THE IMPACT OF ACCOUNTING INFORMATION SYSTEM ON ORGANIZATION EFFECTIVENESS IN SELECTED AUTOMOBILE COMPANIES

A Thesis submitted in partial fulfillment of the requirement for the award of Master of Science Degree in Accounting & Finance

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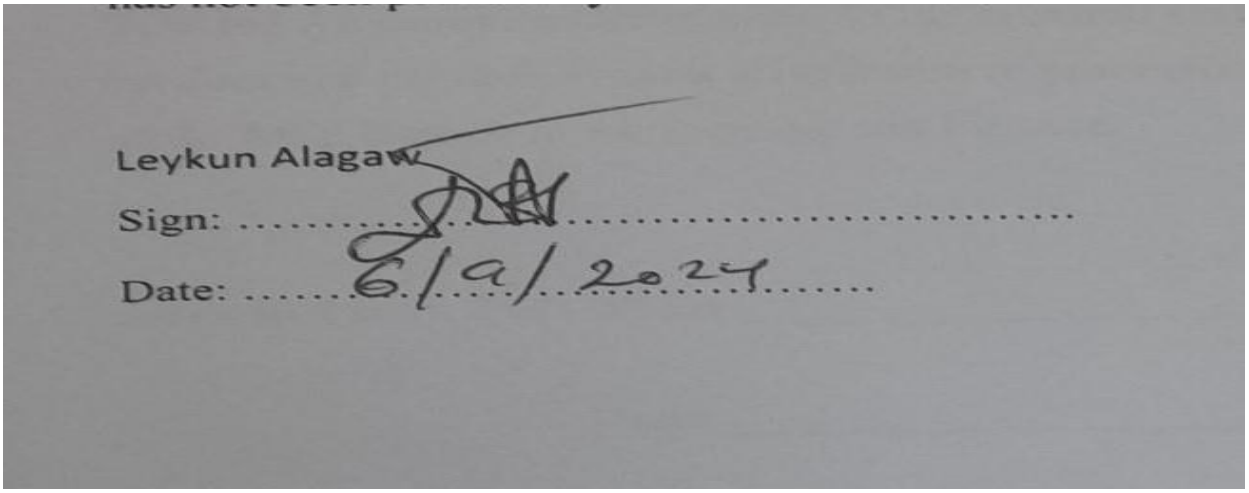
May 2024

DECLARATION

I, the undersigned declare that the research entitled “The impact of Accounting Information System on Organization Effectiveness in Selected Automobile Companies” is my own work and has not been previously submitted for any other award, except where otherwise acknowledged.



APPROVAL

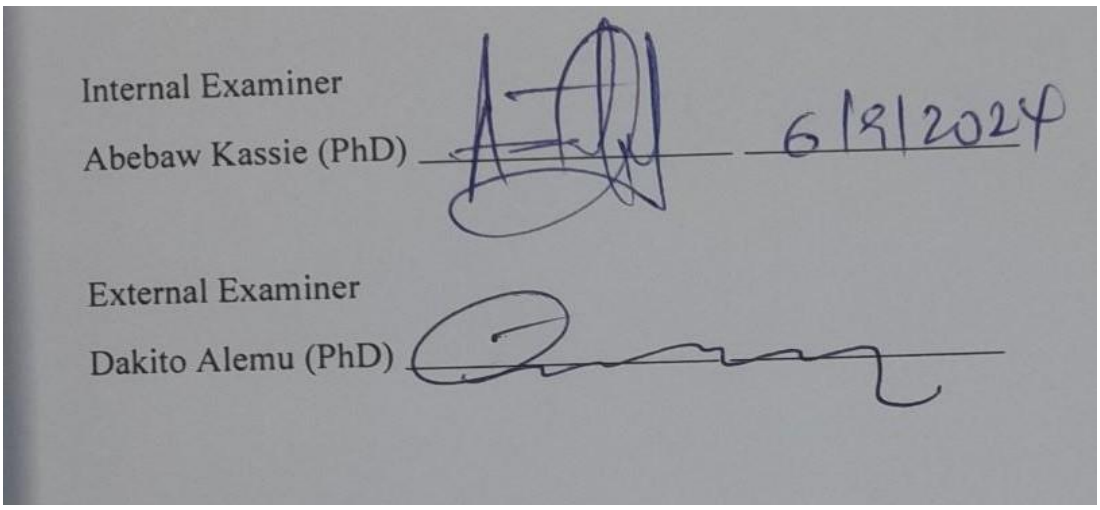
This is to certify that Leykun Alagaw W/Selassie has successfully completed his research on the topic entitled "The Impact of Accounting Information Systems on Organizational Effectiveness in Selected Automobile Companies." This research was conducted under my supervision, and I can confirm that the thesis meets all research requirements and is suitable for submission for the award of the MSc Degree in Accounting and Finance.

Advisor: Takele Fufa (PhD) _____

Date: _____

CERTFICATION

This is to certify that the thesis prepared by Leykun Alagaw, entitled: The impact of Accounting Information System on Organization Effectiveness in Selected Companies; and submitted in partial fulfillment of the requirements for Master of Science Degree in Accounting and Finance complies with the rules and regulations of the University and meets the accepted standards with respect to originality and quality.



DEDICATIONS

I humbly dedicate this research project to the Almighty God, to whom all glory shall forever belong, for His grace and strength that guided me through the completion of this work. Additionally, I dedicate this project to my beloved wife, Eden, and my cherished daughters, Saron and Ephrata, for their unwavering spiritual and moral support.

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LIST OF ABBREVIATIONS

AAA: American Accounting Association

AAER: Accounting and Auditing Enforcement Releases

AI: Artificial Intelligence

AIS: Accounting Information System

COSO: Committee of Sponsoring Organizations

ERM: Enterprise Risk Management

ERP: Enterprise Resource Planning

FASB: Financial Accounting Standard Board

FIS: Financial Information System

IASB: International Accounting Standard Board

ICF: Internal Control Frameworks.

ICT: Information and Communication Technology

IS: Information System

IT: Information Technology

MAIS: Management Accounting Information System

MIS: Management Information System

MOENCO S.C: Motor and Engineering Company of Ethiopia S.C

NMC PLC: National Motors Corporations PLC

SCM: Supply Chain Management

TAM: Technology Acceptance Model

ABSTRACT

The study examined the impact of accounting information systems on organizational effectiveness in selected automobile companies. Results showed positive relationships between system quality and information quality with organizational effectiveness, but no significant relationship with system security. The study suggests that organizations should recognize the importance of accurate and reliable systems, and consider investing in customized accounting systems for cost-effectiveness and improved efficiency

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CHAPTE ONE

1) INTRODUCTIORN

1.0 Introduction

This chapter provides an overview of the study's background in relation to Accounting Information Systems, organizational effectiveness, and the interplay between the two. It includes a statement of the problem, the purpose and objectives of the study, research questions, hypotheses, and the scope of the study. Additionally, it discusses the significance of the study and outlines how the research was organized.

1.1 Background of the Study

The automotive industry in Ethiopia is primarily engaged in the retail and distribution of motor vehicles. In the country, there are several motor vehicle dealers, the most renowned ones include MOENCO S.C, Nyala Motors S.C, NMC PLC, Paul Ries and Sons (Ethiopia) Ltd., and Ethio-Nippon Technical Company Ltd. Additionally, there are vehicle assembly plants in the country that focus on making heavy commercial trucks, pick-ups, and small household vehicles.

In today's fast-paced business environment, the use of Accounting Information Systems (AIS) has become increasingly important for automobile companies. This rapid and continuous changes in the industry have necessitated significant modification to the structures of the AIS to align with enterprise needs (Hall, 2012; Romney, Steinbart, Zhang, & Xu, 2006). AIS plays a crucial role in helping organizations streamline their financial processes, improve decision-making, and enhance overall efficiency. Automobile companies rely on AIS to track and manage financial data, monitor performance metrics, and ensure compliance with regulatory requirements. By harnessing the power of AIS, pinpoint areas for improvement, and make well-informed strategic decisions.

Accounting information systems (AIS) play a crucial role in organizational operations and all activities related to financial management. Transparency in financial decision-making is a fundamental requirement for organizations, and access to financial records is critical to forecast models, establish budgets based upon existing cashflows, and allocating financial resources effectively. To enhance performance, organizations need advanced accounting systems that utilize cutting-edge technologies to safeguard resources and ensure financial accountability (Abu-Naser

& Al Shobaki, 2016). Organizations must leverage the data provided by AIS to address challenges, make strategic decisions, and evaluate the systems' capabilities and impact on performance (Al-Mamary, Shamsuddin, & Aziati, 2014). Assessing user satisfaction levels with AIS in financial operations involves evaluating the quality and transparency of data within these systems and understanding how they influence individual performance (Hahn, Wanjala, & Marx, 2013).

According to Trimisiu Tunji.s.(2012) AI plays a crucial role in managerial decision-making and significantly impacts organizational effectiveness. This study explored the impact of AIS successes factor comprising of system quality, information quality and system security on organizational effectiveness at various levels, including knowledge gap. user-friendliness, practicability, customer satisfaction, individual performance, cost efficiency and its contribution on organization effectiveness

In conclusion, the aim of this study was to investigate the relationship between accounting information systems and organizational effectiveness, focusing on the following selected automobile companies: MOENCO S.C, Nyala Motors S.C, NMC PLC, Paul Ries and Sons (Ethiopia) Ltd., and Ethio-Nippon Technical Company Ltd.

1.2 Statement of problem

In today's dynamic business environment, the integration of information technology and the transparency of the financial sector play a pivotal role in shaping the operations, strategies, structures, ownership, and performance of organizations. These factors have a profound impact on various industries, both economically and socially, ultimately influencing organizational effectiveness (Doms, Jarmin, and Klimek, 2004). Accounting Information Systems (AIS) are a cutting-edge method utilized to automate accounting entry, processing, and reporting activities (Sari & Maya, 2018). The significance of AIS stems from the challenges associated with manual data entry systems (Sajady, Dastgir & Nejad, 2012). In light of the numerous issues impacting companies globally, it is imperative for organizations to embrace innovative and robust accounting systems. Some notable accounting issues plaguing organizations include fraud, mismanagement, negligence, a high prevalence of errors, and a lack of transparency, trust, and confidence with customers, suppliers, and government tax authorities.

The implementation of Accounting Information Systems (AIS) has become indispensable for contemporary organizations, including Ethiopian automobile companies, as they endeavor to

improve their operational efficiency and decision-making processes. Despite the potential advantages, it is imperative to analyze the specific impact AIS on organizational effectiveness within the framework of Ethiopian automobile companies, with a particular emphasis on information quality, system quality, and system security.

The TMAGT Vehicles and Machineries Importers and Assemblers Trade Sectoral Association, which represents corporate entities in the auto industry, highlighted in its 2022/2023 annual report that the automobile sector faces intense competition from imported second-hand vehicles, primarily from Europe and the United Arab Emirates, constituting approximately 55% of the market share. While new car sales have been on a decline over the past decade, there has been a slight uptick in the last four years. The report also pointed out that the credibility of the automobile company AIS is a significant issue when dealing with ERCA. Communication and document processing are hindered by the unreliable AIS of the company, leading to delays in day-to-day sales transactions, decreased sales, and ultimately reduced gross profit. This, in turn, has impacted the company's capital and incurs additional warehouse costs.

One of the primary concerns that the automobile association has been advocating to address is the company's Accounting Information System (AIS). They have been diligently working to reverse credibility problems of automobile companies' AIS, as consistently raised by the ERCA, in order to build trust and facilitate effective communication within the industry. Therefore, this research aims to bridge these gaps by investigating the impact of AIS on organizational effectiveness in automobile companies, with a specific focus on information quality, system quality, and system security. The central question addressed in this study is how AIS impacts organizational effectiveness in automobile companies. The study seeks to explore whether significant relationships exist between the quality dimensions of AIS and organizational effectiveness.

This research will contribute to the existing body of knowledge in the field and offer guidance to decision-makers in automobile companies on effectively utilizing AIS to improve overall organizational effectiveness.

1.3 Research question

The research question serves as a foundation and roadmap for gaining a comprehensive understanding of the study. The following questions are included:

I. Is there any relationship between AIS quality and organizational effectiveness in the chosen automobile’s companies?

II. Is there any relationship between information quality of AIS generated by the system and organizational effectiveness in the selected automobiles companies?

III. Is there any relationship between AIS securities and organizational effectiveness in the selected automobiles companies?

These questions will guide the research study and help in exploring the impact of AIS on organizational effectiveness within the automobile industry

1.4 Objective of the study

1.4.1. General Objective

The primary aim of this study is to evaluate the impact of accounting information systems on organizational effectiveness within chosen automobile companies, focusing specifically on system quality, information quality, and system security.

1.4.2. Specific Objective

The study seeks to achieve the following specific objectives:

I. To examine whether there is a relationship between AIS quality and organizational effectiveness in selected automobile companies.

II. Determine whether a relationship exists between information quality of AIS generated by system and organizational effectiveness in the chosen automobile companies

II. To find out if there is a relationship between AIS security and organizational effectiveness in the selected automobile companies

By addressing these objectives, this study aims to provide valuable insights into how accounting information systems can contribute to enhancing organizational effectiveness within the automobile industry.

1.5. Hypotheses of the study

The study develop the following hypotheses in null form for testing, based on literature reviews from W.H Delone, E.R. mclean, Delone and mclean (2009); Shagari, Abdullah,and saat,(2015);and Trabulsi(2018).

Ho1: There is no significant relationship between the AIS quality and organizational effectiveness in the selected automobile companies.

Ho2: There is no significant relationship between the information quality of AIS generated by the system and organizational effectiveness in the selected automobile companies.

Ho3: There is no significant relationship between the AIS security and organizational effectiveness in the selected automobile companies.

These hypotheses will be tested to determine the impact of AIS on organizational effectiveness within the automobile industry.

1.6 Significance of the study

The study holds significant importance for the selected automobile companies, as well as other firms in the same sector, in terms of determining the benefits derived from integrating accounting information systems into their operations. This integration allows automotive company to assess the effectiveness of their organizational models. Additionally, the study serves as a valuable resource for other researchers interested in investigating this problem, as it establishes a foundation for future studies on the subject. Furthermore, this study aims to establish a theoretical framework for the successful adoption of accounting information systems by firms. It also offers practical guidance for the implementation of these systems in small and medium-sized businesses, while providing empirical and practical contributions to organizations seeking to effectively apply accounting information systems in their operations.

Accounting information systems play a crucial role in providing information about an enterprise's financial resources, obligations, and activities. This information is primarily intended for external decision-makers, such as investors and creditors. Therefore, this study offers valuable insights that can aid in making informed investment and credit decisions.

1.7 Scope of the study

Geographic scope of the study

This study will focus exclusively on five select automobile companies: MOENCO, Nyala Motors, National Motors Corporations, Paul Ries and Sons Ltd., and Ethio-Nippon Technical Company. These companies were chosen from a total of fifteen members registered with the TMAGT Vehicles and Machineries Importers and Assemblers Trade Sectoral Association.

Content scope of the research study

The study examined the impact of accounting information systems on organizational effectiveness within chosen automobile companies, focusing specifically on system quality, information quality, and system security.

1.8 Limitation of the study

As with any research endeavor, this study is not without its limitations. The focus of this research is on the automobile industry in Ethiopia, specifically on members registered in the TMAGT association. The selection of five companies from fifteen members of the association was based on criteria such as product size, branch number, highest tax payer, and year of establishment, which resulted in a limitation in sample size. Furthermore, the researchers' lack of experience in conducting systematic research has limited the success factor of the AIS in contributing to organizational effectiveness. One significant challenge encountered during the data collection process was the lack of awareness among employees regarding the importance of carefully completing and returning questionnaires on time. This obstacle has posed a considerable challenge to the study.

In conclusion, while this research provides valuable insights into the automobile industry in Ethiopia, it is important to acknowledge and address the limitations that have impacted the study's outcomes.

1.9 Organization of the study

The thesis is organized into five chapters, each containing various sub-chapters. The first chapter serves an introduction to the study, including background information, problem statement, research questions, objectives, hypothesis, significance of the study and the scope of the study. The second chapter deals with a review of related literature, including theories and concepts. Research methodology, conceptual and analytical models will be included in Chapter 3. Under fourth chapter, data analyses and interpretation will be discussed. The last chapter of the study presents a summary of the findings, a conclusion, and recommendations.

CHAPTER TWO

2) LITERATURE REVIEW

2.0 Introduction

This chapter provides the literature review on accounting information system and organizational effectiveness and has been sub-divided into 2.1 historical perspective ,2.2 theoretical review, in section 2.3 empirical literature pertinent prior studies by other researchers who have worked in the same area. The research gap is presented 2.4, conceptual and analytical model depict in section 2.5 and 2.6 respectively.

2.1 Historical Perspective

In The recent year, most organizations continue to increase spending on information system and their budgets continue to rise. Moreover, economic conditions and competition create pressures about costs of information. Generally, information system is developed using information technology to aid an individual in performing their job. Therefore, most organizations focus on developing information system in order to support decision system, communication, knowledge management, as well as many others. The key part of information system needed for decision making in organization is accounting information-system.

Accounting information systems (AIS) is one information systems that produce many amounts of data for use by decision makers both within and outside organizations. Since accounting information is able to measure and present economic events to users' financial statements for judgments and decision makings. American accounting Association (AAA) address accounting information system (AIS) is one part of management information system (MIS) that gather, classify, and comply data for internal and external decision making. Hence, accounting information system has importance and widely use in accounting profession, Marriot and Marriot, (2000); Riemenschneider and Mykytyn, (2000); and Ismail, (2007). Accounting manager need to exploit accounting information for job success of their organizations, Ismail, 2009; Dastgir et al., (2003). Therefore, job success must be obtaining reliable, relevant and timely accounting information for decision-making Kharuddin et al., (2010). In other words, effectiveness of accounting information system is reliability, relevance, and timeliness. Information technology (IT) is important for accounting information system for proving quality

information. It is difficult to obtain competitive advantage without application of accounting information system. However, the antecedents of effectiveness of accounting information system (AIS) have been made to examine in this research. The first antecedent is learning organization and the last antecedent is organizational support. Technology evolves rapidly as for responding to customers demand (Weib, Leimeister, 2012). From a business perspective, more and more companies acknowledge the fact that technology may support process optimization in terms of costs, lead time and involved resources. The actual market context is driving companies to continuously search for new ways to optimize their processes and increase their financial indicators, Christauskas and Miseviciene, (2012).

The accounting systems may be seen as aiming to support businesses in collecting, understanding and analyzing the financial data, Chytilova et al., (2011). The evolution of accounting information system generation may be split, according to Phillips (2012) into three major categories: The 1990's era, marked by the apparition of the first accounting information system under what is known as 'the Windows age'; applications were solid, but only supporting basic accounting operations. 2000's era – 'integration' and 'SaaS' concepts took birth, bringing along more developed systems that would allow more complex accounting operations and data processing, as well as concurrent access to files and programs.

2010- on-going-'Mobile' accounting era, marked by real-time accounting, financial dashboards and other mobile applications supporting financial processing and reporting. The same author outlines the evolution of communication – if the traditional accounting model was based on email or .ftp files communication, the technological evolution now allows sharing and concurrent access to data, through virtual platforms provided by cloud computing technology. Based on the types of accounting services available on the market, three major categories may be defined: On premises accounting: a dedicated accounting system program is purchased by the company and installed using its own infrastructure. Investment in the system and equipment is required for such programs.

Hosted solutions: the logical access is remotely performed through the company's installed programs; however, the data center is physically located in a different place, managed by a dedicated third party. Infrastructure costs was reduced for the company, as hardware is administered and maintained by the service provider Cloud computing: the service could prove

even more cost efficient for companies, as the data is managed through virtual platforms, and administered by a dedicated third party, allowing multi-tenancy of services in order to split fixed infrastructure costs between companies. Traditional accounting practices used to focus on bookkeeping and financial reporting, having as a final purpose the preparation and presentation of financial statements. The activities were driven by the need of financial information users both internal and external to gain a 'fair view' of the company. The technological evolution gave birth in the late 1980s to accounting information systems, used to incorporate and connect various organizational functions (accounting, asset management, operations, procurement, human resources, etc.) Ziemba and Oblak, (2013).Ustasüleyman and Percin (2010) define the accounting information systems as systems enabling the integration of business processes throughout an organization, while Salmeron and Lopez (2010) see the accounting information system as a system allowing complete integration of information flow from all functional areas in companies by means of a single database, and accessible through a unified interface and communication channel. Allowing complete integration of information flow from all functional areas in companies by means of a single database, and accessible through a unified interface and communication channel

2.2 Theoretical Literature

This study has been based on Garbage in Garbage Out Theory, Contingency Theory and Behavioral Theory. The Garbage in garbage out Theory postulated by Xu (2003), holds out that accounting information system output depend on the quality of data, garbage in garbage out. The researcher used this theory to explore the system threats hindering the application of accounting information system on organizational performance. According to Samuel (2014), skilled and competent human resource personnel are required for quality data entry and which further leads to organization performance. All data production processes (data collection, data storage, and data utilization) must work properly in order to achieve high data quality, Lee and strong (2003) and according to Xu (2009), inaccurate and incomplete data may damage the information's generated by accounting information system for decision making. This theory is relevant to the obstacles of accounting information systems on organization performance which include factor such as skilled manpower and competent of personnel entering data into the accounting information systems.

2.2.1 Contingency Theory

The Contingency Theory of Gordon and Miller (1970), asserts that an accounting information system should be designed in a flexible manner so as to consider the environment and organizational structure confronting an organization. Accounting information systems also need to be adapting to the specific decisions being considered. In other words, accounting information systems need to be designed within an adaptive framework

Gordon & Narayanan (1984) concluded that environmental uncertainty plays a crucial role in designing management accounting systems for successful organizations. A significant finding in this study was that decision makers, when faced with higher levels of environmental uncertainty, tend to seek more external, nonfinancial, and ex ante information in addition to internal, financial, and ex post information. This finding has been supported by several subsequent studies that followed the Gordon and Narayanan paper.

Contingency theory, despite being extensively studied in the past two decades, has received limited attention regarding its impact on accounting information systems. It is evident that few organizations have established systematic processes to manage the evolution of their measurement systems, and researchers have also neglected two crucial inquiries: What are the accounting information requirements in automobile companies? And, how effective are the accounting systems in these companies? This paper aims to shed light on these questions by presenting empirical evidence of management accounting information contingencies, using a sample of selected automobile companies.

Overall, contingency theory emphasizes the importance of designing accounting information systems that can adapt to the unique circumstances and challenges faced by organizations. By considering the environment and organizational structure, decision makers can make more informed choices and improve the effectiveness of their accounting information systems.

2.2.2 Behavioral Theory

The behavioral Theory of Kren and Liao (1988), holds that early behavioral theory accounting research explored bivariate relations between control system characteristics (for example; reliance on accounting performance measures or budget participation) and various criterion variables (e.g., performance or dysfunctional behavior). Behavioral theory in accounting research evolved rather quickly, however, to more complex contingency models of the organization with

a richer view of the organization and of individual behavior. The fundamental premise of contingency theory research has been that organizational structure and control system design is related to organizational context. Thus, the effects of control system characteristics are moderated by contextual factors which impact the individual and the organization, (Kren and Liao 1988)

In order to enhance organizational performance, it is crucial to align the specific characteristics of the control system with the contextual variables that define the organization's environment. It is generally assumed (Kren and Liao 1988; 1986; Otley 2001) that better fit is positively connected with organizational efficiency. To comprehend the design and effectiveness of control systems, it is essential to analyze the unique characteristics of organizations and their respective environments. This analysis serves as the foundation for researchers in this field.

After thorough reviewing of the theories such as Garbage in, garbage out theory, the contingency theory and the behavioral theory, it is Garbage in garbage out theory postulated by Xu (2003) that underpinned the topic under investigation because the quality output of accounting information system depends on quality of data entered into the system by skilled personnel thus according to Xu (2009) inaccurate and incomplete data may damage the information generated by the accounting information system for decision making.

2.2.3 Agency Theory

The primary appeal of agency theory to accounting researchers lies in its ability to explicitly incorporate conflicts of interest, incentive problems, and mechanisms for controlling these issues into our models. This is crucial because a significant portion of the motivation behind accounting and auditing revolves around the management of incentive problems (Kaplan and Norton, 1993).

In this theory, the principal is typically considered risk averse, while the agent is seen as both risk- and effort-averse. Both the principal and the agent are motivated by self-interest, which often leads to conflicting objectives. To reconcile these conflicting objectives, compensation contracts are employed, bringing about a state of equilibrium (David, Julie Smith, et al., 1999). These contracts, whether written or not, determine the sharing rule that allocates outcomes between the principal and the agent. Consequently, agency theory offers a formal and direct analysis of the economic aspects of incentive compensation contracts based on effort levels or surrogates of effort levels.

In conclusion, agency theory is utilized in this research to tackle two fundamental questions: Firstly, how do the characteristics of information, accounting, and compensation systems impact incentive problems? Secondly, how does the presence of incentive problems influence the design and structure of accounting information systems? Agency theory offers a comprehensive framework to address these concerns and thoroughly investigate the connection between accounting information systems, incentives, and behavior.

2.3 Empirical Literature

2.3.1 Accounting Information Systems

An accounting information system provides crucial information for decision-making within an organization. It is a comprehensive collection of resources, including people and equipment, that is specifically designed to transform financial data into meaningful information. This information is then communicated to a wide range of decision-makers (James, 2008). To gain a better understanding of the term 'Accounting Information System', it is important to break down the three words that make up AIS. Firstly, accounting is the "language of business," and a source of financial information (Wilkinson, 1993: 6-7). Secondly, information is a valuable tool for processing data, providing a foundation for decision-making, taking action, and meeting legal obligations. Lastly, a system is an integrated entity with a focused framework and a set of objectives (Watts, 1999). By utilizing an accounting information system, organizations can effectively gather, process, and communicate financial data to support decision-making processes. This system is essential for providing accurate and reliable information to various stakeholders, including managers, investors, and regulatory bodies. It enables organizations to make informed decisions, take appropriate actions, and meet their financial obligations.

Accounting information systems is a tool that organizations can use to achieve stronger, more flexible corporate culture to face continual changes in the environment. Furthermore, according to Romney and Steinbart (2006), an accounting information system (AIS) is a system that collects, records, stores, and processes data to produce information for decision makers. Romney and Steinbart (2006) mention that there are six components of AIS which are the people who operate the system and perform various functions, the procedures and instructions, both manual and automated, the data about the organization and its business processes, the software used to process the organization’s data, the information technology infrastructure and the internal controls and security measures that safeguard the data in the AIS.

Together, these above six components enable an accounting information system (AIS) to fulfill three important business functions:

1. Collect and store data about organizational activities, resources, and personnel.
2. Transform data into information that is useful for making decisions so management can plan, execute, control, and evaluate activities, resources, and personnel.
3. Provide adequate controls to safeguard the organization's assets, including its data, to ensure that the assets and data are available when needed and the data is accurate and reliable (Romney and Steinbart, 2006).

Accounting Information Systems don't just support accounting and finance business processes. They often create information that is useful to non-accountants. For this information to be effective, the individuals working in these subsystems must help the developers of AIS identify what information they need for their planning, decision making, and control functions (Bagranoff, Simkin and Norman, 2010).Accounting information systems- as part of the management information systems represent one of the most important systems in the economic unity and these organizations are vary among each other in terms of the application of accounting information systems and the consciousness of their importance (Abdallah, 2013). According to Alsharayri in Mndzebele (2013), the benefits of accounting information systems can be measured by its impact on improvement of the decision-making process, quality of accounting information performance evaluation, internal control, and facilitating company's transactions. Sambasivam, Y. and K.B. Assefa (2013) mention that AIS design and implementation could make possible the enhancement of quality of financial report; system design could affect quality of AIS implementation; AIS design and implementation could facilitate financial transaction processes, lead to better decision-making by managers, enable to have more effective internal control systems.

Accounting information systems play a crucial role in adopting and maintaining a strategic position, ensuring a seamless integration of activities that necessitate data collection. These systems collect and integrate both financial and non-financial data pertaining to organizational activities (Davis, 1984). Accounting information systems are specialized subsystems of management information systems, designed to collect, process, and report information related to the financial aspects of business events (Steve, 2001). In fact, every business, regardless of its profit orientation, requires an accounting information system (AIS) (Borthick and Clark, 1990; Curtis, 1995; Rahman et al., 1988; Wilkinson, 1993; Wilkinson et al., 2000). The main function

of accounting information system is to assign quantitative value of the past, present, and future economics events Wilkinson etal (2000). Therefore, it is imperative for organizations to maintain AISs.

The appropriate design of an Accounting Information System (AIS) plays a vital role in supporting business strategies and enhancing organizational performance (Chenhall, 2003). By investing in AIS, organizations can leverage a stronger and more flexible corporate culture to effectively navigate the ever-changing business environment. AIS combines methodologies, controls, and accounting techniques with IT industry technology to track transactions, provide internal and external reporting data, generate financial statements, and enable trend analysis, all of which have a significant impact on organizational performance (GUL, F.A. 1991).

When managing an organization and implementing an internal control system, the impact of the AIS cannot be overstated. It is crucial to consider how well the AIS aligns with the organization's requirements for information communication and control (Nicolaou, 2000). The benefits of an AIS can be evaluated based on its ability to improve the decision-making process, enhance the quality of accounting information, facilitate performance evaluation, strengthen internal controls, and streamline company transactions (Bolon, 1998).

By recognizing the importance of a well-designed AIS, organizations can effectively harness its power to drive success and achieve their strategic objectives. The AIS serves as a critical tool in providing accurate and timely information, enabling informed decision-making, and ensuring the overall efficiency and effectiveness of an organization's operations. As businesses continue to face constant changes and challenges, investing in a robust AIS becomes increasingly essential for maintaining a competitive edge and achieving sustainable growth.

2.3.2 Organizational Effectiveness

Effectiveness comes from the word effective, which is the achievement of the right goal by making the right choice from a series of alternatives for decision making, while effectiveness has the meaning of being successful or appropriate in achieving the goals that have been set. In general, an effective system is defined as a system that can provide added value to the company, so it is required for each system to be able to have a positive influence on its users (Hardani & Ramantha, 2020).

Oguntimehin (2001) succinctly defined organizational effectiveness as the degree to which an organization yields desired outcomes. Conversely, Mondy (1990) defined it as the degree to which an organization produces the intended output. Further emphasized that organizational effectiveness is the ability to attain its goals. Organizational effectiveness assists in appraising the progress towards corporate mission and goal achievement. In order to improve corporate effectiveness, management should endeavor for better communication, interaction, leadership, direction, flexibility, and a positive environment (Heilman & Kennedy-Phillips, 2011). Regularly, effectiveness defines the policy objectives of the organization or the extent to which a company realizes its own goals. Better performance is achievable by changing staff attitudes towards firms from smaller to a greater level of development. Consequently, human resources management should be closely related to the ideas of effectiveness (Shiva & Suar, 2010).

There are numerous methods to assess the effectiveness of an organization, encompassing various criteria such as productivity, profits, growth, turnover, stability, and cohesion. Rational perspectives concentrate on attaining pre-established objectives and output variables like quality, productivity, and efficiency. Natural system perspectives prioritize the organization's supportive goals, such as employee satisfaction, morale, and interpersonal skills. Open system perspectives emphasize the organization's interactions with the environment, encompassing information processing, profitability, flexibility, and adaptability (Campbell, 1977).

2.3.3 Relationship between Accounting Information Systems and Organizational Effectiveness

AIS can positively impact on organizations by the following; better adaptation to a changing environment, better management of arm’s length transactions and a high degree of competitiveness. Accounting information systems play crucial and important role, providing information that could help the organization's management perform its duties to the fullest. Many researchers have pointed out that the success or failure of an organization in achieving its objectives depends on the quality of the accounting information systems. The development of accounting information systems has a significant impact on the performance and effectiveness of operations in the organization, as the management of the organization needs information that is characterized by consistency and confidence in decision-making. The study of Trabulsi (2018), proof that using an AIS has a significant impact on organizational performance generally and on all its dimensions including cost reduction, improving quality and effective decision making.

According to Ponemon and Nagida (1990), the primary purpose of generating accounting information is to facilitate decision-making. However, for financial reporting to be effective, it must meet certain requirements, including being relevant, complete, and reliable. These qualitative characteristics ensure that the information is fair and unbiased, without favoring any particular party. Accounting information should provide decision-makers with the ability to predict future actions and increase users' knowledge by identifying similarities and differences in different types of information (Bolon, 1998). Therefore, reliable accounting information is essential for the growth of the stock market. Developed nations understand the potential of the stock market as an "engine of economic growth" and therefore prioritize the relevance of financial reporting.

The study conducted by Hunton (2002) examined the correlation between automated accounting information systems and organizational effectiveness. The findings revealed a significant relationship between the two, indicating that access to accounting information can greatly enhance organizational effectiveness. In recent years, numerous studies have questioned the efficacy of the current financial reporting model in developed countries, particularly in terms of the value of accounting information for equity valuation, share price, and earnings prediction. Therefore, it is crucial for researchers to determine whether their findings align with or deviate from previous studies in order to shed light on this matter.

Accounting information system (AIS) play a critical role in managing a business and implementing an internal control system. A significant question in the field of accounting and management decision-making revolves around the alignment of AIS with organizational requirements for information communication and control. While the information generated from an AIS can be effective in the decision-making process, the purchase, installation, and usage of such a system are only beneficial if the benefits outweigh the costs. Huber (1990) concurs that an automated AIS aids in decision-making for the management of organizations. The benefits of an AIS can be evaluated based on its impact on the improvement of the decision-making process, the quality of accounting information, performance evaluation, internal controls, and the facilitation of company transactions. Considering these five characteristics, the effectiveness of an AIS is of utmost importance for all firms.

2.3.4 Accounting information system implementation and success

AIS is a collection of data and processing procedures that create the information needed for its users G.H. Bednar and W.S. Hopwood (2014). The system collects, records, stores, and processes data to produce information for decision-makers B.M. Romney and J.P. Steinhart (2012). There are five variables to measure the success of information systems. These variables are a high level of system use, user satisfaction on the system, user favorable attitude, achieved objectives, and the financial payoff K.C. Laudon and J.P. Laudon (2012). Another measurement is the Technology Acceptance Model (TAM). TAM explains the behavior of users in receiving information systems that are used [18]. According to Davis Vol. 13 [1989] behavior using information systems begins with perceived usefulness and perceived ease of use. Perceived usefulness is a benefit that individuals believe can be obtained when using information systems. Organizational context is an increase in individual performance that directly or indirectly impacts organizational performance Perceived ease of use is defined as an individual's belief that the information system to be used is not inconvenient or does not require a large effort when used.

Perceived usefulness and perceived ease of use affect individual attitudes toward information systems. Furthermore, this attitude will determine whether the user intends to use the information system (intention). This intention will determine whether the user will use the information system (usage).

The AIS is a system that collects and saves data about the bank's activities, translates the data into information helpful to management, generates plans, and provides necessary controls to protect organizational assets. As a result, effective AIS are crucial to the long-term functioning of any bank (Onaolapo and Odetayo 2012). The AIS is a data collection, recording, storage, and management system used to generate information for decision-makers (Romney and Steinbart 2006) in which the data processing cycle is divided into four stages: data input, data storage, data management, and information outcomes (Fakhimuddin 2018). The basic goal of AIS is to provide a numerical value to past, present, and future economic events. The information generated by the bank's AIS is only financial because the AIS is only used to handle financial data (Nugroho 2019). The AIS is a tool that bank executives use to add value and gain a competitive advantage. The AIS' roles also include providing critical information to reduce uncertainty, assisting with decision-making, and supporting improved work activity planning, scheduling, and management (Fitriati and Mulyani 2015).

Furthermore, the AIS must be reliable in its operation and provide accurate, trustworthy information to its users in a timely and relevant manner. To protect the integrity of the information and the bank's resources, acceptable internal control must be implemented, and to do so, the bank must prioritize such systems and consider both system and employee-related issues while managing their AIS (Jarah and Iskandar 2019b) AIS is a computer-based system that maintains the quality of accounting data, boosts control, and improves collaboration in an organization by making data visible and accessible to end users with similar needs, and the AIS also encompasses a collection of records, procedures, and equipment that customarily handles events impacting the bank's EP and position (Jarah and Almatarneh 2021).

Based on contemporary technology, it is crucial for organizations or any companies to be aware of the latest developments and improvements to contemporary technology so that they can compete and provide a better service or product to others (Hussein, 2011). It has become a survival factor for any organization, including automobile companies to have an effective AIS (Ortiz de Guinea et al., 2005). Automobile companies are vital to the economic growth process and play a significant role in the nation's production network. The information system is proven to aid the operation and enhancement of organizational performance since AIS has a huge impact on SMEs, either in industrialized or developing countries (Hussein, 2011).

2.3.5 System quality

The quality of the system refers to the measurement of the information processing system itself W.H. DeLone and E.R. McLean (1992). This quality is defined as the characteristics of the information system processing. P.B. Seddon (1997) defines system quality as the quality of information processing systems which can be seen from the consistency of the user interface, ease of use, quality of documentation, quality and maintainability of program code. Bailey and Pearson J.E. Bailey and S.W. Pearson (1983) use four indicators to measure the quality of information systems: accessibility, flexibility, integration, and system response time. Other dimensions as a measure of system quality include reliability, flexibility, ease of use, functionality, data quality, and integration W.H. DeLone and E.R. McLean (2003); interactivity and accessibility S. Negasha, T. Ryan and M. Igbaria (2003)

The System quality is a measure of how technically sound the system is, and it refers to the processing quality of the AIS as a whole, including software and data components. Furthermore,

System quality is concerned with whether the system is free of flaws, the consistency of the user interface, and the ease of usage (Gorla et al. 2010). The System quality has the potential to influence use, user satisfaction, individual performance, and company performance (Ali, B.J 2016). The System quality is concerned with the system's technical efficiency, including user interface consistency, ease of use, and programming errors, as well as the system's maintainability, assurance, and the empathy of the company's information technology departments, all of which contribute to the system's efficient operation and greater AIS effectiveness (Ladan Shagari et al. 2017).Information systems consisted of interrelated components: people, hardware, software, peripherals, and communication networks; and functions, modules, application types, departments, or end-user groups. These components must be integrated to achieve goals and produce output in an organized transformation process J.A. O'Brien and G.M. Marakas (2011). Likewise, according to J.A Hall (2011) that the ability of a system to achieve goals depends on the effectiveness of the system works and harmonious interaction between components and subsystems.

Data storage and retrieval of information's: In the bibliography many definitions can be found about data warehouse/storage: Inmon (1997) says, that data warehouse is a data collection oriented to a subject, integrated, changeable in time and not volatile, to provide support to the decision making process. Barquini (1996) defines the data warehouse/storage as a collection of techniques and technologies that together provide a systematic and pragmatic approach to solve the end user problem in accessing information that is distributed in different systems inside organization. Kimball et al. (1998) argue that, data warehouse/storage is a source of an organization data, formed by the union of all corresponding data marts**.**

A database is a collection of operational data, stored and used by application systems from a specific organization", (Batini and Lenzerini, 1986). Data kept by an organization is called 'operational' or 'primitive'. Batini and Lenzerini (1986) referred to the data stored in database as 'operational data', distinguishing the input, output and other types of data. Based on the Batini and Lenzerini definition of operational data, I can define data storage as a data collection derived from operational data to support the decision-making process. "These derived data are most of the time called 'analytical', 'informational' or 'managerial' data" (Inmon, 1997). Accounting information system (AIS) output depends on the quality of data, garbage in garbage out is the result of poor data quality, and therefore data quality is important to accounting information

systems (XU, 2003). All data production processes (data collection, data storage, and data utilization) must work properly in order to achieve high data quality (Lee and strong 2003). According to (Xu 2009), inaccurate and incomplete data may damage competitiveness of firms. They also found out that input control and competent employees are important to data quality of accounting information system. Poor information quality may have adverse effect on decision making (Huang, Lee, and Wang 1999). Quality of accounting information can be evaluated by four attribute, Accuracy, timeliness, completeness, and consistency (Xu 2003) they examined critical success factors for accounting information quality, they identified and interviewed four groups namely (information producers, information custodians, information consumers and information managers. they found and suggested that organizational issue, system and human issue, are very much important to accounting information quality

Considering previous research on dependencies between data quality dimensions, information systems success, and organizational performance, a big picture can be drawn. Sedera and Gable (2004) argued that overall productivity of an organization has an impact on the success of enterprise systems, whereas Fisher et al. (2011: 4) summarize that data quality in organizations has an influence on productivity. The first enhancing qualitative quality of information system is understandability, which increase when information is classified, characterized, and presented clearly and concisely. Understandability is referred to, when the quality of information enables users to comprehend their meaning (IASB, 2008). Understandability is measured using five items that emphasize the transparency and clearness of the information presented in annual reports (Jonas and Blanchet, 2000; Iu and Clowes, 2004; Courtis, 2005; IASB, 2006).

The system reliability as quality of accounting information system which always assures that information is reasonably free from error and bias, is verifiable and faithfully represents what it purports to represent (FASB, 1980a). In order to be a faithful representation, information system should maintain an agreement between the measure and description and the actual phenomenon which it purports to represent. In order to be verifiable, it should be possible to substantiate and confirm the information independently. Neutrality implies on the one hand that the preparer of information is not biased towards a predetermined result and on the other that the information is not reported in such manner that it may unduly influence the decisions of users in a particular direction. Both the primary qualities of relevance and reliability are associated with the

secondary quality of comparability. This quality of information requires that transactions and events be measured and reported in a consistent manner to enable users to compare the results of a company from year to year or with the results of different companies. The final enhancing qualitative characteristic defined in the system quality is timeliness. “Timeliness means having information available to decision makers before it loses its capacity to influence decisions” (IASB, 2008: 40). Timeliness refers to the time it takes to reveal the information and is related to decision usefulness in general (IASB, 2008).

2.3.6 System quality and organizational effectiveness

System quality is related to desirable characteristics in information system. For instant, simplicity of use, system adaptability, system dependability, and ease of learning (Petter et al., 2008). Al-Mamary et al. (2014) found that there is significant relationship between system quality and the acceptance of a system. Thus, the acceptance leads to an increase in the efficiency and effectiveness of organizational performance. Anggraeni and Winarningsih (2021) stated that quality of a well-designed accounting information system can produce quality accounting information. A good quality system that is better integrated, accessible, and flexible, tends to produce relevant, accurate, complete, and timely information. In addition, Grande et al. (2011) found that one of the advantages of using the AIS is that it enhances the speed of processing a task.

DeLone & McLean (1992) posited that system quality can affect use, user satisfaction and individual performance, and therefore influence organizational performance. The necessary prerequisites for driving organization benefits are a well-designed, developed, and implemented system. Those benefits that could be derived include cost reduction, increased revenues, and improved process efficiency (Bakos & Treacy, 1986).On the other hand, a non-well designed and constructed system will likely run into occasional system crashes, which are detrimental to business operations consequently resulting in increased firm product cost (Swanson, 1997). The case of data warehousing has shown system quality to be positively associated with perceived net benefits in terms of individual productivity and ease of decision making (Wixom & Watson, 2001), and at operational level, system quality is positively related to organizational impact within entrepreneurial firms(Bradley, Pridmore, & Byrd, 2006).In order to create firm’s business value through its information systems, the system should ensure IS efficient delivery through the attributes of system such as documentation availability and ease of use (Salmela, 1997). Firm competitive advantage is directly related with software high quality (Slaughter, Harter, &

Krishnan, 1998). Moreover, a system having high sophistication (due to high integration of functions possible with Enterprise Resource Planning (ERP) and Supply Chain Management (SCM) applications) influences increase in profitability and internal coordination among the functional areas (Hendricks, Singhal, & Stratman, 2007). This therefore leads to increased efficiency of internal organization.

A.L. Lederer, D.J. Maupin (2000) stated the qualities and capabilities of the system have a positive impact on perceived ease of use and usefulness of the information system used. Koufaris (2002) showed that increasing the added value (quality) of the system can increase the perception of ease and usefulness of the system. Likewise, S.Chomchalao and Naenna (2013) stated that system quality (integration, flexibility, accessibility) influences the acceptance and use of information systems. According to Ahn (2007), system quality (appearance, technical adequacy, navigation, security, and privacy) is an important factor in increasing user satisfaction. Kositanurit et al (2006) stated there is a relationship between system quality and perceived ease of use, IS and individual performance. There is a positive relationship between system quality and perceived benefits

Generally, the association between system quality and net benefits has been recorded modestly by literature. Although the relationship between perceived ease of use as a system quality measure and perceived usefulness has mixed results. Most studies reported that system quality is positively related with organization's benefits (Gorla et al., 2010; Hsieh & Wang, 2007) Other studies like: (Chau & Hu, 2002; Wu & Wang, 2006) reported no significant association. (Seddon, 1997; Shih, 2004) stated that system quality is related to perceived usefulness significantly. However, Goodhue & Thompson (1995) and Gefen (2000) reported systems reliability and perceived ease of use does not have impact on productivity and effectiveness, and McGill & Klobas (2005) argued that no relationship exists between system quality and individual impact, as measured through decision-making quality and productivity. In other studies, Kositanurit et al. (2006) found a significant relationship between perceived ease of use and performance, but no relationship between reliability and performance for individual ERP systems users. Bharati & Chaudhury (2015) discovered a significant relationship between system quality, measured using reliability, flexibility, ease of use, and convenience of access, to decision-making satisfaction. This posited that system quality is strongly related with net benefits at organizational level.

2.3.7 Information Quality

Information quality is referred to as the capability "of making a difference in the decisions made by users in their capacity as capital providers" (IASB, 2008: 35) Drawing on prior literature, information quality is operational zed using four items referring to predictive and confirmatory value. As discussed earlier, researchers tend to focus on earnings quality instead of on financial reporting quality. This definition is limited in scope because it neglects non- financial information and it excludes 'future' financial information already available to the users of the annual report, for example on future transactions (Jonas and Blanchet, 2000; Nichols and Wahlen, 2004)

The information quality refers to the quality of outputs produced by AIS, and it has become extremely important for banks that want to project superior performance, gain competitive advantages, or survive in today's business environment (Ali B.J, & Rosni Baker 2016). The information quality refers to a system's ability to provide a user with timely, accurate, appropriate, and complete data for successful decision making (Ladan Shagari et al. 2017).

In order to improve the comprehensiveness of the quality assessing measurement tool, this study will consider a broader perspective on predictive value including both financial and non-financial information. Many researchers have operationalized predictive value as the ability of past earnings to predict future earnings (e.g. Francis et al., 2004; Schipper and Vincent, 2003). Predictive value explicitly refers to information on the firm's ability to generate future cash flows: "information about an economic phenomenon has predictive value if it has value as an input to predictive processes used by capital providers to form their own expectations about the future" (IASB, 2008: 36). We consider predictive value as most important indicator of relevance in terms of decision usefulness and measure predictive value using three items. The author states that "users measure the quality of their data based on the degree of objectivity versus the degree of judgment used in creating it

Data are facts that are collected, recorded, stored and processed by information systems. While information is data that has been arranged and processed to provide meaning and help in the decision-making process O'Brien and Marakas(2012) Y. Sambasivam and K.B Assefa,(2013).state that users need quality information, that is information that has characteristics, attributes, or characteristics of information that are useful to them. The quality of information is directly related to how information can be used in decision making to achieve organizational goals. Quality

information can help complete tasks more efficiently and effectively R.M. Stair and G.W. Reynold (2012)

Timeliness is referred to as how data is out-of-date. A strategic planner may perceive a data record as timely even if it is years old. The strategic planner might base their decisions on old information whereas a production manager might only value data that is within the hour. According to Sedera and Gable (2004), enterprise systems success is dependent upon attributes within the dimensions of system quality, information quality, individual impact, and organizational impact. In comparison to Wang and Strong's quality Framework, which was illustrated before, Sedera and Gable present the following.

Attributes for information quality: Availability, usability, understandability, relevance, format, and conciseness. Moreover, system accuracy is mentioned to belong to the category system quality. Decision effectiveness, learning, awareness and recall, as well as individual productivity are classified into individual impact. Contextual Data Quality This category includes relevancy, completeness, value-added, timeliness, and amount of data (Fisher et al., 2011: 45). Wang and Strong (1996) brought up that the value-added dimension of data quality can be understood as data that adds value to a company's operations and, thus, gives the organization a competitive edge. Timeliness refers to how old data is. This is a very important attribute of data in manufacturing environments, as Fisher et al. (2011: 45) point out. Furthermore, some data are affected by age, whereas other data are not. Incorrect decisions are often the result of financial decisions that are based on old data.

The quantity of information is a serious issue in evaluating data quality. A study on the use of graphs to aid decisions and a phenomenon called information overload was once conducted by Chan (2001). The scholar assumed that processing too much information can lead to making poor decisions. An experiment was conducted to show whether business managers would perform differently when treated with different loads of data. One group of subjects was given information with high load, whereas the other group of subjects was given information with nominal load. The results demonstrated that business managers under nominal information load could make higher quality decisions than those under high information load.

This demonstrates that having more information is not necessarily better, or, in other words, does not necessarily lead to higher decision-making performance. The phenomenon of information

overload could be proven in this study The information generated by the accounting information system always assures that information is reasonably free from error and bias, is verifiable and faithfully represents what it purports to represent (FASB, 1980a). In order to be a faithful representation, information system should maintain an agreement between the measure and description and the actual phenomenon which it purports to represent. In order to be verifiable, it should be possible to substantiate and confirm the information independently. Neutrality implies on the one hand that the preparer of information is not biased towards a predetermined result and on the other that the information is not reported in such manner that it may unduly influence the decisions of users in a particular direction. Both the primary qualities of relevance and reliability are associated with the secondary quality of comparability. This quality of information requires that transactions and events be measured and reported in a consistent manner to enable users to compare the results of a company from year to year or with the results of different companies.

The characteristics of quality information are as follows: (1) relevance, information is related to the problem at hand; (2) accuracy, ideally all information should be accurate. But features that contribute to system accuracy will add to the costs of the information system; (3) timely, information is available for decision making before a crisis develops or loses opportunities; (4) complete, the information generated presents a complete picture of a particular problem or solution J.R. McLeod and G.P. Schell (2007**)**. According to Romney and Steinbart(2012), quality information has the following characteristics: relevant, reliable, complete, timely, understandable, easy to use, verifiable and accessible. Relevant information if it can reduce uncertainty, increase the ability of decision-makers. The information must also be free from errors, but not missing important aspects of an event. The information must also be available when needed. Information will be understood if presented in a clear and easy to use and can be verified. Quality information can be accessed, available to users when they need it

2.3.8 Information quality and organizational effectiveness

During the early time of IS research Emery (1971) stated that information does not have intrinsic value; rather, its value is only related with the influence it may exert on the physical events. This however instigated the research carried out by Lucas Jr & Nielsen (1980). The research employed learning (in terms of performance improvement), as a dependent variable to understand the inventory using IS because issues of Information Quality (IQ) have become very

significant for firms which projects better performance, obtaining competitive advantage, or survival in contemporary business environment. This is at a time where data was believed to be inherently inaccurate and incomplete, and could adversely affect organization competitive success (Redman, 1992). There are numerous past and recent studies that have explored the information systems influence and employed measures of organizational performance as their dependent variable (Bernroider, 2008; J. C.-J. Chang & King, 2005 Chervany & Dickson, 1974; Gorla, Somers, & Wong, 2010). Firstly, Emery (1971) documented information quality as a cause for the reduction of the operating cost activities that are external to the system of information processing. This motivated Chervany & Dickson (1974) to also choose general cost reductions as their dependent variable and reported that information quality positively influenced it

In another large company's survey, Rivard & Huff (1984) requested managers to evaluate the cost reductions and company profits as a result of application programs developed by specific user. Hamilton & Chervany (1981) findings show that improvement of income of company could also be by computer-based information systems while Bender (1986) examined the information processing financial impact. Using their respective measures, all of them found information quality to have a positive significant influence on organizational performance. The review showed significant relationship between information quality and performance among ERP systems users (Kositanurit, Ngwenyama, & Osei-Bryson, 2006), and considering the knowledge management system context, Kulkarni, Ravindran, & Freeze (2007) found perceived content quality does not have a direct relationship with perceived usefulness. A study carried out on digital libraries discovered that relevance of information retrieved had a significant effect on perceived usefulness (Hong, Thong, & Wai-Man Wong, 2002).

At the level of organization, the relationship between information quality and benefits has shown mixed results, depending on the way by which net benefits are measured. Yet, to reach a conclusion on this relationship, more research is needed. However, high information quality in information content context (accuracy, completeness, relevance to decision making) can cause high organizational impact in terms of market information support (i.e., anticipating customer needs) and internal organizational efficiency (high-quality decision making) (Bharati & Chaudhury, 2015). AIS information quality, which is mostly in terms of accounting report and analysis, is reported by (Al-Hiyari, AL-Mashre, Mat, & others, 2013; Al-Zwyalif, 2012) to be

significantly related to management commitment. It is also observed that it influences user performance and organizational performance directly (Bukenya, 2014; Soudani, 2012), through perceived usefulness and perceived ease of use indirectly (Ali, Younes, & others, 2013; Boonmak, 2008). These studies investigated big companies. From another end, while Kharuddin, Ashhari, & Nassir (2010) investigated the impact of AIS on SME performance also reported a significant improvement in performance when compared with non-adopters

Management often engages in numerous activities requiring high-quality and trustworthy data (Soudani, 2012). Information quality is a desirable characteristic of a system's output (i.e., management report and web pages) (Petter et al., 2008). The information's output should be relevant, understandable accurate, complete and contain all the required elements to support the information needs (Al-Mamary et al., 2014). The system's effectiveness critically depends on the quality of the information delivered (Xu 2010). Key benefits of a company using AIS effectively includes better management of distance transactions, improved ability to react to changing environments, and a high level of competitiveness. Makau et al. (2017) concluded that information quality has significant influence on firm performance. It also found that firms need to ensure that their supply chain practices are aligned with information quality in order to increase business performance. In addition, Argyropoulou et al. (2018) found that information quality has a significant positive influence on innovation, marketing performance and financial performance.

2.3.9 System security assessment

One of the most important studies in this area was carried out by Loch et al. (2012). The researchers conducted a survey to explore the perception of Management Information Systems Executives regarding the security threats in microcomputer, mainframe computer, and network environments. The researchers developed a list of twelve security threats and empirically examined. The results indicated that natural disasters; employee accidental actions (entry of bad data and destruction of data); inadequate control over media; and unauthorized access to computer accounting information system by hackers had been ranked among the top security threats. These results confirmed the experts' claims that the greatest threats come from inside organizations.

Since accounting information system security has become one of the major concerns for information system auditor, Davis (1996) tried to discover the current status of the security issue in practice. Davis conducted a survey using the questionnaire, "Threats to Accounting Information

Systems Security Survey" which was adapted from Loch et al. (1992), in replication of their work. The results of Davis' survey (1996) indicated that information systems auditors recognized that different computing environments have different relative levels of security risks. The supervisory system based on internal institutions can be seen from the presence of internal supervisors within the company (Lisnawati, 2017). The role of internal supervisors is indispensable in the process of implementing an accounting information system, namely to evaluate or provide an assessment of the system to achieve company goals. The assessment carried out is to assess the extent to which the resulting accounting information system is accurate, meaning that it is free from errors, unbiased and misleading, and can increase knowledge for decision making (Lahuddin 2017).

Hunton et al. (2005) carried out an experiment study to understand, assess and examine the extent to which financial auditors and information systems (IS) audit specialists recognize differences in the nature and unique business and audit risks associated with accounting information systems, as compared to traditional manual accounting systems. The research findings revealed that financial auditors were significantly less concerned than information system audit specialists with the following heightened risks of the accounting information system environment in the experimental case: business interruption, network security, database security, application security, process interdependency, and overall control risk. Moreover, financial auditors did not recognize the heightened risks of a seeded control weakness as well as reluctance to seek.

In many organizations, Accounting Information Systems have a multitude of users who can simultaneously access a database that contains a vast amount of data. This is especially true in organizations that have Enterprise Resources Planning (ERP) systems as their primary transactional computing systems. One of the attractions of ERP systems as a business-computing platform is its single, comprehensive data that holds both transactional data and master data about suppliers, customers, materials, products, etc. In order to minimize concerns about the security of data and information in an AIS database, it is important to ensure that appropriate user access controls are in place (Zhensheng, 2014). In a business environment, it is vital to have a database that ensures adequate security for both internal and external stakeholders. When the AIS database is vast in size and depth, there is increased risk of data and information being inaccurate or misappropriated. Access controls are a first line of defense in protecting the integrity of AIS systems and their databases. There are numerous types of access controls for AIS databases, which

include Discretionary Access Control, Role Based Access Control, and Mandatory Access Control. Role Based Access Control has been successfully implemented and integrated into AIS due to its flexibility and logical reasoning. With RBAC, users are delegated and assigned specific roles within the system that will only grant them access to things relevant to their assignments. With this method, it eases the transition of employee turnovers, in regards to security configurations, due to its central managerial control. Management does not have to reconfigure the system because it is assigned by position (Uzun, Emre 2014).

Ryan and Bordoloi (2005) explored how companies moving from a mainframe to a client/server environment evaluated and took security measures to protect against potential security threats. The results of Ryan and Bordoloi's (2011) study revealed that the most significant security threats were: accidental destruction of data by employees; accidental entry of erroneous data by employees; intentional destruction of data by employees; intentional entry of erroneous data by employees; loss due to inadequate backups or log files; natural disaster: fire, flood, loss of power, etc; and single point of failure.

Henry (2010) conducted a survey to determine the nature of the accounting systems and security in use. The results of Henry's survey indicated that 80.3 percent of the companies backed-up their accounting systems. 74.4 percent of the companies secured their accounting system with passwords, but only 42.7 percent utilized protection from viruses. Physical security and authorization for changes to the system were employed by less than 40 percent of the respondents. The survey results also showed that only 15 companies used encryption for their accounting data, which was a surprising result, considering the number of companies utilizing some form of communication hardware. Almost 45 percent of the sample underwent some sort of audit of data.

Reviewing the nature of security breaches that occurred in different parts of the world, Dhillon (1999) argued that many of the security losses resulting from computer related fraud could be avoided if organizations adopted a more pragmatic approach in dealing with such incidents as well as adopting a balanced approach of security controls which place equal emphasis on technical, formal and informal interventions to their computerized systems. The results of Dhillon's study (1999) suggested that implementing controls, as identified in a security policy, would indeed deter computer misuses. Committing computer fraud by insiders is recognized as a

severe problem which could be difficult to prevent especially when it blends with legitimate transactions.

Siponen (2000) introduced a conceptual foundation for organizational information security awareness program to minimize the end-user errors and to enhance the effectiveness of implemented security controls. Siponen (2000) argued that information security techniques or procedures would lose their real usefulness if they were misused; misinterpreted; not used or not properly implemented by end-users.

Wright and Wright (2002) conducted an exploratory study to obtain an understanding of unique risks associated with the implementation and operation of accounting information system using a semi-structured interview approach. The research findings reported that the information system initially lacked adequate controls and that data conversion was also poorly executed. The potential for financial statement errors and business risks is further intensified as a result of the lack of proper user training. The findings also reported that ongoing risks differ across applications and across vendor packages. Finally, the results suggest that major firms use process audit techniques, as opposed to validation testing (i.e., they do not rely on tests of output) when hired to provide assurance on the risks for accounting information systems.

A skill is an ability to perform a productive task at certain level of competence. Darren et al. (2012) posit that as a skill is associated with a particular task, a person who does not possess such a skill is unlikely to be able to carry out such task or will be less productive than somebody who does possess this skill. They added that skills are often associated with a qualification and its acquisition through formal and informal training and on-the-job experience. The impact of skilled manpower availability has been sufficiently reported in the literature with the ever increasing pressure on construction contractors to deliver projects of desired quality, cost and on schedule time (Olomolaiye and Ogunlana, 1989; IOMA 2005; Ugheru, 2006, Medugu, 2011). The importance of more skilled Manpower in the industry cannot be under-rated as they have the potential of eliminating inefficiencies arising from poorly data entry. Bustani (2000) opine that the quality and availability of skilled workforce is considered an important factor in the effectiveness of the information communication adoption. Hence, various research have investigated the existence of unskilled manpower in the Nigeria industry (Ndibe et al., 2013; Kazaure, 2011; Wogu, 2010). The insufficiency of technically qualified personnel in the face of

increased demand has led to a situation where the big organizations are considering investing in training and development. Darren et al. (2012) consider skill shortage to occur when the demands for workers for a particular occupation is greater than the supply of personnel who are qualified, available and willing to work under existing market conditions, and if the supply is greater than demand then there is a surplus.

2.3.10 Internal Controls

Internal controls are a crucial component of an organization's structure, consisting of a set of rules, policies, and procedures put in place to ensure the reliability of financial reports, the effectiveness and efficiency of operations, and compliance with laws and regulations Arens, Elder, and Beasley, (2010) Glover, Messier, & Prawitt, (2006). Accounting Information Systems (AIS) are instrumental in managing a business and establishing an internal control system. AIS serves as a vital organizational mechanism that plays a critical role in decision management and control within organizations (Oguntimehin, 2001). As one of the most important systems within an organization, AIS has evolved in its methods of capturing, processing, storing, and distributing information.

Internal control aims to ensure the successful implementation of an Accounting Information System (AIS). It is essential to achieve the objectives of AIS, as highlighted by Nash & Roberts (1984). According to OBrien & Marakas (2011), internal control is specifically designed to monitor and maintain the quality and safety of input, processing, output, and storage activities within any information system, including AIS. Security of the AIS is paramount, and internal controls are necessary to ensure the integrity, confidentiality, and accuracy of data. Toposh K. (2014) further emphasizes that a sound internal control system can help maintain the qualitative characteristics of accounting information within an organization. Internal controls are procedures put in place to protect assets, ensure reliable accounting reports, promote efficiency, and encourage adherence to company policies. They are essential for achieving objectives such as the efficient and orderly conduct of accounting transactions, safeguarding assets in line with management policy, error prevention and detection, fraud prevention and detection, and ensuring the accuracy, completeness, reliability, and timely preparation of accounting data. Having strong internal controls in place allows management to rely on information more confidently, enabling them to effectively carry out business activities.

In the realm of financial management X. Zhang (2007), internal controls play a vital role in ensuring the accuracy and reliability of financial information, as well as the efficiency of

operations and compliance with laws and regulations. The effectiveness of an internal control system can greatly impact the overall significance of internal controls, as highlighted by U. Hoitash (2009), who emphasized how internal control value influences operational performance by enhancing information reliability and operational effectiveness. Furthermore, the implementation of computerized internal controls has been shown to have a significant impact on the value of internal controls and the performance of operations. H. Sajad, M. Dastgir, and H. Hashem Nejad (2008) argued that the integration of accounting information systems has led to improvements in managerial decision-making processes, the quality of financial reports, and the facilitation of company transactions. In light of these findings, it is evident that the adoption of internal control techniques is a critical management issue that not only ensures the effectiveness of internal controls but also contributes to the achievement of operational objectives.

Masli, Peters, and Richard (2010) highlighted the significant impact of internal controls adaptation on operations and management within the AIS environment. Internal controls play a crucial role in ensuring the achievement of operational goals and performance. Grande E.U. (2011) emphasized the advantages of integrating accounting information into business operations. This integration leads to better adaptation to a changing environment, improved management of arms-length transactions, and increased competitiveness. Furthermore, integrating accounting information enhances communication within the organization, facilitates the possibility of new business opportunities, and strengthens external relationships, particularly with foreign customers accessed through the firm's website. However, the effectiveness of accounting information may be compromised in the absence of an efficient system of control. A robust internal control system is essential for ensuring the reliability and completeness of accounting information for management use. Al Hantawi (2001) identified accuracy and speed in processing financial data as key characteristics of effective accounting information systems. These systems should provide timely information to management for planning, control, and evaluation purposes, as well as offer flexibility, simplicity, and integration with other information systems within the organization.

The effectiveness of control activities is a key component of the COSO internal control framework. Internal control serves as a fundamental security tool to ensure the reliability of AIS operations (Moeller, 2010). It is essential because poor quality AIS can significantly impact the decision-making process (Moeller, 2011). Curtis & Cobham (2005) emphasize the need for controls over all aspects of AIS, stating that data must be managed in a structured manner to enable easy access,

efficient processing, quick retrieval, and effective management. Fardinals (2013) research supports the theory that internal control effectiveness directly influences the quality of AIS. Similarly, Hamzah & Norwahida (2014) found that the quality of AIS is indeed affected by the effectiveness of internal controls. Danescu. T (2012) also highlight the impact of internal control effectiveness on the information generated by AIS. In accordance with OBrien & Marakas (2011), who assert that internal control is crucial for monitoring and maintaining the quality of any information system, effective internal control is necessary to provide management with assurance that the implemented AIS is functioning as expected (qualified AIS). Furthermore, research by Hayale & Kadra (2006) demonstrates that inadequate internal control over AIS can negatively impact the quality of resulting accounting information used by stakeholders in decision-making processes.

2.3.11. AIS and Committee of Sponsoring Organizations (COSO) Framework

The COSO Framework committee created the framework in 1992, led by Executive Vice President and General Counsel, James Treadway, Jr. along with several private sector organizations. The COSO Framework is a system used to establish internal controls to be integrated into business processes. Collectively, these controls provide reasonable assurance that the organization is operating ethically, transparently and in accordance with established industry standards.

In 1992, the Committee of Sponsoring Organizations of the Treadway commission (COSO) developed five components of COSO Framework for evaluating internal controls. These are: -

1.Control Environment

- The use of industry-standard practice
- Exercise integrity and ethical values.
- Make a commitment to competence.
- Use the board of directors and audit committee.
- Facilitate management's philosophy and operating style.
- Create organizational structure.
- Issue assignment of authority and responsibility.
- Utilize human resources policies and procedures.
- Adhering to regulatory compliance requirements

1. Enterprise Risk Management (ERM)

- Create companywide objectives.

- Incorporate process-level objectives.
- Risk is an inherent part of doing business
- Perform risk identification and analysis.
- Manage change.

3.Control Activities

- Follow policies and procedures.
- Put internal control in a place
- Improve security (application and network).
- Conduct application change management.
- Plan business continuity/backups.
- Perform outsourcing.

4.Information and Communication

- Communication rules are put in place
- External communications adhere to legal requirements, ethical values
- Measure quality of information.
- Measure effectiveness of communication.

5.Monitoring

- Adhering to established internal controls
- Perform ongoing monitoring.
- Conduct separate evaluations.
- Report deficiencies.

The COSO model defines internal control as "a process effected by an entity's board of directors, management and other personnel designed to provide reasonable assurance of the achievement of objectives in the following categories:

- Operational Effectiveness and Efficiency
- Financial Reporting Reliability
- Applicable Laws and Regulations Compliance

This model has been adopted as the generally accepted framework for internal control and is widely recognized as the definitive standard against which organizations measure the effectiveness of their systems of internal control. These components work to establish the foundation for sound

internal control within the company through directed leadership, shared values and a culture that emphasizes accountability for control. The various risks facing the company are identified and assessed routinely at all levels and within all functions in the organization. Control activities and other mechanisms are proactively designed to address and mitigate the significant risks. Information critical to identifying risks and meeting business objectives is communicated through established channels across the company. The entire system of internal control is monitored addressed timely. continuously, and problems are

The COSO framework was updated in 2013 to include the COSO cube, a 3-D diagram that demonstrates how all elements of an internal control system are related. In 2017, the committee introduced additional three components of ERM namely, objective setting, event identification, and risk response. (Bagran, Simkin and Norman, 2010). The COSO ERM Framework aims to help organizations understand and prioritize risks and create a strong link between risk, strategy and how a business performs. Based on some experiences, the use of AIS will benefit in successful implementation of Internal Control Frameworks (ICF). The Committee of Sponsoring Organizations of the Treadway Commission's (COSO) Enterprise Risk Management method is now the most widely accepted internal control framework in the world. Enterprise Risk Management – Integrated Framework (ERM) is the process the board of directors and management use to set strategy, identify events that may affect the entity, assess and manage risk, and provide reasonable assurance that the company achieves its objectives and goals (Romney and Steinbart, 2015). One advantage ERM has over traditional risk management activities, which evaluate risks within a particular department or function. Thus, ERM looks at the risks of the firm as a whole and cross-functionally (Mikes, 2011).

2.3.12. AIS and sophistication of information Technology

Today companies are faced with a very changing and competitive environment. For this reason, the role of information technology is very important to change to assist in improving business processes and decision making. Business processes and decision-making will be even better if the company implements information technology properly and correctly so that a good internal control process is needed for information technology applications that exist within the company. Sumaryati, A. & Machmuddah, Z. (2020).

Advances in information and communication technology have made accounting information systems (AIS) an important tool in a highly competitive business world. AIS is a combination of

human and other resources who are responsible for providing financial information as well as information obtained through the collection and processing of transaction data within an organization (Cross & Daniel, 2019). Accounting information systems are components that are interconnected to collect, store, process and disseminate information for planning, controlling, coordinating, analyzing, and decision making (Alawaqleh, 2021). The main function of an accounting information system is to process data from financial transactions into useful information for the company (Manuaba & Yadnyana, 2021). Accounting information systems play an important role in effective decision-making processes to control and coordinate organizational activities to achieve better performance. The importance of using accounting information systems in producing quality information and supporting the decision-making process to improve organizational efficiency (Mertha & Suartana, 2020)."

The sophistication of information technology and management participation had a significant influence on the effectiveness of the accounting information system (Lahuddin et al., 2017). An effective accounting information system can measure the competitive advantage that a company can create. Technological sophistication will help companies produce more accurate and timely information for effective decision making. The knowledge of accounting managers, management participation, and the sophistication of information technology has a significant positive effect on the effectiveness of the Accounting Information System. The participation of information system users plays a very important role in increasing the effectiveness of the accounting information system. The success of developing an information system in a company depends on how the system is run, the ease of the system for its users, and the utilization of the technology used. Optimizing information technology can be done by improving the performance of its users, but that does not mean that every individual positively accepts the existence of the technology and can feel the benefits. The more effective the accounting information system will lead to higher individual performance (Thakurta, 2017).

The relationship between information technology sophistication and effectiveness can be explained by thinking that a system that has good informational sophistication will help companies produce fast and accurate information for effective decision-making (Meiryani & Susanto, 2018). The Technology Acceptance Model (TAM) explains that there are two factors, namely the usefulness and ease of using technology that affects personal behavior to accept and use technology (Bastan et al., 2021). Based on this theory the sophistication of information technology

in data processing is very necessary because AIS users will find it easier to operate the system. After all, technology is intended to help human work so that it is designed to be easier to use and able to increase technology user satisfaction and increase AIS effectiveness. Mansor et al. (2016), Hartikayanti et al. (2018), Huy & Phuc (2020) state that the sophistication of information technology has a significant effect on the effectiveness of the accounting information system. Thus, the higher the level of sophistication of information technology, the higher the level of effectiveness of the accounting information system.

2.3.13. Artificial Intelligence in the Accounting Information System (AIS)

According to Al Omoush K.S., Alqirem (2019) AI is the field of computer science that is focused on creating machines and software programs that can think and behave like humans. AI strives to build machines that can simulate and understand natural intelligence, including but not limited to problem-solving, image recognition, and natural language processing (Zhang and Lu 2021). According to Kaul V., Enslin (2020), AI technologies are being used in a variety of applications, such as healthcare, customer service, robotics, and financial analysis.

Artificial intelligence appears in the accounting field in the form of computerized documents, audits and tax processes, in addition to many methods of fraud prevention (Kokina and Davenport, 2017). Artificial intelligence (AI) has the potential to transform the accounting industry by automating tasks, reducing errors, and improving efficiency. It plays a significant role in enhancing and improving accounting information systems (AIS) by providing accurate and timely information for decision-making. The use of AI in accounting can help businesses improve their sales, reduce costs, and enhance performance in various tasks. (Chukwudi, 2018; Ionescu,2019). According to Damerji and Salimi (2021), AI has helped accountants by allowing them to cope with complex figures and data, learn new systems quickly, and spend less time on administrative activities. This has allowed them to devote more time to strategic decision making. Accounting AI, as Luo, J. & Cai, Y. (2018) noted, will handle massive workloads that humans could struggle to handle. If the inputs are mostly precise and exact, the outputs of these jobs are very accurate and error free. Faccia, Al Naqbi (2019).

2.3.14. Accounting Information Systems and Fraudulent Behavior

Fraudulent behavior among AIS users is a perpetual accounting and auditing concern. Financial fraud is an activity that can affect more than one person or company and it may have indirect effects on external entities. Employees that are authorized users of an AIS may have the

opportunity to misappropriate AIS data and information. The Association of Certified Fraud Examiners defines occupational fraud as the misappropriation of assets (Glodstein David 2015). When authorized users are members of the organization's accounting department the misappropriation of AIS data and information may be a form of occupational fraud, the illegal action of converting or concealing information for personal gain. Because Accounting Information Systems are integral components of business computing platforms, controlling the risk of unauthorized access to sensitive information is important. Failure to control access to important information can result in the information being altered or being seen by employees or outsiders who have no business seeing the information. Fraudulent behavior by accounting employees can also involve the intentional manipulation of the content or the structure of financial reports. (Bressler 2011) In the absence of appropriate controls, accountants can also utilize AIS systems to access private or sensitive information about fellow employees and other organizational stakeholders including, suppliers, customers, or other business partners. In other cases, workers have obtained financial information from an AIS to tip off outsiders whom may or may not have a stake in the company. Such behavior is not just unethical; it is also a form of fraudulent behavior such as unauthorized transfer, fictitious reimbursement, fictitious invoice, fraudulent account, forgery of documents, unauthorized internal access, modification of database, inflated invoice and unauthorized external access, off-record transactions and tax evasion.

Welch, S. & Welch, O, (2011) state that Weaknesses in internal control systems were exploited by these perpetrators. Main weaknesses in the internal control systems were separation of duties, proper authorization, periodic checks and balances, lax attitudes, asset safeguards, required documentation and competent personnel. They found that computerized systems frauds contain more complicated schemes and lead to more damages compared with manual systems. As a suggestion, they proposed that fictitious entries be detected not only primarily focusing on access controls but also on management controls, technology controls and technology safeguards. Also, they suggested using audit software with business intelligence components. If a company has effective AIS, it can avoid fraud.

Fraud is done mainly by two groups: top management and lower level employees. Cullinan & Sutton (2006) state that fraud is seen as a lower level employee act. However, SEC's Accounting and Auditing Enforcement Releases (AAERs) show that financial statement fraud is mostly done

by CEO or equivalent level employees. They state that, therefore, low-cost systems are built to detect lower level employee frauds, and frauds created by top management are lower to detect because of lack of control systems for top managers. It is also stated in the article that professional standards say "management is responsible for the prevention and detection of fraud" (AU 316.02) which gives authorization to the management. This leads to ignorance of fraud committed by top management. SAS 82 in AICPA 1997 reports mainly two types of financial statements fraud: (1) misappropriation of assets, and (2) fraudulent financial reporting. The first one includes theft of assets and can easily be detected by internal control systems, but the second type is most likely to be conducted by top management and cannot be easily detected by the systems. Literature shows that one of the reasons for fraudulent financial statements is to show continuous growth. Managers in firms which could not reach constant growth choose fraudulent actions to maintain their existing trends (Kirkos, E.& Manolopoulos, Y. (2007)

Another reason for managers to prepare fraudulent financial statements may be high debt ratios (Persons, 1995). Managers are stewards and they protect the rights of owners. However, when there is high level of debt, they misrepresent financial statements to meet debt covenants and they disguise high level of risk. Bayraktar (2007) claims that managers involve in fraudulent accounting activities such as recording fictitious transactions and preparing inaccurate financial statements either (1) to show companies' financial health better than what it is now or (2) vice versa, i.e., to show it worse than what it is right now. In another study, Beneish (2007) found that companies which involve in fraudulent activities are newly founded, have low-stock performance, their growth depends on debt, and have deteriorating financial ratios such as decreasing asset quality and gross margin.

One of the ways of decreasing fraud in financial statements is using ERP systems. ERP systems prevent fraud by providing controls such as segregation of duties and continuous monitoring. Since ERP systems integrate information coming from all departments, it will be more difficult for penetrators to commit crime and disguise their transactions. Sometimes, owners take strategic decisions for the company and they do not want to share those decisions with managers or with other owners, which will be learned if an ERP system is implemented in the company. Or, subdivisions may show resistance to implementation since they are afraid of losing their monopoly power in the company.

2.3.15. Human Resources

Due to the novelty of this topic, researchers only came across a limited number of studies on how human resources affect businesses' accounting information systems. Also it should be noted that almost all the studies found addressed the subject of the impact of human resources on the AIS in a general way.

Flamholtz, Kannan-Narasimhan, & Bullen (2004) indicate that Skillful and specialized human resources are of vital importance for an organization, just like its physical properties and investments. Managers of the organizations spend a lot of money for training and educating their workers and employees in order to increase the efficiency of the organization under their control, but the human resources accounting system, which should be used for human resources information processing, has not been used practically by any organization in Iran. The paper first explored whether investment decisions in AIS are affected by human resources. Secondly, it explored as to what factors can interfere with this effect. Thirdly, it examined which evaluation method of human resources is the most appropriate method consistent with Iranian companies in terms of qualitative characteristics of accounting information. The results indicate that human resources are of vital importance for an organization and affect optimal investment decisions in AIS and AIS implementation.

According to Pekin Ogan (1988), the goal of this study was to provide the findings of a field experiment conducted to determine how managers' investment decisions were affected by their use of human resources. The research was part replication and part extension of investigations by Oliver, Flamholtz, and Tomassini. The results of this study are consistent with those of other studies; human resources do influence managers' investment decisions and provide managers with more confidence in such decisions. Bo Hansson (1997), this study examines the pricing of knowledge-based firms compared with firms that are less dependent on human resources. The results show that an increasing dependence on human resources is followed by a rise in organizational performance hence high returns. The findings suggest that investors may need accounting information on human resources to help improve investment decisions.

Daft (1983) this paper comprehensively examined the linkages between AIS and human resources. Human resources have an economically and statistically significant impact on intermediate outcomes (turnover and productivity) as well as short- and long-term indicators of company financial success, according to results based on a national sample of over a thousand enterprises.

There was little evidence to back up the claims that the influence of human resources is somewhat dependent on their interactions and connections with competitive strategy.

2.4. Research Gaps

Different research has reviewed literature on accounting information system and decision making, business performance, organizational effectiveness in private companies, small and medium enterprises, multi-national corporations, government institutions. Most of the scholars studied the variables in western setting, western Africa and East Africa which calls for a study in our context. Studies have shown that of the accounting information system research in western Africa samples, Kabiru and Abdullahi. (2014), asserted that the use of accounting information is relevant in simplifying issues and in the provision of quality information in the Nigerian banking industry and Augustine, Maurine and Jian (2014), conducted research on impact of accounting information on profitability of small-**scale** business in Kampala city in Uganda East Africa. However, for automobile industry there is a need for such research to enables private companies, small and medium, enterprise to adapt accounting information system for their operations because technology is ever changing if they need to compete.

CHAPTER THREE

3) RESEARCH METHODOLOGY

3.0 Introduction

This chapter provides an overview of the research approach utilized to accomplish the study's objectives. It outlines the methodology for selecting respondents, collecting data, and analyzing it. The chapter is structured into various sections, each focusing on a specific aspect of the research process. Section 3.1 delves into research methodology, Section 3.2 explores the research design, Section 3.3 outlines the research method, and Section 3.4 addresses ethical considerations.

3.1Research Methodology

Quantitative research methodology is a systematic approach utilized to collect and analyze numerical data to comprehend and elucidate phenomena, relationships, test the hypothesis and make predictions. This method emphasizes objective measurements and statistical analysis to derive conclusions and formulate generalizations about a specific population. The main objective of quantitative research is to quantify variables, explore relationships between variables, and draw generalizations about a population based on the data collected.

3.2 Research Design

The study utilized a cross-sectional correlation research design to investigate the relationship between the accounting information system and organizational effectiveness in selected automobile companies. This design is a specific type of correlation research design that allowed the researcher to analyze the connections between variables across different companies (Breakwell, Hammond & Fife-Schaw, 1995). It involves collecting data from multiple participants and assessing the correlations between variables for a specific time period. The main focus was on determining the degree and direction of association between the quality dimensions of AIS (system quality, information quality, and service security) and organizational effectiveness.

3.3 Research Method

3.3.1 Population of the study and Sampling Technique

The population of this study includes the current fifteen registered member of automobile companies that have been operating in the main office of Addis Ababa. This list was obtained

from the TMAGAT Vehicles and Machineries Importers and Assemblers Trade Sectoral Association. For the purpose of this research, five major companies were selected using purposive sampling techniques based on criteria such as their year of establishment, branch number, product size, and highest tax payer. The selected companies are MOENCO S.C, Nyala Motors S.C, NMC PLC, Paul Ries and Sons (Ethiopia) Ltd., and Ethio-Nippon Technical Company Ltd. (The information is attached at the end of this thesis)

The departments that participated in the study were chosen based on their direct relevance and expertise in the topic being investigated. Purposive sampling was utilized to select specific departments that had a target population of 240 employees. According to the HR managers, each of the departments - Finance, Marketing and Sales, IT, and Procurement - typically consists of an average of twelve employees. Staff members from each department who took part in the study were selected using a simple random sampling technique. Additionally, as part of the study, a questionnaire was distributed to the Finance and IT managers of the five selected automobile companies using purposive sampling.

Table 3.1 Four Selected Departments and their average number of respondents

Ser.no	Name of the companies	Average number of respondents
1	Finance	12
2	Marketing and Sales	12
3	IT	12
4	Procurement	12
	Total number of targeted respondent	**48**

Table 3.2 Five Selected Automobile Companies and Their targeted number of respondents

Ser.no	Name of the companies	Targeted number of respondent
1	MOENCO	48
2	Nyala Motors S.C	48
3	NMC	48
4	Paul Ries and Sons(Ethiopia) Ltd	48
5	Ethio-Nippon Technical Co.	48
	Target population respondent(employees)	**240**

3.3.2 Sample Size

In this study, a random sampling technique was utilized to select respondents from chosen automobile companies. The sample size was determined using the Slovene 1970s formula for sample size determination, which is as follows:

n = N/ 1+N (e) 2

Were,

n= Sample Population

N= Total Population

1= Statistical Constants

E = level of significant (0.05)

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

n = 240/ 1+(240(0.05)2

n= 240/ 1+(240×0.0025)

n = 240/ 1+0.6

n = 240/ 1.6

n = 150

3.3.3 Data Collection and Variables Measurement

In this study, a structured questionnaire was developed as the primary data collection instrument to evaluate system quality, information quality, and system security. The questionnaire included items related to these independent variables as well as organizational effectiveness. It was distributed to 150 employees across various departments including Finance, Marketing and Sales, IT, and Procurement.

The questionnaire consisted of three sections. The first section gathered general information about the respondents, while the second section focused on assessing variables related to the accounting information system such as system quality, information quality, and system security. The third section aimed to evaluate organizational effectiveness. Responses were measured using a 5-point Likert scale to gauge the participants' attitudes towards the study variables. Both dependent and independent variables were assessed using the Likert Scale. The data analysis involved calculating the average score for each element. The Likert scale ranged from 1 to 5, with 5 indicating "strongly agree," 4 for "agree," 3 for "not sure," 2 for "disagree," and 1 for "strongly disagree." This scale was chosen based on the recommendation of Mugenda and Mugenda (1999), who highlighted the Likert type scale as the most commonly used rating scale in questionnaires.

The Likert Scale is a widely used ordinal psychometric measurement tool that assesses attitudes, beliefs, and opinions. Respondents are presented with statements and asked to indicate their level

of agreement or disagreement using a multiple-choice format. One of the key advantages of the Likert Scale is its universal applicability, making it easily understood and accessible for data collection purposes. Responses on the Likert Scale are quantifiable and can be subjected to various mathematical analyses, as noted by Gilbert (2008). Unlike simple yes or no questions, the Likert Scale allows respondents to express their opinions on a spectrum of agreement, making it more user-friendly and accommodating of varying levels of certainty or neutrality.

However, as pointed out by Jamieson (2004), a limitation of the Likert Scale is that it does not allow for making definitive statements about the percentage of the population that agrees or disagrees with a particular statement. Instead, comparisons can only be made across different groups or samples. Additionally, the rankings obtained from the Likert Scale are influenced by the specific statements included in the survey.

3.3.4 Data Analysis

After completing the data collection process, the first step is to check for any damaged questionnaires and then sort them accordingly. Each questionnaire is then coded with a unique number. Once the coding process is finished, the items from each questionnaire are entered into the Statistical Package for Social Sciences (SPSS version 17) for analysis.

The researcher then conducts statistical analyses on the collected data to identify patterns, relationships, and associations between variables. Common quantitative analysis techniques used include descriptive statistics (frequencies, percentages, mean, median, standard deviation), inferential statistics (t-tests, ANOVA, regression analysis), and correlation analysis for each variable. These techniques help summarize the data and provide insights into the overall perceptions of AIS variables (system quality, information quality, and system security) and organizational effectiveness. The results are presented in tables, bar graphs, and pie charts, with explanations provided in prose (Mugenda & Mugenda, 1999).

In Section A of the research study, demographic questionnaires were used to gather information about the respondents. Descriptive statistics were calculated to document the demographic information. In Section B, the research objectives were focused on system quality assessment,

Section C on information quality assessment and organizational effectiveness, and Section D & E on system security and organizational effectiveness respectively.

The preliminary results were analyzed using descriptive statistics, such as mean and standard deviation, to assess the impact of the variables. This analysis allows for a clearer interpretation of the findings as follows:

4.20-5.00	Strongly Agree	Very Satisfactory
3.40-4.19	Agree	Satisfactory
2.60-3.39	Not sure	unsatisfactory
1.801-2.59	Strongly Disagree	Very Unsatisfactory

Overall, the findings provide valuable insights into the relationship between system quality, information quality, system security, and organizational effectiveness in the automobile industry.

The relationship test was conducted using the Pearson linear coefficient correlation. This analysis technique, known as the Pearson Linear Coefficient Correlation (PLCC), was utilized to assess the relationship of each objective outlined in the questionnaire for five selected automobile companies. To investigate the impact of accounting information systems on organizational effectiveness within these companies, Linear Regression analysis was employed. The statistical significance threshold for hypothesis testing was set at the 0.05 level.

3.3.5 Reliability and Validity of Data

In research, the concepts of reliability and validity are crucial for determining the acceptability of an instrument. Amin (2005) emphasized the significance of these concepts in ensuring the credibility of research findings.

Reliability, as defined by Cronbach (1946), is essential for the accuracy and consistency of data. To ensure reliability, instruments were tested for Alpha values. According to Cronbach, analyzing Alpha values for each variable being studied is necessary. Sekaran (2003) further specified that Alpha values should not be less than 0.6 for statements in the instruments to be considered reliable. All statements under each variable underwent this test and were found to exceed the 0.6 threshold. A reliable measure is one that is free from error and consistent over time and across different items in the instrument. This ensures the integrity and dependability of the research findings.

Table 3.3 Cronbach Alpha Reliability Coefficients

Variables	Reliability Coefficients	No. of Items
System Quality	0.725	11
Information Quality	0.762	7
System Security	0.725	10
Organization Effectiveness	0.707	9
Overall Reliability	0.728	37

According to Table 3.2, the overall reliability tests for the results was 0.728, indicating great internal consistence of the responses on the tool. Specifically, all the items scored high reliability results; the responses to the items under accounting information system which includes (System quality assessment scored 0.725, Information quality assessment scored 0.762 and system security assessment scored 0.725 and items under organization effectiveness scored a reliability coefficient of 0.707, thus the overall reliability was 0.728. All the items on the questionnaire were above 0.6, indicating a great internal consistence. The results of the reliability analysis mean that the items on the tool could be relied on to provide reliable answers to the study questions as suggested by (Sekaran, 2003).

The validity of the data collection instruments was confirmed through collaboration with senior staff members and an expert in the field, who happened to be the researcher's supervisor. The structured questionnaire guide was submitted to the supervisor, who has extensive knowledge in the research area, for editing and review.

3.4. Ethical Considerations

Throughout the research process, strict adherence to ethical principles was maintained. These principles included the following:

I. Voluntarism: The researcher took great care to ensure that respondents were not coerced or manipulated into participating in the study. Each respondent was fully informed of the study's purpose, and their consent to participate was obtained.

II. Objectivity: Objectivity was a key focus during the research process. Any attempt to bias results was considered unethical and was therefore avoided at all costs.

III. Confidentiality: Respondents were guaranteed confidentiality and anonymity. Their names were not recorded in the report, and the information provided by them will only be used for academic purposes.

3.5 Conceptual Model

In this study, the independent variable is accounting information systems that are implemented by the human resources and strengthened by internal controls, whereas dependent variable is organizational effectiveness. The relationship between the AIS independent variable shown were; system quality, information quality and system security and organizational effectiveness indicators includes percentage increase in profits, revenue growth, and growth in market share in automobile industry.

The conceptual model is developed based on the works of W.H. Delone and E.R. McLean (2009), Shagari, Abdullah, and Saat (2015), and Trabulsi (2018). As a result, the relationship between the dependent variable and the independent variables is expressed through the following function:

$Y=f(x1)$ ……..……... (1)

Where;

Y= Organizational Effectiveness

X1 = Accounting Information Systems

By considering these dimensions and their specific measures, organizations can better understand the effectiveness and impact of their accounting information systems. This knowledge can help drive improvements and ensure that the systems are contributing to overall success.

3.6 Analytical Model

The algebraic expression of the regression model takes the following form

$Y= \beta 0+\beta 1X1+\varepsilon t$ ……..... (2)

Where;

Y = the dependent variable

B0 = a constant

β1 = the slope of the regression

X1 = the independent variable

εt = Model error

The relationship between the dependent and independent variables are statistically significant at a 95% confidence interval. A meaningful amount of 0.05 was assessed to evaluate the difference

between the independent variables and dependent variables. When the model's P value is smaller than the importance threshold (0.05), So the independent variables have an impact on the dependent variable. Increased accountability in information infrastructure will lead to increased operational effectiveness. The thesis concludes that accounting information systems have an important influence on the efficiency of organizations. The model is negligible if the P value is higher than 0.05 and the analysis should therefore not infer that independent variable significantly influence the dependent variable.

CHAPTER FOUR

4) DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.0 Introduction

This chapter delves into the analysis and interpretation of the factors affecting AIS, specifically system quality, information quality, and system security, and their impacts on organizational effectiveness in automobile companies. The data collected from the respondents was meticulously coded, systematically analyzed, and presented under various headings in the following pages. Appropriate statistical tools were utilized based on the specific problem being studied, and the results were effectively communicated. Descriptive and inferential statistics were employed in the data analysis process. Descriptive statistics were used to analyze the demographic characteristics of the research participants, while inferential statistics were applied to assess variables of AIS such as system quality, information quality, system security, and their impact on organizational effectiveness in automobile companies.

The researcher utilized descriptive statistics, mean, and standard deviation for preliminary analysis, and Pearson Linear Coefficient Correlation (PLCC) was employed to identify the relationship between independent and dependent variables. These analyses will enable us to conduct inferential analysis, answer our research questions, and test our hypotheses. Ultimately, we will either accept or reject our hypotheses based on the findings.

4.1 Summary of Data Collection Response Rate

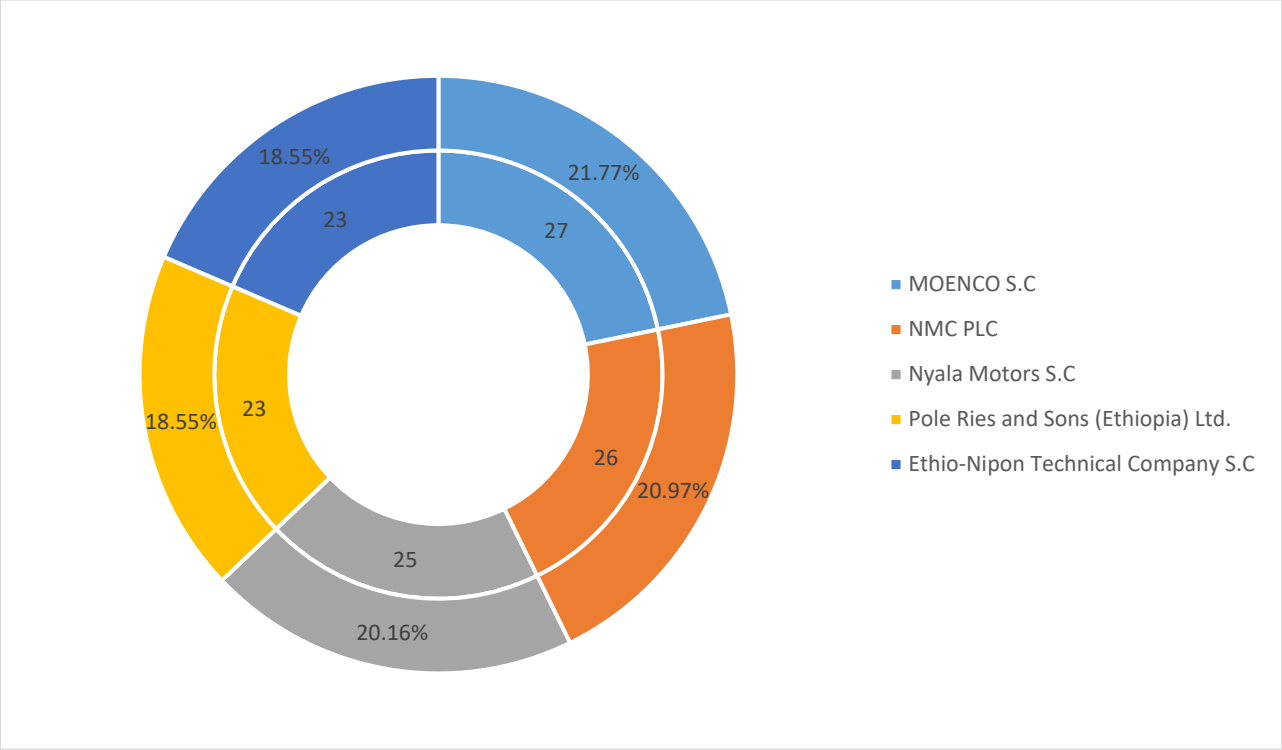
For this study, questionnaires were distributed to a total of 150 individuals. Remarkably, 133 respondents diligently completed and returned the questionnaires, yielding an exceptional response rate of 88.67%. However, it is worth noting that 9 of these survey forms contained significant missing values. Consequently, the final sample size for the study consisted of 124 participants, representing 82.67% of the initial respondents.

Table 4. 1 Data Collection Responses Rate

Questionnaires	Total	Percentage (%)
Questionnaires distributed	150	100%
Collected questionnaires	133	88.67%
Usable questionnaires	124	82.67%
Discarded/damaged/ questionnaires	9	6%
Uncollected questionnaires	17	11.33%

4.1.1. Company's Response Rate

Figure 4.1 Information on Company's Response Rate

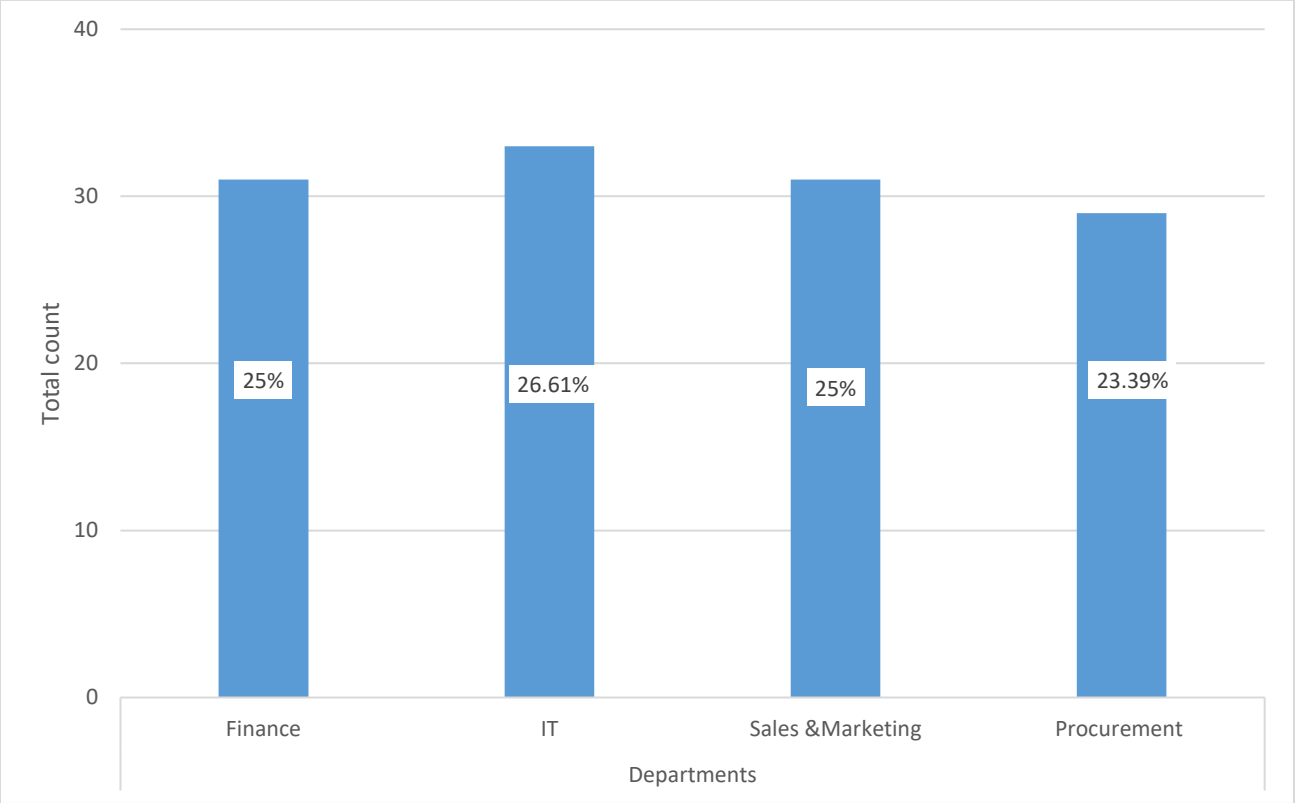


Based on the data presented in Figure 4.1 below, the majority of respondents were from MONECO, accounting for 27 (21.77%) of the total. This was followed closely by NMC and Nyala Motors, with 26 (20.97%) and 25 (20.16%) respondents, respectively. The remaining two companies each had an equal number of respondents, totaling 46 (37.10%) of the overall sample size.

4.1.2. Department Response Rate

According to Figure 4.2, the respondents were categorized into various departments. The IT department accounted for 26.61% of the respondents, totaling 33 individuals. Following closely behind, the Finance and Sales & Marketing departments each contained 25% of the total sample, with 31 respondents in each. The department with the fewest respondents was Procurement, comprising 29 individuals, or 23.39% of the total.

Figure 4.2 Information on the Department Response Rate

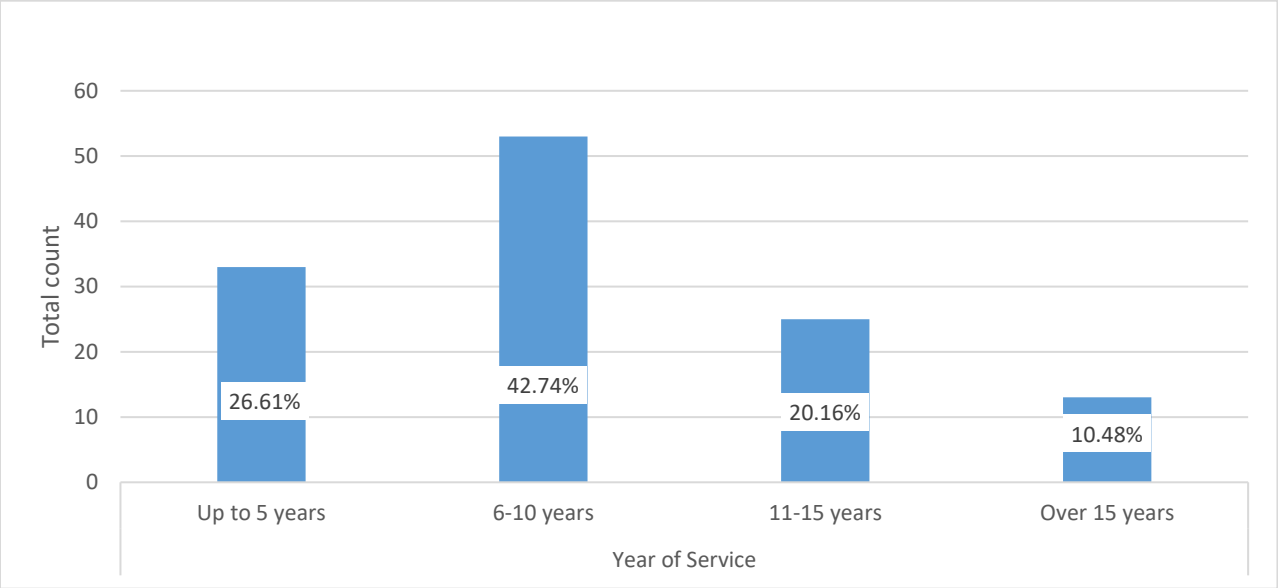


4.2. Demographic Profile of Respondent

4.2.1 The respondent's years of service

The table below, Figure 4.3, illustrates the years of service of the respondents. It is evident that a significant majority of the respondents have been employed by their respective companies for more than five years. Only 26.61% of the respondents have a tenure of less than five years. This data suggests that most of the respondents possess a comprehensive understanding of their company. Consequently, any information gathered from them can be considered reliable.

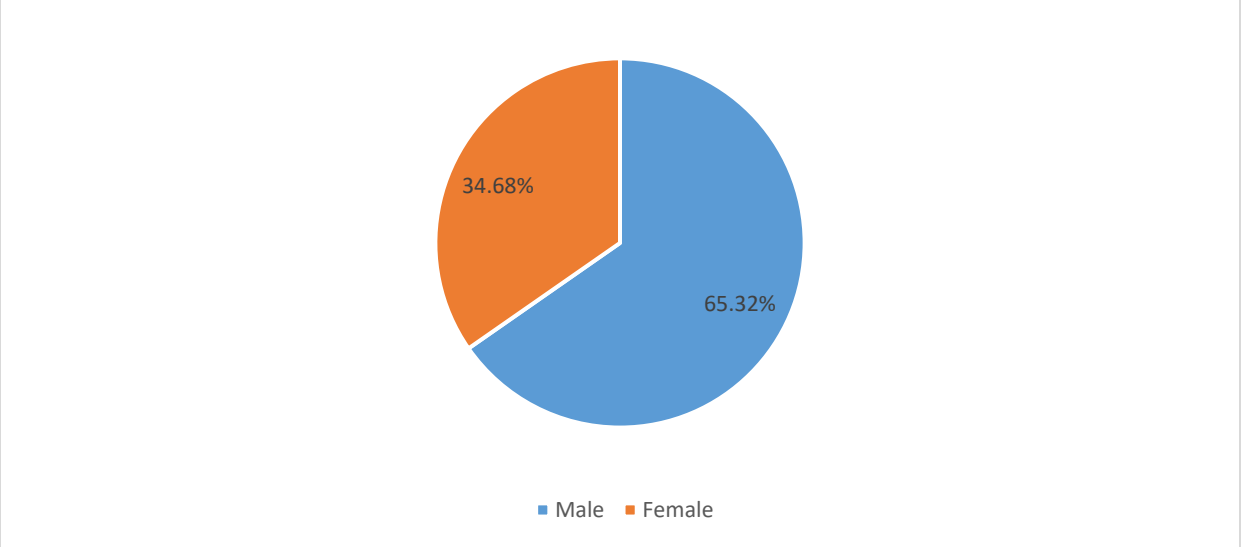
Figure 4.3 Information in the Respondent's Years of Services



4.2.2 Gender Distribution of Respondents

Out of the total respondents, 65.32% were male, while 34.68% were female. This indicates a balanced representation of both genders, suggesting the absence of any gender bias. The distribution of respondents' gender can be found in Figure 4.4

Figure 4.4 Information on the Gender of the Respondents



4.3) Descriptive Statistics

This section provides an overview of the descriptive statistics for both the dependent and independent variables utilized in the study. The dependent variables examined include system quality, information quality, and system security, while the independent variable is organizational effectiveness. The mean and standard deviation for each variable is detailed in tables 4.2 to 4.5.

4.3.1) Descriptive statistics for system quality

In the ongoing discourse regarding the accounting information systems utilized by automobile companies, system quality has been a prominent topic of discussion. Table 4.2 below presents evidence on how various users of AIS, as included in the study, perceived the system quality of the AIS. The evidence collected specifically focused on twelve key areas.

Table 4.2: System quality assessment of AIS in selected automobile companies

Ser. no.	Elements of System Quality	Mean	Std.dev	Rank	Interpretation
1	Your company AIS has safe data storage and retrieval	4.4758	.63070	1	Very Satisfactory
2	Your company AIS has users' verifiability before accessing the system	4.0403	.82046	4	Satisfactory
3	Your company AIS is user friendly/ understandable	4.1371	.75799	3	Satisfactory
4	Your company AIS has technical efficiency which reduces programming error	3.9601	.80101	5	Satisfactory
5	Your company AIS is compliance conscious	3.8710	.86455	8	Satisfactory
6	Your company AIS is robust in data processing	3.8790	1.15887	7	Satisfactory
7	Your company AIS is cost effective	3.8065	1.02551	9	Satisfactory
8	Your company AIS is always updated or has a separate budget for renewals and maintenance.	3.3010	1.20511	11	Unsatisfactory
9	Your company AIS response time is fast	3.8952	.96119	6	Satisfactory
10	Your company AIS are interconnecting the reporting activities of different functional areas of our business	3.5101	1.1441	10	Satisfactory
11	Your company AIS align to organizational objectives	4.1532	.95462	2	Satisfactory
	Mean	**4.042**			**Satisfactory**

Note: These items were measured on a five-point Likert scale where 5=Strongly agree, 4=Agree, 3=Not sure, 2=Disagree, 1=Strongly disagree, indicating the degree to which individual scores by respondents are far from the mean.

The results presented in Table 4.2 indicate that, in comparison to other aspects of system quality, the allocation of an updated or separate budget for the renewal and maintenance of AIS received the lowest mean score of 3.3, with a standard deviation of 1.205. This suggests that the company

does not currently have a dedicated budget for the renewal and maintenance of AIS. Additionally, the second lowest aspect, with a mean score of 3.51, was the extent to which AIS integrates the reporting activities of various functional areas within the business. This indicates that many companies' AIS systems do not effectively connect the reporting activities of different functional areas.

On a positive note, respondents rated the safety of data storage and retrieval within the AIS very highly, with a mean score of 4.4758. This indicates a high level of satisfaction with the system's ability to keep information secure and easily accessible. Similarly, the alignment of AIS with organizational objectives was also rated highly, with a mean score of 4.1532, reflecting a strong connection between the system and the company's goals. In terms of user-friendliness, the AIS received a satisfactory rating, with a mean score of 4.1371. This suggests that while the system is generally easy to use, there may still be room for improvement in terms of usability. Additionally, the requirement for user verification before accessing the system was also rated as satisfactory, with a mean score of 4.0403 and a standard deviation of 0.82046, indicating a satisfactory level.

Furthermore, the technical efficiency of the AIS in reducing programming errors was ranked fifth, with a mean of 3.9601 and a standard deviation of 0.80101, considered satisfactory. The speed of the AIS was ranked sixth, with a mean of 3.8952 and a standard deviation of 0.96119, also interpreted as satisfactory. In terms of robustness in data processing, the AIS was ranked seventh, with a mean of 3.8790 and a standard deviation of 1.15887, still considered satisfactory. Overall, the assessment of system quality was deemed satisfactory, with a mean of 4.042. This suggests that the selected automobile companies generally view the AIS as faster, flexible, easy to understand, and safe, among other positive attributes.

4.3.2) Descriptive statistics for information quality

Table 4.3: Information quality assessment of AIS in selected automobile companies

Ser. no.	Elements of Information Quality	Mean	Std.dev	Rank	Interpretation
1	Your company AIS produce relevant information for decision making	4.1613	1.01523	4	Satisfactory
2	Your company AIS is effective enough to produce accurate information	4.4435	.69026	1	Vary Satisfactory
3	Your company AIS is producing complete and clear information	4.0806	.93354	5	Satisfactory

4	Your company AIS produces comparable information	3.8065	.84273	7	Satisfactory
5	Your company AIS is producing timely information	3.9677	.89202	6	Satisfactory
6	Your company AIS protects sensitive information from unauthorized disclosure	**4.3302**	**.72403**	2	Vary Satisfactory
7	Your company AIS produce information that's is applied consistently from one period to another/reliability/	4.2419	076902	3	Vary Satisfactory
	Mean	**3.778**			

The results presented in Table 4.3 indicate that when it comes to the accuracy of information produced by AIS, it received the highest ranking with a mean of 4.4435 and a standard deviation of 0.69026, which is considered very satisfactory. This suggests that automobile companies trust their AIS to provide accurate information. In terms of protecting sensitive information from unauthorized disclosure, AIS ranked second with a mean of 4.3302 and a standard deviation of 0.72403, also interpreted as very satisfactory. Similarly, the ability of AIS to produce reliable information was ranked third with a mean of 4.2419 and a standard deviation of 0.7690, again interpreted as very satisfactory. When it comes to producing relevant information, AIS was ranked fourth with a mean of 4.1613 and a standard deviation of 1.01523, considered satisfactory. The completeness of information produced by AIS was ranked fifth with a mean of 4.0806 and a standard deviation of 0.93354, also interpreted as satisfactory.

The timeliness of reports generated by AIS was ranked sixth with a mean of 3.9677 and a standard deviation of 0.89202, again interpreted as satisfactory. The ability of AIS to produce comparable information was ranked seventh with a mean of 3.8065 and a standard deviation of 0.84273, also interpreted as satisfactory. Overall, the level of information quality was deemed highly satisfactory with a mean of 3.778. This indicates that automobile companies perceive their accounting information system as accurate, complete, reliable, and capable of producing timely, comparable, and correct information.

4.3.3) Descriptive statistics for system security

Table 4.4: System security assessment of AIS in selected automobile companies

Ser.no.	Elements of System Security	Mean	Std.Dev.	Rank	Interpretation
1	Your company AIS often experience system failure	3.0502	.94380	4	Undecided
2	Your company AIS is required user login to access the online facilities.	4.1694	1.07991	1	Satisfactory
3	Your company AIS experience unauthorized access into the system by employees of the organization	2.3710	1.18574	7	Unsatisfactory
4	Your company AIS experience unauthorized access into the system by outsiders (hackers)	2.0968	1.06244	10	Unsatisfactory
5	Your company AIS users in the Organization uses the same passwords	2.3145	1.10701	9	Unsatisfactory
6	Your company AIS experiences intentional destruction of data by employees of organization	2.3548	1.32022	8	Unsatisfactory
7	Your company AIS experience interception of data transmission from remote location	2.6855	1.14314	6	Undecided
8	Your company AIS help to detect fraud	3.6010	1.20131	2	Satisfactory
9	Your company AIS supported by COSO and familiar with new technologies such as AI, ERP and CRM	2.9541	1.05412	5	Undecided
10	Your company management team awareness towards internal control	3.1014	.95874	3	Undecided
	Mean	**2.9021**			**Undecided**

Note: These items were measured on a five-point Likert scale where 5=Strongly agree, 4=Agree, 3=Not sure, 2=Disagree, 1=Strongly disagree, indicating the degree to which individual scores by respondents are far from the mean.

The results presented in Table 4.4 above reveal the mean responses of items related to System Security Assessment in selected automobile companies. The findings indicate that the highest ranking was given to the question of whether the AIS accesses the online facilities of the company, with a mean of 4.1694 and a standard deviation of 1.07991, which is interpreted as satisfactory. Following closely behind, the question of whether AIS helps to detect fraud was ranked second under this construct, with a mean of 3.6010 and a standard deviation of 1.20131, also interpreted as satisfactory.

The company's management team's awareness towards internal control and their dedication was ranked third, with a mean of 3.1014 and a standard deviation of 0.95874, interpreted as undecided.

The question of whether AIS experiences system failure was ranked fourth, with a mean of 3.0502 and a standard deviation of 0.94380, also interpreted as undecided or moderate. The ranking for whether the company's AIS is supported by COSO and familiar with new technologies such as AI, ERP, and CRM was fifth, with a mean of 2.9541 and a standard deviation of 1.05412, interpreted as undecided. The item regarding whether AIS experiences data interception from remote areas was ranked sixth, with a mean of 2.6855 and a standard deviation of 1.14314, also interpreted as undecided or moderate.

In terms of unauthorized access into the system by employees of the organization, this was ranked seventh, with a mean of 2.3710 and a standard deviation of 1.18574, considered unsatisfactory. The intentional destruction of data by employees was ranked eighth, with a mean of 2.3548 and a standard deviation of 1.32022, also interpreted as unsatisfactory. The use of the same passwords by AIS users in the organization was ranked 9th, with a mean of 2.3145 and a standard deviation of 1.10701, interpreted as unsatisfactory. The lowest ranked concern was unauthorized access by outsiders (Hackers), with a mean of 2.0968 and a standard deviation of 1.06244, also interpreted as unsatisfactory. Overall, the general mean for system threats was 2.9021, indicating undecided level of concern while some aspects of system security assessment in these automobile companies are satisfactory, there are areas where improvement or further evaluation may be needed.

4.3.3) Descriptive statistics for organization effectiveness

Table 4.5: Organization effectiveness assessment in selected automobile companies

Ser. no.	Elements of Organization Effectiveness	Mean	Std.Dev	Rank	Interpretation
1	Your company has realized cost saving since it started using an AIS	3.9758	.86920	9	Satisfactory
2	Your company is able to generate automated reports since it started using AIS.	4.0242	.84067	6	Satisfactory
3	Your company realizes employee's knowledge and learning experts' skills since it started using AIS	3.9839	.76492	8	Satisfactory
4	Your company AIS realizes improves internal and external communication	4.0000	0.68669	7	Satisfactory
5	Your company achieves enhanced efficiency and capability in its operations since it started using AIS	4.2823	.66943	3	Very satisfactory
6	Your company AIS helps to improve organization effectiveness and enhance competitive advantage	4.3306	.64671	1	Very satisfactory
7	Your company achieves internal budgetary control since it started using an AIS	4.1855	.97419	5	Satisfactory

8	Your company achieve effective financial performance which improves customer service since it started using an AIS	4.2742	.062909	4	Very satisfactory
9	Your company achieves improvement in decision making since it started using an AIS	4.3145	.80007	2	Very satisfactory
	Mean	**4.106**			

Note: These items were measured on a five-point Likert scale where 5=Strongly agree, 4=Agree, 3=Not sure, 2=Disagree, 1=Strongly disagree, indicating the degree to which individual scores by respondents are far from the mean.

The data presented in Table 4.5 represents the mean responses of items related to organizational effectiveness. The results indicate that the aspect of achieving effectiveness within companies received the highest ranking, with a mean score of 4.3306 and a standard deviation of 0.64671, indicating a very satisfactory level of performance. This suggests that organizations are successfully meeting their objectives and goals. Furthermore, the data shows that the ability to improve decision-making and generate automated reports using an Accounting Information System (AIS) also received high rankings, with a mean score of 4.3145 and a standard deviation of 0.80007. This indicates that AIS information contributes to improved decision-making processes and efficiency, minimizing time wastage.

In terms of achieving efficiency, this aspect ranked third with a mean score of 4.2823 and a standard deviation of 0.66943, still considered very satisfactory. Financial performance ranked fourth with a mean score of 4.2742 and a standard deviation of 0.62909, also interpreted as very satisfactory. Other areas such as internal budgetary control, automated reporting, and communication effectiveness were also assessed, with varying levels of satisfaction reported. It is worth noting that the importance of skilled human resources in maximizing the benefits of an accounting information system was highlighted, as evidenced by the lower ranking of employee learning and expertise skills.

In conclusion, the data indicates a high level of organizational effectiveness, as evidenced by a mean score of 4.106. While the overall effectiveness of these automobile companies is indeed commendable

4.4) Inferential Statistics

Inferential statistics is a crucial concept in the realm of data analysis, as it enables researchers to make predictions and draw conclusions about a population based on a sample of data. This

statistical method empowers researchers to extrapolate their findings and make well-informed decisions. By utilizing inferential statistics, we can gauge the probability of an event happening and evaluate the credibility of our results. This tool is invaluable in deciphering intricate data and extracting valuable insights.

4.4.1) Correlation analyses

To examine the relationships between the independent variables (system quality, information quality, and system security) and the dependent variable (organizational effectiveness), correlation analyses are conducted. The goal is to determine the strength and direction of the association between these variables. Pearson's correlation analysis is utilized to provide this information, revealing the strength, significance, and direction of the bivariate relationships within the research (Sekaran, 2003). The correlation coefficient(r) is a statistical measure that quantifies the degree of association between two variables. It ranges from -1 to +1. A value of -1 represents a perfect negative correlation, +1 represents a perfect positive correlation, and 0 represents no correlation. It is crucial for the study to determine whether any relationships identified between the variables are statistically significant.

While the correlation coefficient (r) provides information on the strength of the correlation, it does not indicate statistical significance. The significance value, or p-value, is used to determine the statistical significance of the observed. The p-value is a measure the probability of obtaining the observed correlation coefficient (or a more extreme value) under the assumption that the null hypothesis is true. If the p-value is less than the chosen significance level (e.g., $\alpha = 0.05$), the researcher can conclude that the observed correlation is statistically significant, leading to the rejection of the null hypothesis. In social sciences research, a significance level of p=0.05 is commonly accepted. This shows that in 95 out of 100, there is a 5% chance of rejecting the null hypothesis when it is true. (Cavana, Delahaye, & Sekaran, 2001).

The correlation analysis results between the independent variables (system quality, information quality, and system security) and the dependent variable (organizational effectiveness) are presented in Tables 4.6-4.8 below. These results are then compared against the hypotheses formulated in this research study.

4.4.1.1 Relationship between System quality and Organizational effectiveness in selected automobile companies.

Table 4.6: Pearson Linear Coefficient Correlations (PLCC) - System quality assessment and organizational effectiveness in selected automobile companies

	System Quality Assessment	Organizational Effectiveness
System Quality Pearson assessment Correlation	1	.553**
Sig. (2-tailed)		.000
N	124	124
Organizational Effectiveness Pearson Correlation	.553**	1
Sig. (2-tailed)	.000	
N	124	

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

The results presented in Table 4.6 showcase the findings of a correlation analysis conducted between system quality assessment and organizational effectiveness within a sample of automobile companies. The correlation coefficient (r) of 0.553 indicates a strong positive linear relationship between system quality and organization effectiveness. This suggests that as one variable increases, the other variable tends to increase as well, and highlighting the strength of this linear relationship is strong. The p-value of 0.000 is lower than the chosen significance level of 0.05 (5%). This indicates that the observed correlation coefficient of 0.553 is statistically significant at the 5% level. With the p-value being less than the significance level ($0.000 < 0.05$), we can conclude that there is sufficient evidence to reject the null hypothesis. Hence, the results reveals that the hypothesis" Ho1: There is no significant relationship between the system quality of AIS and organizational effectiveness in the selected automobile companies" has been rejected. In essence, the interpretation of the results reveals a strong, statistically significant positive linear relationship between system quality and organization effectiveness. This is supported by the correlation coefficient of 0.553, indicating a strong relationship, and the statistical significance confirmed by the p-value being less than the chosen significance level of 0.05.

4.4.1.2 Relationship between Information quality and Organization Effectiveness in selected automobile companies

Table 4.7: Pearson Linear Coefficient Correlations (PLCC) - Information quality assessment and organization effectiveness in selected automobile companies

	Information Quality Assessment	Organizational Effectiveness
Information Quality Pearson assessment Correlation	1	.434**
Sig. (2-tailed)		.003
N	124	124
Organizational Effectiveness Pearson Correlation	.434**	1
Sig. (2-tailed)	.003	
N	124	

The analysis presented in Table 4.7 depict the correlation between Information Quality Assessment and Organizational Effectiveness within selected automobile companies. The findings indicate a significant positive relationship between the two variables, with a correlation coefficient (r) of 0.434 and a significance value of 0.003, which is lower than the standard level of 0.05. This correlation coefficient suggests a moderate positive linear relationship between Information Quality Assessment and Organizational Effectiveness. Essentially, as one variable increases, the other tends to increase as well, with a moderate strength in this linear relationship. This implies that Information Quality Assessment and Organizational Effectiveness move in the same direction. The rejection of the hypothesis "There is no significant relationship between the information quality of AIS and organizational effectiveness in the selected automobile companies" is supported by the significance value of 0.003 being less than 0. 05.

In conclusion, the results indicate a moderate, statistically significant positive linear relationship between Information Quality Assessment and Organizational Effectiveness. The correlation coefficient of 0.434 and the p-value below 0.05 further support the strength and significance of this relationship.

4.4.1.3 Relationship between System security and Organization Effectiveness in selected automobile companies

Table 4.8: Pearson Linear Coefficient Correlations (PLCC) – System security assessment and organizational effectiveness in selected automobile companies

	System Security Assessment	Organizational Effectiveness
System security Pearson assessment Correlation	1	.132**
Sig. (2-tailed)		.143
N	124	124
Organizational Effectiveness Pearson Correlation	.132**	1
Sig. (2-tailed)	.143	
N	124	

The findings presented in Table 4.8 reveals the results obtained from a correlation analysis conducted between system security assessment and organization effectiveness within a sample of automobile companies. The analysis indicates a weak relationship between system security assessment and organizational effectiveness in the selected automobile companies, with a correlation coefficient (r) of 0.132 and a significance value of 0.143, which is greater than the threshold of 0.05. This suggests that the system security and organizational effectiveness do not exhibit a strong relationship, as they move in the same direction significantly. The correlation coefficient of 0.132 signifies a weak positive linear relationship between system security and organizational effectiveness. This implies that an increase in one variable tends to correspond with an increase in the other, but the strength of this relationship is weak. The p-value of 0.143 further supports this, indicating that the observed correlation coefficient is not statistically significant at the 5% level.

Furthermore, the hypothesis 'Ho3: There is no significant relationship between the system security of AIS and organizational effectiveness in the selected automobile companies' has been accepted, as the significance value of 0.143 exceeds the standard level of significance of 0.05.

4.4.2) Regression analyses

Regression analysis is a statistical technique utilized to model and analyze the relationship between multiple independent variables and a dependent variable. It aids in estimating the impact of AIS variables, such as system quality, information quality, and system security, on organizational effectiveness.

The interpretation of coefficients in regression analysis can vary depending on the specific regression model used. In this study, we employed a multiple regression model, which incorporates more than one independent variable. The equation for a multiple regression model is as follows: $Y = \beta0 + \beta1X1 + \beta2X2 + \beta3X3 + \ldots + \beta nXn + \varepsilon t$. Here, Y represents the dependent variable (organizational effectiveness), X1, X2, ..., Xn represent the independent variables (AIS factors), β0 is the y-intercept (constant term), β1, β2, ..., βn are the coefficients of the independent variables, and εt denotes the model error. The coefficients in the regression model signify the average change in the dependent variable associated with a one-unit change in the corresponding independent variable.

4.4.2.1 The Impact of Accounting Information System on Organization Effectiveness in the Selected Automobile Companies

The purpose of this study was to assess the impact of accounting information systems on organizational effectiveness in specific automobile companies. In order to achieve this objective, regression analysis was employed to measure the overall impact of accounting information systems, including system quality, information quality, and system security, on organizational effectiveness. The significance level for testing the results was established at 0.05. The findings of the study are presented in the subsequent tables for further analysis.

Table 4.9 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.488a	.238	.219	.39624

a. Predictors: (Constant), System quality Assessment, Information Quality Assessment, System security Assessment

The table provides a model summary indicating that the coefficient of Adjusted R Square is 0.219, suggesting that 21.9% of the changes in the dependent variable, organizational effectiveness of selected automobile companies, can be explained by the independent variables (system quality, information quality, and system security) which constitute the Accounting Information System (AIS). The remaining 78.1% of the variance is attributed to other factors not accounted for in the model. This implies that there are additional variables influencing organizational effectiveness that have not been taken into consideration.

Table 4.10 ANOVAb

Model	Sum of Square	Df	Mean Square	F	Sig.v
Regression	5.894	3	1.965	12.543	.000a
Residual	18.841	120	.157		
Total	24.735	123			

a. Predictors: (Constant), System quality security Assessment, Information Quality Assessment, System security Assessment

b. Dependent Variable: Organization Effectiveness

ANOVA: Conduct an analysis of variance (ANOVA) to determine if there are significant differences in organizational effectiveness based on the levels of system quality, information quality, and system security. This will help identify the overall impact of these independent variables on organizational effectiveness. Interpreting the results of an ANOVA analysis involves the overall F-test evaluates whether there is a statistically significant difference between dependent and independent variable. If the p-value associated with the F-statistic is less than the chosen significance level (e.g., 0.05), it indicates that there is statistical evidence of a significant difference between them.

The analyses of variance table show the predictor (AIS variable) statistically and significantly predict the organization effectiveness as reflected (F = 12.513, sig. = 0.000). This is because the significance value (sig. value = 0.000 < 0.05). This implied that AIS significantly affect organizational performance. at the 5% significance level. F' ratio (12.543) is significant this indicate that accounting information system is potent factor in determining organizational effectiveness.

Table 4.11 Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.V
	B	Std.Error	Beta		
Constant	2.692	.326		8.245	.000
System Quality Assessments	.258	.052	.431	4.915	.000
Information Quality Assessments	.173	.069	.201	2.494	.014
System Security Assessments	-.033	.072	-.039	-.454	.651

a. Dependent Variable: Organizational Effectiveness

The findings presented in Table 4.11 demonstrate a strong relationship between system quality and organizational effectiveness (beta = 0.258, t = 4.915, sig. = 0.000). This suggests that a one-unit increase in system quality results in a 0.258 increase in organizational effectiveness. Additionally, the analysis indicates that information quality also plays a significant role in influencing organizational effectiveness (beta = 0.173, t = 2.494, sig. = 0.014). A one-unit change in information quality assessment leads to a 0.173 change in organizational effectiveness. Interestingly, the study shows that system security assessment does not have a notable impact on organizational effectiveness (beta = -0.033, t = -0.454, sig. = 0.651). In conclusion, the results suggest that the overall rate of organizational effectiveness, regardless of system quality, system security, and information quality, is 2.692.

CHAPTER FIVE

5) SUMMAEY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter provides a comprehensive overview of the key findings, conclusions, and recommendations from a study that investigated the correlation between accounting information systems and organizational effectiveness within specific automobile companies. It delves into the impact of system quality on organization effectiveness, the influence of information quality on organization effectiveness, and the effects of system threats on organization effectiveness.

5.1 Summary of Finding

The study was conducted with three primary objectives in mind. Firstly, to explore the potential relationship between system quality and organizational effectiveness within specific automobile companies. Secondly, to ascertain whether a correlation exists between information quality and organizational effectiveness. Thirdly, to investigate the relationship between system security and organizational effectiveness within the same companies. Lastly, to examine the potential impact of accounting information systems on organizational effectiveness within the selected automobile companies.

The findings of the study are as follows:

5.1.1 Relationship between System quality and Organizational effectiveness.

The study revealed that the unstandardized beta coefficient for system quality is 0.258. This means that for every one unit increase in system quality (AIS), organizational effectiveness will increase by 0.258 times. In simpler terms, this suggests that 25.8% of system quality, an independent variable, impacts organizational effectiveness. The remaining 74.2% is influenced by other factors. Moreover, the positive and significant relationship between the independent and dependent variables is evident. The significance value of 0.000 is less than 0.05, and the coefficient value is positive at 0.258. This indicates a strong correlation between system quality and organizational effectiveness in selected automobile companies.

In summary, the findings demonstrate a significant and positive relationship between system quality and organizational effectiveness in the selected automobile companies, as evidenced by a

correlation coefficient of 0.443 and a significance value of 0.000, which is less than 0.05. This suggests that improvements in system quality led to enhancements in organizational effectiveness. Consequently, the null hypothesis stating no significant relationship between system quality of AIS and organizational effectiveness in selected automobile companies is rejected.

5.1.2 Relationship between Information quality and Organizational effectiveness

Regarding the relationship between information quality and organizational effectiveness, the unstandardized beta coefficient for information quality is 0.173. This means that for every one unit increase in information quality (AIS), organizational effectiveness will increase by 0.173 times. In simpler terms, 17.3% of information quality, as an independent variable, impacts organizational effectiveness. The remaining 82.7% is influenced by other factors. Additionally, the positive and significant relationship between the independent and dependent variables is evident as the significance value (0.014) is less than 0.05, and the coefficient value is positive (0.173).

The study further revealed a significant positive correlation between information quality and organizational effectiveness within selected automobile companies. The findings indicate that information quality and organizational effectiveness are positively associated. The results also led to the rejection of the null hypothesis that there is no significant relationship between information quality of AIS and organizational effectiveness, given the significance value of 0.014 being less than 0.05, the standard level of significance.

5.1.3 Relationship between System security and Organizational effectiveness

The relationship between system security and organizational effectiveness was examined in this study. The unstandardized beta coefficient for system security was found to be -0.033. This means that for every one unit increase in system security (AIS), organizational effectiveness will decrease by 0.033 times. In other words, a 3.3% decrease in system security will have an adverse effect on organizational effectiveness. The relationship between the independent variable (system security) and the dependent variable (organizational effectiveness) was found to be negative and statistically insignificant. This is because the significance value (0.651) is higher than 0.05, and the coefficient value is negative (-0.033).

The study revealed a negative and insignificant relationship between system security and organizational effectiveness in selected automobile companies. This led to the acceptance of the

null hypothesis, indicating that there is no significant relationship between system security of AIS and organizational effectiveness.

5.1.4 Impact of accounting information system and organizational effectiveness

This study aims to assess the impact of accounting information systems on organizational effectiveness within the chosen automobile companies. The research revealed that the overall influence of AIS on organizational effectiveness was indeed significant. Specifically, the results indicated that accounting information systems (including system quality, information quality, and system security) accounted for 21.9% of the variance in organizational effectiveness (adjusted R square = 0.219). Furthermore, the findings demonstrated that both system quality and information quality assessments had a significant impact on organizational effectiveness, while system security did not show a significant effect. The overall organizational performance, regardless of system quality, system security, and information quality, was measured at 2.692.

In conclusion, this study highlights the crucial role that accounting information systems play in enhancing organizational effectiveness within the automobile industry.

5.2 Conclusion

The aim of this study was to investigate the correlation between accounting information systems and organizational effectiveness within a sample of automobile companies. The findings revealed a strong positive relationship between accounting information systems and organizational effectiveness. This suggests that when accounting information systems are utilized effectively, there is substantial evidence to support the notion that the overall effectiveness of automobile companies will improve significantly. To achieve this goal, three specific objectives were developed from the main research objectives. A correlation analysis was conducted, leading to several important conclusions.

The study's evidence led the researcher to conclude that there is a strong positive relationship between system quality and organizational effectiveness. This suggests that as system quality improves, so does organizational effectiveness. The notion that there is no significant relationship between system quality of AIS and organizational performance has been rejected.

Furthermore, the study found a significant positive relationship between information quality and organizational effectiveness. This indicates that information quality and organizational

effectiveness are closely linked. The hypothesis that there is no significant relationship between information quality of AIS and organizational effectiveness has been rejected.

Additionally, the study revealed an insignificant negative relationship between system security and organizational effectiveness. This supports the hypothesis that there is no significant relationship between system security of AIS and organizational effectiveness.

When considering the impact of an accounting information system on organizational effectiveness, it is evident that these systems play a crucial role in reliable, efficient, and fast data processing. They provide users with verifiable information and promote compliance. Additionally, accounting information systems offer secure data storage and retrieval capabilities. It is clear that AIS are essential for generating high-quality accounting information in a timely manner. They ensure that all levels of management receive sufficient, relevant, and accurate information to assess the company's past performance and plan for the future.

However, the positive effects of accounting information systems on the effectiveness of automobile companies can be hindered by system security issues. These include a lack of skilled professionals in the field, inadequate technology, and vulnerability to unauthorized access. Furthermore, the absence of Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), and support from the Committee of Sponsoring Organizations framework (COSO) can compromise the security of the internal control system.

5.3 Recommendation

After analyzing the findings, the researcher has identified several key recommendations for organizations to consider:

1. It is crucial to explore additional factors that impact organizational effectiveness beyond just the accounting information system. While the system plays a significant role, it only contributes to approximately 22% of overall effectiveness

2. Accounting information systems have demonstrated their accuracy and reliability, but a significant concern remains the requirement for skilled personnel to effectively operate them. It is crucial to provide comprehensive training for employees to guarantee the accuracy of data input, as the adage goes, "garbage in, garbage out." Additionally, managers must also receive training on

how to process, analyze, and interpret data using the system to obtain valuable information for making quick and informed decisions.

3. Organizations should carefully evaluate the benefits of investing in accounting information systems that are customized to fit the entire organizational structure and seamlessly integrated with all related departments. This strategic approach can prove to be more cost-effective in the long term, as it helps to minimize expenses associated with system maintenance. By opting for a unified system rather than implementing separate systems for each department, companies can streamline their operations and enhance overall efficiency.

4. Prior to implementing an accounting information system, management should budget for the costs associated with stable internet connectivity. System failures are often linked to poor internet stability, particularly for organizations utilizing online accounting systems.

5. Automobile companies are advised to regularly update their accounting information systems to align with the latest technological advancements. Staying current with technology is essential for maintaining efficiency and accuracy in financial operations.

6. It is imperative for automobile companies to prioritize the quality of financial data provided to both internal and external stakeholders. Consistent attention to data accuracy and transparency is essential for building trust and credibility within the organization and with external partners.

7) Moving forward, it is crucial to focus on system threats within a company based on the chosen AIS. Accountants and business owners must implement security measures such as anti-viruses, unauthorized access prevention, training, and fostering a culture of security to prevent attacks on the AIS that could result in data loss and compromised accounting information.

8) It is essential to have a well-structured AIS system in place before utilizing computerized accounting information systems.

9) The value of AIS in enhancing company efficiency and competitive advantage underscores the importance of prioritizing AIS applications for owners and managers

10)The accuracy, timeliness, and completeness of accounting information are vital for quality managerial decision-making and organizational effectiveness. Therefore, it is imperative to ensure these aspects are maintained at a high level.

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APPENDIX I: QUESTIONNAIRE

Dear Participant,

My name is Leykun Alagaw, and I am currently pursuing a graduate degree in the Accounting and Finance Master's program at Addis Ababa University. As part of my academic requirements, I am conducting a research study titled "Impact of Accounting Information Systems on Organizational Effectiveness of Automobile Companies." I have received approval from the university to proceed with this research.

I kindly request your participation in sharing your valuable experience and knowledge for this study. Rest assured that any information you provide will be kept confidential and used solely for the purpose of this research.

Please take a moment to respond to the questions below by ticking (√) the appropriate box. Your honesty is crucial in ensuring the accuracy of the study findings.

If you have any further inquiries or would like to receive the results of the study, please feel free to contact me via the following:

Mobile: 0911 88 70 68

Email: leykunalagaw@yahoo.com

Thank you for your participation and contribution to this research.

Warm regards,

Leykun Alagaw

SECTION A: DEMOGRAPHIC FEATURES

1. Name of the company

MONECO	☐	Nyala Motors S.C	☐
NMC	☐	Paul Ries and Sons (Ethiopia) Ltd.,	☐
Ethio-Nippon Technical Company Ltd.	☐		

2. Your department in the company

Finance ☐ IT ☐

Marketing and Sales ☐ Procurement ☐

3. How long have you been in this company (in terms of years)?

Up to 5 ☐ 6 – 10 ☐ 11 - 15 ☐ Over 15 ☐

4. Gender of the Respondent

Male ☐ Female ☐

SECTION B: SYSTEM QUALITY ASSESSMENT

Please evaluate the degree of your agreement with the following criterions for assessing system quality:

Key: 1=Strongly Disagree; 2=Disagree; 3=Not Sure; 4=Agree; 5=Strongly Agree

		1	2	3	4	5
Ser. no.	**System Quality Assessment**					
1	Your company AIS has safe data storage and retrieval					
2	Your company AIS has users' verifiability before accessing the system					
3	Your company AIS is user friendly/ understandable					
4	Your company AIS has technical efficiency which reduces programming error					
5	Your company AIS is compliance conscious					
6	Your company AIS is robust in data processing					
7	Your company AIS is cost effective					
8	Your company AIS is always updated or has a separate budget for renewals and maintenance.					
9	Your company AIS response time is fast					
10	Your company AIS are interconnects the reporting activities of different functional areas of our business					
11	Your company AIS align to organizational objectives					

SECTION C: INFORMATION QUALITY ASSESSMENT

Please respond to the following statements by indicating the extent to which you agree or disagree as per the given choices

Key: 1=Strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree; 5=Strongly Agree

		1	2	3	4	5
Ser. no.	**Information Quality Assessment**					
1	Your company AIS produce relevant information for decision making					
2	Your company AIS is effective enough to produce accurate information					
3	Your company AIS is produce complete and clear information					
4	Your company AIS produces comparable information					
5	Your company AIS is produce timely information					
6	Your company AIS protects sensitive information from unauthorized disclosure					
7	Your company AIS produce information that's is applied consistently from one period to another/reliable/					

SECTION D: SYSTEM SECURITY ASSESSMENT

Please evaluate the degree of your agreement with the following criterions for assessing system quality:

Key: 1=Strongly Disagree; 2=Disagree; 3=Not Sure; 4=Agree; 5=Strongly Agree

		1	2	3	4	5
Ser. no.	**System Security Assessment**					
1	Your company AIS often experience system failure					
2	Your company AIS is required user login to access the online facilities.					
3	Your company AIS experience unauthorized access into the system by employees of the organization					
4	Your company AIS experience unauthorized access into the system by outsiders (hackers)					
5	Your company AIS users in the Organization uses the same passwords					
6	Your company AIS experiences intentional destruction of data by employees of organization					
7	Your company AIS experience interception of data transmission from remote location					
8	Your company AIS help to detect fraud					

9	Your company AIS supported by COSO and familiar with new technologies such as AI, ERP and CRM					
10	Your company management team awareness towards internal control					

SECTION E: ORGANIZATION EFFECTIVNESS ASSESSMENT

Please respond to the following statements by indicating the extent to which you agree or disagree as per the given choices

Key: 1=Strongly Disagree; 2=Disagree; 3=Not Sure; 4=Agree; 5=Strongly Agree

		1	2	3	4	5
Ser. no.	**Organization Effectiveness Assessment**					
1	Your company has realized cost saving since it started using an AIS					
2	Your company is able to generate automated reports since it started using AIS.					
3	Your company realizes employee's knowledge and learning experts' skills since it started using AIS					
4	Your company AIS realizes improves internal and external communication					
5	Your company achieves enhanced efficiency and capability in its operations since it started using AIS					
6	Your company AIS helps to improve organization effectiveness and enhance competitive advantage					
7	Your company achieves internal budgetary control since it started using an AIS					
8	Your company achieve effective financial performance which improves customer service since it started using an AIS					
9	Your company achieves improvement in decision making since it started using an AIS					

THANK YOU FOR YOUR CORPORATION

APPENDIX 2

The list of members of automobile company association (VMIATSA)

Ser. No.	Name of the Company	Year of Established	Branch No.	Product Size	Tax payer status
1	AMCE	1970	….	2	6
2	Belay Ab Motors Plc	2006	1	3	7
3	BH Trading & Mfg.Plc				
4	Equatorial Business Group Plc	1993	6	8	5
5	Ethio-Nepon Tech. Co.Ltd.	1955	3	6	5
6	Kaleb Services F.H Plc	1996	------	6	11
7	Marathon Motor Engineering Plc	2008	1	4	3
8	MOENCO SC	1959	12	15	1
9	National Motors Corporation	1993	7	5	4
10	Nyala Motor SC	1973	5	5	2
11	ORBIS	1950	….	4	9
12	Paul Ries and Sons (Eth.Ltd.)	1885	4	5	4
13	Ries Engineering SC	1965	3	2	8
14	Tanna Engineering Plc	1950	…..	4	10
15	Ultimate Motor Plc	1997	2	3	13