests future research areas. References and appendices are included at the end of the thesis.

Chapter Two

2. Literature Review

This literature review section explores the complex connection between accounting information quality and the DeLone and McLean Information Systems (IS) Success Model. By incorporating accounting information quality as a key dimension within the model, we aim to provide readers with a thorough understanding of how information systems impact accounting practices. Through an exploration of the origins, development, and updated dimensions of the DeLone and McLean IS Success Model, readers will gain insights into the multifaceted nature of IS effectiveness and its relevance in assessing the success of technologies like Telebirr in enhancing accounting information quality. Drawing on empirical studies and theoretical frameworks, we will demonstrate the applicability and significance of the DeLone and McLean model in evaluating the impact of digital platforms on accounting practices. By the end of this paper, readers will have a comprehensive understanding of how the DeLone and McLean IS Success Model can be effectively applied to analyze the influence of information systems on accounting information quality, offering valuable insights for researchers and practitioners in the field.

2.1. DeLone and McLean Information Systems (IS) Success Model

This paper employs a slightly modified version of the DeLone and McLean Information Systems (IS) Success Model by incorporating accounting information quality, highlighting its intricate relationship with information quality and the model overall dimensions.

This model introduced by William H. DeLone and Ephraim R. McLean, provides a comprehensive framework for evaluating the success of information systems. The model underwent a notable revision in 2003, building upon their original 1992 framework (DeLone & McLean, 2003). The model provides a multi-dimensional framework to assess the success or effectiveness of an information system from various perspectives and it has been widely adopted in IS research and has been used to evaluate the success of a wide range of IS, including enterprise systems, healthcare systems, and e-commerce systems.

2.1.1. Origin and Development of D&M IS Success Model

The Delone and McLean IS Success Model, introduced by William H. DeLone and Ephraim R. McLean in 1992, is a foundational framework for evaluating the success of information systems (IS). Initially presented in their paper "Information Systems Success: The Quest for the Dependent

Variable," the model identified six key dimensions of IS success: system quality, information quality, use, user satisfaction, individual impact, and organizational impact. This comprehensive approach aimed to address the inconsistencies in defining and measuring IS success across different studies.

In 2003, DeLone and McLean revisited and updated their model in "The DeLone and McLean Model of Information Systems Success: A Ten-Year Update." They added service quality as a new dimension, integrated individual and organizational impact into a single "net benefits" dimension, and highlighted the interdependencies among all dimensions. These refinements reflected the advancements in IS research and addressed critiques of the original model.

The primary changes included the addition of a new "Service Quality" dimension and the consolidation of the previous "Individual Impact" and "Organizational Impact" dimensions into a single "Net Benefits" factor. The inclusion of "Service Quality" recognized the growing importance of the IT support and services provided to users, beyond just the quality of the system and information it. This acknowledged the critical role of the IT department in enabling successful system usage and outcomes. Currently, the framework upholds that Information Systems (IS) is measured by six variables: System Quality, Information Quality, Service Quality, Use, User Satisfaction, and Net Benefits.

2.1.2. The Updated D&M IS Success Model

The DeLone and McLean Information Systems (IS) Success Model, originally proposed in 1992, has been a fundamental framework for evaluating the success of information systems. Recognizing the rapid advancements in technology and incorporating insights from extensive empirical research, DeLone and McLean updated their model in 2003 to remain relevant and comprehensive. This updated model includes six interrelated dimensions: System Quality, Information Quality, Service Quality, Use, User Satisfaction, and Net Benefits. The model provides a thorough approach to measure and evaluate the effectiveness of information systems within organizations, making it a cornerstone in understanding IS success.

I. **System Quality:**

System Quality measures the technical aspects of the information system, such as performance, reliability, ease of use, and functionality. High System Quality indicates that the system operates effectively, with minimal errors and downtime, and is user-friendly, thereby encouraging consistent use and satisfaction. Metrics for this dimension include system response time, processing speed, system uptime, error rates, mean time between failures (MTBF), user interface satisfaction scores, task completion times, the number of features utilized, and feature satisfaction ratings.

II. **Information Quality:**

Information Quality assesses the output quality of the information system. Key attributes include accuracy, relevance, timeliness, completeness, and understandability of the information produced by the system. High-quality information is crucial for effective decision-making and enhances user satisfaction. Metrics for Information Quality include error rates in reports, data validation checks, user ratings of information relevance, alignment with decision-making needs, frequency of updates, time lag between data generation and availability, extent of missing data, comprehensiveness of reports, user ratings of information clarity, and ease of interpretation scores.

III. **Service Quality:**

Service Quality, added in the 2003 update, evaluates the quality of support services provided to users of the information system. This includes the responsiveness, competence, and reliability of the IT support staff. High Service Quality ensures that users can rely on prompt and effective assistance, contributing to overall satisfaction and system usage. Metrics for this dimension include average response time to support requests, user satisfaction with response times, user ratings of support staff knowledge, resolution effectiveness rates, consistency of support service quality, and repeat issue rates.

IV. Use:

Use captures the extent and manner in which the information system is utilized by its intended users. This includes both voluntary and mandatory use, frequency of use, and the nature of the tasks performed using the system. Higher usage often correlates with greater benefits derived from the system, though the relationship can be complex. Metrics for Use include the number of voluntary logins, duration of voluntary sessions, compliance rates with mandated system usage, average number of logins per user, usage frequency distribution, types of tasks performed, and task diversity scores.

V. User Satisfaction:

User Satisfaction measures users' overall satisfaction with the information system. It reflects users' perceptions and attitudes towards the system, influenced by their experiences with System Quality, Information Quality, and Service Quality. User satisfaction is a key indicator of the success of an information system. Metrics for User Satisfaction include user satisfaction survey scores, Net Promoter Score (NPS), ratings of user experience, perceived ease of use, specific feature satisfaction ratings, and feedback on feature usefulness.

VI. Net Benefits:

Net Benefits combine the individual and organizational impacts of the information system into a single measure. This dimension assesses the extent to which the system contributes to achieving desired outcomes, such as improved decision-making, enhanced productivity, cost savings, and overall organizational performance. Metrics for Net Benefits include decision accuracy rates, speed of decision-making, productivity metrics, task efficiency improvements, cost reduction figures, return on investment (ROI), key performance indicators (KPIs), and achievement of strategic goals.

VII. Relationships between the Dimensions:

The dimensions of the DeLone and McLean IS Success Model are interrelated and influence one another in various ways. High System Quality, Information Quality, and Service Quality directly impact User Satisfaction and Use. High-quality systems and services lead to higher user satisfaction and increased usage. There is a reciprocal relationship between Use and User Satisfaction, as satisfied users are more likely to use the system frequently, and frequent use can reinforce satisfaction if the system meets user needs effectively. Increased use and higher user satisfaction contribute to greater Net Benefits. As users derive more value from the system, the overall benefits to the organization increase, enhancing the system's success.

The updated DeLone and McLean IS Success Model provides a comprehensive framework for evaluating the success of information systems. By incorporating multiple dimensions of success, the model captures the multifaceted nature of IS effectiveness. The interrelationships between the dimensions highlight the complexity of measuring IS success and underscores the importance of considering various factors. The inclusion of specific metrics for each dimension aids in the practical application of the model, making it a valuable tool for both researchers and practitioners in the field of information systems. As technology continues to evolve, the model's adaptability ensures its continued relevance, solidifying its role as an essential framework for assessing IS success.

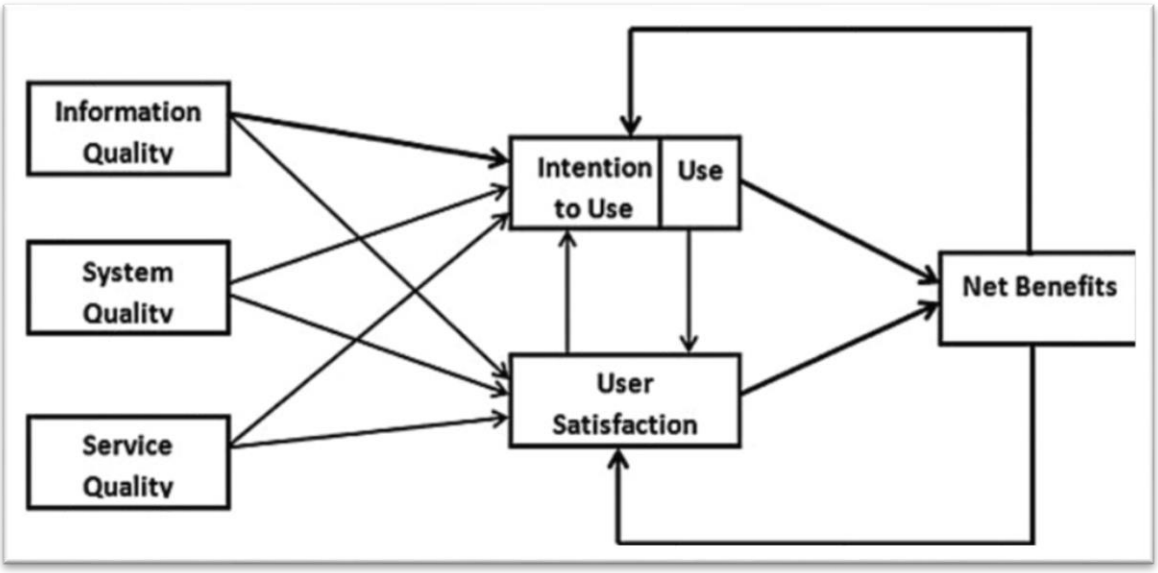


Figure 1: The updated Delone-McLean information system success model (Delone and McLean, 2003).

2.1.3. Application of Delone and McLean IS Success Model

Since its introduction, the DeLone and McLean model has been widely used to assess the effectiveness of various IS applications, supported by numerous empirical studies demonstrating its utility across different domains. For instance, in the context of Enterprise Resource Planning (ERP) systems, a study by Ifinedo (2006) applied the DeLone and McLean model to measure ERP success and found significant relationships between system quality, information quality, user satisfaction, and organizational impact. Similarly, in e-commerce, research by Wang (2008) validated the model by showing that system quality, information quality, and service quality significantly influence user satisfaction and perceived net benefits, thereby enhancing customer loyalty and business performance.

In healthcare, a study by Petter, DeLone, and McLean (2013) applied the updated model to assess Electronic Health Record (EHR) systems, demonstrating that high-quality information and system performance lead to improved user satisfaction and better patient care outcomes. Moreover, Al-Fraihat et al. (2019) utilized the model to evaluate e-learning systems, finding that system and information quality positively affects user satisfaction and learning effectiveness.

These empirical studies across different IS applications not only confirm the model's applicability but also highlight its robustness in explaining IS success factors and their interdependencies.

A very large portion of studies utilizing the model have employed survey-based empirical methods. Among those studies, the most common ones are based on variables and constructs obtained

through surveying and field research data. Those empirical studies have been conducted to assess the performance of both internal and external systems.

And performance has been found to be associated with the variables and constructs of the D&M model. Furthermore, these elements are linked to the overall result of the D&M model, which is the net impact of the assessed IT success on organizations (Wasly & AlSoufi, 2015). According to the elements and variables, researchers have tested and shown that they have significantly improved both individual and corporate success in various organizational environments. For instance, studies have found a positive association between individual performance (effectiveness), general performance, and perceived performance (job service quality) (Alattas & Kang, 2016).

The most widely cited model associated with information systems success in academic literature is the DeLone and McLean Information Systems Success Model. Theoretical frameworks are often used in studying of specific accounting or information systems topics. The common theoretical frameworks supporting information systems (IS) research and practice are the Technology – Organization – Environment Framework, the DeLone and McLean Information Systems Success Model, and the Unified Theory of Acceptance and Use of Technology model. Each of the theoretical frameworks can be used to guide and inform all aspects of IS research and practice: from focus formulation and variable identification to implication testing.

2.1.4. Why DeLone and McLean IS Success Model?

When analyzing the impact of digital platforms like Telebirr on accounting information quality, it is essential to select a theoretical framework that comprehensively captures the various dimensions of this relationship. Several frameworks and theories can be employed, each offering unique perspectives and insights. These include the DeLone and McLean IS Success Model, the Technology Acceptance Model (TAM), the Task-Technology Fit (TTF) Model, the Diffusion of Innovations (DOI) Theory, the Resource-Based View (RBV) of the Firm, and the Balanced Scorecard (BSC).

The Technology Acceptance Model focuses on user acceptance of technology based on perceived ease of use and perceived usefulness. However, its emphasis on these two factors can be overly simplistic for complex systems like Telebirr. Additionally, TAM does not adequately consider external variables such as organizational context, cultural factors, or system characteristics beyond ease of use and usefulness (Davis, 1989; Venkatesh & Davis, 2000).

The Task-Technology Fit Model assesses how well technology supports the tasks it is used for. While useful, its scope can be narrow, focusing mainly on the fit between tasks and technology, potentially overlooking broader impacts such as user satisfaction and overall system quality. Furthermore, the model tends to be static, not accounting for how task requirements and technology capabilities evolve over time (Goodhue & Thompson, 1995).

The Diffusion of Innovations Theory explores how new ideas and technologies spread within a community or organization. Although it provides insights into the adoption rate of technologies like Telebirr, its primary focus on the adoption process can neglect post-adoption impacts like system quality and user satisfaction. Additionally, Diffusion of Innovations Theory can be too broad, lacking specific metrics for evaluating accounting information quality (Rogers, 2003).

The Resource-Based View examines how resources, including technology, contribute to competitive advantage. However, RBV can be abstract, making it challenging to apply concretely to specific technologies like Telebirr. It also tends to isolate resources without adequately considering their interactions with each other and the external environment (Barney, 1991).

The Balanced Scorecard provides a framework for managing and measuring organizational performance from multiple perspectives: financial, customer, internal processes, and learning and growth. While comprehensive, implementing a Balanced Scorecard can be complex and resource-intensive. Additionally, its broad focus may dilute the emphasis on specific issues like accounting information quality, as it encompasses a wide range of organizational performance aspects (Kaplan & Norton, 1992).

The DeLone and McLean IS Success Model is particularly well-suited for evaluating the impact of Telebirr on accounting information quality for several compelling reasons:

A. **Comprehensive Coverage**: The model encompasses a broad range of success factors including system quality, information quality, service quality, use, user satisfaction, and net benefits. This comprehensive approach allows for a robust analysis of how Telebirr impacts accounting information quality across multiple dimensions (DeLone & McLean, 1992).
B. **Holistic Integration**: Unlike other models that may focus solely on technology adoption (such as TAM) or task fit (such as TTF), the DeLone and McLean model integrates multiple dimensions, providing a holistic view of the system's impact. This integration is crucial for

understanding the full range of effects Telebirr has on accounting information quality (DeLone & McLean, 2003).

C. **User-Centric Focus**: By including user satisfaction and use as core components, the model emphasizes the importance of user experience. This focus is essential for assessing the real-world impact of Telebirr on accounting practices and ensuring that the platform meets the needs and expectations of its users (Seddon & Kiew, 1994).

D. **Validated Framework**: The DeLone and McLean model has been extensively validated and adapted across numerous studies and contexts. Its reliability and flexibility make it an ideal framework that can be tailored to the specific context of financial services and accounting in Ethiopia (Petter et al., 2008).

E. **Direct Alignment with Study Focus**: Information quality is a direct component of the DeLone and McLean model, aligning perfectly with the primary focus of this study. The model enables a detailed assessment of how Telebirr impacts the accuracy, timeliness, relevance, and completeness of accounting information, which are critical aspects of accounting information quality (Wixom & Todd, 2005).

In conclusion, while various models and theories offer valuable perspectives, the DeLone and McLean IS Success Model stands out as the most suitable framework for a comprehensive and user-centric analysis of Telebirr's impact on accounting information quality. Its multidimensional approach, emphasis on user experience, and specific focus on information quality make it the optimal choice for this study.

However, it is important to note that the DeLone and McLean Information Systems Success Model has several weaknesses. These include its complexity and the interrelated nature of its dimensions, which can be challenging to measure accurately. The model may not fully account for industry-specific or context-specific nuances, particularly in rapidly evolving fields like mobile money. Additionally, it can become outdated due to technological advancements, relies on subjective assessments of user satisfaction and net benefits, and may overlook intangible societal impacts or long-term strategic considerations (Petter, DeLone, & McLean, 2008; Urbach & Müller, 2012).

2.2. Accounting Information Quality(AIQ)

The structures of accounting systems, encompassing elements for collecting and summarizing economic events, play a crucial role in determining the Accounting Information Quality (AIQ) (Aladwan & Al-Adwan, 2023). Additionally, the service quality provided by individuals within the accounting system significantly impacts AIQ (Francis et al., 2023). However, the ultimate

assessment of AIQ lies in the evaluation conducted by the receivers of accounting information, as their perception of reliability directly influences the quality of the information provided (Agus, Hanifah, Saida, & Harahap, 2023). While factors like system structures and service quality are vital, the users' evaluation stands as the ultimate measure of AIQ, highlighting the importance of meeting users' expectations and ensuring the reliability and usefulness of accounting information for decision-making (Abigail, Ronald, & Prayanthi, 2022).

2.2.1. Definition of Accounting Information Quality

Information plays a crucial role in the running of all modern economic and social organizations. Accounting information refers to a set of data and statistics that is extracted from the financial information of an accounting entity and has been subjected to the process of classification and summarization, aiming at some specified end use (Ribeiro & Prataviera, 2014). Accounting information is primarily captured in the principles, policies, and decisions are laid down by the management, bidirectional relationship data.

Accounting professionals and theories of accounting emphasize accounting's role as an information system. For investors, equity holders, and tax authorities, accounting practitioners require that accounting statements' preparation and presentation rules be enforced. This information is crucial for stakeholders—such as investors, managers, creditors, and regulatory bodies—to make informed decisions regarding an organization's financial health and performance.

Quality as used in this study is a concept that refers to how good, excellent, dependable, or sound a certain product, entity, or operation is. The term quality is always used to describe a positive framework or to stipulate the aesthetic practice of evaluating services or goods. The variety of aspects or components used to evaluate the attribute of a certain object or process is typically characteristic of quality.

In its analysis of quality, accounting literature examines the level to which the accounting information accurately and reliably demonstrates the economics of transactions (ie, the actual or management's desired nature of the business) concerned with the accounting reports. Accounting consistency, quality of the standard-setting process, reliability of the auditing methods are particular areas of importance for consideration (Zhao, 2022). Information about accounting indicates how occurrences are recorded, classified, and reported. Measuring accounting information quality involves the judgment of how good it is to the information president or user. Business entities and governmental agencies must be capable of depending on the precision, relevance, and realistic representations of accounting information (F. Karr et al., 2021).

2.2.2. Components of Accounting Information

The primary components of accounting information include financial statements, management reports, supporting schedules, and notes and disclosures, each of which plays a vital role in the accurate representation and interpretation of financial data (Kieso, Weygandt, & Warfield, 2020).

Financial Statements:

- Balance Sheet: Offers a comprehensive view of an entity's financial position at a specific point in time, detailing assets, liabilities, and equity.
- Income Statement: Illustrates the entity's financial performance over a period, encompassing revenues, expenses, and profits or losses.
- Cash Flow Statement: Captures the inflows and outflows of cash, demonstrating how the entity generates and utilizes cash over a period.
- Statement of Changes in Equity: Chronicles the changes within the equity section of the balance sheet over a given period.

✓ Management Reports:

- Budgets, Forecasts, and Variance Analysis Reports: Utilized by internal management for informed decision-making and strategic planning.

✓ Supporting Schedules:

- Detailed Breakdowns of Financial Statement Items: Examples include accounts receivable aging schedules and inventory analysis reports, providing granular insights into specific areas.

✓ Notes and Disclosures:

- Supplementary Information in Financial Statements: Provides essential context and details, such as accounting policies, contingent liabilities, and subsequent events, to enhance understanding of the reported figures.

2.2.3. Accounting Information Quality

Accounting information quality is a critical aspect of financial reporting, especially when adhering to the International Financial Reporting Standards (IFRS). IFRS aims to ensure that financial statements provide a true and fair view of an entity's financial position and performance. International Accounting Standards Board (2018) states that the quality of accounting information under IFRS is assessed based on several qualitative characteristics:

Fundamental Qualitative Characteristics:

- Relevance: Information must be capable of making a difference in decisions made by users. Relevant information helps predict future outcomes or confirm past evaluations.
- Faithful Representation/Reliability: Information must be complete, neutral, and free from error. Faithful representation ensures that the financial statements accurately reflect the economic phenomena they purport to represent. It is a fundamental aspect of reliability in accounting. When financial information faithfully represents the economic phenomena it purports to represent, it enhances the reliability of financial statements.

✓ Enhancing Qualitative Characteristics:

- Comparability: Information should be comparable across different entities and periods, allowing users to identify trends and differences.
- Verifiability: Information should be verifiable, meaning that different knowledgeable and independent observers can reach consensus that a particular depiction is faithfully represented.
- Timeliness: Information must be available to decision-makers in time to influence their decisions.
- Understandability: Information should be presented clearly and concisely, making it comprehensible to users with a reasonable knowledge of business and economic activities.
- Consistency: Accounting methods and policies should be applied consistently over time to ensure comparability of financial information. Changes in accounting policies should be transparently disclosed and justified to avoid misleading users.

By adhering to these qualitative characteristics, IFRS ensures that accounting information is of high quality, thereby enhancing the reliability and usefulness of financial statements for all stakeholders. This study also employed this framework and all those metrics to measure the quality of accounting information.

2.2.4. Importance of Accounting Information Quality

Accounting information plays a crucial role within an entity and to its users due to its dual nature of being auditable and verifiable while also representing underlying business realities (Pflueger, 2015;"Accounting Communication," 2023). It is generated by Accounting Information Systems (AIS) to provide financial and management information for decision-making purposes, catering to both internal and external stakeholders (Agus et al., 2023).

AIQ is a crucial aspect that impacts various stakeholders, yet it remains a complex and multifaceted issues (Bradford, 2022). Studies have shown that high-quality accounting information positively influences the success of decision-making by providing clear, accurate, and reliable data for managerial use (Nyoman et al., 2023; Mohammed, 2022). This information, derived from financial statements, aids in rationalizing and enhancing decision-making effectiveness, contributing significantly to the decision-making process (Popa & Nedelea, 2022). Additionally, the quality of accounting information systems directly impacts decision-making success, emphasizing the importance of accurate and precise financial data for informed decision-making. The interdependence between financial-accounting information and the decision-making process highlights the significance of quality accounting information in facilitating optimal management decisions for both internal and external stakeholders. Ultimately, ensuring the quality of accounting information is essential for organizations to make informed and strategic decisions that drive success and efficiency.

To effectively analyze AIQ, a comprehensive framework should consider the diverse factors that can influence AIQ positively or negatively in a balanced manner (Mohammed, 2022). Despite the subjective and multi-faceted nature of AIQ

In summary, accounting information quality is a cornerstone of effective financial reporting and management. It ensures that financial data serves its purpose in aiding decision-making, building trust, and maintaining compliance with regulatory standards.

2.3. Integrating D&M IS Success Model and AIQ.

The DeLone and McLean IS Success Model and accounting information quality share a mutual focus on evaluating the effectiveness and impact of information systems within organizations. The model provides a holistic framework for assessing IS success across multiple dimensions, aligning closely with the evaluation of accounting information quality:

The DeLone and McLean model offers a comprehensive approach to evaluating IS success, covering dimensions such as system quality, information quality, service quality, use, user satisfaction, and net benefits. Accounting information quality, being critical for organizational decision-making and financial reporting, naturally aligns with the "Information Quality" dimension of the model. Thus, the model allows for a thorough assessment of how well information system supports the production and dissemination of accurate, timely, relevant, and complete accounting information.

Moreover, both the model and accounting information quality emphasize the importance of user experience and satisfaction. User satisfaction, a key dimension of the DeLone and McLean model, is influenced by factors such as system quality, information quality, and service quality. Similarly, high-quality accounting information enhances user satisfaction among stakeholders such as managers, investors, and regulators, contributing to organizational effectiveness and decision-making.

The DeLone and McLean model's "Net Benefits" dimension assesses the overall impact of an information system on organizational outcomes, such as improved decision-making, enhanced productivity, and cost savings. Accounting information quality plays a crucial role in achieving these outcomes by providing reliable data for financial reporting, budgeting, forecasting, and performance evaluation. Thus, the model's evaluation of net benefits encompasses the broader implications of accounting information quality on organizational performance and success.

While the DeLone and McLean model and accounting information quality intersect in their focus on evaluating IS effectiveness, they also exhibit differences. Fisrtly, accounting information quality specifically focuses on the accuracy, reliability, relevance, and timeliness of financial data. It is a subset of the broader concept of information quality addressed in the DeLone and McLean model, which encompasses various types of information used within organizations. Secondly, the DeLone and McLean model provides a set of metrics and measures for evaluating each dimension of IS success, covering aspects such as response time, error rates, user ratings, and organizational impact. In contrast, accounting information quality may have specific metrics which are tailored to financial reporting standards, regulatory requirements, and industry best practices, such as the absence of material misstatements, adherence to GAAP (Generally Accepted Accounting Principles), and compliance with regulatory guidelines. Finally, evaluating accounting information quality often involves specific contextual factors related to financial reporting standards, industry regulations, and organizational policies. While the DeLone and McLean model provides a general framework applicable across different industries and contexts, the assessment of accounting information quality may require additional considerations for industry-specific practices and regulatory compliance.

In brief, understanding the relationship and differences between the updated DeLone and McLean IS Success Model and accounting information quality is crucial for organizations seeking to leverage information systems effectively. By integrating both perspectives, organizations can

ensure the quality and usefulness of accounting information for decision-making and organizational performance.

To elucidate the correlation between the model and accounting information quality, and to achieve greater clarity and predictive power, I have proposed a nuanced adjustment to the DeLone and McLean IS model, as visually represented in the following diagram.

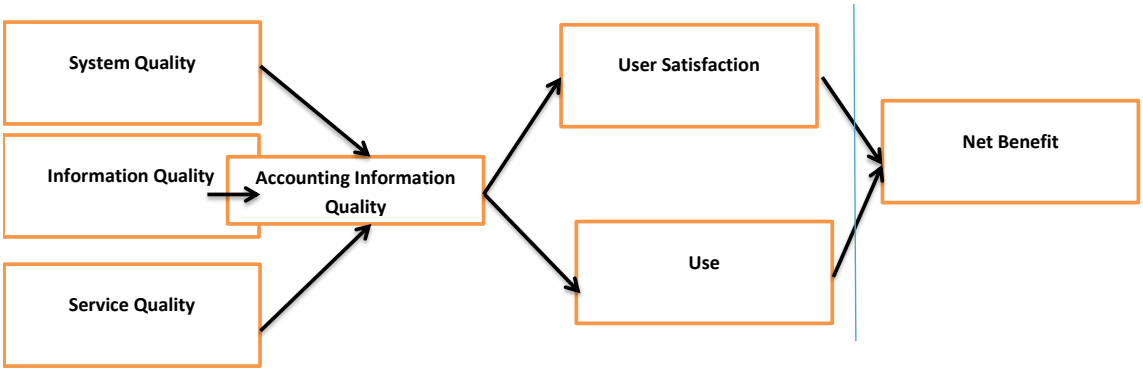


Figure 2: Modified D&M IS Model, Integrating AIQ

In this model, inspired by the DeLone and McLean IS Success Model, it is explore the intricate relationship between System Quality (SQ), Information Quality (IQ), Service Quality (SeQ), Accounting Information Quality (AIQ), user satisfaction, and the Use dimension.

System Quality (SQ) encompasses the technical facets of the system, ensuring smooth operations and user-friendly interfaces. Information Quality (IQ) focuses on the accuracy and relevance of output, crucial for informed decision-making. Service Quality (SeQ) highlights the responsiveness and reliability of support services, vital for user assistance.

At the heart of our model lies Accounting Information Quality (AIQ), specifically evaluating the precision, timeliness, and relevance of accounting data generated. This dimension is pivotal for financial reporting and managerial decisions.

The Use dimension reflects how actively and effectively users engage with the system, capturing both voluntary and mandatory usage, frequency of interaction, and task performance. It sheds light on the practical application and adoption of the information system within the organization.

User satisfaction measures overall contentment with the system's performance and support services, ensuring a positive user experience. By integrating these dimensions, our refined model offers a holistic framework for evaluating information systems' effectiveness in producing high-quality accounting information and fostering meaningful usage within the organization.

While acknowledging the importance of net benefits in the overall evaluation of information system success, this research limits its scope to the immediate factors affecting accounting information quality and user experience. Future research could expand on this work by exploring how user satisfaction and system use translate into broader organizational benefits, such as enhanced decision-making, improved productivity, and financial performance. However, the current study aims to lay the foundational understanding necessary for such subsequent investigations.

2.4. The Impact of Digital Technology on Accounting Information Quality

Digital technology encompasses coding, computing, processing, storing, transmitting, and applying numerical data (King, 2021). It refers to any technology that uses digital data and processes it using digital systems. This encompasses a wide range of technologies, including computers, smartphones, tablets, digital cameras, digital televisions, and more. Essentially, it involves the use of binary digits (0s and 1s) to represent and manipulate data, allowing for various functionalities such as storage, processing, communication, and display of information. Digital technology has indeed revolutionized various facets of contemporary society, impacting communication, education, business, and culture.

In the modern business landscape, heavily influenced by digital technology, a profound revolution is underway across various operations, significantly impacting the realm of accounting (Ukpong, 2023). Automation has streamlined tasks like data entry and reconciliation, thereby enhancing efficiency. Through the utilization of data management tools, businesses gain access to real-time financial data, facilitating better decision-making processes (Ren, 2022). Recently, studies highlight the adoption of digital technologies grown to use artificial intelligence, enterprise resource planning, blockchain, and big data analysis, impacting the accounting profession by changing skills, tasks, and work environments (Ukpong, 2023). For instance, cloud computing has emerged as a transformative force, enabling remote work and fundamentally reshaping the accounting profession (Mihai & Duţescu, 2022).

However, these solutions are not without their challenges. For instance, cyber security emerges as a critical concern as financial data becomes increasingly digitized (Adu & Adjei, 2018). Additionally, the reliance on digital platforms introduces the risk of technological disruptions,

necessitating proactive measures to ensure the continuity of operations (Chow, 2000). Overall, digital technology has improved client service and experience in accounting, empowering firms to deliver personalized services and value-added insights.

2.4.1. Mobile Money as Digital Technology in the world

Mobile money, a digital financial technology, has emerged as a transformative tool facilitating transactions and services through mobile devices, including smartphones and feature phones (Adaba & Ayoung, 2017). This innovation allows users to store money in a mobile wallet, facilitating exchanges for cash at numerous mobile money agents (Munyegera & Matsumoto, 2017). It empowers users to conduct various financial activities such as money transfers, bill payments, and accessing other financial services, all without the reliance on traditional banking infrastructure like physical branches.

It is essential to distinguish mobile money from mobile banking, which typically encompasses a broader spectrum of traditional banking services tailored for existing bank customers, such as account management and loan applications. In contrast, mobile money primarily caters to fundamental financial transactions like transfers and bill payments, not only the ones who have active bank accounts but also targeting unbanked or underbanked individuals who lack access to traditional banking services (Alhassan & Koaudio, 2019).

The GSMA (Groupe Spéciale Mobile Association), an industry organization representing mobile network interests, reported in 2024 that the global mobile money industry has experienced exponential growth over the past two decades. As of 2024, the industry boasts 1.75 billion registered accounts, processing an astounding $1.4 trillion in annual transactions (GSMA, 2024). The report also confirmed that between 2013 and 2022, mobile money services significantly contributed to economic growth in countries that adopted them, increasing their total gross domestic product (GDP) by $600 billion, representing a 1.5% rise in GDP over this period.

However, challenges such as cybersecurity threats, fraud, and regulatory issues pose risks to the industry's stability and trustworthiness (Mistura, Sanni, Bodunde, Odunola, Dauda, Olalere, Olajubu, & Aderounmu, 2022). Concerns about data privacy, user protection, and challenges like financial, security, privacy, performance, time, convenience, and psychological issues faced by mobile money users further highlight the potential risks and sustainability concerns in the long term. To address these challenges and ensure the sustainability of mobile money services, there is a crucial need for robust cybersecurity measures, effective fraud prevention strategies, stringent regulatory frameworks, and continuous efforts to enhance data privacy and user protection.

Mobile money services have become a significant part of the financial landscape globally, with notable examples such as M-Pesa in Kenya, bKash in Bangladesh, GCash in the Philippines, and Paytm in India. These services have not only facilitated financial transactions but have also contributed to financial inclusion and economic growth in their respective countries (Dubus & Hove, 2019; Hasan et al., 2023; Musrri et al., 2021; Patnam & Yao, 2020; Ahmad et al., 2020).

East Africa, particularly through the influential market of Kenya's M-Pesa, stands as the epicenter of the global mobile money revolution. According to GSMA's 2024 report, this region hosts over 50% of the world's registered accounts. In 2023 alone, the area experienced a remarkable 13% surge in registered accounts, nearing the impressive milestone of 1 billion accounts (GSMA,2024). Regulators in East Africa have taken a progressive, enabling approach, fostering innovation and allowing mobile money providers to offer a broader range of financial services (Boer, 2023). Harmonized regional regulations have also facilitated cross-border transactions, further propelling the industry's growth (Ky et al., 2023). Particularly in Africa, exemplified by Kenya's M-Pesa, mobile money has shown potential economic impacts, especially in enhancing financial inclusion (Dubus & Hove, 2019; Ahmad et al., 2020).

However, this rapid expansion faces challenges. The regulatory framework struggles to keep up with technological advancements, potentially failing to address risks such as fraud, cybersecurity, and data privacy (Abrahams, 2023). Critics argue it lacks robustness for consumer protection and sustainable development (Ndung'u, 2023).The economic benefits of mobile money are debated. While some studies show improved financial inclusion and poverty reduction (Jack & Suri, 2014), others argue these benefits are overstated and dependent on complementary infrastructure (Aker & Wilson, 2019). Additionally, mobile money can exacerbate inequalities. Rural and less developed regions may lag due to limited network coverage and digital literacy (Suri & Jack, 2016). This digital divide suggests benefits are not evenly distributed (Mbiti & Weil, 2016).

In India, Paytm has emerged as a prominent mobile e-commerce app, impacting the country's economy significantly (Athique, 2019; Bhatia-Kalluri & Caraway, 2023). Similarly, bKash in Bangladesh has revolutionized financial transactions, providing solutions to the unbanked population (Hasan et al., 2023; Mahmud, 2024). The adoption and acceptance of mobile payment services are influenced by various factors such as consumer behavior, trust, and perceived usefulness (Patil et al., 2020; Schierz et al., 2010; Chopdar et al., 2018; Linge et al., 2023; Jun et al., 2018). Studies have shown that training and user participation are essential in making consumers familiar with mobile payment systems, thereby increasing their adoption (Patil et al.,

2020). Moreover, the convenience and accessibility offered by mobile banking services, including checking account balances, transferring funds, and making bill payments, have further contributed to their widespread use (Singh & Srivastava, 2018; Musrri et al., 2021) . However, challenges related to network connectivity, interoperability, and regulatory compliance persist, affecting the seamless delivery of mobile banking services and highlighting the need for enhanced infrastructure, regulatory frameworks, and industry collaboration to address these challenges effectively.

In developed and Western nations, the prevalence of mobile money usage is not as widespread compared to regions with limited banking infrastructure. However, there is a fast rising trend towards adoption fueled by mobile payment solutions and digital wallets provided by both tech companies and financial institutions (Naeem, 2023). These solutions offer users the convenience and flexibility of managing finances through mobile devices, enabling payments, transfers, and purchases seamlessly.

Although mobile money may not be as pervasive in developed countries, the adoption of mobile payment solutions is steadily growing alongside the integration of digital technology into daily life (Su et al., 2017). Established companies like PayPal, Venmo, and Apple Pay exemplify this trend by offering convenient avenues for users to conduct financial transactions via mobile devices. Despite variances in mobile money usage between developing and developed nations, the core principles of convenience, accessibility, and security remain paramount.

Mobile Money in Ethiopia

Despite banks and micro-finance institutions offering mobile banking services since 2015, these services have not achieved widespread adoption (GSMA, 2023). In 2020, the Ethiopian government liberalized the telecom sector and revised regulations to allow non-banks, including mobile network operators (MNOs), to provide mobile money services (GSMA, 2023). Following this, Ethio Telecom launched Telebirr in May 2021 to streamline payment processes (Metasebia, 2021; Tesfaye, 2021). Since its launch, Telebirr has shown significant progress, with Ethio Telecom reporting a rapidly growing user base, increasing transaction volumes, and enhanced integration with international money transfer services (Ethio Telecom, 2022). By the end of 2023, Telebirr had facilitated transactions worth ETB 1.7 trillion, with a daily transaction volume exceeding 5 billion Birr. It also exceeded its subscriber target, serving 41 million customers out of 74.6 million subscribers (Fana Broadcasting, 2024). Telebirr has diversified its offerings to include advanced mobile financial solutions such as microcredit, microsavings, peer-to-peer transactions, and credit pay (Ethio Telecom, 2022).

In addition to Ethio Telecom, Safaricom entered the Ethiopian market in September 2022 and obtained its mobile money license in May 2023 (GSMA, 2023). Furthermore, the Ethiopian government plans to privatize 45% of Ethio Telecom and introduce another MNO to foster investment and competition (GSMA, 2023). Until recently, Ethiopia's digital financial services were limited to banks and microfinance institutions (MFIs), excluding mobile network operators (MNOs) and fintechs from independently offering such services. The Payment Instrument Issuers' Directive, issued by the National Bank of Ethiopia (NBE) in 2021, marked a significant shift by allowing MNOs and fintechs to operate as payment instrument issuers (NBE, 2021). Recognizing the need for change, the Ethiopian government issued directives enabling non-financial institutions like telecom companies to provide digital financial services (NBE, 2021). Subsequently, in May 2021, Ethio Telecom launched its mobile money service named "Telebirr," combining "Tele" with the Ethiopian currency, symbolizing the integration of telecommunications and financial services. This move mirrored the success of Kenya's M-PESA and marked Ethiopia's first telecom-operated mobile money platform (Atalay Tilahun, 2022).

The launch of Telebirr by Ethio Telecom exemplifies Ethiopia's acknowledgment of the transformative potential of mobile money services. With a focus on enhancing financial inclusion, Telebirr offers a range of financial services, including money transfers, bill payments, and airtime purchases through mobile phones, aiming to integrate unbanked and underbanked populations into the formal financial system and drive the country's digital economic growth. Despite the undeniable global potential of mobile money services, challenges and contrasting views exist in Ethiopia's digital financial landscape.

Broader studies examining e-payment adoption in Ethiopia have identified various challenges, including language barriers, poor network connectivity, limited understanding, frequent power outages, absence of inter-bank links, resistance to technological changes among customers, and cybersecurity concerns (Mathew, 2016; Worku, 2010). Despite widespread adoption of Telebirr, academic studies are scant, with only a few delving into the topic, primarily focusing on factors influencing Telebirr adoption and its impact on financial inclusion (Gebremedehin, 2024; Muhaba, 2023; Mohammed, 2023; Atalay Tilahun, 2022; Nicola, 2023). Moreover, news reports have highlighted concerns about transaction delays leading to congestion and operational inefficiencies with Telebirr (Addis Standard, 2023; Girma, 2023; Ethiopian Monitor, 2023). Additionally, hesitancy among merchants to adopt mobile payment systems due to compatibility issues, lack of trust, and perceived risks has been observed ("Ethiopia: Mobile Money Licence," 2023), despite the country's high mobile phone penetration rate and potential for financial inclusion (Firehiwot, 2020; Henok, 2015). Challenges in the mobile money sector in Ethiopia include delays in

regulatory approval for new products, lack of interoperability systems, and the absence of aggregators between service providers and retail agents (Zigale & Yikeber, 2018). These challenges highlight the need for regulatory clarity, infrastructure development, and industry collaboration to overcome barriers to mobile money adoption and usage in Ethiopia.

In summary, while mobile money services like Telebirr have the potential to enhance retail operations by increasing transaction efficiency, expanding customer reach, and reducing reliance on cash, addressing challenges related to regulatory frameworks, interoperability, and trust is crucial to unlocking the full benefits of mobile money services in Ethiopia. By navigating these challenges and fostering collaboration within the industry, Ethiopia can harness the transformative power of mobile money to drive financial inclusion and economic development for all its citizens.

2.4.2. Key Features and Functionalities of Telebirr:

Telebirr offers a range of features and functionalities designed to facilitate financial transactions. Here are the key features and functionalities of Telebirr:

Key Features and Functionalities:

a) Account Management:

- Registration: Users can easily register for a Telebirr account using their mobile phone number and a government-issued ID.
- Balance Inquiry: Users can check their account balance at any time through the mobile app or USSD code.

b) **Money Transfers:**

- Person-to-Person (P2P) Transfers: Users can send and receive money to and from other Telebirr users instantly.
- Bank Transfers: Users can transfer funds between their Telebirr account and linked bank accounts.

c) **Bill Payments:**

- Utility Bills: Users can pay for utilities such as electricity, water, and telecom services directly from their Telebirr account.

- Merchant Payments: Users can make payments to merchants and businesses that accept Telebirr.

d) **Airtime and Data Purchases:**

- Users can purchase airtime and data bundles for themselves or others using their Telebirr balance.

e) **Merchant Services:**

- QR Code Payments: Merchants can accept payments via QR codes, enabling quick and secure transactions.
- Merchant Wallets: Businesses can create and manage merchant wallets to receive payments and manage funds.

f) **Savings and Loans:**

- Savings Accounts: Users can open savings accounts and manage their savings directly through Telebirr.
- Microloans: Access to microloans for eligible users, providing short-term credit options.

g) **Remittances:**

- Users can receive remittances from abroad directly into their Telebirr account, facilitating cross-border money transfers.

h) **Security Features:**

- PIN Protection: Transactions are secured with a personal identification number (PIN).
- Encryption: Data encryption ensures the security and privacy of user transactions.

i) **User Interface:**

- Mobile App: A user-friendly mobile app available on both Android and iOS platforms.
- USSD Code Access: Services accessible through USSD codes for users without smartphones.

j) **Customer Support:**

- 24/7 Customer Service: Dedicated customer support available to assist users with any issues or inquiries.
- In-App Support: Access to help and support within the mobile app.

Additional Functionalities:

- Multi-language Support: The platform supports multiple local languages, making it accessible to a wider audience.
- Integration with Other Services: Telebirr can be integrated with other financial and non-financial services, enhancing its utility.
- Promotions and Rewards: Periodic promotions and rewards for users, incentivizing usage and engagement.

Telebirr aims to provide a comprehensive mobile money solution by offering a wide range of services.

2.4.3. Telebirr in Fuel industry

In the context of fuel retailing stations, Telebirr is utilized as a digital payment solution to streamline transactions. Here is how it is typically used:

- Payment for Fuel: Customers visiting fuel retailing stations can pay for fuel purchases using Telebirr by scanning a QR code or entering the merchant's Telebirr number. This process eliminates the need for cash transactions and enhances efficiency at the point of sale.

- Integration with POS Systems: Many fuel retailing stations have integrated Telebirr with their point-of-sale (POS) systems, allowing for seamless integration of digital payments into existing operational workflows.

- Transaction Monitoring: Station managers and owners can monitor Telebirr transactions in real-time, allowing for better financial management and reconciliation.

- Development, Adoption, and Usage Trends: Telebirr was introduced in response to the growing demand for digital payment solutions in Ethiopia and the government's push for financial inclusion. Since its launch, Telebirr has witnessed significant adoption across various sectors, including fuel retailing, driven by factors such as:

    - Government Support: The Ethiopian government has actively promoted Telebirr as part of its digital transformation agenda, encouraging businesses and consumers to embrace the platform.
    - Convenience and Security: Telebirr's user-friendly interface and robust security measures have contributed to its widespread acceptance among users seeking secure and convenient payment options.
    - Marketing and Awareness Campaigns: Ethio Telecom has conducted extensive marketing and awareness campaigns to educate consumers and businesses about the benefits of using Telebirr, contributing to its adoption.

As a result, Telebirr has become an integral part of the digital payments ecosystem in Ethiopia, with fuel retailing stations leveraging its features to enhance operational efficiency, customer experience, and financial management. The platform's continued development and adoption are expected to drive further innovation and digitization in the country's economy.

Chapter Three

3. Research Methodology

This section of the research methodology outlines the approach, strategies, data collection instruments and analysis methods utilized to investigate the impact of Telebirr on accounting practices within Ethiopia's fuel retailing sector. It encompasses four main components: research design, sampling strategy, data collection methods and analytical approach.

3.2. Research Approach

This study adopts a mixed-methods approach, combining both quantitative and qualitative methodologies to comprehensively investigate the impact of Telebirr on accounting practices within Ethiopia's fuel retailing sector. The integration of these methodologies allows for a multifaceted exploration of the research questions, providing a deeper understanding of the phenomenon under investigation.

3.3. Sampling Strategy

The sampling strategy entails selecting a representative sample of fuel stations from the entire population of fuel outlets in Ethiopia. Out of a total of 1,439 fuel stations, a sample size of 380 was determined using a probability sampling approach. This information, sourced from the Ethiopian Petroleum Supply Enterprise (EPSE), was organized alphabetically by region.This sample size was calculated to ensure a confidence level of 95% and a margin of error of 5%. The final sample size of approximately 384 fuel stations aims to provide statistically reliable insights into fuel station operations across Ethiopia.

The following is how I calculate the sample size with a 95% confidence level and a 5% margin of error for 1439 fuel stations in Ethiopia, we can use the formula:

$$n = (Z^2 * p * q) / E^2$$

Given:

- Z = 1.96 (for 95% confidence level)
- P (estimated proportion) = 0.5 (assuming the maximum variability)
- q = 1 - p = 0.5
- E (margin of error) = 0.05

Plugging in the values:

$$n = (1.96^2 * 0.5 * 0.5) / 0.05^2$$

$$n = (3.8416 * 0.25) / 0.0025$$

$$n = 0.9604 / 0.0025$$

$$n = 384.16$$

Therefore, to have a 95% confidence level and a 5% margin of error when sampling from 1439 fuel stations in Ethiopia, the sample size of 384 fuel stations are selected.

Owing to the considerable non-response, the sample size was limited to 336 fuel stations. Despite the limitation caused by non-response, the data collected from this sample can offer statistically reliable information for analysis and decision-making in the Ethiopian context.

The list of fuel stations was organized alphabetically by region. A systematic sampling method was then applied, beginning with a randomly chosen starting station and selecting every third station thereafter.

3.4. Data Collection Methods

1. **Quantitative Data Collection:**
    - **Survey Methodology:** A structured questionnaire will be utilized to collect quantitative data from fuel station managers and senior accountants. The questionnaire will feature Likert scale responses and will be designed based on the dimensions derived from the Delone and McLean Information Systems Success Model. Approximately 30 inquiries will be included, covering dimensions such as system quality, information quality, service quality, user satisfaction, and system use. Additionally, 11 questions will explore the qualitative characteristics of accounting information, such as relevance, reliability, comparability, and timeliness. The survey will be distributed electronically or self-administered by phone and through in-person interviews, depending on the accessibility of respondents. To address the respondents effectively, the survey was translated into Amharic. This ensured that participants could choose their preferred language, Amharic or English, before starting the survey.

2. **Qualitative Data Collection:**

    - **Unstructured Interviews:** In-depth interviews will be conducted with fuel six station managers/owners/senior accountants to obtain qualitative insights into various dimensions of system performance, including system quality, information quality, service quality, user satisfaction, and system use. Thematic analysis will be employed to systematically identify and interpret recurring patterns within the interview data, ensuring methodological rigor. Member checking will also be utilized to enhance the credibility of the findings, allowing participants to review and provide feedback on initial analyses.
    - **Observational Research:** Observational research will be conducted to observe Telebirr merchant appa and its usage at fuel outlets, providing real-world context and insights into system implementation and usage patterns. This observational data will complement the survey and interview findings, enriching the understanding of the factors influencing the success of the fuel station information system.

3.5. Analytical Approaches

1. **Quantitative Analysis:**

    - **Descriptive Statistics:** Descriptive statistics, such as mean, median, and standard deviation, will be calculated to summarize the quantitative survey data.
    - **Regression Analysis:** Regression analysis will be conducted to ascertain the impact of each qualitative characteristic of accounting information on system quality, information quality, and service quality. Correlation analysis will also be performed to explore the relationships between aggregated satisfaction and use metrics and each qualitative characteristic of accounting information.
    - To perform all quantitative analyses, the researcher used SPSS 27. This included calculating Cronbach's alpha, conducting descriptive statistics, and performing regression and correlation analyses.

2. **Qualitative Analysis:**

    - **Thematic Analysis:** Thematic analysis will be utilized to identify and interpret recurring themes and patterns within the qualitative interview data. Themes will be systematically organized and analyzed to draw meaningful conclusions.

By employing a mixed-methods approach and integrating quantitative and qualitative data collection methods, this research aims to provide a comprehensive analysis of Telebirr's impact on accounting practices within Ethiopia's fuel retailing sector. The combination of methodologies allows for a nuanced understanding of the phenomenon under investigation, contributing to both theoretical knowledge and practical insights for stakeholders.

3.6. Data Preparation

3.6.1. Dealing with Missing Data

In the data collection process, it was observed that certain responses were missing, particularly in instances involving Likert scale items. To address these missing values, imputation techniques were employed. Imputation involves estimating the missing values based on the available data to maintain the integrity and completeness of the dataset.

Specifically, when missing responses were encountered in the Likert scale items, which are commonly used to gauge attitudes or opinions, imputation methods were applied to infer the most probable values for the missing data points. This ensures that the analysis includes all relevant information and that the results are not unduly biased by the absence of certain responses.

In cases where missing data pertained to general information sections, such as demographic details, efforts were made to re-engage with participants to retrieve the necessary information. This involved re-asking the relevant questions to ensure the completeness and accuracy of the dataset.

By employing imputation techniques for Likert scale items and conducting re-asking procedures for missing responses in the general information sections, comprehensive efforts were made to mitigate data loss and enhance the reliability of the dataset for subsequent analysis. These steps are crucial for ensuring the validity and robustness of the findings derived from the research study.

3.6.2. Aggregating Likert Scale Items into Composite Scores

To streamline the analysis and capture a comprehensive overview of respondents' attitudes towards Telebirr and its impact on accounting information quality (AIQ), Likert scale items from the five dimensions of DeLone and McLean among the six, as well as Telebirr's impact on AIQs, have been aggregated into composite scores.

The first composite score, representing Information Quality, encompasses six Likert scale questions. This composite evaluates the accuracy, relevance, completeness, timeliness, consistency, and understandability of information provided by Telebirr.

The second composite score, reflecting Service Quality, consists of five Likert scale questions. It assesses the responsiveness, reliability, assurance, empathy and security of the Telebirr service.

The third composite score, pertaining to User Satisfaction, is comprised of seven Likert scale questions covering overall satisfaction, usefulness, ease of use, willingness to continue use, likelihood of encouraging others to use, satisfaction with exclusive use, and agreement with government enforcement.

The fourth composite score, addressing the Use Dimension, is based on seven Likert scale questions. It evaluates the frequency of use, sales volume, number of transactions, number of customers using Telebirr, use for generating information and reports, increase in new users adopting Telebirr, and Telebirr's impact on the quality of accounting information.

Lastly, the "Telebirr on the Quality of Accounting Information" composite score aggregates eleven Likert scale questions aimed at gauging respondents' perceptions of various aspects of accounting information provided through Telebirr. These questions assess the quality of accounting information before and after using Telebirr, satisfaction with the integration of accounting processes, improvement in financial insights facilitated by Telebirr, confidence in the accuracy and faithfulness of obtained information, perception of Telebirr's provision of up-to-date financial data, frequency of accessing real-time financial information through Telebirr, clarity and understandability of accounting data, reliability for making comparisons, consistency across different periods, and verifiability through independent sources.

By aggregating these responses into composite scores, we aim to capture a nuanced and holistic understanding of the impact of Telebirr on accounting information quality (AIQ) and overall user satisfaction. These composite scores will be utilized in correlation and regression analyses to examine the relationships between different dimensions and to address the hypotheses of the research. This approach will help in understanding how various factors interplay and contribute to the overall effectiveness and perception of Telebirr in the context of accounting information.

3.6.3. Data Normalization or Data Standardization

In order to ensure the proper conduct of analysis, the process of standardizing and converting diverse data into a consistent format is undertaken. This involves data normalization or data standardization, where disparate units of measurement are converted into a common unit for the sake of consistency and reliability.

For instance, in the context of open-ended questions regarding the daily fuel consumption of fuel retailing outlets, respondents provided data in various units, including liters, metric tons, and the

number of tanker trucks. To ensure uniformity in the dataset, all responses have been converted to metric tons, taking into account the known capacity of fuel tanker trucks. Furthermore, governmental data was consulted to validate and rectify any responses that appeared unreliable. Similarly, for inquiries concerning the number of daily transactions processed through Telebirr, respondents provided data in both raw counts and percentages. To maintain consistency and facilitate analysis, all responses have been converted to percentages.

3.6.4. Reliability Analysis of Constructs

Reliability statistics are pivotal in bolstering the integrity and credibility of research outcomes, particularly in studies employing Likert scale assessments. Scholars have emphasized the significance of utilizing Cronbach's Alpha to gauge the reliability of Likert scale measurements (Sagar et al., 2015; James & Croasmun, 2010). This section presents a thorough examination of the reliability of diverse constructs investigated in the study, elucidating the internal consistency and dependability of the utilized measurement scales. The analysis encompasses Cronbach's Alpha coefficients alongside the count of items contributing to each construct, furnishing invaluable insights into the reliability of the measurement instruments.

Table 1: Cronbach's Alpha of Constructs

Construct	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
System Quality	0.832	0.854	6
Information Quality	0.752	0.768	6
Service Quality	0.824	0.829	5
Use Dimension	0.886	0.888	6
User Satisfaction	0.858	0.865	7
Impact of Accounting Information Quality	0.815	0.800	11
All used Likert Scale	0.947	0.949	41

Note: Data derived from own SPSS analysis

For the system quality of Telebirr, the Cronbach's alpha coefficient is 0.832, which increases to 0.854 when considering standardized items. These values indicate a high level of internal consistency among the six items within the system quality scale, suggesting that they reliably measure the same underlying construct.

The information quality scale has a Cronbach's alpha of 0.752, indicating a good level of internal consistency among its six items. This value suggests that the items are reasonably well-correlated and effectively measure the same underlying concept, meeting the generally acceptable threshold for Cronbach's alpha.

The Service Quality scale demonstrates good internal consistency overall, with the exception of the Communication item, which shows relatively lower consistency. Given this, the Communication item is removed from consideration within this construct, as its exclusion does not impact the overall theoretical construct being measured nor does it affect the validity or interpretability of the constructs. After removing this item, the Cronbach's alpha for the remaining five items is 0.824, with a slight improvement to 0.829 when standardized items are considered. Each of these items positively contributes to the reliability of the scale. Notably, "Responsiveness" and "Empathy" exhibit strong correlations (0.696) making significant contributions to the variance. Similarly, "Service Reliability" demonstrates a robust correlation (0.654), while "Assurance" contributes moderately (0.474), and "Service Security" displays a moderate correlation (0.619). Overall, the scale effectively captures key aspects such as responsiveness, reliability, assurance, empathy, and service security.

Considering the lower correlation of the item "User Acceptance," in User Satisfaction constructs, its removal enhances the overall scale reliability. With this adjustment, all constructs within the User Satisfaction scale demonstrate strong internal consistency, yielding a Cronbach's alpha coefficient of 0.868, slightly increasing to 0.880 for standardized items. Each item contributes positively to reliability, showing significant correlations across all aspects, including overall satisfaction, perceived usefulness, ease of use, intention to use, advocacy, Willingness to Exclusive Dependance, and perceived importance.

The use dimension scale demonstrates excellent reliability with a Cronbach's alpha of 0.886. Most items contribute strongly to the scale's consistency, particularly "Number of Transactions" and "Number of Active Customers." The item "Generating Information" shows a moderate correlation but still contributes positively to overall reliability.

The analysis demonstrates strong internal consistency (Cronbach's Alpha of 0.822) across 11 items assessing various aspects of accounting information. Positive correlations among most items indicate their interrelatedness. Each item uniquely contributes to the total score, with an average of 39.69 and a standard deviation of 5.578. The question addressing the "Pre-assessment of Accounting Information" before the introduction of Telebirr have been removed due to their tendency to cause abnormal patterns and negative correlation with other metrics. This ensures data quality and relevance to the study's focus on Telebirr's impact.

Generally, the overall assessment of the Likert scale in this analysis demonstrates very high reliability, with a Cronbach's Alpha coefficient of 0.947. This indicates strong internal consistency among the items included in the scale. Additionally, there are a total of 41 items contributing to

this reliability assessment. Overall, these findings suggest that the Likert scale used in the study is highly dependable for measuring the construct under investigation.

Chapter Four

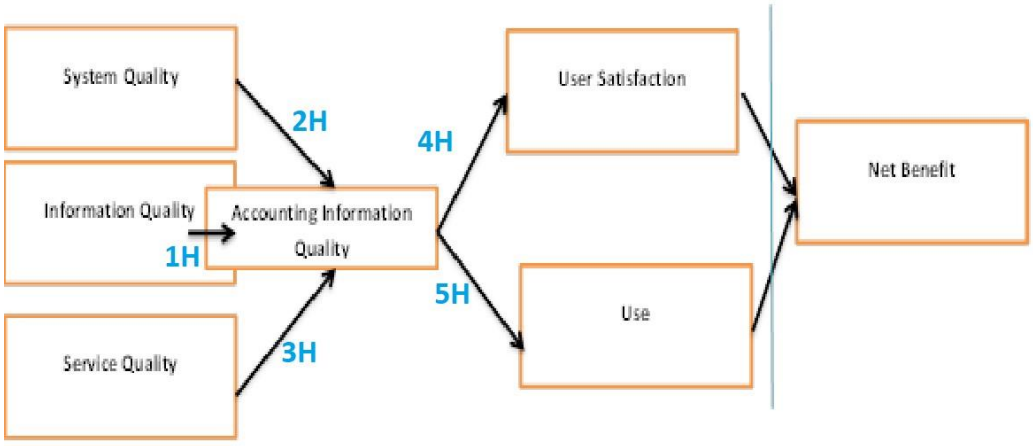
4. Analysis and Interpretation

4.2. Introduction

In this section, an analysis is conducted following the examination of hypotheses, focusing on the overview of fuel outlets. The descriptive statistics of various dimensional metrics are meticulously explored through both quantitative and qualitative lenses. Subsequently, the descriptive statistics of constructs, comprised of composite scores derived from Likert scale responses, are presented for the dimensions under scrutiny. Following this, regression analysis is employed to investigate the influence of Service Quality (SQ), Information Quality (IQ), and Service Quality (SrQ) on Account Information Quality (AIQ). Finally, the impact of AIQ on user satisfaction and utilization dimensions is assessed.

The primary objective of this study is to investigate the relationship between Telebirr and the quality of accounting information it provides, as well as its impact on user satisfaction and overall usage. To achieve this, five hypotheses were formulated to evaluate the effectiveness of Telebirr in enhancing accounting practices within the Ethiopian fuel retailing sector.

Figure 3 Diagrammatic Representations of Research Hypotheses



Note: Modified from D&M IS Model

As depicted in Figure 3, the study proposes five interrelated research hypotheses. We will explain each of these hypotheses in detail:

Hypothesis 1 (H1): The quality of information provided by Telebirr significantly influences the quality of accounting information. This hypothesis posits that high-quality information from Telebirr, characterized by accuracy, completeness, and timeliness, leads to more reliable and accurate accounting records at fuel outlets. Conversely, poor-quality information from Telebirr results in lower-quality accounting information, hindering financial reporting and decision-making.

Hypothesis 2 (H2): The effectiveness of Telebirr's system significantly affects the quality of accounting information. This hypothesis examines the impact of Telebirr's system performance, including reliability, speed, and ease of use, on the quality of accounting information. An efficient and user-friendly system enhances the accuracy and timeliness of accounting information, reducing errors, delays, and technical issues.

Hypothesis 3 (H3): The service quality of Ethio Telecom's Telebirr plays a crucial role in determining the quality of accounting information. This hypothesis focuses on the quality of customer service provided by Ethio Telecom in supporting Telebirr users. Excellent service quality, including prompt support and effective problem resolution, positively influences the quality of accounting information by quickly addressing issues and maintaining information integrity.

Hypothesis 4 (H4): User satisfaction is significantly influenced by the quality of accounting information from Telebirr. This hypothesis proposes that the perceived quality of accounting information from Telebirr, in terms of accuracy, relevance, and timeliness, directly impacts user satisfaction levels. Reliable and useful accounting information leads to higher user satisfaction, while unreliable or irrelevant information decreases satisfaction.

Hypothesis 5 (H5): This statement implies that the effectiveness and reliability of the accounting information provided by Telebirr have a notable impact on how extensively and effectively the system is utilized. In essence, if the accounting information generated by Telebirr is of high quality—accurate, relevant, timely, and clear—it is more likely to be extensively used and integrated into the operations of the fuel outlets. Conversely, if the quality of accounting information is lacking or inconsistent, it may hinder the system's overall utilization and effectiveness. Therefore, ensuring the quality of accounting information provided by Telebirr is crucial for optimizing its use dimension within the fuel station industry.

By testing these hypotheses, the study aims to provide valuable insights into optimizing Telebirr to improve accounting practices, user satisfaction, and actual usage of accounting information within the Ethiopian fuel retailing sector. Understanding these dynamics will help stakeholders in the fuel retailing industry leverage Telebirr more effectively, ensuring that the adoption of this digital payment system translates into tangible benefits in terms of accounting accuracy, user experience, and operational decision-making.

4.3. Overview of Fuel Station Characteristics

A total of 336 fuel stations were surveyed across the county, offering a comprehensive snapshot of the industry's landscape.

Examining the respondents' experience levels reveals significant insights: Approximately 11.9% of stations reported less than a year of experience, indicating a notable presence of newer entrants or recently established ventures. A considerable 28.6% fell within the 1 to 5 years' experience bracket, suggesting a blend of emerging businesses and those with a few years of operation under their belt. Meanwhile, around 23.8% reported operating for 6 to 10 years, showcasing a moderate level of industry tenure. The largest segment, comprising 35.7% of respondents, boasted over a decade of experience, highlighting the prevalence of well-established players with extensive market familiarity. This breakdown not only provides a comprehensive view of the industry's dynamics but also underscores the coexistence of both emerging and seasoned entities within the fuel retailing sector.

The survey aimed to gauge respondents' views on the proficiency of their accounting staff. Findings revealed that 14.3% of participants considered their staff's proficiency as fair. Meanwhile, a significant 42.9% rated it as good, indicating competency and capability. Additionally, an equal proportion of respondents, also at 42.9%, perceived their accounting staff's proficiency as very good, suggesting a high level of excellence. In total, the data reflect diverse perspectives on the proficiency of accounting staff.

The survey investigated the size classification of fuel retailing outlets based on their daily consumption. The fuel stations with less than or equals to 30MT daily consumption shows that they are consuming one or less than capacity of a tanker truck, If it is consuming 30MT- 60MT, this means their arrival of tanker trucks of more than one and equals two. If consumption exceeds 60MT, more than two tanker trucks are dispatched to deliver fuel daily.The results revealed that 23.8% of respondents categorized their outlets as small as their daily consumption are below 30 MT per day, indicating lower levels of daily consumption. Meanwhile, a majority of respondents,

comprising 52.4%, identified their outlets as medium-sized, which daily consumption ranges from 30 – 60 MT, suggesting moderate daily consumption rates. Additionally, 23.8% of respondents reported their outlets as large, indicating higher daily consumption volumes which are more 60 MT. In total, 336 responses were collected, offering insights into the distribution of outlet sizes within the fuel retailing sector.

The survey aimed to delineate the size classifications of fuel retailing outlets based on their daily consumption rates. Findings indicated that fuel stations consuming less than or equal to 30 metric tons (MT) per day typically require one or fewer full tanker trucks for replenishment. Those with the consumption between 30MT and 60MT necessitate more than one but no more than two tanker truck deliveries daily. Conversely, outlets exceeding a daily consumption of 60MT often rely on more than two tanker trucks for fuel dispatch each day.

Results demonstrated that 23.8% of respondents categorized their outlets as small due to daily consumption levels below 30MT, signifying lower consumption rates. Meanwhile, a majority of respondents (52.4%) identified their outlets as medium-sized, with daily consumption ranging from 30MT to 60MT, indicating moderate fuel demand. Additionally, 23.8% of respondents reported their outlets as large, indicating higher daily consumption volumes surpassing 60MT

The survey data reveals a comprehensive adoption of digital payment systems across all surveyed fuel retail outlets, reflecting a broader trend of embracing digital transactions within the industry. Various digital payment methods, including Telebirr, Ethiobirr, Coopay-Ebirr, and E-card, are being utilized within these outlets. Interviews indicate that government enforcement is the primary driver for this widespread usage.

Telebirr stands out prominently as the preferred choice among respondents, solidifying its position as the prevailing payment method. This underscores the substantial influence and extensive acceptance of Telebirr within the fuel retail sector. Initially, government mandates played a pivotal role in fostering the adoption of Telebirr among fuel retailers, eventually leading to its seamless integration into their daily business operations.

The descriptive statistics for the number of fuel refilling transactions per day carried out using Telebirr reveal the minimum number of transactions reported is 100, while the maximum is 1200. On average, the respondents conduct approximately 669, transactions per day, with a standard deviation of 291. This indicates a substantial variation in the number of daily refilling transactions across different fuel stations.

The statistics detail the extent of Telebirr usage among respondents specifically for refilling transactions. The analysis reveals that the minimum reported percentage of Telebirr usage in

refilling transactions stands at 50%, indicating that even the lowest users have some degree of reliance on Telebirr. In contrast, the maximum reported percentage of Telebirr usage in refilling transactions is 99%, suggesting that some respondents heavily rely on Telebirr for this aspect of their operations. On average, respondents reported using Telebirr for approximately 81.38% of their refilling transactions, showcasing a significant reliance on Telebirr within the surveyed fuel stations. The standard deviation, measuring 0.11746, indicates the level of variability or spread around the mean percentage of Telebirr usage, reflecting differing degrees of reliance among respondents. These findings collectively offer insights into the prevailing patterns of Telebirr usage among fuel station respondents, emphasizing its substantial role, as indicated by the high mean percentage of usage.

The survey sought to gauge the overall knowledge level of staff members regarding the Telebirr application. The responses revealed the following distribution: Approximately 4.8% of respondents indicated that their staff possessed a fair knowledge level of the Telebirr application. Around 40.5% of respondents reported that their staff had a good understanding of Telebirr. The majority of respondents, comprising 54.8%, stated that their staff had a very good knowledge level of the Telebirr application. These findings, based on responses from 336 participants, provide insights into the perceived familiarity of staff members with the Telebirr application across fuel retailing outlets.

4.4. Variables of SQ, IQ, SrQ, US, UD and AIQ IN Detail

In this section, we examine all five dimensions of the D&M IS model namely System Quality, Information Quality, Service Quality, User Satisfaction and Use and Accounting Information Quality (AIQ) as dictated by IFRS asdescriptive statistics such as mean, median, maximum, minimum, and standard deviation. Additionally, these quantitative findings are contextualized with qualitative insights.

4.4.1. System Quality (SQ)

Assessing System Quality (IQ) is pivotal in gauging the effectiveness and dependability of a system or platform. It encompasses multiple dimensions, notably system reliability, performance, usability, flexibility, scalability, and system security. These metrics serve as fundamental benchmarks in evaluating the comprehensive quality and operational efficacy of Telebirr. They are instrumental in ensuring that the digital payment platform aligns with and fulfills the diverse needs and expectations of fuel stations nationwide.

Table 3: Descriptive Statistics of System Quality							
Statistical Measures	***System Reliability(SQ1)***	***Performance (SQ2)***	***Usability (SQ3)***	***Flexibility (SQ4)***	***Scalability (SQ5)***	***System Security (SQ6)***	***Aggregate Result***
Mean	3.48	4.05	4.21	4.02	3.88	3.45	3.85
Median	3.00	4.00	4.00	4.00	4.00	3.00	3.67
Std. Deviation	1.119	.723	.675	.708	.958	1.315	0.7
Minimum	1	2	3	2	2	1	1
Maximum	5	5	5	5	5	5	5

Note: Drived from Own SPSS Analysis

System reliability (SQ1) refers to the consistent ability of a system to fulfill its intended functions under specific conditions for a defined duration. It serves as a measure of the system's likelihood to operate without failure over time. As indicated in the provided table, the average system reliability score for Telebirr is 3.48, indicating a moderate level of reliability. This suggests that, on average, the system is reasonably dependable, albeit with occasional instances of failures or errors.

Quantitative analysis conducted by the researcher revealed notable variability in reliability scores, with a standard deviation of 1.119. Additionally, the median score is observed to be lower than the mean, implying the presence of lower reliability scores within the dataset. The range of reliability scores spanning from 1 to 5 further highlights the diverse reliability levels across different components of the system. This variability indicates that certain parts of the system may exhibit higher reliability than others.

In alignment with the quantitative findings, interviews conducted with users, particularly fuel station owners, revealed instances of system crashes lasting up to two days. Such occurrences corroborate the variability observed in reliability scores. Moreover, it was noted that the application of Telebirr is more prevalent in Addis Ababa and its vicinity, where fewer reliability issues were reported. This geographical disparity suggests that the reliability of Telebirr may vary depending on the location of use.

Moreove, it is noted that whenever fuel stations use Telebirr to transfer money to banks, they have noticed, though infrequent, that the amount is deducted from their account but does not show up in their bank account. This discrepancy has caused concerns about the reliability and accuracy of the transfer system, raising questions about the trustworthiness of Telebirr.

In conclusion, while Telebirr demonstrates a moderate level of reliability on average, there exist instances of system failures or errors, as evidenced by both quantitative analysis and qualitative

observations. Understanding the geographic distribution of reliability issues can aid in targeted improvements to enhance the overall reliability of Telebirr, particularly in areas where it experiences more frequent disruptions.

Performance (SQ2) assesses the efficiency and effectiveness with which a system carries out its functions and tasks within specified constraints, such as time, resources, and workload. A higher performance score signifies the system's capacity to manage tasks efficiently and produce results promptly. With an average performance score of 4.05, Ethiotelecom Telebirr demonstrates commendable efficiency and responsiveness. Users can anticipate swift and dependable service when engaging with the Telebirr platform. The consistency in performance observed across different components suggests a uniformly high level of performance across various functionalities. This finding is further corroborated by the interview results, reinforcing the system's reputation for delivering consistently reliable performance.

Usability (SQ3) assesses the degree to which a system is user-friendly and intuitive for its intended users to interact with and navigate. It encompasses various factors such as the ease of learning, efficiency of use, memorability, error prevention, and overall user satisfaction.

With a mean usability score of 4.21, Ethiotelecom Telebirr demonstrates high usability, indicating that the system is easily accessible and intuitive for users. Fuel station owners and other users can swiftly learn to navigate the system and carry out tasks efficiently. The low standard deviation of 0.675 suggests a consistent level of usability across different components of the system, implying that users can expect a uniform experience regardless of the specific feature they interact with.

Furthermore, the narrow range of usability scores from 3 to 5 indicates consistently high usability levels with minimal variation. This finding aligns with the qualitative study results, which highlight features such as the availability of language options, clear instructions, and compatibility with both smartphones and non-smartphones (USSD). These factors contribute to the overall user-friendly nature of the Telebirr platform, enhancing user satisfaction and facilitating smooth interactions with the system.

One notable aspect contributing to Telebirr's usability is its support for USSD applications, which allow customers at the stations to access and interact with the system's features via simple interactive messaging, without requiring internet connectivity on their handsets. This feature

enables customers especially those with basic mobile phones lacking internet access, to conveniently utilize Telebirr's services.

Flexibility (SQ4) refers to the degree to which a system can be adapted or modified to accommodate changes in requirements, environments, or user needs without significant effort or disruption. Telebirr demonstrates a high degree of flexibility with an average score of 4.02. This suggests that the platform can adapt to evolving fuel stations needs, technological advancements, and regulatory requirements. While there may be some variability in flexibility scores across different aspects of the system, the overall high flexibility level enables Telebirr to introduce new features and services efficiently, catering to diverse user preferences.

Scalability (SQ5) quantifies a system's capacity to manage expanding workloads or accommodate growth in data volume, user base, or transaction frequency without compromising performance or functionality. With an average scalability score of 3.88, Ethiotelecom Telebirr demonstrates moderate scalability. While the platform possesses the capability to handle increased workloads to a certain extent, challenges arise when displaying data over extended periods, such as monthly or yearly intervals.

The variability observed in scalability scores indicates disparities in the utilization of Telebirr's features across different stations. This variability is primarily attributed to factors such as a lack of knowledge, insufficient information, and limited interest among users. Despite the platform's inherent scalability, these factors hinder the optimal utilization of its capabilities, resulting in varying levels of scalability across different user groups.

System security (SQ6) refers to the measures and mechanisms implemented to protect a system's assets, data, functionalities, and resources from unauthorized access, manipulation, disruption, or destruction. Telebirr exhibits moderate security levels with an average security score of 3.45. While the platform has security measures in place, there may be vulnerabilities or weaknesses that could pose risks to user data and privacy. Strengthening security measures and addressing any identified vulnerabilities is critical to safeguarding user information and maintaining trust in the platform.

In conclusion, Telebirr exhibits strengths in performance, usability, and flexibility, contributing to its effectiveness in supporting fuel outlet operations. While the system demonstrates commendable efficiency and user-friendliness, areas for improvement include reliability, scalability, and security. Addressing these aspects will be crucial in enhancing Telebirr's overall reliability and ensuring its

ability to meet the evolving needs of fuel stations across Ethiopia while maintaining high standards of information quality and security.

4.4.2. Information Quality (IQ)

Information quality encompasses various aspects such as correctness, precision, relevance, completeness, timeliness, consistency, and clarity in the information provided by a system or platform. Ensuring high information quality is vital for aiding decision-making and enhancing operational efficiency. The metrics studied - accuracy, relevance, completeness, timeliness, consistency, and clarity/interpretability - provide valuable insights into the quality of information delivered by Telebirr within fuel stations, highlighting areas for potential enhancement. Table 4 presents the descriptive statistics of these information quality metrics.

Table 4: Descriptive Statistics of Information Quality

Statistical Measures	**Accuracy (IQ1)**	**Relevance (IQ2)**	**Completeness (IQ3)**	**Timeliness (IQ3)**	**Consistency (IQ4)**	**Clarity/Interpretability(IQ5)**	**Aggregate Result**
Mean	3.74	3.55	3.69	3.95	3.60	4.17	3.78
Median	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Std. Deviation	.819	.982	.772	.689	1.094	.688	0.60
Minimum	1	2	2	2	2	3	1
Maximum	5	5	5	5	5	5	5

Note: Drived from own SPSS Analysis

Accuracy (IQ1) pertains to the correctness and precision of the information dispensed by Telebirr within fuel stations. The mean accuracy score of 3.74 reflects a moderate level of accuracy, as Table 4 illustrates. However, with a median score of 4.00, it is evident that the majority of respondents regard Telebirr as accurate. Notably, there exists variability in responses, denoted by the standard deviation of 0.819, implying that certain fuel stations may perceive Telebirr's accuracy differently. Telebirr upholds accuracy standards through routine updates and rigorous data validation procedures. Nevertheless, discrepancies in perception, identified through interviews, may stem from individual experiences and expectations.

Relevance (IQ2) assesses the extent to which the information provided by Telebirr is pertinent and applicable to the needs of fuel outlets. The mean relevance score is 3.55, indicating a moderate level of relevance. However, the median score of 4.00 suggests a generally positive perception of

relevance. Variability in relevance scores is relatively high, with a standard deviation of 0.982, indicating differing perceptions among fuel stations. Telebirr continuously refines its information delivery to cater to diverse needs, but varying interpretations of relevance stem from specific operational contexts and requirements at different fuel stations.

Completeness (IQ3) evaluates the degree to which Telebirr provides all necessary information required by fuel stations. The mean completeness score is 3.69, indicating a moderate level of completeness. The median score of 4.00 suggests a generally positive perception of completeness. There is moderate variability in completeness scores, with a standard deviation of 0.772. Some fuel stations may perceive Telebirr as more comprehensive in providing information compared to others. Telebirr endeavors to attain thorough data coverage across all essential aspects of fuel station operations. Nonetheless, variations in perception can be attributed to disparities in implementation. The challenges in implementing Telebirr stem from issues such as the availability of information and operational capabilities, as revealed in qualitative findings.

Timeliness (IQ4) evaluates the promptness, responsiveness, and real-time data provision capabilities of Telebirr in delivering information to fuel stations. With a mean timeliness score of 3.95, it indicates a relatively high level of timeliness. Additionally, the median score of 4.00 suggests a generally positive perception of Telebirr's timeliness among users. The relatively low variability in timeliness scores, with a standard deviation of 0.689, underscores consistent perceptions of Telebirr's responsiveness across fuel stations.

This consistency is further corroborated by qualitative findings. According to feedback gathered from owners and managers during interviews, one of the standout features of Telebirr is its capability to provide real-time data access, even in areas with intermittent or limited internet connectivity. This feature holds particular significance for fuel station operations, where the ability to access up-to-the-minute data is crucial for decision-making and operational efficiency.

Traditionally, accessing data related to sales, inventory, and cash flow in real-time posed significant challenges, especially in remote locations or areas with poor internet infrastructure. However, with Telebirr, owners and managers can now access comprehensive data insights instantly, regardless of their location or internet accessibility. This capability enables them to monitor sales performance, track inventory levels, and assess cash flow dynamics in real-time, empowering them to make informed decisions swiftly. Moreover, having access to real-time data enhances transparency and accountability within the organization, as discrepancies or anomalies can be

identified and addressed promptly. Overall, the ability to access real-time data through Telebirr significantly enhances operational efficiency, improves decision-making processes, and fosters better management practices within the fuel station industry.

Consistency (IQ5) assesses the uniformity and coherence of information provided by Telebirr across different interactions and instances. The mean consistency score is 3.60, indicating a moderate level of consistency. The median score of 4.00 suggests a generally positive perception of consistency. Relatively high variability in consistency scores, with a standard deviation of 1.094, suggests that perceptions of Telebirr's consistency vary among fuel stations.

Clarity/Interpretability (IQ6) evaluates how clear and understandable the information provided by Telebirr is to fuel stations. With a mean clarity/interpretability score of 4.17, it indicates a high level of clarity and interpretability. Furthermore, the median score of 4.00 suggests a generally positive perception of clarity among users. The relatively low variability in clarity/interpretability scores, with a standard deviation of 0.688, indicates consistent perceptions of Telebirr's information clarity and ease of understanding across fuel stations. Qualitative findings validate this, confirming fuel stations' satisfaction with Telebirr's user-friendly interfaces and clear communication strategies. These aspects ensure that information is readily comprehensible and actionable for fuel station operators, thereby enhancing the overall user experience and operational efficiency.

Generally, the assessment of various metrics pertaining to information quality within Telebirr's operations at fuel stations provides valuable insights. While the system generally demonstrates moderate to high levels of accuracy, relevance, completeness, timeliness, consistency, and clarity/interpretability, there exist variations in perceptions among fuel stations. These variations may stem from individual experiences, specific operational contexts, and varying requirements. Despite these differences, Telebirr maintains standards through routine updates, data validation procedures, and continuous refinement of information delivery methods. Addressing these challenges in implementation such as information availability and operational capabilities remain essential for enhancing consistency and ensuring that information meets the diverse needs of fuel station operators. Additionally, the system's responsiveness and user-friendly interfaces contribute to an overall positive user experience and operational efficiency. Moving forward, ongoing efforts to improve information quality will be crucial in optimizing Telebirr's effectiveness in supporting decision-making and operational processes within fuel stations.

4.4.3. Service Quality (SrQ)

Service Quality (SrQ) encompasses several dimensions crucial for assessing customer satisfaction and effectiveness in service delivery. Let's delve into the descriptive statistics of the Service Quality (SrQ) metrics, considering their respective definitions:

Describitive Statistics of Service Quality(SrQ)							
Statistical Measures	**Responsiveness(SrQ1)**	**Service Reliability (SR2)**	**Assurance(SrQ1)**	**Empathy(SrQ1)**	**Service Security(SrQ1)**	**Communication(SrQ1)**	**Aggregate result**
Mean	3.62	3.88	3.48	3.5	3.74	3.73	3.66
Median	4	4	4	4	4	4	4.00
Std. Deviation	1.135	0.772	1.031	1.076	0.954	1.061	0.50
Minimum	1	3	1	1	2	1	1.00
Maximum	5	5	5	5	5	5	5.00

Responsiveness (SrQ1) is defined as the willingness and ability of service providers to promptly address customer needs, inquiries, and requests. Analysis reveals a mean responsiveness score of 3.62, indicating reasonable responsiveness levels. However, variability in responses, reflected by a standard deviation of 1.135, suggests differing customer experiences. Service Reliability (SrQ2) pertains to the consistency and dependability of service delivery, ensuring accurate and promised services. The mean score of 3.88 indicates relatively high reliability, supported by a low standard deviation of 0.772, reflecting consistent perceptions among respondents. Assurance (SrQ3) involves the competence, courtesy, and credibility of service providers, instilling confidence and trust in customers. Despite a mean score of 3.48 indicating moderate assurance levels, variability in responses (standard deviation of 1.031) suggests differing customer experiences.

Empathy (SrQ4) denotes understanding and addressing customer needs and emotions with compassion and sensitivity. While the mean score of 3.5 indicates moderate empathy levels, variability in responses (standard deviation of 1.076) suggests differing customer experiences.

Service Security (SrQ5) refers to measures ensuring the protection of customer information, including confidentiality, integrity, and availability. A mean score of 3.74 reflects a moderate level of security, with consistent perceptions among respondents (low standard deviation of 0.954).

Communication (SrQ6) involves clear, effective, and timely exchange of information between service providers and customers. While the mean score of 3.73 suggests moderate communication

effectiveness, variability in responses (standard deviation of 1.061) indicates differing customer experiences.

In a nutshell, the analysis of Service Quality (SrQ) metrics reveals varying levels of customer satisfaction and perceptions across different dimensions. While Service Reliability (SrQ2) stands out with relatively high scores and low variability, other dimensions such as Assurance (SrQ3), Empathy (SrQ4), and Communication (SrQ6) exhibit moderate levels of performance with notable variability in customer experiences. Responsiveness (SrQ1) demonstrates reasonable levels overall, albeit with significant variability. Service Security (SrQ5) also maintains a moderate level of performance, with consistent perceptions among respondents. Addressing variability in customer experiences across these dimensions can further enhance overall service quality and customer satisfaction.

4.4.4. User Satisfaction (US)

User satisfaction refers to the level of contentment and fulfillment experienced byfuel stations with Telebirr system. It encompasses their overall perception, experiences, and feelings towards the offering, reflecting whether it meets their expectations, needs, and desires. Here, this is measured by Overall User Satisfaction (US1), Perceived Usefulness (US2), Ease of Use (US3), and Intention to Use (US4), User Acceptance (US5), Advocacy (US6), and Perceived Significance of Enforcement (US7).

Table 5: Descriptive Statistics of User Satisafction

Statistical Measures	Overall User Satisfaction(US1)	Perceived Usefulness(US2)	Ease of Use(US3)	Intention to use(US4)	User Acceptance(US5)	Advocacy(US6)	Willingness to Exclusively Use (US7)	Perceived Importance of Enforcement (US8)	Agrregate Result
Mean	3.95	3.95	4.14	4.19	3.81	4.24	3.95	3.55	4
Median	4	4	4	4	4	4	4	4	4
Std. Deviation	0.787	0.9	0.916	0.733	0.907	0.869	1	1.24	0.7
Minimum	2	2	2	2	2	1	1	1	1
Maximum	*5*	*5*	*5*	*5*	*5*	*5*	*5*	*5*	5

Note: Data derived from own SPSS analysis

Overall User Satisfaction (US1) metric measures the overall satisfaction of fuel station users with the Telebirr system, reflecting their holistic experience and perception of the service. Baed on the

Table above, the mean satisfaction score is 3.95, indicating high overall satisfaction among users. However, there is variability in responses, as reflected by the standard deviation of 0.787. This implies that while the majority of users are satisfied, some may have lower levels of satisfaction, suggesting areas for improvement to enhance overall user experience.

Perceived usefulness (US2) refers to the degree to which users believe that Telebirr enhances their job performance and facilitates their tasks at fuel stations. Analysis shows the mean score for perceived usefulness is 3.95, indicating high perceived utility among users. This indicates that users find Telebirr valuable in their daily tasks, suggesting that the system effectively supports their job performance and operational needs.

Ease of Use (US3) assesses how simple and intuitive fuel stations find the Telebirr system to navigate and operate, considering factors such as user interface design and interaction. The mean score for ease of use is 4.14, indicating that users perceive Telebirr as easy to use. This suggests that fuel stations find Telebirr user-friendly, which likely contributes to their overall satisfaction and willingness to continue using the system.

Intention to Use (US4) reflects users' willingness and inclination to continue using Telebirr in the future, indicating their commitment and loyalty to the system. The analysis shows that the mean intention to use score is 4.19, indicating strong user commitment to using Telebirr in the future. Fuel stations express a high intention to continue using Telebirr, suggesting that they perceive the system as valuable and integral to their workflow.

Initially, the introduction of Telebirr to the system appeared to be enforced. However, over time, most fuel stations have recognized the greater benefits and are now willing to continue using Telebirr with their full consent. This shift highlights the increasing acceptance and perceived value of Telebirr among users.

User Acceptance (US5) measures the extent to which fuel station users are willing to embrace Telebirr as part of their daily operations and routines. The mean score for user acceptance is 3.81, indicating moderate levels of acceptance among users.While most fuel stations accept Telebirr, there is room for improvement in increasing user buy-in and integration of the system into daily operations.

Advocacy (US6) evaluates users' propensity to influence others to adopt Telebirr for daily business activities such as car washing services, lubricant sales, petty repair and maintenance, and car air

and water stations. It also assesses their likelihood to recommend Telebirr to colleagues for non-governmental mandated transactions, excluding fuel refilling, which is government mandated. This assessment reflects their satisfaction with and confidence in the system's capabilities.

The mean advocacy score is 4.24, indicating a high willingness among fuel stations to recommend Telebirr to others. Fuel stations are highly likely to advocate for Telebirr, signifying a strong endorsement of the system's effectiveness and value, and demonstrating their role as staunch promoters of Telebirr.

Advocacy evaluates users' propensity to influence others to adopt Telebirr for daily business activities such as car washing service, lubricant sales, petty repair and maintainance, car air and water stations etc…and to recommend it to colleagues for non-governmental mandated transactions, excluding fuel refilling, which is government mandated. This assessment reflects their satisfaction with and confidence in the system's capabilities. The mean advocacy score is 4.24, indicating a high willingness among fuel stations to recommend Telebirr to others. Fuel stations are highly likely to advocate for Telebirr, signifying a strong endorsement of the system's effectiveness and value.

Willingness to Exclusively Use (US6) Telebirr refers to the degree of commitment and preference users have towards utilizing Telebirr as their sole or primary platform for conducting all eligible financial transactions, including daily business activities and non-governmental mandated transactions. This measure reflects their confidence in and satisfaction with Telebirr's reliability, efficiency, and overall capability to meet their transactional needs without the need to rely on alternative systems. The mean Willingness to Exclusive Dependance score is 3.95, indicating moderate levels of reliance on Telebirr among users. The findig also reveals that fuel stations use Telebirr for refilling transactions to a significant extent compared other available methods of transactions such as cash, CBE Birr, COOPay-Ebirr, E-card etc. The minimum reported usage is 50%, while the maximum reaches 99%. On average, Telebirr is used for about 81.38% of refilling transactions, indicating substantial reliance among surveyed fuel stations.

The perceived significance of enforcement (US7) underscores the acknowledgment of government enforcement of Telebirr and the belief that the government warrants support in this regard. The mean perceived importance score of 3.55 indicates a moderate level of importance ascribed by users. This suggests that despite some reservations about potential encroachments on their autonomy, fuel stations generally accept Telebirr. Through observation, the researcher also

discerned their commitment to supporting Telebirr applications at their own desks in fuel stations. Initially, this support was influenced by incentives provided by Ethiotelecom for fuel station attendants, although presently, such incentives are no longer in place.

Certainly, qualitative interviews have revealed ongoing disagreements among some stations. This can be attributed to the belief that while stations generally accept Telebirr, they may not fully support the enforcement aspect. Some may view enforcement as ideally achieved through fair competition rather than regulatory mandates.

Overall, the mean scores indicate high levels of satisfaction, perceived usefulness, ease of use, and intention to use Telebirr among users. However, there are moderate levels of acceptance and perceived importance of enforcement, with some variability in responses. Despite initial enforcement concerns, most fuel stations have recognized the benefits of Telebirr over time. Additionally, while advocacy for Telebirr is strong, there are ongoing disagreements among some stations regarding the enforcement aspect, highlighting the importance of addressing user concerns to enhance overall satisfaction and acceptance.

4.4.5. Use Dimension (UD)

The "Use Dimension" refers to a measured by the operational performance and effectiveness of the Telebirr system within fuel station management. In this analysis, it is focused on key indicators such as sales volume, transaction counts, active customer numbers, feature utilization, information generation, and new customer growth. These metrics provide valuable insights into how Telebirr is utilized within fuel stations and its impact on various aspects of operations and customer engagement. Through examining these dimensions, we aim to understand Telebirr's effectiveness in facilitating transactions, generating insights, and attracting new customers within the fuel retailing industry.

Table 6: Descriptive Statistics of Use Dimension							
Statistical Measures	**Amount of sales Volume**	**Number of Transaction**	**Numeber of Active Custmers**	**Feature Utilization**	**Generating info**	**Growth of Customer**	**Agreegate Result**
Mean	4.05	4.33	4.38	4.05	3.45	3.38	4.73
Median	4.00	5.00	5.00	4.00	3.00	3.00	4.80
Std. Deviation	1.070	0.919	0.756	0.900	0.824	0.951	0.72
Minimum	2	2	3	2	2	2	2
Maximum	5	5	5	5	5	5	5

Note: Data derived from own SPSS analysis

The mean reported sales volume(U1) linked the total monetary value of sales transactions processed through the Telebirr system within a specified period. The mean sales volume reported is 4.05, indicating a relatively high average value of sales transactions attributed to Telebirr. The median and standard deviation further suggest that sales volumes are consistently high among users, with relatively low variability. Similarly, the count of transactions (U2) conducted using the Telebirr system within a given timeframe shows with the mean number of transactions is 4.33, indicating a high average transaction volume. The median and standard deviation suggest that most users conduct a significant number of transactions, with relatively low variability in reported transaction counts.

Thus, Telebirr has captured a significant portion of sales volumes and holds a favorable position in fuel retailing industry compared to alternative transaction methods. However, it's worth noting that this dominance could potentially change in the future, especially with the absence of competing systems at present. This gap underscores the need for Ethio Telecom to strategically address and bridge any gaps in Telebirr implementation both currently and in anticipation of future challenges.

Number of active customers (U3) the total count of unique customers actively using the Telebirr system for transactions or other activities. The mean number of active customers reported is 4.38, suggesting a high level of customer engagement with Telebirr. The median and standard deviation indicate that most users report a large number of active customers, with relatively low variability.

Feaure utilization assesses the extent to which fuel stations utilize the various features and functionalities offered by the Telebirr system. The mean feature utilization score is 4.05, indicating effective use of system features by users. The median and standard deviation suggest that most users report high levels of feature utilization, with relatively low variability in reported scores.

Effectiveness of Telebirr in generating relevant information or insights for fuel stations also shows that the mean score for generating information is 3.45, suggesting moderate effectiveness in providing useful data or analytics. The median and standard deviation indicate some variability in reported effectiveness, with most users reporting moderately effective information generation.

New Customer Growth measures the pace at which the Telebirr system's user base is expanding or increasing over time at fuel station industry. The mean growth of customers score is 3.38, indicating a moderate rate of customer growth. According to interviews, this moderate growth is attributed to the fact that the number of subscriptions has reached a high level of saturation. The median and standard deviation suggest variability in growth rates among users, with most reporting moderate growth. Notably, fuel stations outside Addis Ababa and its vicinity exhibit higher new customer growth compared to those within the city.

To sum up, Telebirr shows strong performance in the fuel station industry with high sales volumes, transaction counts, and active customer engagement. Feature utilization is effective, while information generation and new customer growth are moderate. Notably, new customer growth is higher outside Addis Ababa.

4.4.6. Accounting Information Quality (AIQ)

Accounting information quality encompasses various dimensions crucial for effective decision-making and financial management. These dimensions include relevance, reliability, timeliness, clarity, comparability, consistency, verifiability, and completeness. Each metric provides insights into the effectiveness of Telebirr in facilitating accounting processes and meeting user expectations. Through this examination, we aim to provide a comprehensive understanding of how Telebirr influences accounting practices in fuel stations, identifying strengths and areas for improvement in the system's integration and functionality.

Table 7: Descriptive Statistics of AIQ												
Statistical Measures	Post-assement of accoounting information	Integration	Relevance	Reliability	Timelines	Timeliness of Frequency	Accounting Clarity	Comparability	Accounting Consistency	Verifiability	Accounting Completeness	Aggregate Result
Mean	4.33	3.60	3.40	3.71	3.64	3.57	3.90	3.14	3.33	3.48	3.57	4.20
Median	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	3.00	3.00	4.00	4
Std. Deviation	0.520	0.848	0.876	0.960	0.923	0.661	0.973	0.775	0.969	0.825	0.850	0.52
Minimum	3	1	1	2	1	2	1	2	1	1	2	1
Maximum	5	5	5	5	5	5	5	5	5	5	5	5

Note: Data derived from own SPSS analysis

Post-assessment of Accounting Information after applying Telebirr are seen among the fuel stations. Station managers or wowners reported a mean satisfaction score of 4.33, indicating a high level of satisfaction with the quality of post-assessed accounting information. Variability in responses was minimal, as reflected by a low standard deviation of 0.520.

Improvements in cash management have emerged as a critical component contributing to considerable satisfaction within the fuel station industry, particularly following the implementation of Telebirr. Through interviews conducted with fuel station proprietors, we have discerned the challenges inherent in managing substantial cash flows stemming from daily sales, often reaching significant sums. Beginning with the behavior of gas station attendants in handling cash, these challenges extend to the laborious and time-intensive process of counting and managing cash, all while contending with the persistent risks of theft and loss. Moreover, the transportation of these funds to banking facilities has presented formidable safety concerns, necessitating guarded transports accompanied by armed personnel, thereby incurring additional insurance expenses.

However, in the wake of Telebirr implementation, these challenges have been effectively mitigated. Fuel stations have streamlined their cash management protocols, markedly diminishing the necessity for manual cash handling. This advancement signifies a noteworthy enhancement in operational efficiency and risk mitigation within the fuel station sector.

The integration of Telebirr with existing systems at fuel stations refers to how effectively Telebirr is incorporated and operates alongside the pre-existing software or methods used for station management and accounting tasks. The mean score of 3.60 indicates that users reported moderate

satisfaction with this integration process, suggesting that while there is some level of success in incorporating Telebirr, there are areas where improvements could be made. It is important to note that stations and oil companies are mandated to utilize the fuel supply chain.

In addition, the integration of Telebirr aligns with the current government's digitalization initiatives. Ethio Telecom, in collaboration with the Ministry of Trade and Regional Integration, the Petroleum and Energy Authority, and the Ethiopian Petroleum Supply Enterprise, has recently introduced digital solutions aimed at optimizing the Fuel Supply Management System (Ethio Telecom, 2023). This innovative solution facilitates precise data collection, efficient stock control, process automation, and real-time monitoring to enhance the distribution of fuel effectively. The implementation of this digital solution is anticipated to modernize operations within the fuel industry and alleviate foreign exchange pressures for a wide range of stakeholders, including gas stations, end-user customers, fuel supply companies, the Ethiopian Petroleum Supply Enterprise, and the Petroleum and Energy Authority. Additionally, a digital fuel coupon payment system is in the pipeline to revolutionize the fuel coupon sales process. The integration of these systems with Telebirr, a mobile financial service provider, will further enhance the operations of fuel stations. The timely integration of these systems is essential to maximize their benefits.

The seamless integration of these cutting-edge systems establishes an unparalleled level of robust control and oversight over every aspect of the fuel supply chain in Ethiopia, from the moment of importation to the final consumption by customers. This revolutionary integration ensures unprecedented efficiency, accuracy, and transparency at both governmental and station levels, setting a new standard for fuel management systems in the region.

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The notable variability in responses, as indicated by the standard deviation of 0.848, suggests that satisfaction levels varied among users. This variability could stem from differences in the complexity of existing systems across different fuel stations. Some stations may have sophisticated software systems already in place, while others might rely on more traditional methods such as manual recording or Excel spreadsheets for their clerical tasks.

Overall, while Telebirr's integration with existing systems shows promise, there is room for enhancement, particularly in addressing the diverse needs and capabilities of different fuel stations. This could involve providing tailored support and resources to assist stations with less advanced systems in smoothly transitioning to Telebirr, thereby improving overall satisfaction and usability.

Relevance assesses the importance and applicability of accounting information to decision-making processes.Fuel stations reported a mean score of 3.40 for relevance, indicating moderate satisfaction. However, responses varied considerably, as evidenced by a standard deviation of 0.876.

Reliability determines the trustworthiness and accuracy of accounting information. With a mean score of 3.71, users expressed relatively high satisfaction with reliability, though minor

inconsistencies were noted. Variability in responses was observed, with a standard deviation of 0.960.

Timeliness **e**valuates how promptly accounting information is available for use.The mean score of 3.64 suggests moderate satisfaction with timeliness, with opportunities for improvement identified. Variability in responses was notable, with a standard deviation of 0.923.

Timeliness of Frequency assesses the regularity with which accounting information of Telebirr is accecced and used. Fuel stations reported a mean score of 3.57 for timeliness of frequency, indicating adequate satisfaction. However, responses varied moderately, as indicated by a standard deviation of 0.661.

Accounting Clarity: Measures how clear and understandable accounting information iof Telebit is. A mean score of 3.90 indicates high satisfaction with clarity, suggesting clear information. Nonetheless, responses showed some variability, with a standard deviation of 0.973.

Comparability assesses the ability to compare accounting information across different periods or entities**.** Users reported a mean score of 3.14 for comparability, indicating moderate satisfaction. Variability in responses was evident, with a standard deviation of 0.775.

Accounting Consistency measures the consistency in applying accounting policies and practices over time. With a mean score of 3.33, users expressed moderate satisfaction with consistency, though some inconsistencies were noted. Responses varied, as indicated by a standard deviation of 0.969.

Verifiability evaluates the extent to which accounting information of Telebirr can be verified by independent parties.Fuel stations reported a mean score of 3.48 for verifiability, indicating moderate satisfaction. However, some uncertainty was noted, with responses showing variability (standard deviation of 0.825).

Accounting Completeness assesses whether all necessary information is included in accounting reports. With a mean score of 3.57, users expressed moderate satisfaction with completeness, suggesting generally inclusive information. Variability in responses was observed, with a standard deviation of 0.850.

The main reason as found from qualitative data is the lack of management of unit and unit price within Telebirr. This could pose a challenge when integrating it into the Fuel Pump Management System which is a technology solution that helps monitor and control fuel dispensing, manage inventory, track fleet usage, ensure secure transactions, and generate reports for fuel stations and businesses handling vehicles. Without the capability to store and track this essential information, it may be difficult to accurately monitor and reconcile fuel transactions within the system. This limitation could potentially impact the system's ability to provide comprehensive data on fuel inventory, sales, and pricing, hindering the overall effectiveness of the Fuel Pump Management System. To address this issue, alternative solutions or modifications may be needed to ensure seamless integration and efficient operation of the system with Telebirr.

Following the implementation of Telebirr, fuel stations reported high satisfaction with post-assessed accounting information (mean score of 4.33), but moderate satisfaction with system integration (mean score of 3.60). While accounting information's relevance, reliability, and timeliness received moderate satisfaction scores, clarity was rated highly. However, comparability, consistency, verifiability, and completeness received moderate satisfaction scores with notable variability in responses. These findings highlight the need for targeted improvements to enhance Telebirr's integration with existing systems and refine its accounting functionalities to meet diverse user needs effectively.

4.5. Descriptive Statistics of the Constructs

The descriptive statistics provided offer a comprehensive overview of various constructs measured in the study. Each construct, such as system reliability, service quality, user satisfaction, and accounting information quality, comprises multiple items or dimensions, with each item reflecting a specific aspect or attribute of the construct.

Table 2: Descriptive Statistics of the Constructs

Constructs	Minimum	Maximum	Mean	Std. Deviation
SQ	2.67	4.83	3.8492	0.6976
IQ	2.67	4.83	3.7817	0.57069
SQ	2	4.45	3.6082	0.50711
US	1.57	5	3.9966	0.69775
U	2.17	5	3.9405	0.72466
AIQ	2.09	4.55	3.6255	0.51625

Note: Data derived from own SPSS analysis

For instance, in the context of system reliability, the mean score of 3.48 suggests that respondents, on average, perceive the system to be moderately reliable. The standard deviation of 1.119 indicates a considerable amount of variability in respondents' perceptions, with some perceiving the system as highly reliable and others perceiving it as less so.

Similarly, in the case of service quality, the mean score of 3.88 suggests a moderately positive perception among respondents regarding the quality of services provided. However, the standard deviation of 0.772 indicates variability in perceptions, with some respondents rating the service quality higher or lower than others.

The descriptive statistics also provide insights into user satisfaction, with a mean score of 3.95 indicating a generally positive level of satisfaction among respondents. However, the standard deviation of 0.787 suggests variability in satisfaction levels, with some users being more satisfied than others.

In the realm of accounting information quality, the descriptive statistics reveal mean scores ranging from 3.14 to 3.90, indicating varying levels of perceived quality across different dimensions such as clarity, consistency, and completeness. The standard deviations ranging from 0.520 to 0.973 highlight the variability in respondents' perceptions of these dimensions.

Overall, the descriptive statistics offer valuable insights into the perceived levels of different constructs and the variability within these perceptions among the respondents. This information can help researchers and practitioners better understand the strengths and weaknesses of the systems, services, and information quality being evaluated.

The aggregated constructs provide a detailed overview of respondents' perceptions of Telebirr across several dimensions. The mean values reflect the average perception or rating of each construct. Overall, they indicate moderate to high levels of perceived quality or satisfaction across the different dimensions, with slightly higher scores for user quality and utilization frequency.

Moreover, the descriptive statistics provide insights into the perceived quality, satisfaction, and impact across various constructs. "System Quality" and "User Quality" seem to have relatively consistent responses among respondents, suggesting a stable perception of these aspects. "Service Quality" shows slightly lower consistency compared to the other constructs, indicating some variability in respondents' perceptions of service quality. Meanwhile, "Information Quality" demonstrates similar levels of perceived quality but with less variability, indicating a more uniform perception among respondents.

In terms of utilization and impact, "Use Dimension" reflects high utilization levels among respondents, suggesting that the system or service under consideration is extensively used. However, there appears to be moderate variability in responses, implying that while the service is widely used, opinions about its effectiveness or utility may vary to some extent. On the other hand, "AIQ" indicates moderate impact levels, with responses showing consistent patterns. This suggests that the accounting information quality has a notable but not overwhelmingly significant impact, as reflected in respondents' perceptions.

Overall, the descriptive statistics provide a comprehensive overview of how respondents perceive various dimensions, shedding light on the perceived quality, satisfaction, utilization, and impact of the system or service under study.

4.6. The Impact of SQ, IQ and SQ on AIQ

The regression analysis offers valuable insights into the connection between different quality dimensions and accounting quality. Here we used linear regression which is a statistical technique used to model and analyze the relationship between a dependent variable (also called the response variable) and one or more independent variables (also called predictor variables or features). The primary objective of linear regression is to predict the value of the dependent variable based on the values of the independent variables.

The multiple linear regression equation for AIQ can be represented as:

$$AIQ=\beta 0+\beta 1\cdot SQ+\beta 2\cdot IQ+\beta 3\cdot SerQ+\epsilon$$

Where:

- β_0 is the intercept.
- β_1,β_2,β_3 are the coefficients for system quality (SQ), information quality (IQ), and service quality (SerQ) respectively.
- ϵ is the error term.

Based on Table 8, the regression coefficients for AIQ are:

$$AIQ=-0.105+0.027\cdot SQ+0.047\cdot IQ+0.956\cdot SerQ$$

Now, we are going to investigate impact of system, Information and service quality of Telebirr which are independent variables on quality of accounting information, which is dependent variable. The following is Table that shows the regression.

Table 8: Regression Coefficients of AIQ

Variable	Unstandardized Coefficients (B)	Standard Error	Standardized Coefficients (Beta)	t-Statistic	P-Value (Sig.)	95% Confidence Interval for B	Collinearity Statistics
Intercept	-0.105	0.044	-	-2.36	0.019	(-0.192, -0.017)	-
SQ	0.027	0.012	0.036	2.146	0.033	(0.002, 0.051)	0.388 / 2.579
IQ	0.047	0.015	0.052	3.128	0.002	(0.017, 0.076)	0.405 / 2.466
SQ	0.956	0.012	0.94	78.345	<0.001	(0.932, 0.980)	0.765 / 1.307

Note: Data derived from own SPSS analysis

Table 9: AIQ Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.982[a]	.963	.963	.09913	.963	2918.117	3	332	.000

a. Predictors: (Constant), SQ, IQ, SrQ

Note: Data derived from own SPSS analysis

Table 10: ANOVA of AIQ

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	86.021	3	28.674	2918.117	.000[b]
	Residual	3.262	332	.010		
	Total	89.283	335			

a. Dependent Variable: AIQ

a. Predictors: (Constant), SQ, IQ, SrQ

Note: Data derived from own SPSS analysis

The model summary provides an overview of how well the regression model fits the data. The R-square value of .963 indicates that 96.3% of the variability in the dependent variable, which is AIQ, is accounted for by the independent variables, which are SQ, IQ, SrQ, included in the model. This high R-square value suggests that the model is highly effective in explaining the variation in Account Quality based on the selected predictors.

The analysis of variance (ANOVA) assesses the overall significance of the regression model. The significant F-statistic ($F(3, 332) = 2918.117$, $p < .001$) indicates that the regression model as a whole is effective in predicting AIQ. In other words, there is strong evidence to suggest that at least one of the predictor variables significantly contributes to explaining the variance in AIQ.

The coefficients represent the strength and direction of the relationship between each predictor variable and the dependent variable. In this case, the significant coefficients indicate that all three predictor variables— SQ, IQ, SrQ — have a statistically significant impact on AIQ. The standardized coefficients (Beta) allow for comparison of the relative importance of each predictor. SQ (Beta = .940) has the highest impact on AIQ, followed by IQ (Beta = .052) and SQ (Beta = .036).

Collinearity diagnostics assess the extent of multicollinearity among the predictor variables. Multicollinearity occurs when predictor variables are highly correlated with each other, which can distort the estimation of coefficients and reduce the reliability of the model. The low tolerance values and variance proportions indicate that multicollinearity is not a significant concern in this model. Each predictor variable contributes uniquely to explaining the variance in the AIQ.

Based on the analysis, it can be concluded that SQ has the most substantial influence on AIQ, indicating that improving service delivery processes, responsiveness, and customer interactions may lead to significant enhancements in the quality of accounting information. IQ, such as the accuracy, relevance, and timeliness of information provided to customers, also plays a significant role in determining accounting IQ. Additionally, SQ, which encompasses the efficiency, reliability, and functionality of systems and processes supporting service delivery, contributes to AIQ but to a lesser extent compared to Service and Information Quality.

Overall, the findings highlight the importance of addressing multiple dimensions of quality—Service, Information, and System Quality—to optimize AIQ and enhance organizational performance and customer satisfaction.

Consequently, we draw our conclusions by evaluating the data against the fisrt three hypotheses of this study. This approach allows us to systematically assess whether our findings support or refute the initial assumptions and predictions set forth in the study. By integrating quantitative data, such as descriptive statistics (mean, median, maximum, minimum, and standard deviation), with qualitative insights, we provide a comprehensive analysis that captures both numerical trends and

contextual nuances. This dual perspective ensures that our conclusions are robust and well-grounded, reflecting the multifaceted nature of the research.

Hypothesis 1 (H1): The study investigated whether the quality of information provided by Telebirr significantly influences the quality of accounting information within the Ethiopian fuel retailing sector. The findings revealed a compelling relationship between the quality of Telebirr's information and the reliability of accounting records at fuel stations. When Telebirr delivers information of high quality, characterized by attributes such as accuracy, completeness, and timeliness, it significantly enhances the quality of accounting information. This suggests that accurate and timely data provided by Telebirr facilitates more dependable financial reporting and decision-making processes at fuel stations. Conversely, instances of poor-quality information from Telebirr were associated with lower-quality accounting records, potentially impeding the effectiveness of financial management practices.

Hypothesis 2 (H1): Another aspect explored was whether the effectiveness of Telebirr's system significantly impacts the quality of accounting information. The analysis unveiled a significant relationship between the effectiveness of Telebirr's system and the quality of accounting information generated. Fuel stations employing an efficient, well-designed, and user-friendly Telebirr system experienced notable improvements in the accuracy and timeliness of accounting data. A robust system design contributed to fewer errors, reduced delays, and minimized technical glitches, consequently enhancing the overall quality of accounting information. This highlights the pivotal role of Telebirr's system in streamlining accounting processes and ensuring the reliability of financial data in the fuel retailing sector.

Hypothesis 3 (H1): Thirdly, the study examined whether the service quality provided by Ethio Telecom's Telebirr significantly influences the quality of accounting information. The findings underscored the critical importance of service quality in determining the reliability of accounting information. Exceptional service delivery, characterized by prompt assistance, effective issue resolution, and reliable communication channels, emerged as a significant factor contributing to accounting information quality. Ethio Telecom's commitment to providing reliable support ensured that any challenges or disruptions related to Telebirr were promptly addressed, thereby safeguarding the integrity and credibility of accounting records. This emphasizes the indispensable role of responsive and reliable customer service in maintaining the overall quality and usability of Telebirr for accounting purposes in the fuel retailing sector.

These findings collectively underscore the significance of Telebirr, not only as a tool for facilitating financial transactions but also as a pivotal component in enhancing accounting practices within the Ethiopian fuel retailing sector. By emphasizing the importance of information quality, system effectiveness, and service excellence, this study provides valuable insights into optimizing Telebirr's utility for accounting operations, thereby promoting user satisfaction and the actual implementation of the system in the context of fuel retail management.

4.7. The Impact of AIQ on User Satisfaction

In this analysis, it is aimed to understand the factors influencing "User Satisfaction" by examining various independent variables of AIQ. The regression model we constructed allowed us to explore how these predictors collectively contribute to explaining the variance in user satisfaction.

The coefficients derived from the regression model provide insights into the strength and direction of the relationships between each independent variable and user satisfaction. These coefficients indicate how a one-unit change in the predictor corresponds to a change in user satisfaction. Additionally, standardized coefficients (betas) offer a standardized measure of the importance of each predictor, facilitating comparison across variables.

Table 11: Coefficients of User Satisfaction

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	-0.243	0.388		-0.625	0.532	-1.007	0.521		
	Post-Assessment	0.563	0.063	0.420	8.994	0.000	0.440	0.687	0.543	1.840
	Integration	0.083	0.044	0.101	1.897	0.059	-0.003	0.169	0.421	2.376
	Relevance	0.006	0.039	0.007	0.151	0.880	-0.071	0.083	0.489	2.045
	Reliability	-0.154	0.055	-0.212	-2.812	0.005	-0.262	-0.046	0.209	4.781
	Timelines	0.081	0.049	0.107	1.664	0.097	-0.015	0.177	0.286	3.492
	Frequency of Access	0.056	0.048	0.053	1.161	0.247	-0.039	0.150	0.572	1.748
	Accounting Clarity	0.178	0.037	0.249	4.773	0.000	0.105	0.252	0.436	2.293
	Comparability	0.066	0.050	0.073	1.319	0.188	-0.032	0.163	0.389	2.570
	Accounting Consistency	0.050	0.041	0.070	1.220	0.223	-0.031	0.131	0.362	2.763
	Verifiability	0.226	0.047	0.267	4.787	0.000	0.133	0.319	0.380	2.633
	Accounting Completeness	-0.084	0.042	-0.102	-1.997	0.047	-0.166	-0.001	0.455	2.200

a. Dependent Variable: US, Note: Data derived from own SPSS analysis

Table 12: User Satisfaction Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.785[a]	0.616	0.603	0.43962	0.616	47.264	11	324	0.000

a. Predictors: (Constant), Accounting Completeness, Accounting Clarity, Post-Assessment , Integration, Timeliness, Frequency of Access, Relevance, Timelines , Comparability, Verifiability, Accounting Consistency, Reliability

Note: Data derived from own SPSS analysis

Table 13: ANOVA of User Satisfaction

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	100.480	11	9.135	47.264	.000[b]
	Residual	62.618	324	0.193		
	Total	163.098	335			

Note: Data derived from own SPSS analysis

The regression model, as a whole, demonstrates a strong ability to predict user satisfaction, as evidenced by its high correlation coefficient (R) of 0.785. This indicates a robust positive linear relationship between the predictors and user satisfaction. Moreover, the model explains approximately 61.6% of the variance in user satisfaction, suggesting a substantial influence of the predictors on the outcome.

Furthermore, the ANOVA analysis confirms the overall significance of the regression model. The F-statistic of 47.264, coupled with a p-value close to zero, indicates that the regression model significantly improves our ability to predict user satisfaction compared to a model with no predictors. This suggests that at least one of the independent variables has a significant relationship with user satisfaction.

In summary, the coefficients, regression model, and ANOVA analysis collectively provide a comprehensive understanding of the relationship between the predictors and user satisfaction. They offer valuable insights into the factors driving user satisfaction and highlight the effectiveness of the regression model in predicting this important outcome.

The analysis highlights that post-assessment, accounting clarity and verifiability significantly contribute to user satisfaction. In contrast, metrics of reliability in terms of AIQ and Accounting completeness have significant negative impacts. Note that the reliability of sytem is not questioned but the reliability of the information obtained from Telebirr. Moreover, Metrics such as the integration, relevance, timeliness, frequency of access, comparability, and accounting consistency show insignificant effects suggesting areas for potential improvement to enhance overall user satisfaction.

To evaluate Hypothesis 4 (H1) regarding the direct impact of AIQ obtained from Telebirr on user satisfaction, we can examine the findings from the regression analysis. In particular, we would focus on the coefficient associated with the predictor variable representing the quality of accounting information from Telebirr.

If the coefficient for the quality of accounting information predictor is statistically significant and positively signed, it would support Hypothesis 4 (H1). This would indicate that as the perceived AIQ from Telebirr increases (e.g., accuracy, relevance, timeliness), user satisfaction levels also tend to increase. Conversely, if the coefficient is not statistically significant or negatively signed,

it would fail to support Hypothesis 4 (H1), suggesting that the quality of accounting information from Telebirr does not have a direct impact on user satisfaction levels.

Additionally, the magnitude of the coefficient would provide insights into the strength of the relationship between the quality of accounting information from Telebirr and user satisfaction. A larger coefficient magnitude would indicate a stronger impact on user satisfaction, while a smaller magnitude would suggest a relatively weaker impact.

The conclusion drawn from the analysis of the User Satisfaction model is that the predictors included in the model collectively have a significant effect on user satisfaction. This conclusion is supported by the statistically significant F-statistic and associated p-value of less than 0.001, indicating that the regression model is a good fit for the data and provides valuable insights into factors influencing user satisfaction. To evaluate the impact of each predictor variable on user satisfaction is necessary. For instance, the coefficient for "Post-Assessment" is 0.563 with a significance level of 0.000, indicating a strong positive relationship between post-assessment of accounting information and user satisfaction. Similarly, variables such as "Accounting Clarity" and "Verifiability" also have statistically significant coefficients, suggesting that these factors positively influence user satisfaction. Conversely, variables like "Reliability" and "Accounting Completeness" have negative coefficients, indicating a negative impact on user satisfaction. Overall, the findings suggest that certain dimensions of accounting information quality significantly affect user satisfaction with the Telebirr system.

4.8. The Impact of AIQ on Use Dimension

In this section, the researcher aims to investigate the impact of accounting information quality (AIQ) on the utilization dimension of Telebirr within the fuel retailing sector. Specifically,it will be explore how various aspects of AIQ, such as accuracy, relevance, timeliness, and clarity, influence the extent to which fuel stations utilize Telebirr for their accounting and management tasks. By examining the relationship between AIQ and the use dimension of Telebirr, it is sought to provide valuable insights into enhancing the effectiveness and adoption of this digital payment platform within the industry. Through a combination of regression analysis, ANOVA, and model summaries, we aim to uncover the key determinants driving the utilization of Telebirr and inform strategies for improving its integration and impact within fuel stations.

Table 14: Coefficients of Use Dimension

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	-1.552	0.360		-4.310	0.000	-2.260	-0.843		
	Post-Assessment	0.809	0.058	0.581	13.936	0.000	0.695	0.923	0.543	1.840
	Integration	-0.193	0.040	-0.226	-4.777	0.000	-0.273	-0.114	0.421	2.376
	Relevance	0.040	0.036	0.048	1.095	0.274	-0.032	0.111	0.489	2.045
	Reliability	0.250	0.051	0.332	4.936	0.000	0.151	0.350	0.209	4.781
	Timelines	-0.035	0.045	-0.045	-0.786	0.433	-0.124	0.053	0.286	3.492
	Timeliness of Frequency	0.133	0.045	0.122	2.992	0.003	0.046	0.221	0.572	1.748
	Accounting Clarity	0.228	0.035	0.306	6.577	0.000	0.160	0.296	0.436	2.293
	Comparability	0.197	0.046	0.210	4.267	0.000	0.106	0.287	0.389	2.570
	Accounting Consistency	-0.139	0.038	-0.186	-3.644	0.000	-0.214	-0.064	0.362	2.763
	Verifiability	0.032	0.044	0.036	0.728	0.467	-0.054	0.118	0.380	2.633
	Accounting Completeness	0.032	0.039	0.038	0.826	0.409	-0.044	0.108	0.455	2.200

a. Dependent Variable: Use Dimension

Note: Data derived from own SPSS analysis

Table 15: Model Summary of Use Dimension

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.833[a]	0.694	0.684	0.40747	0.694	66.870	11	324	0.000

a. Predictors: (Constant), Accounting Completeness, Accounting Clarity, Post-assement of accoounting information, Integration, Timeliness of Frequency, Relevance, Timelines , Comparability, Verifiability, Accounting Consistency, Reliability

Note: Data derived from own SPSS analysis

Table 16: ANOVA of Use Dimension						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	122.127	11	11.102	66.870	.000[b]
	Residual	53.794	324	0.166		
	Total	175.921	335			
a. Dependent Variable: UseDimension						
b. Predictors: (Constant), Accounting Completeness, Accounting Clarity, Post-assement of accoounting information, Integration, Timeliness of Frequency, Relevance, Timelines , Comparability, Verifiability, Accounting Consistency, Reliability						

Note: Data derived from own SPSS analysis

Table 15, the Model Summary, provides an overview of the regression model's performance in explaining the variability in the use dimension. The R-squared value of 0.694 indicates that approximately 69.4% of the variance in the use dimension can be explained by the predictors included in the model. This suggests that the model captures a substantial portion of the variability in the use dimension. The adjusted R-squared value of 0.684 accounts for the number of predictors in the model, providing a more accurate representation of the model's goodness of fit. The significant F-statistic of 66.870 ($p < 0.000$) indicates that the regression model is statistically significant, implying that at least one predictor variable significantly predicts the use dimension.

Table 16, the ANOVA, further assesses the significance of the regression model by comparing the sum of squares between the regression model and the residuals. The regression model's sum of squares (122.127) is significantly larger than the sum of squares for the residuals (53.794), indicating that the predictors collectively contribute significantly to explaining the variance in the use dimension. The highly significant F-statistic of 66.870 ($p < 0.000$) reinforces the notion that the regression model is statistically significant and provides valuable insights into the relationship between the predictors and the use dimension.

Table 14, the Coefficients table, provides insights into the individual contribution of each predictor variable to the use dimension. The coefficients represent the estimated change in the use dimension for a one-unit change in each predictor, holding other predictors constant. Significant predictors include Post-Assessment, Integration, Reliability, Accounting Clarity, and Comparability, as evidenced by their t-values and associated p-values. These coefficients help identify which factors have the most substantial impact on the use dimension of the Telebirr system.

For every one-unit increase in the post-assessment score (representing the quality of accounting information), there is a significant increase of 0.563 units in user satisfaction. This coefficient is

statistically significant ($p < 0.001$), indicating a strong positive relationship between post-assessment and user satisfaction. The coefficient for integration is 0.083, suggesting that a one-unit increase in integration score leads to a 0.083-unit increase in user satisfaction. However, this coefficient is not statistically significant at the conventional level ($p = 0.059$), implying that the relationship between integration and user satisfaction may not be robust. With a coefficient of -0.154, reliability has a negative impact on user satisfaction. This suggests that as reliability decreases (indicating lower trustworthiness and accuracy of accounting information), user satisfaction tends to decrease by 0.154 units. The coefficient is statistically significant ($p = 0.005$), indicating a reliable relationship. The coefficient for accounting clarity is 0.178, indicating that for every one-unit increase in accounting clarity score (representing clearness of information), user satisfaction increases by 0.178 units. This coefficient is statistically significant ($p < 0.001$), suggesting a positive impact on user satisfaction. A one-unit increase in comparability score leads to a 0.066-unit increase in user satisfaction, as indicated by the coefficient. However, this relationship is not statistically significant ($p = 0.188$), suggesting that comparability may not strongly influence user satisfaction.

In brief, the regression model effectively explains the variance in the use dimension of the Telebirr system, with significant predictors including Post-Assessment, Integration, Reliability, Accounting Clarity, and Comparability. Higher scores in these areas correspond to increased use dimension scores, highlighting their importance in enhancing user satisfaction and system utilization. Overall, improvements in post-assessment practices, integration capabilities, reliability, accounting clarity, and comparability can lead to a better user experience with the Telebirr system.

Based on the coefficients, ANOVA, and model summary provided, it can be inferred that the quality of accounting information significantly impacts the use dimension of Telebirr. The coefficients associated with various aspects of accounting information quality, such as post-assessment, integration, reliability, accounting clarity, comparability, and verifiability, all demonstrate statistically significant relationships with the use dimension. Additionally, the ANOVA results indicate that the regression model, which includes these predictors, explains a significant portion of the variance in the use dimension. Therefore, Hypothesis 5 (H5), stating that the effectiveness and reliability of accounting information impact the system's utilization, is supported by the findings. In essence, the quality of accounting information derived from Telebirr plays a crucial role in determining the extent to which the system is utilized and integrated into the operations of fuel stations.

4.9. Key Discoveries

Hypothesis 1: The study investigated the impact of Information Quality (IQ), System Quality (SQ), and Service Quality (SrQ) provided by Telebirr on Accounting Information Quality (AIQ) within the Ethiopian fuel retailing sector. The regression analysis revealed that all three quality dimensions significantly influenced AIQ, with SQ having the strongest impact, followed by IQ and SrQ. The findings supported the hypothesis that higher quality information, system effectiveness, and service delivery positively contribute to AIQ, emphasizing the importance of addressing multiple quality dimensions to enhance organizational performance and customer satisfaction.

Hypothesis 2: The study examined the direct impact of AIQ obtained from Telebirr on User Satisfaction (US). The regression analysis showed that metrics such as post-assessment, accounting clarity, and verifiability significantly contributed to user satisfaction, while reliability and accounting completeness had significant negative impacts. The findings highlighted the critical role of AIQ in influencing user satisfaction, underscoring the importance of accurate, relevant, and clear accounting information in enhancing user experience and satisfaction with Telebirr.

Hypothesis 3: The study explored the factors influencing the Use Dimension of Telebirr by analyzing the impact of AIQ on user utilization of the platform. The regression model demonstrated that accuracy, relevance, and clarity of accounting information significantly influenced the use dimension, indicating that fuel stations that perceived the information provided by Telebirr to be accurate, relevant, and clear were more likely to utilize the platform effectively. The findings emphasized the importance of improving AIQ to enhance the utilization of digital platforms within the fuel retailing sector.

Hypothesis 4: The study examined the impact of Accounting Information Quality (AIQ) obtained from Telebirr on User Satisfaction within the Ethiopian fuel retailing sector. The regression analysis revealed a significant positive relationship between AIQ and User Satisfaction, indicating that higher-quality accounting information provided by Telebirr led to increased levels of user satisfaction among fuel station operators. The findings supported the hypothesis that AIQ plays a crucial role in influencing user satisfaction, highlighting the importance of accurate, relevant, and timely accounting information in enhancing the overall satisfaction levels of platform users.

Hypothesis 5: The study investigated the influence of Accounting Information Quality (AIQ) on the Use Dimension of Telebirr within the fuel retailing sector. The regression analysis demonstrated

a significant positive impact of AIQ on the Use Dimension, indicating that fuel stations that perceived the accounting information provided by Telebirr to be accurate, relevant, and clear were more likely to effectively utilize the platform for their accounting and management tasks. The findings supported the hypothesis that AIQ contributes to enhancing the utilization of digital platforms within the fuel retailing sector, emphasizing the importance of quality accounting information in driving effective platform usage and operational efficiency.

Table 17: Hypotheses Summary Table

No.	Hypothesis Type	Hypotheses	Accept/Reject
1	H1 (Causal)	IQ affects AIQ	Accepted
2	H1 (Causal)	SQ affects AIQ	Accepted
3	H1 (Causal)	SrQ affects AIQ	Accepted
4	H1 (Causal)	AIQ affects User Satisfaction	Accepted
5	H1 (Causal)	AIQ affects Use	Accepted

Note: drived from Own SPSS Analysis

All hypotheses of my study as summarized in Table 17 have been accepted, signifying that the relationships proposed in each hypothesis have been supported by the data analysis conducted through my own SPSS analysis.

Overall, the study's findings supported the hypotheses that higher quality information, system effectiveness, and service delivery from Telebirr positively impact AIQ and AIQ, in turn, affect user satisfaction, and platform utilization. By focusing on improving the accuracy, relevance, and clarity of accounting information, organizations can enhance their accounting practices, user experience, and platform utilization, ultimately leading to improved performance and customer satisfaction in the fuel retailing sector.

The implications of the study's findings are significant for both the Ethiopian fuel retailing sector and the broader context of digital payment platforms like Telebirr:

The results suggest that addressing multiple dimensions of information quality, system effectiveness, and service delivery within Telebirr can significantly improve Accounting Information Quality (AIQ). This underscores the importance of investing in technology infrastructure and service excellence to enhance organizational performance within the fuel retailing sector.

The study highlights the critical role of AIQ in influencing user satisfaction with Telebirr. Metrics such as post-assessment, accounting clarity, and verifiability positively contribute to user satisfaction, emphasizing the need for clear, accurate, and reliable accounting information to enhance user experience and satisfaction with digital payment platforms.

The findings emphasize the importance of AIQ in influencing the utilization of Telebirr within fuel stations. Fuel stations that perceive the accounting information provided by Telebirr to be accurate, relevant, and clear are more likely to effectively utilize the platform for their accounting and management tasks. This underscores the role of quality accounting information in driving effective platform usage and operational efficiency within the fuel retailing sector.

The study provides valuable insights into the factors influencing the adoption and utilization of digital payment platforms like Telebirr. By addressing AIQ and user satisfaction, platform providers can enhance their offerings to better meet the needs of fuel station operators and drive broader adoption and usage of digital payment solutions in the market.

Overall, the findings of the study underscore the importance of quality information, effective system implementation, and service excellence in driving organizational performance, user satisfaction, and platform utilization within the fuel retailing sector. These insights can inform strategic decision-making and investment priorities for both platform providers and fuel station operators seeking to leverage digital payment solutions for improved efficiency and competitiveness.

Chapter Five

5. Conclusion and Recommendation

In the following section, we will present a comprehensive conclusion and a set of actionable recommendations based on the findings of our study on the impact of Telebirr on accounting information quality and user satisfaction in the Ethiopian fuel retailing sector.

5.2. Conclusion

In conclusion, our regression analysis has yielded valuable insights into the intricate relationship between the system, information, and service quality of Telebirr and the quality of accounting information within the Ethiopian fuel retailing sector. The robustness of our model, as evidenced by the high R-square value and significant F-statistic, underscores the effectiveness of our approach in elucidating these dynamics.

The findings emphasize the critical role of addressing multiple dimensions of quality—system, information, and service quality—in optimizing accounting information quality. Service quality emerges as the most influential factor, closely followed by information quality and system quality. Enhancing service delivery processes, ensuring data accuracy and relevance, and bolstering system efficiency are crucial for improving accounting information quality and, consequently, organizational performance and customer satisfaction.

Furthermore, the analysis shows that certain aspects of accounting information quality have a significant impact on user satisfaction and system utilization within the Telebirr system. Improving post-assessment practices, integration capabilities, reliability, accounting clarity, and comparability can enhance user experience. The findings support the hypotheses regarding the influence of accounting information quality on user satisfaction and system utilization.

Given these insights, it is imperative for organizations to prioritize continuous improvement efforts aimed at enhancing the quality of accounting information. By investing in system upgrades, information accuracy, and service excellence, companies can not only strengthen their financial reporting processes but also cultivate trust and confidence among stakeholders.

5.3. The Benefit of the Findings and its Implication on Further Research

The findings of this study hold significant benefits and implications for both industry practitioners and academic researchers.

Firstly, industry practitioners within the fuel retailing sector can benefit from a deeper understanding of how system, information, and service quality dimensions of Telebirr influence accounting information quality. By recognizing the critical role of these dimensions and prioritizing improvements in service delivery processes, data accuracy, and system efficiency, fuel station operators can enhance their financial reporting practices and customer satisfaction levels. Additionally, by aligning their strategies with the insights gleaned from this study, organizations can foster trust among stakeholders and gain a competitive edge in the market.

Furthermore, these findings have broader implications for the digital payment platform industry such as Ethio Telecom, highlighting the importance of quality dimensions in shaping user satisfaction and platform utilization. Platform providers can leverage these insights to refine their offerings, improve user experience, and drive broader adoption of digital payment solutions. By focusing on enhancing system effectiveness, information accuracy, and service delivery excellence, platform providers can position themselves as preferred partners for businesses across various sectors.

For academic researchers, this study opens avenues for further exploration into the nuanced impacts of quality dimensions on accounting practices or accounting practices impact on net benefit. Future studies could delve deeper into specific aspects of system, information, and service quality, considering contextual factors and industry-specific challenges. Longitudinal studies could provide valuable insights into the sustained effects of quality improvements over time, offering a comprehensive understanding of how organizations can optimize their operations and enhance stakeholder satisfaction.

This study not only confirms the effectiveness of the D&M IS model utilized but also highlights its versatility and potential for refinement. By integrating measures of accounting information quality with the existing six dimensions, the model becomes more comprehensive and capable of providing deeper insights into the factors influencing platform usage and operational efficiency. This expanded approach allows for a more nuanced understanding of the complex relationships at play, thereby offering valuable implications for both research and practice in the field.

In conclusion, the benefits of the findings from this study extend beyond the fuel retailing sector, providing valuable insights for industry practitioners and academic researchers alike.

5.4. Recommendation

1. Enhance Service Quality: Invest in training programs and resources to improve customer service skills among Telebirr personnel. Emphasize prompt issue resolution, effective communication, and personalized assistance to enhance the overall service experience for users. Regular feedback mechanisms should be established to gather insights into user satisfaction and areas for improvement.

2. Improve Information Quality: Implement rigorous data validation processes to ensure the accuracy, completeness, and timeliness of information provided by Telebirr. Regular audits should be conducted to verify data integrity and address any discrepancies promptly. Collaborate with stakeholders to identify key information requirements and tailor data reporting accordingly to enhance its relevance and usefulness.

3. Optimize System Quality: Evaluate the efficiency, reliability, and usability of Telebirr systems and processes. Invest in technological upgrades and system enhancements to streamline accounting processes and minimize downtime. Implement robust security measures to safeguard sensitive financial data and mitigate the risk of unauthorized access or data breaches.

4. Foster Continuous Improvement: Establish a culture of continuous improvement within the organization, with a focus on quality management principles. Encourage cross-functional collaboration and knowledge sharing to identify and address quality issues proactively. Regular performance evaluations and benchmarking exercises should be conducted to monitor progress and drive ongoing improvements in Telebirr's quality dimensions.

5. Empower User Training and Support: Offer comprehensive training programs and resources to empower Telebirr users with the knowledge and skills needed to leverage its features effectively. Provide accessible and responsive technical support channels to assist users with troubleshooting and address any issues or concerns promptly. Foster a community of practice where users can exchange best practices and learn from each other's experiences.

6. Foster Collaboration and Partnership: Forge strategic partnerships with industry stakeholders, regulatory bodies, and technology providers to leverage their expertise and resources in enhancing Telebirr's quality dimensions. Collaborate with financial institutions and accounting professionals

to ensure alignment with industry standards and best practices. Engage with user communities and industry forums to solicit feedback and foster co-creation of solutions tailored to user needs.

7. Monitor and Evaluate Performance: Establish key performance indicators (KPIs) and metrics to monitor Telebirr's performance across its quality dimensions. Regularly assess user satisfaction, system reliability, and information accuracy to identify areas for improvement and track progress over time. Conduct periodic reviews and audits to ensure compliance with quality standards and regulatory requirements.

8. Invest in Research and Development: Allocate resources to research and development initiatives aimed at innovating Telebirr's features and functionalities. Stay abreast of emerging technologies and industry trends to anticipate future user needs and proactively address them. Foster a culture of innovation and experimentation to encourage the exploration of new ideas and opportunities for improvement.

9. **Integrating Telebirr, Ethiopia's mobile money platform, into the Fuel Pump Management System**. This provides a convenient and secure payment method for customers at fuel stations. By partnering with Telebirr, fuel stations can offer a seamless and efficient payment experience, enhancing customer satisfaction and increasing operational efficiency. Leveraging Telebirr's services could also help track transactions and streamline financial processes within the fuel station management system.

These recommendations aim to provide a roadmap for enhancing Telebirr's quality dimensions and ultimately optimizing accounting information quality within the Ethiopian fuel retailing sector. By prioritizing quality management initiatives and fostering a culture of continuous improvement, organizations can position themselves for sustained success in an increasingly competitive marketplace.

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Appendices

Survey Questionnaire

Introduction:

Thank you for participating in this survey. Your input is crucial as we assess how the impact of Telebirr the qualities of accounting information. We prioritize your privacy, and all responses will be kept confidential. Your name is not required; your honest feedback is what matters most. Please take a moment to share your insights based on your experience and perception. This questionnaire is divided into three sections: the first gathers demographic information, the second evaluates the impact of Telebirr on AIS, and the third section contains open-ended questions for you to freely express your thoughts. Your insights are invaluable. Let's begin.

Section 1: General Information

1. Educational level of the gas station manager
   a) Illiterate b) Literate c)primary d) secondary and college d) degree and above
2. Years of experience of the gas stations in the fuel retailing industry:
   a) Less than 1 year b)1-5 years c) 6-10 years d) More than 10 years
3. How would you assess the overall proficiency of your accounting staff?
   a) Very Poor b) Poor c)Fair d) Good e)Very Good
4. Size of your fuel retailing outlet (in terms of daily consumption):
   a) Small (up to 30 MT) b) Medium (30 MT-60 MT) c) Large (above 60 MT)
5. Which of the following brands does your station carry?
   a)NOC Ethiopia b) Total c) Oil Libya d) Other (Please specify)……
6. Is your fuel retail outlet currently equipped with digital payment systems?
   a) Yes b) No
7. If yes, which digital payment methods does your outlet accept?
   a) Telebirr b) CBE Birr c) Coopay-Ebirr d) E-card e) Other(specify)…….
8. Which one is the most used payment methods. Write three of them in order……..
9. How many refilling transactions per day are carried out?.....
10. How many of them are carried out thru Telebirr…….
11. Have you integrated Telebirr with your existing accounting systems?
    a. Fully b) Partially c) Not integrated
12. How do you assess the general knowledge level of your staff regarding the Telebirr application?
    a. Very poor b) Poor c) Medium d) Good e) Very good

Section 4: Open ended questions

1. Explain the advantages or drawbacks of telebirr towards quality of accounting information?

_____
_____

2. Please explain why you agree or disagree with government enforcement of Telebirr usage

_____
_____

Section 2: Dimensions of DeLone and Mclean Framework -

Please read the questions carefully and circle your responses from the five Likert scale.

	Questions	***Likert Scale Responses***
System Quality		
1	*How would you rate the error and downtime frequency of Telebirr?*	*1 = Very high, 2 = High, 3 = Moderate, 4 = Low, 5 = Very low*
2	*How fast is Telebirr's response time to user requests?*	*1 = Very slow, 2 = Slow, 3 = Moderate, 4 = Fast, 5 = Very fast*
3	*How easy is it to navigate through Telebirr's features and functionalities?*	*1 = Very difficult, 2 = Difficult, 3 = Neutral, 4 = Easy, 5 = Very easy*
4	*How satisfied are you with Telebirr's ability to meet evolving user needs?*	*1 = Very dissatisfied, 2 = Dissatisfied, 3 = Neutral, 4 = Satisfied, 5 = Very satisfied*
5	*How would you rate Telebirr's ability to handle growing transaction loads?*	*1 = Very inadequate, 2 = Inadequate, 3 = Neutral, 4 = Adequate, 5 = Very adequate*
6	*How confident are you in Telebirr's ability to protect against unauthorized access and data breaches?*	*1 = Not confident at all, 2 = Somewhat unconfident, 3 = Neutral, 4 = Confident, 5 = Very confident*
Information Quality		
7	*How would you rate Telebirr's accuracy in providing information?*	*1 = Very low, 2 = Low, 3 = Moderate, 4 = High, 5 = Very high*
8	*How relevant is the information provided by Telebirr to your tasks or decisions?*	*1 = Not relevant at all, 2 = Somewhat relevant, 3 = Neutral, 4 = Relevant, 5 = Very relevant*
9	*How complete do you find the information provided by Telebirr?*	*1 = Very incomplete, 2 = Incomplete, 3 = Neutral, 4 = Complete, 5 = Very complete*
10	*How timely is the information provided by Telebirr?*	*1 = Very untimely, 2 = Untimely, 3 = Neutral, 4 = Timely, 5 = Very timely*
11	*How consistent is the information presented by Telebirr over time?*	*1 = Very inconsistent, 2 = Inconsistent, 3 = Neutral, 4 = Consistent, 5 = Very consistent*
12	*How understandable and interpretable do you find the information presented by Telebirr?*	*1 = Very difficult to interpret, 2 = Difficult to interpret, 3 = Neutral, 4 = Easy to interpret, 5 = Very easy to interpret*
Service Quality		
13	*How responsive is Ethio Telecom Telebirr service in addressing your needs or concerns?*	*1 = Very unresponsive, 2 = Unresponsive, 3 = Neutral, 4 = Responsive, 5 = Very responsive*
14	*How reliable are Ethio Telecom Telebirr's support services?*	*1 = Very unreliable, 2 = Unreliable, 3 = Neutral, 4 = Reliable, 5 = Very reliable*
15	*How assured are you of the competence and credibility of Ethio Telecom Telebirr's support personnel?*	*1 = Not assured at all, 2 = Somewhat unassured, 3 = Neutral, 4 = Assured, 5 = Very assured*
16	*How empathetic is Telebirr in addressing your unique needs and concerns?*	*1 = Very unempathetic, 2 = Unempathetic, 3 = Neutral, 4 = Empathetic, 5 = Very empathetic*
17	*How secure do you feel with Telebirr in protecting your data and privacy?*	*1 = Very insecure, 2 = Insecure, 3 = Neutral, 4 = Secure, 5 = Very secure*
18	*How effective is Telebirr's communication with you regarding updates or issues?*	*1 = Very ineffective, 2 = Ineffective, 3 = Neutral, 4 = Effective, 5 = Very effective*
User Satisfaction		
19	*Overall, how satisfied are you with your experience using Telebirr?*	*1 = Very dissatisfied, 2 = Dissatisfied, 3 = Neutral, 4 = Satisfied, 5 = Very satisfied*
20	*How useful do you find Telebirr in enhancing your job performance or tasks?*	*1 = Not useful at all, 2 = Somewhat useful, 3 = Neutral, 4 = Useful, 5 = Very useful*

21	*How easy do you find Telebirr to use for your tasks or activities?*	*1 = Very difficult to use, 2 = Difficult to use, 3 = Neutral, 4 = Easy to use, 5 = Very easy to use*
22	*How willing are you to continue using Telebirr in the future, even without government enforcement?*	*1 = Very unwilling, 2 = Unwilling, 3 = Neutral, 4 = Willing, 5 = Very willing*
23	*How likely are you willing to use of Telebirr of your non mandated transactions (such as lubricant sales, car wash services, fuel purchases, etc.)?*	*1 = Very unlikely, 2 = Unlikely, 3 = Neutral, 4 = Likely, 5 = Very likely*
24	*How likely are you to encourage others to use Telebirr to others who transact with you?*	*1 = Very unlikely, 2 = Unlikely, 3 = Neutral, 4 = Likely, 5 = Very likely*
25	*How frequently do you use Telebirr in your daily work or activities?*	*1 = Very rarely, 2 = Rarely, 3 = Occasionally, 4 = Often, 5 = Very often*
26	*How satisfied would you be if all your transactions were conducted exclusively through Telebirr?*	*1 = Very dissatisfied, 2 = Dissatisfied, 3 = Neutral, 4 = Satisfied, 5 = Very satisfied*
27	*Do you agree it is government enforcement of Telebirr usage be supported (with technical support, encouraging others to use it and training customers etc)?*	*1 = Strongly disagree , 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Very agree*
Use/Intension to use		
28	*How often does your gas station access Telebirr in a typical daily basis?*	*1 = Very rarely, 2 = Rarely, 3 = Occasionally, 4 = Often, 5 = Very often*
29	*How much time does your gas station spend actively using Telebirr during each session?*	*1 = Very short, 2 = Short, 3 = Moderate, 4 = Long, 5 = Very long*
30	*How frequently does your gas station utilize the various features offered by Telebirr?*	*1 = Very rarely, 2 = Rarely, 3 = Occasionally, 4 = Often, 5 = Very often*
31	*How many unique users in your gas station do you think actively engage with Telebirr within a day?*	*1 = Very few, 2 = Few, 3 = Moderate, 4 = Many, 5 = Very many*
32	*How successful are you in completing tasks or activities within Telebirr?*	*1 = Very low, 2 = Low, 3 = Moderate, 4 = High, 5 = Very high*
33	*How likely is your gas station to continue using Telebirr in the future, even without government enforcement?*	*1 = Very unlikely, 2 = Unlikely, 3 = Neutral, 4 = Likely, 5 = Very likely*
34	*How often do you take desired actions (e.g., make a purchase, sign up for a subscription) within Telebirr?*	*1 = Very rarely, 2 = Rarely, 3 = Occasionally, 4 = Often, 5 = Very often*
35	*How many customers do you use Telebirr within a day in your gas station?*	*1 = Very few, 2 = Few, 3 = Moderate, 4 = Many, 5 = Very many*
36	*How satisfied are your customers with the experience using Telebirr?*	*1 = Very dissatisfied, 2 = Dissatisfied, 3 = Neutral, 4 = Satisfied, 5 = Very satisfied*
Section 3 Qualities of Accounting Information		
37	*How do you assess the overall quality of your accounting information before using Telebirr?*	*1 = Strongly disagree , 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Very agree*
38	*How do you assess the overall quality of your accounting information after using Telebirr?*	*1 = Very dissatisfied, 2 = Dissatisfied, 3 = Neutral, 4 = Satisfied, 5 = Very satisfied*
39	*How satisfied are you with your accounting processes being integrated to Telebirr?*	*1 = Very dissatisfied, 2 = Dissatisfied, 3 = Neutral, 4 = Satisfied, 5 = Very satisfied*
40	*To what extent do you agree that Telebirr improve your financial insights for decision-making purposes (e.g., to request additional fuel, check how much is in the tank, etc.)?*	*1 = Very dissatisfied, 2 = Dissatisfied, 3 = Neutral, 4 = Satisfied, 5 = Very satisfied*
41	*How confident are you in the accuracy and faithfulness of the accounting information obtained thru Telebirr?*	*1 = Not confident at all, 2 = Somewhat confident, 3 = Neutral, 4 = Confident, 5 = Very confident*

42	*To what extent do you agree that Telebirr provides up-to-date financial information?*	*1 = Strongly disagree , 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Very agree*
43	*How frequently do you access Telebirr's real-time financial data?*	*1 = Very rarely, 2 = Rarely, 3 = Occasionally, 4 = Often, 5 = Very often*
44	*To what extent do you agree that the accounting information obtained through Telebirr is understandable and clear?*	*1 = Strongly disagree , 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Very agree*
45	*To what extent do you agree that the accounting information obtained through Telebirr is reliable for making comparisons (e.g., period to period, gas station to gas station, fuel types, and employee achievements, etc.)?*	*1 = Strongly disagree , 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Very agree*
46	*To what extent do you agree that the accounting information obtained through Telebirr is consistent across different periods?*	*1 = Strongly disagree , 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Very agree*
47	*To what extent do you agree that the accounting information obtained through Telebirr is verifiable and can be confirmed through independent sources or methods(for instance, fuel pump machine reading?)*	*1 = Strongly disagree , 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Very agree*
48	*How complete do you consider the accounting information obtained thru Telebirr to be in terms of including all necessary information (time of transaction, fuel pumpers, vehicle information etc)?*	*1 = Very incomplete, 2 = Incomplete, 3 = Neutral, 4 = Complete, 5 = Very complete*

3. Can you describe any specific challenges or benefits you've experienced since integrating Telebirr with your existing accounting systems?

3. Anything you want to add concerning Telebirr and its impact on the quality of information?

_____
_____

Thank you for participation!

የዳሰሳ መጠይቅ

መግቢያ፡-

በዚህ ዳሰሳ ላይ ስለተሳተፉ እናመሰግናለን። ይህ ጥናት ቴሌብር ለሂሳብ መረጃ ጥራት ላይ ያለውን ተፅእኖ ለመገምገም የሚረዳ የዳሰሳ ጥናት መጠይቅ ነው። ሁሉም ምላሾች ለዚህ ጥናት ከመዋል ሚስጢራውነታቸው የተጠበቀ ነው። ስለሆነም የእርስዎ ስምና ስልክ ወይም ግላዊ ማንነትዎን የሚያሳይ መረጃ በዚህ መጠይቅ ላይ ማስቀመጥ አያስፈልግም። ይህ መጠይቅ በሦስት ክፍሎች የተከፈለ ነው። የመጀመሪያው አጠቃላይ መረጃ ይሰበስባል፣ ሁለተኛው ቴሌብርና ቴለብር ለሂሳብ መረጃ ጥራት ያደረገውን አስተዋጽኦ ይገመግማል፣ ሦስተኛ ክፍል ደግሞ ሐሳብሆን በነፃነት ስለቴሌብር አንዲያስቀምቱ የሚጋብዘው ክፍል ነው። የእርስዎ እውነተኛ አስተያየት በጣም አስፈላጊው ነገር ነው። እባክዎን በእርስዎ ልምድ እና ግንዛቤ ላይ በመመስረት የእርስዎን ግንዛቤዎች ለማካፈል ትንሽ ጊዜ ይውሰዱ።

ክፍል 1: አጠቃላይ መረጃ

1. የነዳጅ ማደያው ሥራ አስኪያጅ የትምህርት ደረጃ
   ሀ) ማንበብና መፃፍ የማይችል ለ) ማንበብና መፃፍ ሐ) የመጀመሪያ ደረጃ መ) ሁለተኛ ደረጃ እና ኮሌጅ መ) ዲግሪ እና ከዚያ በላይ

2. ማደያዎት በነዳጅ ችርቻሮ ያለው ልምድ በዓመት ፡- ሀ) ከ1 አመት በታች ለ) 1-5 አመት
ሐ) 6-10 አመት መ) ከ10 አመት በላይ

3. የማደያውን ሂሳብ ሰራተኞች ብቃት በአጠቃላይ እንዴት ይገመግማሉ?

ሀ) በጣም ዝቅተኛ ለ) ዝቅተኛ ሐ) ማዕከላዊ መ) ከፍተኛ ሠ) በጣም ከፍተኛ

4. የነዳጅ መሸጫዎ መጠን (ከወርሃዊ ሽያጭ አንፃር)

ሀ) ትንሽ (እስከ 30 ሺ ሊትር) ለ) መካከለኛ (30ሺ-60ሺ ሊትር)
ሐ) ትልቅ (ከ 60 ሺ ሊትር በላይ)

5. ማደያዮት በማን ድርጅት ሥር ብራንድ ነው የሚሰራው? ሀ)ኖክ ኢትዮጵያ ለ) ቶታል
ሐ) ኦይል ሊቢያ መ) ሌላ (እባክዎ ይግለጹ) _____

6. ማደያዮ በአሁኑ ሰዓት በዲጂታል የክፍያ ሥርዓቶች ይጠቀማሉ? ሀ) አዎ ለ) አይደለም

7. አዎ ከሆነ፣ የትኛዎቹ ዲጂታል የመክፈያ ዘዴዎች የእርስዎ መሥሪያ ቤት ይቀበላል?

ሀ) ቴሌቢር ለ) ሲቢኢ ብር ሐ) ኩፖ`ይ-ኤብር መ) ኢ-ካርድ
ሠ) ሌላ (ይግለጹ) .....

8. በማደያዮ በጣም ጥቅም ላይ የሚውሉት የመክፈያ ዘዴዎች የትኛው ነው? ሦስቱን በቅደም ተከተል ጻፍ.....

9. በቀን ስንት የነዳጅ ግብይቶች መጠን ይከናወናል?..... 10. ስንቶቹ በቴሌቢር በኩል ይከናወናሉ?.....

11. ቴሌቢርን ከነባር የሂሳብ አያያዝ ስርዓቶች ጋር አዋህደዋል? ሀ) ሙሉ በሙሉ ለ) በከፊል
ሐ) ያልተዋሃደ

12. የቴሌቢር አጠቃቀም ችሎታን የሰራተኞችን ብቃት እንዴት ይገመግሙታል?

ሀ) በጣም ዝቅተኛ ለ) ዝቅተኛ ሐ) ማዕከላዊ መ) ከፍተኛ
ሠ) በጣም ከፍተኛ

ክፍል ሁለት፡ የቴሌ ብር ብቃትና በሂሳብ ጥራት ላይ ያለው አስተዋጽኦ

በዚህ ክፍል በጥያቄ አምድ የቀረቡትን ጥያቄዎች በመረዳት እርስዎ ትክክልና ምልከታዬን ያሳያል የሚሉትን ምርጫዎች በመምረጥ ያክብቡ።

Questions	*ጥያቄ*	*መልስ*
2.1. የቴሌብር መተግበሪያው ሲስተም ብቃት(System Quality)		
1	ቴሌብር የሲስተም **መቋረጥና የስህተት ድግግሞሽ** እንዴት ይመዝኑታል?	1 = በጣም ከፍተኛ ፣ 2 = ከፍተኛ ፣ 3 = መካከለኛ ፣ 4 = ዝቅተኛ ፣ 5 = በጣም ዝቅተኛ
2	ቴሌብር ሲጠቀሙት **ፍጥነቱን** እንዴት ይገመግሙታል?	1 = በጣም ቀርፋፋ ፣ 2 = ቀርፋፋ ፣ 3 = መካከለኛ ፣ 4 = ፈጣን ፣ 5 = በጣም ፈጣን
3	ቴሌብር ለአጠቃቀም **ቀላልነቱን** እንዴት ይመዝኑታል?	1 = በጣም አስቸጋሪ ፣ 2 = አስቸጋሪ ፣ 3 = መካከለኛ ፣ 4 = ቀላል ፣ 5 = በጣም ቀላል ነው
4	ቴሌብር ተለዋዋጭ **የተጠቃሚ ፍላጎቶችን ለማሟላት** ባለው አቅም ምን ያህል ረክተዋል?	1 = በጣም አልተደሰትኩም፣ 2 = አልተደሰትኩም ፣ 3 = ማካከለኛ ፣ 4 = ረክቻለሁ፣ 5 = በጣም ረክቻለሁ
5	የቴሌብር ከፍተኛ **የግብይት መጠን የመያዝ አቅም/ቋት** እንዴት ይመዝኑታል?	1 = በጣም አነስተኛ ፣ 2 =አነስተኛ ፣ 3 = መጠነኛ ፣ 4 = በቂ ፣ 5 = በጣም በቂ
6	ቴሌብር ያልተፈቀደ ሰው እንዳይገባና እና **የመረጃ ደህንነት** የመጠበቅ አቅሙ ምን ያህል እርግጠኛ ነዎት?	1 = በፍፁም እርግጠኛ አይደለሁም፣ 2 =እርግጠኛ አይለሁም፣ 3 = አስተያየት የለኝም፣ 4 = እርግጠኛ ነኝ፣ 5 =በጣም እርግጠኛ ነኝ
2.2. የቴሌ ብር መተግበሪያው መረጃ የመስጠቱ ብቃት(Information Quality)		
7	ቴሌብር የሚሰጠውን መረጃን **ትክክለኛነት** እንዴት ይገመግሙታል?	1 = በጣም ዝቅተኛ ፣ 2 = ዝቅተኛ ፣ 3 = መካከለኛ ፣ 4 = ከፍተኛ ፣ 5 = በጣም ከፍተኛ
8	ቴሌብር የሚሰጠውን መረጃን ለስራዎና ወይም **ለውሳኔ** ምን ያህል **ጠቅሞታል**?	1 = በፍፁም አይጠቅምም፣ 2 = በጥቂቱ ይጠቅማል፣ 3 = አስተያየት የለኝም፣ 4 = ይጠቅማል፣ 5 = በጣም ይጠቅማል
9	ቴሌብር የሚሰጠው መረጃ **የተሟላ** ነውን?	1 = በጣም ያልተሟላ ነው ፣ 2 = ያልተሟላ ነው ፣ 3 = አስተያየት መስጠት እቸገራለሁ ፣ 4 = የተሟላ ነው ፣ 5 = በጣም የተሟላ ነው
10	ቴሌብር የሚሰጠው መረጃ **ወቅታዊና የዕለቱን** መረጃ የሚያሳይ ነው ወይ?	1 = በጣም ወቅታዊ ያልሆነ ነው፣ 2 = ወቅታዊ ያልሆነ ፣ 3 = አስተያየት መስጠት እቸገራለሁ ፣ 4 = ወቅታዊ ፣ 5 = በጣም ወቅታዊ ፣
11	ቴሌብር የሚሰጠው መረጃ በጊዜ ሂደት ምን ያህል **ወጥነትና** የማይለዋጥ ነው?	1 = በጣም ተለዋዋጭ ፣ 2 = በመጠኑ ተለዋዋጭ ፣ 3 = አስተያየት መስጠት እቸገራለሁ ፣ 4 = ወጥነት አለው፣ 5 = በጣም ወጥነት ያለው ነው
12	ቴሌብር የሚሰጠው መረጃ ምን ያህል በቀላሉ **ለመረዳትና መተርጎም** ይቻላል?	1 = በጣም አስቸጋሪ ፣ 2 = በመጠኑ አስቸጋሪ ፣ 3 = አስተያየት መስጠት እቸገራለሁ ፣ 4 = ቀላል ፣ 5 = በጣም ቀላል ፣

2.3. ቴሌብርን መተግበሪያውን ለመጠቀም ኢትዮ ቴሎኮም የሚሰጠው የደንበኛ አገልግሎት (Information Quality)		
13	የኢትዮ ቴሌኮም የቴሌብር አገልግሎት በተመለከተ ፍላጎቶትዎን ወይም ተግዳሮትዎን ለመፍታት የሚሰጠው **ምላሽ** እንዴት ይገመግሙታል?	1 = በጣም ምላሽ ሰጪ ፣ 2 = ዝቅጠኛ ምላሽ ሰጪ፣ 3 = አስተያየት መስጠት እችገራለሁ ፣ 4 = ምላሽ ሰጪ ፣ 5 = በጣም ምላሽ ይሰጣል
14	የኢትዮ ቴሌኮም ቴሌብር **የድጋፍ አገልግሎት** ምን ያህል **አስተማማኝ** ነው?	1 = በጣም የማይታመን ፣ 2 = የማይታመን ፣ 3 = አስተያየት መስጠት እችገራለሁ ፣ 4 = አስተማማኝ ፣ 5 = በጣም አስተማማኝ
15	የኢትዮ ቴሌኮም ቴሌብርን በተመለከተ **ድጋፍ የሚሰጡት ሰራተኞች ብቃት እና ታማኝነት** ምን ያህል እርግጠኛ ነዎት?	1 = በፍፁም ያልተረጋገጠ፣ 2 = በመጠኑ ያልተረጋገጠ፣ 3 = አስተያየት መስጠት እችገራለሁ ፣ 4 = የተረጋገጠ፣ 5 = በጣም እርግጠኛ
16	የኢትዮ ቴሌኮም ቴሌብርን በተመለከተ **የእርስዎን ልዩ ፍላጎቶች እና ተግዳሮትን ተረድቶ ለመፍታት የሚሄድበት ርቀትን** እንዴት ይገመግሙታል ?	1 = በጣም ደካማ ፣ 2 = ደካማ ፣ 3 = አስተያየት መስጠት እችገራለሁ ፣ 4 = ጠንካራ ፣ 5 = በጣም ጠንካራ
17	የኢትዮ ቴሌኮም ቴሌብርን በተመለከተ ***መረጃዎና ማንነትዎን ሚስጥራዊነት ለመጠበቅ*** ያለው ብቃት እንዴት ይገመግሙታል?	1 = በጣም አስተማማኝ ያልሆነ ፣ 2 = ደህንነቱ ያልተጠበቀ ፣ 3 = አስተያየት መስጠት እችገራለሁ ፣ 4 = ደህንነቱ የተጠበቀ ፣ 5 = በጣም አስተማማኝ
18	የኢትዮ ቴሌኮም ስለቴሌብር ትግበራ በተመለከተ **አዳዲስ መረጃዎችን ወይም ጉዳዮችን በወቅቱ የማቅረቡን** ውጤታማነት እንዴት ይገመግሙታል?	1 = በጣም ውጤታማ ያልሆነ ፣ 2 = ውጤታማ ያልሆነ ፣ 3 = አስተያየት መስጠት እችገራለሁ ፣ 4 = ውጤታማ ፣ 5 = በጣም ውጤታማ የሆነ
2.3.ማደያወች በቴሌብር መተግበሪያ ያላቸው እርካታ (User Satisfaction)		
19	*ቴሌብርን በመጠቀም ተሞክሮት **ደስተኛ** ኖት?*	1 = በጣም ደስተኛ አይደለሁም ፣ 2 = ደስተኛ ኤደለሁም ፣ 3 = አስተያየት መስጠት እችገራለሁ ፣ 4 = ደስተኛ ነኝ ፣ 5 = በጣም ደስተኛ ነኝ
20	*ቴሌብር የ**ሥራ አፈጻፀምና ክንውን ለማሻሻል** ጠቃሚ ነው ብለው ያምናሉ?*	1 = ጨርሶ አይጠቅምም፣ 2 = በመጠኑ ይጠቅማል፣ 3 = አስተያየት መስጠት እችገራለሁ ፣ 4 = ጠቃሚ ነው፣ 5 = በጣም ጠቃሚ ነው
21	*ቴሌብርን **ለሥራዎ ለመጠቀም ያለው ቀላልነት** እንዴት አገኙት?*	1 = ለመጠቀም በጣም አስቸጋሪ ፣ 2 = ለመጠቀም አስቸጋሪ ፣ 3 = ገለልተኛ ፣ 4 = ለመጠቀም ቀላል ፣ 5 = ለመጠቀም በጣም ቀላል
22	*መንግስት ባደስገድድም እንኳ ቴሌብርን በመጠቀም **ለመቀጠል ያለዎት አቋም** እንዴት ይገመግሙታል?*	1 = በጣም ፈቃደኛ አይደለውም ፣ 2 = ፈቃደኛ አይደለሁም፣ 3 = አስተያየት መስጠት እችገራለሁ ፣ 4 = ፈቃደኛ ነኝ ፣ 5 = በጣም ፈቃደኛ ነኝ
23	*ግዴታ በቴሌብር መፈጸም የማይጠበቅቦትን ግብይቶዎን (እንደ መኪና ዘይት፣ የመኪና እጥበት አገልግሎት፣ የነዳጅ ግዢ ወዘተ) በቴሌብር ለመፈጸም ፍቃደኛ ነዎት?*	1 = በጣም ፈቃደኛ አይደለውም ፣ 2 = ፈቃደኛ አይደለሁም፣ 3 = አስተያየት መስጠት እችገራለሁ ፣ 4 = ፈቃደኛ ነኝ ፣ 5 = በጣም ፈቃደኛ ነኝ

24	ከእርስዎ ጋር ለሚያደርጉት ግብይቶች **ሌሎች አካላትን ቴሌብርን እንዲጠቀሙ የማበረታታት ተነሳሽነትዎ** ምን ያህል ነው?	1 = ምንም ተነሳሽነት የለኝም ፣ 2 = ተነሳሽነት የለኝም ፣ 3 = አስተያየት መስጠት እቸገራለሁ ፣ 4 = ተነሳሽነት አለኝ ፣ 5 = በጣም ተነሳሽነት ነኝ
25	ሁሉም ግብይቶችዎ በቴሌብር በኩል ብቻ ቢደረጉ ምን ያህል **ይደሰታሉ**?	1 = በጣም አልደሰትም፣ 2 = አልደሰትም ፣ 3 = አስተያየት መስጠት እቸገራለሁ ፣ 4 = እደሰታለሁ፣ 5 = በጣም እደሰታለሁ
26	መንግስት ቴሌብርን ማደያዎች እንዲጠቀሙ ማስገደዱ ፍታዊና መደገፍ ያለበት ነው ብለው ያምናሉ?	1 = በጣም አልስማማም ፣ 2 = አልስማማም ፣ 3 = አስተያየት መስጠት እቸገራለሁ ፣ 4 = እስማማለሁ ፣ 5 = በጣም እስማማለሁ
2.5. ቴልብር መተግበሪን ማደያዎች የሚጠቀሙበት ሁኔታ(Use Dimension)		
27	በአጠቃላይ በዕለት ተዕለት የማደያዎ ሥራዎ ወይም በእንቅስቃሴዎ ውስጥ ቴሌብርን ምን ያህል ይጠቀማሉ?	1 = በጣም አልፎ አልፎ ፣ 2 = አንዳንዴ ፣ 3 = በመጠኑ፣ 4 = ብዙ ጊዜ ፣ 5 = በጣም ብዙ ግዜ
28	ከሌሎቹ የግብይት ዘዴዎች ጋር ሲነጻጸር በቴሌብር በኩል የሚካሄድ **የነዳጅ ሽያጭ መጠንዎን** እንዴት ይመዝኑታል?	1 = በጣም ዝቅተኛ ፣ 2 = ዝቅተኛ ፣ 3 = ተመሳሳይ ፣ 4 = ከፍተኛ ፣ 5 = በጣም ከፍተኛ
29	ከሌሎች የግብይት ዘዴዎች ጋር ሲነጻጸር በቴሌብር በኩል የሚስተናገዱትን **የግብይቶች ብዛት** እንዴት ይመዝኑታል?	1 = በጣም ዝቅተኛ ፣ 2 = ዝቅተኛ ፣ 3 = ተመሳሳይ ፣ 4 = ከፍተኛ ፣ 5 = በጣም ከፍተኛ
30	ከሌሎች የግብይት ዘዴዎች ጋር ሲነጻጸር ቴሌብር ነዳጅ ለመቅዳት የሚጠቀሙ **ደንበኞችን ቁጥር** እንዴት ይመዝኑታል?	1 = በጣም ዝቅተኛ ፣ 2 = ዝቅተኛ ፣ 3 = ተመሳሳይ ፣ 4 = ከፍተኛ ፣ 5 = በጣም ከፍተኛ
31	ቴሌብር በነዳጅ ማደያዎ ውስጥ **የተለያዩ መረጃዎችን እና ዘገባዎችን ለማግኘት** ምን ያህል ይጠቀሙታል?	1 = በጣም ዝቅተኛ ፣ 2 = ዝቅተኛ ፣ 3 = መጠነኛ ፣ 4 = ከፍተኛ ፣ 5 = በጣም ከፍተኛ
32	ቴሌብር የሚጠቀሙ **አዳዲስ ተጠቃሚዎች ጭማሬ** በተመለከተ እንዴት ይገመግሙታል?	1 = ፈጽሞ አይጨፉም 2 = በትንሹ እየጨመሩ ነው 3= በመጠኑ እየጨመሩ ነው 4= በከፍተኛ ሁኔታ እየጨመሩ ነው ፣ 5= በጣም እየጨመሩ ነው
2.6. **የቴለብር ለሂሳብ ጥራት ላይ ያለው አስተዋጽኦ(** *The contribution of Telebirr to quality of Accounting Information)*		
33	ቴሌብር ከመጠቀምዎ በፊት አጠቃላይ **የሂሳብ መረጃዎን ጥራትዎን** እንዴት ይገመግሙታል?	1 = በጣም ደካማ ፣ 2 = ደካማ ፣ 3 =መካከለኛ ፣ 4 = ጠንካራ ፣ 5 = በጣም ጠንካራ
34	ቴሌብር ከተጠቀሙ በኋላ አጠቃላይ **የሂሳብ መረጃዎን ጥራትዎን** እንዴት ይገመግሙታል?	1 = በጣም ደካማ ፣ 2 = ደካማ ፣ 3 =መካከለኛ ፣ 4 = ጠንካራ ፣ 5 = በጣም ጠንካራ
35	የሂሳብ አያያዝ ሂደቶችዎ ከቴሌብር ጋር **ቢጣመሩ** ምን ያህል ይረካሉ?	1 = በጣም አልደሰትም፣ 2 = አልደሰትም ፣ 3 = አስተያየት መስጠት እቸገራለሁ ፣ 4 = እደሰታለሁ፣ 5 = በጣም እደሰታለሁ
36	ቴሌብር ፋይናንሳዊ መረጃ በመስጠት (ምሳሌ ተጨማሪ ነዳጅ ለመግዛት)**ውሳኔዎን በማሻሻል** ረገድ ባደረገሎት አስተዋጽዎ ያለው እርካታ	1 = በጣም አልደሰትም፣ 2 = አልደሰትም ፣ 3 = አስተያየት መስጠት እቸገራለሁ ፣ 4 = እደሰታለሁ፣ 5 = በጣም እደሰታለሁ

37	*በቴሌብር በኩል በተገኘ* ***የሂሳብ መረጃ ትክክለኛነት እና ታማኝነት*** *ምን ያህል እርግጠኛ ነዎት?*	1 = በፍፁም አልተማመንበትም ፣ 2 = አልተማመንበትም፣ 3 = አስተያየት መስጠት እቸገራለሁ ፣ 4 = እታመንበታለሁ ፣ 5 = በጣም እታመንበታለሁ
38	*ቴሌብር ዕለታዊና* ***ወቅታዊ የፋይናንሺያል መረጃ*** *እንደሚሰጥ ምን ያህል ይስማማሉ?*	1 = በጣም አልስማማም ፣ 2 = አልስማማም ፣ 3 = አስተያየት መስጠት እቸገራለሁ፣ 4 = እስማማለሁ ፣ 5 = በጣም እስማማለሁ
39	*የቴሌብር መተግበሪያ የድርጅቶን በየሰዓቱ ያለውን ሒሳባዊ እንቅስቃሴ ለመመልከት ምን ያህል ግዜ ይጠቀመበታል?*	1 = በጣም አልፎ አልፎ ፣ 2 = አንዳንዴ ፣ 3 = በመጠኑ፣ 4 = ብዙ ጊዜ ፣ 5 = በጣም ብዙ ግዜ
40	*በቴሌብር የተገኘ የሂሳብ* ***መረጃ ለመረዳት ቀላልና ግልጽ*** *እንደሆነ ይስማማሉ?*	1 = በጣም አልስማማም ፣ 2 = አልስማማም ፣ 3 = ገለልተኛ ፣ 4 = እስማማለሁ ፣ 5 = በጣም እስማማለሁ
41	*በቴሌብር የተገኘ* ***የሂሳብ መረጃ ለንጽጽር*** *(ለምሳሌ ከግዜ እስከ ግዜ፣ ከነዳጅ ማደያ ነዳጅ ማደያ፣ ወዘተ) አስተማማኝ ነው ብለው ይስማማሉ?*	1 = በጣም አልስማማም ፣ 2 = አልስማማም ፣ 3 = አስተያየት መስጠት እቸገራለሁ፣ 4 = እስማማለሁ ፣ 5 = በጣም እስማማለሁ
42	*በቴሌቢር የተገኘ* ***የሂሳብ መረጃ ወጥነት*** *ያለውና የማይቀያየር ነውን?*	1 = በጣም አልስማማም ፣ 2 = አልስማማም ፣ 3 = አስተያየት መስጠት እቸገራለሁ ፣ 4 = እስማማለሁ ፣ 5 = በጣም እስማማለሁ
43	*በቴሌብር የተገኘ* ***የሂሳብ መረጃ በሌላ መንገድ በገለልተኛ ምንጮች/ዘዴዎች ትክክለኝነቱን መጣራት*** *ይቻላል?*	1 = በጣም አልስማማም ፣ 2 = አልስማማም ፣ 3 = አስተያየት መስጠት እቸገራለሁ ፣ 4 = እስማማለሁ ፣ 5 = በጣም እስማማለሁ
44	*ቴሌብር በሁሉንም* ***አስፈላጊና ጠቃሚ መረጃዎች*** *ያካተተ ነውን?*	1 = በጣም ያልተሟላ ፣ 2 = ያልተሟላ ፣ 3 = አስተያየት መስጠት እቸገራለሁ፣ 4 = የተሟላ ፣ 5 = በጣም የተሟላ

ክፍል ሦስት፡

1. **በቴሌቢር አጠቃቀም ላይ በመንግስት ማስፈጸሚያ ለምን እንደተስማሙ ወይም እንደማይስማሙ እባክዎ ያብራሩ**

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2. **ቴሌቢር በሂሳብ አያያዝ መረጃ ጥራት ላይ ያለውን ጥቅም ወይም ጉዳቱን ያብራሩ?**

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3. **ቴሌቢርን ከነባር የሂሳብ አያያዝ ስርዓቶች ጋር ካዋሃዱ በኋላ ያጋጠሙዎትን ተግዳሮቶች ወይም ጥቅሞችን መግለጽ ይችላሉ?**

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4. **ቴሌብርንበመረጃ ጥራት ላይ ያለውን ተጽእኖ በተመለከተ ማከፈል የሚፈልጉት ነገር አለ?**

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ስለታስትፎት እናመሰግናለን!

Interview questions for Fuel Stations Manger/Owner/Senior Accountant

1. What positive and negative implications have you observed since the introduction of Telebirr?
2. How do you evaluate the accuracy and completeness of your records and reports after the introduction of Telebirr?
3. Have you found Telebirr more supportive in your decision-making processes?
4. Are there any observable problems with regard to Telebirr's continuous access and functionality?
5. How would you evaluate the user-friendliness and integrative capabilities of Telebirr with your existing systems?
6. How do you evaluate Ethio Telecom's customer support regarding the implementation and usage of Telebirr?
7. Do you feel secure and safe while using Telebirr?
8. How does Telebirr ensure the secure storage and accessibility of financial data at your gas station?
9. How satisfied are you with the system's ability to meet the specific needs and requirements of your fuel station?
10. Would you continue to use Telebirr without a government mandate? Why or why not?
11. In what ways has the system influenced the overall performance and productivity of your fuel station?
12. What improvements or enhancements would you suggest to further optimize the success of the information system at your gas station?