



**ADDIS ABABA UNIVERSITY
COLLAGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF MANAGEMENT**

**THE EFFECT OF BUSINESS INTELLIGENCE ON
ORGANIZATIONAL PERFORMANCE: THE MEDIATING ROLE OF
ORGANIZATIONAL CHARACTERISTICS: IN THE CASE OF AWASH
BANK S.C.**

BY

ADUGNA BAYMOT

JUNE 2024

ADDIS ABABA, ETHIOPIA

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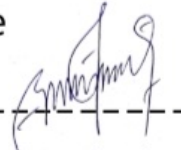
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DECLARATION

The undersigned, Adugna Baymot, hereby declares that the thesis, "*The Effect of Business Intelligence on Organizational Performance: The Mediating Role of Organizational Characteristics: in The Case of Awash Bank S.C.*" is her original work that she submitted to Addis Ababa University's Master of Art program in business administration. He hasn't submitted it for consideration for any other degree. All of the sources of the material used in this work, including fellowships with similar titles at other universities or institutions, have been duly recognized and notified.

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CERTIFICATION

This certifies that, under my supervision throughout the process, Mr. Adugna Baymot has satisfactorily finished his research project on the " *The Effect of Business Intelligence on Organizational Performance: The Mediating Role of Organizational Characteristics*: in The Case Of Awash Bank S.C.." This thesis is that he submits his work toward the requirement of partially fulfilling the requirements for the Master of Business Administration degree from Addis Ababa University in Addis Ababa.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of Variance
BI	Business Intelligence
BPM	Business Process Management
CEOs	Chief Executive officer
DW	Durbin-Watson
EPS	Earnings Per Share
ERP	Enterprise Resource Planning
ETB	Ethiopian Birr
IS	Information Technology
IT	Information System
KPI	Key Performance Indicator

MAS	Management Accounting Systems
NBE	National Bank of Ethiopia
RBV	Resource-Based View
S.C.	Share Company
SCB-	Standardized Coefficients Beta
SMEs	Small and Micro Enterprises
SPSS	Statistical Package for Social Sciences
USD	United State Dollar
VIF	Variance Inflation Factor

ABSTRACT

while financial performance is a crucial aspect of firm performance, which in turn is part of organizational performance, understanding each term helps in comprehending different facets of an organization's success and effectiveness. Thus, the goal of this research is to determine how business intelligence affects an organizational performance and the effect of between business intelligence and organizational performance through the mediating role of organizational characteristics. The study's statistical population comprises 406 employees and managers from Awash International Bank S.C. in Addis Ababa. The sample consists of 201 employees and managers of this bank. The data collection method used in this study was a questionnaire that was given out and collected utilizing a probability sampling strategy namely stratified, proportional random sampling methods. In addition, interview checklist was prepared to interview employees, managers and customers. SPSS 25 tool

was used to analyze the research data. Both descriptive and inferential analyses were applied in this work. Research findings and data analysis with correlation matrix and simple regression analysis show that business intelligence and organizational characteristic improve firm performance in banking industry. The results also demonstrate the mediating roles (organizational characteristic) that business intelligence and organizational performance. The findings show that highly improved business intelligence levels lead to improved firm performance through business intelligence. Maintaining viability and increasing firm profitability in today's fast-paced and competitive business environment requires managing and optimizing corporate performance. Effective company performance management will integrate organizational characteristic and business analytics to access performance.

Keywords: Bank, Business Intelligence, Organizational Characteristics, Organizational Performance

CHAPTER ONE

INTRODUCTION

This chapter covers the following topics: the study's introduction; the problem statement; its objectives; its significance; its scope; its constraints; its operational definition of important terminology; and its organization.

1.1 Background of the Study

Today's business organizations confront numerous challenges stemming from rapid environmental shifts, intense competition, and technological progress. These factors profoundly influence organizational workflows, necessitating the development of robust capabilities and resources to navigate these dynamics and sustain market position (Kingazi et al., 2020). Performance serves as the linchpin that ties together the efforts of employees within organizations, influenced by organizational practices and intertwined with market-level outcomes such as market share, competitiveness, employee satisfaction, and consumer satisfaction (Anwar & Abdullah, 2021).

Organizational performance can be defined as the ability of an organization to reach its goals and optimize results. In today's workforce, organizational performance can be defined as a company's ability to achieve goals in a state of constant change (Girard, 2016). Systems for business intelligence (BI) enable the analysis of business data to enhance organizational performance across a wide variety of company operations and help managerial decision-making (Caroline et al., 2022). They take advantage of the significant expenditures that companies have made in data infrastructure (such as ERP systems) (Kingazi et. al. 2020). Even while significant business investment in BI systems is still growing, no precise and rigorous approach exists to determine whether any commercial value has been realized (Anwar & Abdullah, 2021).

Kingazi et. al. (2020) realized a new metric based on an understanding of the properties of business intelligence (BI) systems within a process-oriented framework, taking advantage of the lessons gained from previous attempts to quantify the business value

of IT-intensive systems. So as that studies like Mohamed et al., (2008), Olszak (2016) and Mirjana et al., (2018) revealed that the impact of business intelligence to organizational performance using cluster analysis and indicated that solutions for business intelligence (BI) are becoming a crucial component of every organization's operations. Others like Rajnoha et al., (2016) and Rasmey and Raghul (2017) also found that BI as a key information and knowledge tool for strategic business performance management. Others have confirmed that business intelligence is an exploitation of organizational opportunities and the ability to quickly respond to organizational strategic resources and core competencies (Nafei, 2016; Rasoul & Mohammad, 2017).

Aval (2017) found that business intelligence can enhance organizational performance by clarifying work ethics, high predictability, and continuous improvement of performance. For a considerable while now, scholars and professionals have considered determining the information technology's (IT) contribution to the bottom line to be a significant difficulty (Anwar & Abdullah, 2021; Arokodare & Makinde, 2019). The distinctive characteristics of various information technologies, their diverse uses, and the ensuing qualitative and quantitative effects are some of the challenges (Ismail et al., 2018). Arokodare et al., (2019) also confirmed that there is a correlation and a positive effect of business intelligence on organizational performance through responsiveness, flexibility, fastness and feedback (Aljarrah et al., 2023).

Denning (2019) also assured that business intelligence is significant to realize organizational excellence. Further, Maharani (2018) underlined that business intelligence is critical to improve job performance and as a source of organizational competitive advantage. Business intelligence covers functions and tasks of data collection, processing and analysing a wide volume of them from internal systems and external resources (Nafei, 2016). Mohammed (2020) found that business intelligence has the capability to be positively influential on organization performance; Ameerhem study (2020) similarly found that it has the capability to be helpful for better financial performance. Moreover, Alnoukari (2020) decided that it helps to support operational performance among organizations and Dubey et al. (2020) also concluded that business intelligence greatly supports operational performance through positively influencing

supply chain management. This study investigated the mediating role of organizational characteristics on the effect of business intelligence on organizational performance in Awash Bank S.C in Addis Ababa.

1.2 Background of the Company

Awash Bank was established by 486 founding shareholders with a paid-up capital of birr 24.2 million and started banking operations on Feb. 13, 1995. Awash Bank reported a gross profit of 9.3 billion birr for the fiscal year 2021/2022. Awash Bank is among the largest private banks in Ethiopia, established in 1995 with a paid capital of ETB 24.2 million. As of now, Awash Bank has 4369 shareholders and a capital of ETB 5.87 billion. Awash Bank has over 800 branches across the country. Awash Bank has flourished over 28 years in a quickly evolving economy.

Awash Bank is a bank that has thrived for over 28 years in a rapidly evolving market and economy. Having grown from humble beginnings with visionary intent, Awash Bank first private bank in Ethiopia to exceed a billion in profit in the history of Ethiopian private banks in the financial year 2015/16. Since inception, it has expanded through a combination of substantial organic growth and enhanced customer service experience. It is a commercial bank that provides a diverse range of financial products and services to a wholesale, retail, and SME client base in the Ethiopian market and aspires to expand to other East African markets. Awash Bank focuses on delivering distinctive, profitable solutions to its clients in all core areas of commercial banking. Its strategic goals and objectives are based on the aspiration to be the core bank for our clients, deepening and broadening strategic relationships in the market. It is the number one bank for accessibility, innovative products, and diversity of customer-focused banking services (Awash Bank, 2022).

1.3 Statement of the Problem

Business Process Management (BPM) strives to enhance organizational performance, yet it frequently operates independently of Business Intelligence (BI) initiatives, which are designed to elevate overall performance (Caroline et al., 2022). Initial interviews

with officials from Ethiopian banks, including Awash Bank, highlighted significant environmental challenges, fierce competition, and evolving customer expectations. Despite efforts to increase market share and customer retention, Awash Bank's financial performance has shown sluggish growth in recent years (2016–2019), with operating income declining by 17% to Birr 1.3 billion primarily due to weakened foreign currency transactions (Awash Bank Annual Report, 2022).

The bank attributes this performance decline in part to its fragmented BI implementation approach, where BI is predominantly viewed as an IT project rather than a comprehensive business strategy. This fragmented deployment has led to disjointed efforts and insufficient collaboration across departments. The necessity for Awash Bank to conduct an environmental survey to gather strategic insights for achieving long-term goals was emphasized (Awash Bank, 2023).

Previous studies (Denning, 2019; Maharani, 2018) highlight the banking sector's struggle with issues such as inadequate awareness among bank leaders regarding the critical role of BI in enhancing organizational excellence and overall performance. Denning (2019) suggests that BI indirectly improves organizational performance, whereas Caroline et al. (2022) argue that BI directly supports decision-making and enhances service delivery. This contradictory finding underscores a gap in the literature regarding the direct versus indirect impacts of BI on organizational performance in similar contexts.

Despite growing research interest in BI's role in organizational performance, there remains a significant gap in understanding how organizational characteristics within specific sectors, such as banking, mediate BI's impact. Most studies focus on general outcomes without delving into the nuanced mechanisms through which BI influences performance in diverse organizational contexts. Moreover, there is scant literature addressing the unique challenges faced by banks in developing countries like Ethiopia, where technological adoption and market dynamics differ significantly from those in developed economies.

This study seeks to address these gaps by investigating how BI influences organizational performance through the mediating role of organizational characteristics within Awash

Bank, Ethiopia. By examining these dynamics, this research aims to provide insights that can inform strategic BI deployment strategies tailored to the specific needs and challenges of banking institutions in emerging markets.

1.4 Research Questions

The research attempted to answer the following questions: These were:

1. How does business intelligence in terms of customer intelligence, supplier relationship and internal efficiency affect organizational performance in the banking sector?
2. To what extent do organizational characteristics affect organizational performance in the banking sector, particularly in the Awash Bank context?
3. What is the mediation role of organizational characteristics on influencing business intelligence on organizational performance in the banking sector, particularly in the Awash Bank context?

1.5 General Objective of the Study

1.5.1 Main Objective of the Study

The general objective of the study is to investigate the mediation role of organizational characteristics on the effect of business intelligence on organizational performance in the banking sector, particularly in the Awash Bank context in Ethiopia.

1.5.2 Specific Objectives

More specifically, the research aims

1. To examine the effect of business intelligence in terms of customer intelligence, supplier relationship and internal efficiency on organizational performance in the banking sector
2. To investigate the effect of organizational characteristics on organizational performance in the banking sector, particularly in the Awash Bank context

3. To determine the effect of business intelligence on and organizational performance through the mediation role of organizational characteristics in the banking sector, particularly in the Awash Bank context

1.6 Significance of the Study

This study focuses on the impact of business intelligence on organizational characteristics and performance in the banking sector, specifically within Awash Bank in Ethiopia. The finding aims to help CEOs and managers allocate resources effectively to improve organizational characteristics, business intelligence, marketing strategies, relationship success, and customer retention. The study also highlights the importance of addressing barriers to adopting business intelligence and technology in other sectors to contribute to overall economic growth. It suggests using advanced business intelligence and technology to reach consumers effectively. This research adds valuable knowledge to the financial industry and provides a platform for further investigation into the relationship between organizational characteristics, performance, and technology in business firms.

1.7 Scope of the Study

The scope of the study was limited conceptually, geographically, and methodologically, which is described as follows. The geographical scope of the study was limited to only Awash Bank branch customers in the four districts of Addis Ababa city. Regarding the conceptual scope, the researcher forced to consider only the main factors, namely focusing on business intelligence, the mediation role organizational characteristics on its effect on organizational performance.

This study analysed the effects of business intelligence on organizational performance vi the role of organizational characteristics and within the surveyed bank using descriptive statistical techniques like frequency, percentage, mean, and standard deviation. It also summarized as well as describes the responses of the participants. The effect of business intelligence on organizational performance via the role of organizational characteristics and was analysed via inferential statistical techniques

such as correlation matrix and multiple linear regression analysis. A quantitative research approach was also used in order to gather the intended data from the sample population.

1.8 Organization of the Study

This study is organized into five chapters. Chapter one concerns the introduction, which includes background of the study; statement of the problem; general and specific objectives; research questions; significance of the study; scope of the study; limitations of the study; and organization of the study. It includes a literature review and it contains a review of existing literature written in the area of business intelligence and its effect on organizational performance via the role of the organizational characteristics and. Chapter three is about research methodology. It consists of research design, research approach, sources of data collection, methods of data collection, and data analysis. Chapters four and five present major findings, general conclusions, and possible recommendations for the problems that are drawn from the results of the data analysis, and final results, as well as further studies in the area, are discussed in Chapters four and five.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter is organized as theoretical literature, empirical literature research hypotheses, and the conceptual framework of the research. It also evaluates both theoretical and empirical studies of the effect of business intelligence on and organizational performance through the role of organizational characteristics. A literature review shows that several studies on this topic have been conducted in which each of them has looked over the subject of relationship quality from a special insight and has examined it in different aspects, and the following are some of them.

2.2 Review of Concepts and Theories

2.1.1 Concept and Definitions

2.1.1.1 Concept of Business Intelligence

Business intelligence (BI) is a methodical and technology-oriented approach utilized to

examine data and provide valuable insights that aid executives, managers, and employees in making well-informed business choices. This multifaceted process involves the gathering of data from both internal IT systems and external sources, followed by its meticulous preparation for analysis. Subsequently, queries are run against the data, leading to the creation of visually appealing data visualizations, BI dashboards, and comprehensive reports, all of which serve the purpose of making the analytical findings accessible to business users. These findings are then utilized to facilitate operational decision-making and strategic planning within organizations. The primary objective of business intelligence (BI) initiatives is to facilitate improved business decision-making, leading to increased revenue, enhanced operational efficiency, and a competitive edge over rival companies (Ghaida, 2018).

To accomplish this objective, BI integrates a range of tools for analytics, data management, and reporting, alongside diverse methodologies for data analysis and management. Now, let's delve into the intricacies of how the business intelligence process functions. A comprehensive business intelligence architecture encompasses more than just the software used for BI purposes. Typically, business intelligence data is stored in a data warehouse that is designed to cater to the needs of an entire organization. Alternatively, smaller data marts may also be utilized to house specific subsets of business information, tailored to individual departments and business units. These data marts often have connections to an enterprise data warehouse, ensuring seamless integration of data across the organization (Denning, 2019).

Moreover, the growing popularity of data lakes, which are built on Hadoop clusters or other big data systems, has provided an additional avenue for storing BI and analytics data. Data lakes are particularly useful for storing various types of unstructured or semi-structured data, such as log files, sensor data, and text. Business intelligence (BI) data comprises of historical records and real-time data collected from source systems as it is being generated. This comprehensive dataset empowers BI tools to aid in both strategic and tactical decision-making processes. Prior to being utilized in BI applications, raw data from diverse source systems typically needs to undergo integration, consolidation, and cleansing. This is achieved through the employment of data integration and data quality management tools, which guarantee that BI teams and business users are

examining precise and coherent information (Olszak, 2016).

2.1.1.2 Organizational Characteristics

Characteristics of an organization encompass a multitude of interpretations within the realm of management science. These interpretations can be categorized into three distinct meanings. Organization can be understood in different ways. In one sense, it refers to being well-organized or having the ability to effectively arrange things. In another sense, it refers to an entity or group made up of various interconnected parts, similar to an institution. Lastly, organization can also refer to the act of creating a function or task in order to organize something. In the realm of the science of society, which encompasses disciplines such as sociology and psychology, organization plays a significant role. It refers to the intentional and systematic grouping of individuals who, through a shared set of rules, conditions, and cooperative efforts, strive to achieve a specific objective (Scholl et al. 2018).

For an organization to function effectively, it is crucial that its members possess a clear understanding of the applicable rules and requirements. Additionally, fostering connections and cultivating positive relationships among the members within this social group is of utmost importance. In the traditional understanding of an organization, it is typically seen as a bureaucratic entity, characterized by certain key features. The concept of hierarchy is based on the idea that lower levels of an organization rely on higher levels for guidance, and the highest level holds authority over the entire organization. This hierarchy also involves the division of labor and tasks among members, with responsibilities being assigned vertically. Effective cooperation is facilitated by the exchange of information, ensuring that all members are on the same page. It is important for employees to inform their employers of relevant information, as this helps to maintain a smooth flow of information. However, individuals in middle-level positions may choose not to share certain information with those at lower levels to avoid complications or to maintain a sense of power (Olszak, 2016).

In this system, cooperation is limited, with different elements of a task being carried out separately and then brought together at the end. This helps to prevent various

individuals from having full knowledge of the overall goal of the task. Social groups, such as clubs, associations, and communities, are informal forms of organization that bring people together based on shared interests, beliefs, or goals. These groups often operate on a voluntary basis and provide a sense of belonging and support to their members. They can focus on activities such as sports, hobbies, advocacy, or cultural exchange, fostering social interaction and community engagement. One prevalent form of organization is the business entity, which encompasses various types such as sole proprietorships, partnerships, corporations, and cooperatives. These entities are established to generate profit by providing goods or services to meet consumer needs and wants. They employ a hierarchical structure, with managers overseeing different departments and employees working together to achieve the organization's objectives (Maharani, 2018).

The current forms of organization encompass a diverse range of structures and systems that serve various purposes in society. From businesses and governments to non-profit organizations, educational institutions, and social groups, these organizations play a crucial role in coordinating efforts, providing services, and addressing societal needs. As society continues to evolve, these forms of organization will likely continue to adapt and innovate to meet the ever-changing demands of the modern world. The existing forms of organization in today's society involve various structures and systems that help individuals and groups effectively coordinate their efforts and achieve their goals. These forms of organization have evolved over time and continue to adapt to the changing needs and demands of the modern world (Ghaida, 2018).

In summary, the tasks and goals of organizations encompass a broad spectrum of activities and objectives that are essential for their success. From defining their purpose and strategic planning to managing resources and stakeholders, organizations need to undertake various tasks to fulfil their goals and achieve sustainable growth. Another important task is strategic planning. Organizations need to develop a strategic plan that outlines their vision, goals, and objectives. This plan serves as a blueprint for the organization's future actions and helps in allocating resources effectively. It involves analysing the internal and external environment, identifying opportunities and threats, and formulating strategies to capitalize on the strengths and mitigate the weaknesses.

Lastly, organizations must continuously monitor and evaluate their performance to assess the progress towards their goals and make necessary adjustments. This involves collecting and analysing data, measuring key performance indicators, and conducting regular reviews and assessments (Scholl et al. 2018).

2.1.1.3 Organizational Performance

2.1.1.3.1 Definition of Organizational Performance

A new definition of organizational performance as organizational performance is a measure of how well companies are managed and the value they provide to their customers and stakeholders. This refers to an analysis of a company's performance in relation to its goals and objectives. Within corporate organizations, there are three main areas of focus when assessing performance: financial performance, market performance, and shareholder value performance. The measurement of organizational performance involves assessing various factors such as overall profitability, cost structure, and the satisfaction of buyers by sales representatives. Modern institutions have recognized the importance of effective contact management, which includes reducing overall costs and positively impacting profit margins (Anwar and Abdullah, 2021).

The primary objective of organizations is to generate profits, and in order to achieve this, they must perform well across all functions, including procurement. It is also confirmed that growth and profitability are distinct measures of performance. As the business landscape evolves, there is an increasing demand for employees to work in teams, collaborate on decision-making processes, and take initiatives to achieve their team and organizational goals. The presence of self-managed teams can have a significant impact on a firm's growth in two ways. Firstly, having a surplus of junior managers within a company can create a supportive environment for the dynamics of firm growth. The growth stage is often the most dynamic period in a firm's life cycle, with the expansion of the business leading to the addition of new levels of management. This, in turn, promotes team-based decision making and grants middle managers more authority, ultimately resulting in the proliferation of self-managed teams as the firm takes on more core projects and customers. Secondly, the involvement of employees in team

decision-making processes fosters commitment, participation, and a sense of attachment, indirectly influencing firm performance (Caroline et al., 2022).

2.1.1.3.2 Organizational Performance Measurement

Organizational performance can be measured in terms of several variables such as relevance, effectiveness, efficiency and financial viability. First of all, relevance will look at the degree to which the organization's shareholders think the corporation is applicable to their needs. On other hand, effectiveness is the degree to which the organization is up-and-coming in accomplishing its strategy, mission and vision. Moreover, efficiency is how well the organization utilizes its resources and financial viability is how viable the organization is both in the short and long term. Further, organizational Performance signifies to the extent to which an organization achieves a set of pre-defined targets that are unique to its mission. These targets will include both objective (numerical) and subjective (judgmental) indicators (Anwar and Abdullah, 2021). Organizational performance encompasses the actual outputs and results of an organization, which can be compared against its intended outputs, goals, and objectives. It encompasses three main areas: financial performance (such as return on investments and profits), shareholder return (including economic value added and total shareholder value), and product/service market performance (such as market share and sales) (Scholl et al. 2018). The concept of organizational performance is widely used in research on organizations today, but it is also one of the most ambiguous and loosely defined constructs. It can be challenging to measure organizational performance, especially when the factors that need to be measured are constantly changing. Small and medium-sized enterprises are increasingly focusing on improving their organizational performance. This refers to the actual results or output of an organization compared to its intended results or outputs. There are various ways to assess organizational performance in these types of businesses. It is suggested four possible measurements for small and medium-sized manufacturing firms: human resource outcomes, organizational outcomes, financial accounting outcomes, and capital market outcomes. It is argued that organizational performance encompasses three specific areas: financial performance, product market performance, and

shareholder return (Caroline et al., 2022).

2.1.2 Related Theories

2.1.2.1 Business Intelligent Theory -Economic School of Thought relates to BI

Based on these concepts and literature reviews, it is evident that BI draws on ideas from the Thematic School of game theory and information and uncertainty. Essentially, BI involves extracting information or private information within an organization using mathematical and methodological models for analysis. This information is then used to make decisions under conditions of uncertainty. However, this process requires the organization to allocate budget resources to collect, transform, and present meaningful data or information to the relevant departments for decision making, as emphasized by Rajnoha et al. (2016). Therefore, this aligns with the idea that diverse decision variables require diverse information, and that obtaining such information comes at a significant cost for the organization.

Taking a perspective from Game Theory, Rasmey and Raghul (2017) cited Radner (2011) who extended the framework of decision theory to formalize the theory of teams. Decision theory involves making choices in the face of uncertainty. In the context of multiple players with a common payoff, the core problem is making choices with only partial knowledge. Radner defines a decentralized organization as one with multiple decision makers, each responsible for different decision variables and making decisions based on different information. The organization's outcome depends on these decisions as well as stochastic environmental variables. Similarly, the concept of Business Intelligence (BI) aims to facilitate effective decision making within an organization. Relying on data or information from just one or two departments is insufficient for optimizing decision outcomes. Instead, gathering joint data or information from all relevant departments is crucial for making informed decisions. It is widely understood that competitive markets facilitate the efficient production and allocation of resources without the need for complete information exchange among economic agents (Radner). In fact, it is often assumed that economic agents enter markets with diverse, non-publicly available information, or at least information that comes at a significant cost.

The existence of information implies the presence of uncertainty, whether that uncertainty is probabilistic in nature or not.

It is further suggested that when traders have access to their own private sources of information or can acquire information at a cost; their strategic options differ greatly from those in a scenario where all information is public. Traders may be able to infer information from trade terms or observations of other traders' behaviour. Prices in the market directly reflect the underlying qualities of goods, with higher prices indicating higher quality (Rajnoha et al. 2016). Information is often considered a prime example of a "collective good" in economics. This means that in the marketplace, private incentives often lead to under-provision of information rather than over-provision. It is argued that information serves two crucial roles: it provides insight into the quality of goods one might consider acquiring, and it also reveals information about potential competitors, such as their preferences and the information they possess, thus indicating the level of competition one can expect to face (Rasmey and Raghul, 2017)

2.1.2.2 Organizational Characteristics and Performance Theory – Resource Based View

To prevent competitors from imitating a firm's resources and capabilities, four barriers are identified: durability, transparency, transferability, and reliability. These barriers make it difficult for competitors to replicate the advantages possessed by a firm. This theory is beneficial in understanding how firms actively exchange resources in their operations. In summary, the RBV provides insights into how firms can leverage their unique resources and capabilities to gain a competitive advantage. It also highlights the importance of understanding the different modes of management within a supply network context. The Resource-Based View (RBV) is a framework that focuses on identifying the sources of competitive advantage within an organization and analysing the structure of chains and industrial clusters. It emphasizes the importance of heterogeneous resources (such as financial, physical, human, technological, organizational, and reputational resources) and capabilities (which are combinations of two or more resources) in creating a firm's core competence and ultimately serving as its competitive advantage (Olszak, 2016). The RBV also examines the attributes that

contribute to the heterogeneity of resources and capabilities. Furthermore, the RBV suggests that there are different modes of management that coexist within a supply network context. These modes include influencing, controlling and monitoring, coordination, and integration. These different modes of management have an impact on the functioning of the supply network and can influence its overall effectiveness.

2.1.3 The relationship between Business Intelligence on Organizational Performance

The adoption of business intelligence (BI) is indispensable to nourishment the achievement of the organization's strategic objectives, the provision of higher quality information, and the re-engineering of the business process. The consequence of BI adoption eventually improved provision for decision-making, which has made BI a prevalent information technology (IT) innovation (Olszak, 2016). Personnel in different positions use numerous constituents of BI to access the organizational data and analyze the data to manage the organization. BI adoption helps improve the operations of the organizations effectively. BI can also help an organization explore fresh possibilities and redevelop its operations (Ghaida, 2018).

For that reason, the literature points out that many organizations used maturity models and critical success factors for BI adoption. As BI continues to evolve, and new instruments are continually emerging, many organizations continue to upgrade actively and employ on improving their information systems (IS) (Maharani, 2018). After much investment in establishing an IT innovation that promotes new business processes and enhances business structure effectiveness, most organizations have reached the stage where adopting new IT innovation to assist decision-making has become critical (Arokodare and Makinde, 2019). Perceived as a reaction to increasing demand for data, BI can maximize the use of data and thus enhance competitive advantages (Ghaida, 2018). BI distinguishes itself from other IT innovation from the perspective of organizational knowledge generation and the utilitarian view on IT innovation, through the power for initiation and debate of the issue, and through data choice, addressing the diverse information requirements of decision-makers at distinct stages. Such BI

capacities are strategic for organizations, where decision-making is seen by strategic management as a critical success factor (Rasmey and Raghul, 2017).

Hypothesis 1 – H₁ - Business intelligence has a positive and significant effect on organizational performance in the banking sector, particularly in the Awash Bank context

2.1.4 The relationship between Organizational Characteristics and Organizational Performance

Organizational objectives are not similar and the need for management accounting system is becoming very essential in the same way. Organizations or industries need to use resources in an effective and well-manageable way and it is important to know the exact needs of the industry and individual project (Ismail, Isa & Mia, 2018). Managers of manufacturing firms are facing huge amounts of complexities on a daily basis regarding hierarchical operational distribution and controlling those with expert hands to achieve the utmost business goals and objectives (Maharani, 2018). The economic growth of the nation is somehow connected with the manufacturing industries, which provide market for raw material from agriculture sector. Hence, the socio-economic environment of this region is found concerned about its future development. The management accounting system attribute information can be helpful in bringing about efficiency and effectiveness in its business process (Ismail et al., 2018). Organization characteristics can affect management resolutions and the marketing strategies implemented by a particular organization and therefore are significant for marketing strategies accomplishments which are eventually imitated in performance (Ghaida, 2018). Organizational culture shows the main purpose in modeling the behavior and performance of the firm through the shared efforts of individual members of the organization. Organizational performance is the capability of an organization to reach its objectives and enhance outcomes. In today's workforce, organizational performance can be well-defined as a company's capability to attain objectives in a state of constant change (Arokodare and Makinde, 2019).

Hypothesis 2 – H₂ - Organizational characteristics has a positive and significant effect on organizational performance in the banking sector, particularly in the Awash Bank context

2.1.5 The relationship between Business Intelligence on Organizational Performance via the mediation role of relationship of Organizational Characteristics

There is another issue with a great number of definitions; they tend to change after some time, in light of the fact that the way of what they consider changes. This is the situation with BI for instance. Initially, software business engaged with BI, BI used to be comprehended as private insight, rather than state or open knowledge. Even after many years, BI is still used by engineers and programmers (Solberg Søylen, 2015). BI is characterized as frameworks that gather, change, and present organized information from various sources lessening the required time to acquire significant business data and enable their efficiency use in management decision making process, permitting dynamic enterprise information look, recovery, examination, and clarification of the necessities of administrative choices (Rasmey and Raghul, 2017).

BI concentrates on gathering, process and present information concerning customers, contenders, the business sectors, technology, and products. It is depicted BI as a procedure that incorporates a series of activities, being driven by the particular data needs of decision makers and the objective of achieving competitive advantage. BI is a framework that transforms information into data and afterward into learning, consequently enhancing company's basic decision-making process (Arokodare and Makinde, 2019). BI is characterized as a framework which gathers, changes and shows organized information from various sources. BI is a system and an answer that helps decision makers to comprehend the economic circumstance of the firm (Ismail et al., 2018).

BI is termed to as a set of numerical and methodological models for examination utilized for extracting data and valuable information from raw information for utilizing confused basic leadership prepare (Maharani, 2018). Similarly, it is mentioned that —Business intelligence (BI) is a broad category of technologies, applications, and processes for

gathering, storing, accessing, and analyzing data to help its users make better decisions. We can upgrade the bits of knowledge gave by BI applications—particularly by utilizing information mining procedures, through simulation and modeling of real world under a "systems thinking" approach, enhancing forecasts, and adding to a superior comprehension of the business progression of any organization (Arokodare and Makinde, 2019). BI helps administrators by breaking down information from various resources in better basic leadership at both tactical and strategic level, for customary utilization, conventional data frameworks farewell, yet for hierarchical and functional planning; new tools are required for business analysis (Rasoul and Mohammad, 2016).

BI capacities are basic capacities that help organizations enhance both its adjustment to change and its execution. Many researchers state that failure in adopting BI in an organization because of an absence of fit between organizations' BI and its characteristics and objectives. An organization that has made progress with their BI usage have attempted to guarantee that their BI is steady with their corporate business targets and much research on BI achievement concentrates on the alignment amongst BI and business targets (Solberg, 2015). However, little is known about the part BI abilities play in accomplishing this objective. In-spite, the fact that there is a collection of research tending to BI abilities, it has remained to a great extent quiet on the part of BI capacities in accomplishing the important match amongst BI and the decision environment in which it is implemented. Nonetheless, numerous BI examples of overcoming adversity demonstrate the significance of utilizing BI with the essential abilities and for the correct purposes to make BI progress (Rasoul & Mohammad, 2016).

Additionally, management must ensure that job evaluations, compensation programs, and reward systems are modified on a basis that facilitate and reward customer orientation. After all, how people are measured will determine their behavior. As a result of technology advancement, a two-way customer relationship has profoundly changed the ways in which people relate to one another. It was pointed out that new tools for relating include everything from e-mail, web sites, blogs, cell phones, and video sharing to online communities and social networks, such as Facebook, YouTube, and Twitter. Actually, communication can be defined broadly as the formal as well as

informal sharing of meaningful and timely information between firms. A partner's perception that past communications from another party have been frequently and of high quality – i.e., relevant, timely, and reliable - will result in greater trust (Arokodare & Makinde, 2019).

Hypothesis 3 – H₃ - Business intelligence has a positive and significant on organizational performance through the mediation role of Organizational Characteristics in the banking sector, particularly in the Awash Bank context in Ethiopia

2.3 Review of Empirical Literature Review

Pancić, Dražen and Hrvoje (2023) revealed that business intelligence had a significant and direct influence on firm performance. Furthermore, the researchers found that business intelligence also had a positive and significant impact on the adoption of big data analytics and blockchain. This, in turn, led to improved firm performance. The adoption of big data analytics and blockchain technology was identified as a crucial mediating factor in the relationship between business intelligence and firm performance. It should be noted that these mediations were only partial. The growing popularity of business intelligence has created a pressing need to understand the drivers behind the adoption of big data analytics and blockchain and their subsequent effects on firm performance. This study sheds light on these connections and highlights the importance of exploring these factors in the context of business intelligence. In their 2023 study, Pancić, Dražen, and Hrvoje conducted an investigation into the impact of business intelligence on firm performance. Their model explored both the direct and indirect effects, with a particular focus on the mediating roles of the adoption of big data analytics and blockchain. To gather data for their analysis, the researchers collected information from a representative sample of 387 employees working in 12 Information technologies (IT) firms in Croatia. By utilizing structural equation modeling, the study aimed to uncover the relationships between these variables.

Aljarrah et al. (2023) investigated the influence of business intelligence on organizational excellence in banks in Jordan. The researchers developed a research

model to examine how the dimensions of business intelligence (response, flexibility, and speed) affect organizational excellence. Additionally, they explored the mediating role of organizational citizenship behavior in the relationship between business intelligence and organizational excellence. To collect data, the researchers utilized a questionnaire and distributed a total of 240 copies, out of which 183 were retrieved and used for analysis. Various statistical methods, such as Cronbach's alpha, normality test, standard deviation, exploratory factor analysis, confirmatory factor analysis, simple linear regression, and multiple regression, were employed to analyze the data using SPSS-V20 and AMOS-V23 software. The findings of the study indicated a significant impact of business intelligence dimensions on organizational excellence. Moreover, the results also revealed that organizational citizenship behavior plays a crucial role in enhancing the effect of business intelligence on organizational excellence.

The study by Kingazi et al. (2020) demonstrated the importance of organizational characteristics in shaping the attributes of Management Accounting Systems in manufacturing firms. The findings emphasized the positive impact of corporate strategy and staff qualification on decision-making capabilities, as well as the significance of organizational decentralization in expanding the scope of information provided by MAS. The study aimed to gain insights into the impact of various organizational characteristics, such as organizational structure decentralization, corporate strategy, and staff qualification, on different MAS attributes related to scope and integration of information. To explore these relationships, the researchers employed Contingency Theory as the theoretical framework. The findings of the study revealed a positive relationship between corporate strategy and MAS attributes of scope and integration information in manufacturing firms. Additionally, it was observed that staff qualification positively influenced the MAS attributes of scope and integration information. Furthermore, the results indicated a significant positive relationship between organizational decentralization and the MAS attribute of scope in manufacturing firms. However, no significant relationship was found between organizational structure (decentralization) and the MAS attribute of integration information. In a study conducted by Kingazi et al. (2020), the researchers investigated the connection between organizational characteristics and the attributes of Management Accounting Systems

(MAS) in manufacturing firms. The main focus of the study was to understand how MAS attributes contribute to the achievement of objectives in manufacturing firms by enhancing decision-making capabilities. The sample for this research was drawn from five regions in Tanzania, namely Tanga, Arusha, Kilimanjaro, Morogoro, and Dar es Salaam. These regions were chosen due to their reputation for having a well-established network of manufacturing distribution compared to other regions in the country.

In a study conducted by Caroline et al., (2022), the importance of organizational characteristics in the connection between marketing strategies and the performance of insurance companies in Kenya was established. The researchers based their study on the principles of Service Marketing Theory and Resource Based View (RBV) theory. The study involved a total of 51 insurance companies operating in Kenya. To collect data, the researchers used semi-structured questionnaires. The collected data was then analyzed using descriptive statistics and regression analyses. The findings of the study indicated that organizational characteristics play a significant role in moderating the relationship between marketing strategies and organizational performance. It was concluded that for an organization to enhance its performance, it is crucial to take into consideration the organizational characteristics and how they influence marketing strategies in comparison to competitors. Furthermore, the degree to which an organization achieves its performance goals serves as an indicator of the relationship between marketing strategies and organizational characteristics. By implementing distinct marketing strategies, an organization can outperform its competitors by efficiently and effectively reaching its target markets.

In a study conducted by Heba (2022), the focus was on examining how business intelligence (BI) and big data impact the overall performance of organizations. The research approach used was quantitative and positivist and data was gathered through the distribution of a questionnaire to a sample of 98 individuals consisting of general, executive, and operational managers from Jordanian organizations operating within Jordan during the fiscal year 2021-2022. To analyze the collected numerical data, the researcher relied on SPSS. The findings of the study revealed that the combination of business intelligence and big data played a significant role in enhancing decision-

making within organizations, enabling them to make timely and appropriate decisions. It was also confirmed that business intelligence had a considerable impact on improving overall organizational performance. This study is expected to be valuable for organizations that heavily rely on IT tools and generate substantial amounts of data, as it emphasizes the importance of utilizing BI and big data to enhance decision-making and ultimately improve performance. Moreover, it is anticipated that this study served as a foundation for future research in the academic and professional spheres, encouraging others to explore the management of big data in various contexts.

The impact of the level of business intelligence maturity on the organizational performance of companies was analyzed by Mirjana, Jurij, and Dalia (2018). Additionally, the researchers recognized the growing recognition among practitioners of the importance of organizational culture in the successful functioning of a company, and thus, the role of organizational culture was also taken into account in their research. To achieve the objectives of their study, a survey was conducted, collecting data through questionnaires from a sample of 177 Croatian and Slovenian companies. The collected data was then analyzed using cluster analysis, which identified two distinct clusters. The cross-tabulation analysis of these clusters revealed significant differences in terms of company turnover and dominant organizational culture. Business intelligence, as defined in the study, encompasses processes and systems that transform raw data into meaningful and valuable information, allowing for effective and purposeful analysis of an organization and its competitive environment.

In a study conducted by Rasmey and Raghul (2017), they examined the diverse ways in which organizations integrate and implement business intelligence (BI). They emphasized the importance of understanding the literature on BI, particularly in relation to the adaptation of BI applications, the role of BI architects, and the enabling factors in BI projects. Additionally, they explored the significance of technological capabilities such as user access, data quality, and the integration of BI with other systems within a company. They also highlighted the importance of organizational capabilities like flexibility and risk management support in achieving BI success, regardless of the decision environment. Furthermore, they delved into the foundation of

BI as a school of thought and how it has shaped the concept. Their findings revealed that BI results can provide valuable insights and input for organizations planning to implement BI applications. The ever-expanding market for BI is driven by the rapid growth of new technologies, which compels corporations to tailor their offerings to meet customer needs. Consequently, the adoption of BI systems has emerged as a crucial technological and organizational innovation in modern organizations, facilitating knowledge diffusion and serving as a fundamental component of business decision-making processes.

In a study conducted by Shamsul, Rakibul, and Yukun (2015), the researchers explored the relationship between organizational strategy, structure, process, and culture on organizational effectiveness. They also investigated the potential role of business intelligence (BI) systems as a mediator in this relationship. The data for this study were gathered from 225 organizational units located in Bangladesh. To analyze the data, the researchers utilized the Partial Least Squares (PLS) method, which is a statistical analysis technique based on Structural Equation Modeling (SEM). The findings of the study demonstrated that various organizational factors, including strategy, structure, process, and culture, had a positive influence on both the effectiveness of BI systems and overall organizational effectiveness. Additionally, the study revealed that the effectiveness of BI systems partially mediated the impact of organizational strategy, structure, process, and culture on organizational effectiveness.

A group of people named Mohamed, Philip and Michael (2008) created a new way to measure how valuable computer systems are for businesses. They studied how these systems work and found that they can help companies make better decisions. They also found that the relationship between how well a company's processes is working and how well the company is doing can be different depending on the type of industry the company is in. This study shows that we need to think about how these systems are used in each specific situation and do more research to understand how they can help businesses. Business intelligence systems can analyse information to help companies make better decisions. They use the big computer systems that companies have and can make a company's information more valuable. But right now, there isn't a good way to

measure how useful these systems are for businesses.

2.4 Research Gap

Previous studies conducted a study to examine the impact of business intelligence on firm performance and they showed that business intelligence directly influenced firm performance and also had a positive influence on various factors such as the adoption of big data analytics and blockchain. For example, Pancić et al., (2023) found that the adoption of these technologies partially mediated the relationship between business intelligence and firm performance. Similarly, Aljarrah et al. (2023) studied the effect of business intelligence on organizational excellence in banks. The results indicated that business intelligence dimensions had a significant impact on organizational excellence, and organizational citizenship behavior played a mediating role in enhancing this effect. Lastly, Kingazi et al. (2020) explored the relationship between organizational characteristics and Management Accounting System attributes in manufacturing firms. The study focused on how these attributes contribute to decision-making and achieving objectives. The sample was taken from five regions with a strong manufacturing presence. This shows that these studies ignored the characteristics of an organization that can impact the decisions made by management and the marketing strategies employed. These characteristics play a significant role in the success of marketing activities, which ultimately affects the overall performance of the organization. Effective leaders not only guide their teams towards achieving strategic goals, but also cultivate a culture of innovation, teamwork, and continuous improvement. They motivate employees to reach their full potential, navigate challenges, and seize new opportunities. Organizations utilize business intelligence (BI) to identify trends within the company and streamline various activities and services. BI enables organizations to make informed decisions, take measured actions, and implement efficient business processes. Thus, this study was involved in a detailed quantitative and qualitative description in terms of the bank's trust focusing on the effect of business intelligence on organizational performance via the mediation role of organizational characteristics in banking sector.

2.5 Review of Conceptual Framework

Based on the overall review of related literature, the following conceptual framework in which this specific study is governed has been developed. It consists of two independent variables (business intelligence and organizational characteristics) and a dependent variable for organizational performance.

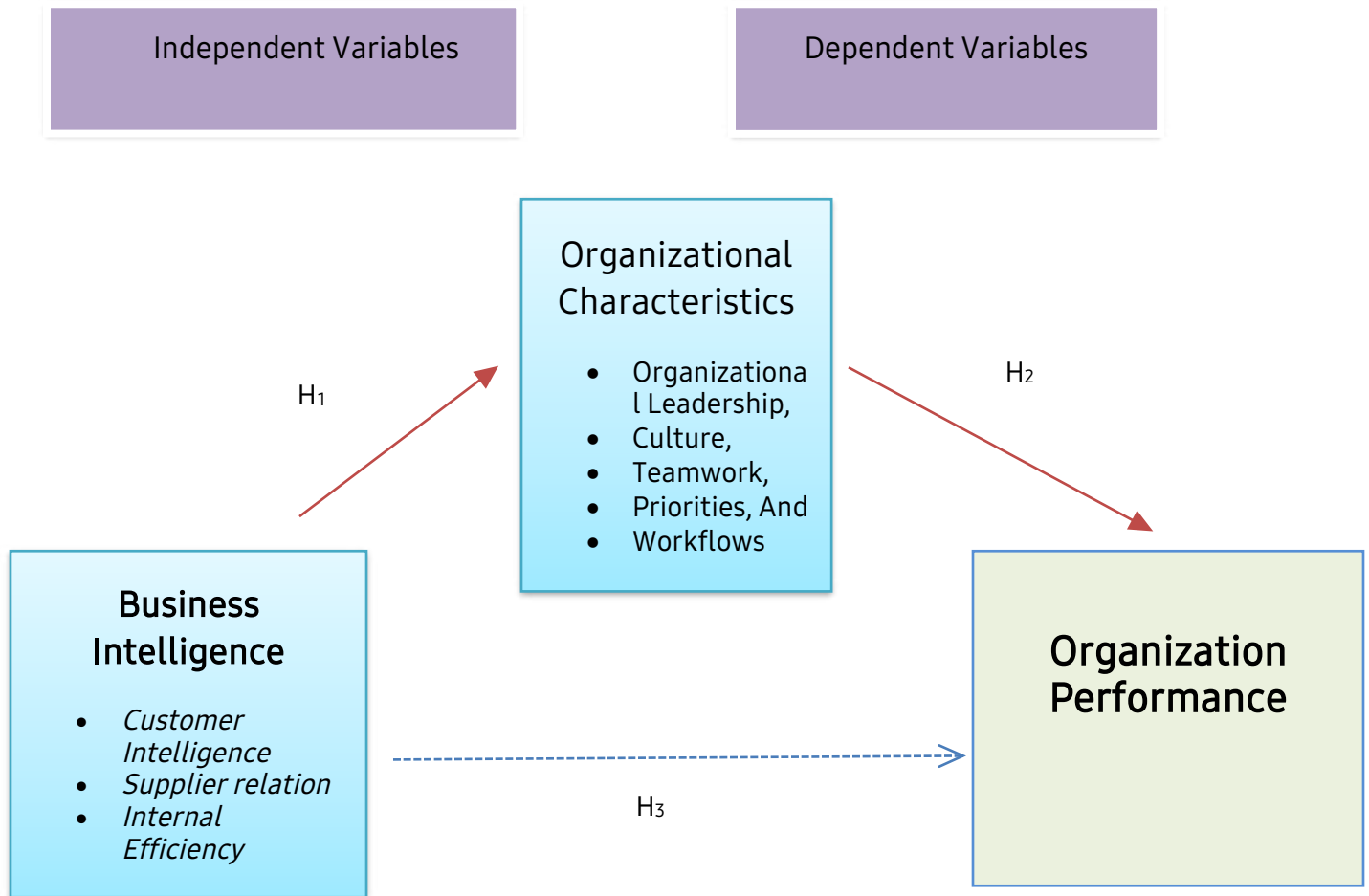


Figure 1 Conceptual Framework of the Study

Adapted from Mohamed et al. (2008) and Shamsul et al., (2015)

Business intelligence (BI) systems are used to analyze business information and support management decision making. They utilize the data infrastructure investments made by companies and have the potential to unlock the value of a company's data resources.

However, there is currently no specific and rigorous method to measure the actual business value of BI systems. Based on previous attempts to measure the business value of IT-intensive systems, Mohamed et al. (2008) developed a new measure that takes into account the characteristics of BI systems in a process-oriented framework. They used this measure to examine the relationship between business process performance and organizational performance, finding differences among industry sectors. Shamsul et al., (2015) determined the impact of organizational strategy, structure, process, and culture on the overall effectiveness of an organization. By examining the interplay between these elements, the researchers sought to gain a deeper understanding of how organizations can optimize their performance and leverage BI systems to enhance their effectiveness. The findings of the study showed that several factors within an organization, such as its strategy, structure, process, and culture, have a positive influence on the effectiveness of business intelligence (BI) systems as well as the overall effectiveness of the organization. Additionally, it was found that the effectiveness of BI systems partially acts as a mediator for the impact of organizational strategy, structure, process, and culture on the overall effectiveness of the organization. This study aims to explore the role of organizational characteristics and their relationship with organizational performance, reinforcing the importance of considering the specific context when designing performance measurement for IT-intensive systems. Further research is needed to understand the contextual factors that influence the realization of performance benefits. The conceptual framework for this study is based on a review of related literature. It includes two independent variables (business intelligence and organizational characteristics) and a dependent variable for organizational performance.

Hypothesis- H - Business intelligence has a positive and significant effect on organizational performance via the mediation of organizational characteristics and in the banking sector, particularly in the Awash Bank context

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter of the study presents the research method and approach along with its sampling and data analysis methods. It also presents its primary and secondary sources, data collection methods such as questionnaires and interviews, including ethical consideration and test instruments.

3.2 Description of the Study Area

The study was conducted in Addis Ababa, where the leading private commercial bank's headquarters are located. Ethiopia's capital and largest city is Addis Ababa. It is situated in the geographic center of the nation on a plateau that receives plenty of water and is encircled by hills and mountains. The Ethiopian state has only had Addis Ababa as its capital since the late 1800s. Addis Ababa is the tallest city in Africa, perched 2,355 meters above sea level at the base of Mount Entoto. With a population of roughly 6 to 5.5 million, it occupies an area of 527 square kilometers (Addis Ababa City Administration, 2024). In addition, the study was conducted around Arada and Kirkos Sub Cities. These sub cities are located around the northern and central parts of the city, and they encompass the selected north and west districts of the surveyed bank. These places are more densely and highly populated. These sub cities also widely recognized as the business hubs of the city as they are the center of Addis Ababa's economy and almost all the headquarters of the private and public sectors are located in this city. The city has in recent years seen a robust annual growth rate, and population counts as of 2017 are growing by more than five million (Source: Addis Ababa City Administration, 2023).

3.3 Research Approach

The researcher employed a mixed methodology and it employed explanatory sequential

design based on two stage design. First, it employed quantitative data was collected and analysed, and then qualitative data was collected and analysed based on the quantitative results. Mixed methods enable this study conceptually and analytically to integrate qualitative research and qualitative data (semi-structured) and quantitative methods of research to facilitate translation. This study used explanatory sequential design in which the study initially collected and analysed quantitative data and then follow the results up with a qualitative phase. Creswell (2014) stated that a quantitative approach is one in which the investigatory primarily uses postpositive claims for developing knowledge, employs strategies of inquiry such as experiments and surveys, and collects data on predetermined instruments that yield statistical data. Alternatively, a qualitative approach is one in which the inquirer often makes knowledge claims based primarily on constructivist perspectives or advocacy/participatory perspectives or both. Thus, the overriding consideration is how representative the target population is of the larger population in terms of certain characteristics.

3.4 Research Design

Generally, explanatory and descriptive research designs were employed in this study. This is because, according to descriptive research designs, they aim to answer research questions about the current state of affairs, identify factors and relationships among them, and create a detailed quantitative description of phenomena. Therefore, it provides a snapshot of the feelings, opinions, practices, thoughts, preferences, attitudes, or behaviours of a sample of people, as they exist at a given time and a given place. For example, measuring the attitudes of the employees in the organization toward adapting to new technologies is an example of a research question that can be carried out using descriptive survey research design (Creswell, 2014).

For the sake of describing and assessing the magnitude and degree of the existing relationship between the study variables, a correlational research design was employed. Therefore, correlational research involves collecting data from a sample of individuals or objects to determine the degree of the relationships between two or more variables, with the possibility of making predictions based on these relationships. This study also

used the most common statistical methods for prediction purposes, which are simple and multiple regression analyses. The significance of correlational research stems from the fact that many complex and sophisticated statistical analyses are based on correlational data. This study employed both descriptive and explanatory research design.

3.5 Sample Frame

Since the population of this study comprised of employees of the studied bank in Addis Ababa, their employee's data base or personnel profile data was collected from the selected districts' core banking data base. Therefore, the target employees was selected based on its full range of employee salary or payroll data base, considering the selected branches and head office to obtain the list of the employees based on 2023/24 personnel of the bank.

3.6 Population and Sampling Design

3.6.1 Target Population

The target population for this study is employees of all branches of Awash Bank found in Addis Ababa City. This study selected 406 employees of the bank who was involved in this study from top performed five branches, including the head office (Awash Bank, 2023/2024). These branches were selected based on their annual financial performance, customer base and operational activities in 2023.

3.6.2 Sample Size

The known sampling formula called Yamane's formula for calculating sample size was employed in this study. Yamane (1967) suggested simplified formula for calculation of sample size from a population which is an alternative to Cochran's formula. The formula to be used to calculate the sample size of the study is the statistical formula given by Yamane (1967) formula. Sample size for $\pm 5\%$ precision levels Where Confidence Level is 95% and $P=0.05$. For 406 sizes of population, the sample Size (n) for precision (e) of 5% was 201. The formula is presented below:

$$n = \frac{N}{1 + N(e)^2}$$

$$\frac{406}{1 + 406 (0.05)^2}$$

$$= 201$$

Where n = number of sample size and N = Total number of study population e= level of confidence to have in the data or degree of freedom which is 95% apply for this study with 5% error. Therefore, sample size of the study was 201 respondents of the surveyed organization or Awash Bank in Addis Ababa.

Table 1 Simple Size Determination

Branch Office	Employees Size	Proportional	Sample Size
Head Office	65	0.495074	32
Jemo and other similar Southern sites	121	0.495074	60
Stadium and Central Addis Ababa Sites	85	0.495074	42
Sidest Kilo and Northern Addis Ababa	61	0.495074	30
Sehalite Mihret and Eastern part of Addis Ababa	74	0.495074	37
Total	406		201

Source: Awash Bank and Survey Result, 2023/24

3.6.3 Sampling Techniques

The study was undertaken to examine effect of business intelligence on organizational performance through the mediation effect of organizational characteristics and in the banking sector, particularly in Awash Bank context in Ethiopia in selected five branches of the Bank of Awash, Central, North and South Addis Districts.

The sampling designs are basically of two types; these are non-probability sampling and probability sampling (Kothari, 2019). For the purpose of this study, the researcher employed on-probability sampling of purposeful sampling methods to select the sample from the available population. This district was chosen at random from among the 775 branches in the country based on their customer size, annual revenue, availability of various e-payment tools, and large physical layout. This district was chosen at random from among the 775 branches in the country based on their customer size, annual revenue, availability of various e-payment tools, and large physical layout. Among the selected 5 best branches of Awash Bank throughout Ethiopia, 5 branches from Addis Ababa – East, North, and West Addis District was selected for this study using randomly selected methods from the available population. The selection of the 5 branches was checked based on proximity to the data collection point and the willingness of branch managers to cooperate for data collection by liaising with customers at the counter.

In addition, this study employed the non-probability sampling technique of judgmental sampling because for the interview, personal choice is more important than selecting statistically because most of the managers are busy at work. Thus, it included fifteen (15) banking customer service experts and customer service managers from the selected branches of the surveyed bank for the interviews.

So, the researcher stratified based on the bank categories of each branch to select the most retained customers of branches for the purpose of determining facts and good information on the relationship marketing strategy of the surveyed bank based on the questionnaire. This bank customer of each branch was categorized as repetitive and higher transaction customers as well as the lowest graded customers. But for the purpose of the study, the researcher selected only high-transaction customers because these groups have a high number of years in operation, are highly retained in these branches, and have greater deposits. From the total sample population, the number of respondents to be included from each selected employees by stratified and random samplings. The group was decided based on the proportion of employees found at each group's branches, which is calculated from each branch of the selected group. Finally, to get the decided number of sample employees, the researcher employed the selected

respondents from each branch to ask them to fill out the questionnaire using the random sampling method.

3.7 Data Type and Source

The researcher employed mainly primary data. Primary data was collected via a semi-structured and structured questionnaire to get adequate and reliable information. The data types were also included both quantitative and qualitative. The other form of data collection was based on an interview-based on a structured interview to enable face-to-face discussion with the respondents. Data was collected through a field survey of bank employees of Awash Bank in selected Addis Ababa branches. In conducting this study, the researcher basically made use of primary data types for making analysis and interpretation of the study results.

3.8 Data Collection Instrument

The general objective of the study was to investigate the effect of business intelligence on and organizational performance through the role of organizational characteristics in the banking sector, particularly in the Awash Bank context in Ethiopia.

3.8.1 Questionnaire

The data collection instrument which was used in this study was close-ended five-point Likert-scale questionnaires to determine the perception of employees towards the bank's performance. The questionnaire (was attached Appendix I) consisted of two parts. The first part was the demographic profile, which helps the researcher to identify the participants' gender, age, educational background, monthly income, occupation, and length of their employment with the bank. The second part consisted of various items which helped the researcher to investigate each determinant factor that reflects the perception level of employees towards the bank's business intelligences practices and their level of performance to the bank. In the questionnaire items to be completed by the employees to measure the construct dimensions, which have been adopted from previous studies, it was adapted from Mohamed et al., (2008) for measuring business intelligence systems and organizational performance and Aljarrah et al., (2023) for

measuring organizational characteristics. The questions was prepared using a five-point Likert scale (Likert, 1932), such that scale 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. Respondents were asked to indicate their level of agreement or disagreement with each of the questions provided. A large number of researchers use this methodological instrument because it is relatively easy for respondents to use and responses on such a scale are likely to be reliable.

3.8.2 Interview Checklist

The particular procedures the researcher took during the interview process were outlined in the Interview Checklist, which was prepared for this study and linked in Appendix II. In this study, ten (10) individuals like experts, managers, and executives of the selected bank were interviewed for this study.

3.9 Data Collection Methods

Primary quantitative data was collected through self-administered five-point Likert-scale (Likert, 1932) questionnaires filled out by the existing employees of Awash Bank branches located in Addis Ababa. Using a rule of thumb, if a high rate of return is the main goal, then face-to-face or telephone surveys are the optimal choices, while mail surveys are the obvious choice when cost is an issue. The above table helps to understand the data collection method of this study. In general, each of these methods has its own advantages and disadvantages. The major consideration for the researcher in deciding on the form of survey administration is the response rate versus cost.

3.10 Data Collection Procedure

Prior to data collection, the researcher sought the consent of the business department at the university. The researcher further asked for clearance from the bank's human resource office to be allowed to collect the data. The research questionnaires were distributed to the various respondents by the researcher himself and two data collectors. The questionnaire was given to employees as they visit the service halls. They were required to fill it in and have the questionnaire retrieved before they leave the hall. This enhanced the response rate since there were no cases of unreturned

questionnaires.

3.11 Data Analysis Method

3.11.1 Data Entry

The data obtained from the survey was analyzed by using descriptive statistics and statistical package for social science (SPSS) version 25.0 software. Statistical Package for Social Sciences (SPSS), data analysis software, was used to analyze the quantitative data. The researcher employed organizational performance as the dependent variable and two independent variables.

3.11.2 Descriptive Analysis

Data analysis is a process used to make sense of the collected raw data. Descriptive statistics such as arithmetic mean, frequency distribution, standard deviation, and percentages was used to assess the demographic profile of the respondents to make the analysis more meaningful, clear, and easily interpretable. Descriptive statistics allow the researchers to present the data acquired in a structured, accurate, and summarized manner.

3.11.3 Inferential Analysis

Inferential analysis (multiple regression and correlation) was employed to analyze quantitative data obtained from the distributed questionnaire of factors affecting business intelligence on organizational performance via the mediation role of organizational characteristics and. The link between several independent or predictor variables and one dependent or criterion variable is typically explained using multiple regressions. A dependent variable is expressed as a function of the constant term, several independent variables, and their associated coefficients (Croswell, 204). Inferential statistical techniques was used to examine the effect of business intelligence on and organizational performance through the role of organizational characteristics in the context of Awash Bank S.C. and it was measured using p-values. 05 as the cut-off (the mean above 3 is counted as loyal and below 3 is considered disloyal).

3.11.4 Model Specification

3.11.4.1 Simple Regression to test the Effect of business intelligence on organization performance

The empirical model to be used in the study to test the effect of business intelligence on organization performance via the mediation role of organizational characteristics and was presented as follows: **For Hypothesis 1**

$$Y = \alpha + \beta_1 X_1 + e$$

Where:

Y = Organizational Performance

α = The constant

β_1 = Coefficients of independent variable Business Intelligence

e = error

For Hypothesis 2

$$Y = \alpha + \beta_2 X_2 + e$$

Where:

Y = Organizational Performance

α = The constant

β_2 = Coefficients of independent variable Organizational Characteristics

e = error

3.11.4.2 Mediation Role - Stepwise Regression Analysis

The study determined the influence of business intelligence as a moderating variable in the relationship between organization characteristics and organization performance through formulation of the following hypothesis;

For Hypothesis 3

H₃: Business Intelligence has positively and significantly effect on organizational performance through the mediation role of organizational characteristics.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_1 Z + e$$

Where:

Y = Organizational Performance

α = The constant

β_1, β_2 = Coefficients of independent variables

X₁ = Organizational Characteristics

X₁ Z = Business Intelligence and Organizational Characteristics (interaction)
(Mediation effect)

e = error

The hypothesis was tested through Stepwise regression analysis using two steps. The first step was involved testing the influence of organizational characteristics on performance. The second step was involved introduction of the interaction term through stepwise regression analysis. Regression results for the influence of business intelligence on performance via the role of organizational characteristics and was contained in Table.

3.12 Data Reliability and Validity

Reliability can be assessed by comparing different versions of the same measurement. While validity can be found by comparing the results to other relevant data or theory, and validity is about the accuracy of a measure. Reliability is about the consistency of a measure. Reliability and validity are concepts used to evaluate the quality of research. They indicate how well a method, technique or test measure something (Kothari, 2019)

3.12.1 Validity

Validity is the degree to which a measure accurately represents what it is supposed to. It is concerned with how well the concept is defined by the measure (Croswell, 2014).

Therefore, this study addressed using banking marketing experts and validity through the review of literature and adapting instruments developed by well-known authors, which was also used in the previous research.

A pretesting survey was conducted on 10 respondents prior to administering the questionnaire to the selected sample size. The pretesting was conducted to check if the questionnaire is clear, easy to understand, and straightforward to ensure that the respondents can answer the questions with no difficulty. Based on the feedback from the pilot survey, necessary changes were made to the questionnaire before being administered to the selected sample size.

3.12.2 Reliability

The researcher conducted a reliability test to measure the consistency of the study measurement for each item of construct using Cronbach's Alpha (1957) value. Reliability estimates the consistency of the measurement, or more simply, the degree to which an instrument measures the same way each time it is used under the same conditions with the same subjects. Kothari (2019) defines reliability as "consistency." "Consistency."

Table 2 reliability test for each variable using Cronbach's Alpha

Variables	Reliability Statistics	
	Cronbach's Alpha	N of Items
Business Intelligence	.788	13
Organizational Characteristics	.788	11
Organizational Performance Indicators	.878	10

Source: Survey Study, 2024

To ensure the robustness of the measurement tools used in this study, reliability tests were conducted using Cronbach's Alpha coefficient for each variable. The results indicate satisfactory internal consistency for all variables: Business Intelligence demonstrated a Cronbach's Alpha of .788 across 13 items, Organizational Characteristics also showed .788 reliability across 11 items, and Organizational Performance Indicators exhibited a higher reliability of .878 across 10 items. These findings confirm that the scales used to measure these constructs are reliable and

suitable for further analysis in exploring their relationships and impacts within the context of Awash Bank in Ethiopia. Cronbach's alpha coefficient is the most popular and commonly applicable technique to estimate reliability or internal consistency of assessments and questionnaires in the behavioral sciences.

3.13 Ethical Considerations

There was certain ethical protocol that must be followed by the researcher. The first was asked for explicit consent from the respondents. This ensured that their participation in the study is not out of their own desire. The researcher ensured that the respondents are aware of the objectives of the research and their contribution to its completion. Research is the collection of information and material that is provided to the researcher on the basis of trust and confidentiality, and it is vital that the participant's feelings, interests, and rights are protected at all times. The study adhered to the organization's policy in regards to any intellectual property rights. Regarding the privacy of the respondents, their responses were strictly confidential and will only be used for academic purposes. It would not be ethical to access some confidential documents of the organization. So, the organizations' code of ethics was taken into account without significantly compromising the findings of the study. Concerning references, all the materials and sources are properly acknowledged. One other ethical measure which was exercised by the researcher is treating the respondents with respect and courtesy. Following the above ethical considerations, the researcher motivated and induced the respondents to be at ease and more likely to give honest responses to the items of the questionnaire.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION AND DISCUSION

4.1 Introduction

The data presentation, analysis, and discussion portion of the study, which includes the research methodology and the demographic profile of the respondents, are presented in this chapter. The goal of the study's data collecting process was to gather information from staff members of Awash Bank, the top private commercial bank in Addis Ababa, Ethiopia, as was stated in the Methodology Chapter.

4.2 Response Rate

The details regarding the gathered data and the corresponding response ratings are shown and condensed in the section below.

Table 3 Response Rate by Branches

Distributed	Returned	Response rate
201	182	91%

Source: Survey Study, 2024

In order to guarantee that the sample was representative of the entire population of Awash banks' employees, it was important to include respondents from a cross-section of top private commercial banks. Out of the 201 employees who received surveys, 182 duly completed and returned them. Just 9% of the completed questionnaires were eliminated because they were from five bank branches that did not respond. This led to

the creation of a useful sample of completed surveys that was representative of a larger number of surveys that were sent out. The response rate in operations or data collection attempts was 91%. Regarding the personnel interview position, five branches took part in the survey, accounting for 83.3% of the total; two branch managers withdrew. This signified an 80% response rate, above the recommended 50% as suggested by Ghaida (2018). The demographic profile of the respondents, including gender, age, income, and other factors, is shown in the sections that follow, along with an analysis of their responses.

4.3 Respondents Profile

This part presents the respondents' profile about their education, gender, age, marital status, others to understand the potential and cooperative competency of the respondents to response about business intelligence, organizational characteristics and organizational performance in surveyed bank.

Table 4 Respondents Demography Characteristics

Variables (Category)		N	%
Gender	Female	88	48.4%
	Male	94	51.6%
Age (in years)	18-29	59	32.4%
	30-40	50	27.5%
	41-50	43	23.6%
	above 51	30	16.5%
Education	High school	8	4.4%
	Diploma	6	3.3%
	Degree	124	68.1%
	Masters Above	44	24.2%
Working Experience total with banking industry	1 – 3 years	0	0.0%
	4 – 7 years	94	51.6%
	8-10 years	33	18.1%
	11– 15years	37	20.3%
	above 16 years	18	9.9%
Working Experience with customers	Below 1 year	31	17.0%
	1-5 years	51	28.0%
	6-10 years	72	39.6%
	11-20 years	28	15.4%

	Above 20 years	0	0.0%
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Source: Survey Study, 2024

The above table depicts sampled respondents' demographic characteristics such as gender participation and age category. About demographic features, five questions were presented in order to describe the sample characteristics of the respondents: sex; age; level of education; and experience in years of operating the bank.

It is evident that there were more male respondents (94, 51.9%) in the final sample than female respondents (88, 51.6 %). This shows that there are comparatively more men than women working for banks. This is in line with the observation that there are often more men than women working at banks. As a result, the majority of respondents in the active age range belonged to both gender categories and had varying levels of schooling.

Furthermore, 27.5 percent of the respondents belonged to the modal age group of 30 to 40 years, which was followed by 23.6 percent of the sampled respondents in the age group of 41 to 50 years, 32.4 percent of the respondents in the age group of 18 to 29 years, and a small minority of participants—16.5 percent—were older than 51 years. Consequently, the majority of bank workers are comparatively young, mature people, a finding that is in line with the typical age range of bank workers.

In terms of the respondents' level of education, Table 3 indicates that only 6 (3.3 %) diploma holders were participated in this study that was the highest percentage (68.1 %) had degree (first degree) level of education, and 24.2 % had post graduate education qualifications. The majority of this research sampled participants them had a respectable educational background to know the bank sector in depth and it helped to collect data from these respondents.

The above table portrays that among 182 collected questionnaires conducted research on, 51.6% of them have worked in banking industry for 4 – 7 years, 18.1% for 8-10 years, 20.3% for 11– 15years and 9.9% for above 16 years. The above table portrays the majority of the respondents have experienced many times to work in the bank.

Regarding the priority of the respondents' employment at the bank, 17.0% of them had

worked there for less than a year, 28.0% for one to five years, 39.6% for six to ten years, and 15.4% for eleven to twenty years had worked directly with clients. As a result, it is assumed that they had excellent customer relations and were able to reply to the questionnaire and supply relevant data for the research. The majority of respondents' responses indicate that not only is the sampled bank the market leader in Ethiopian private banking, but it also has one of the most illustrious and well-known commercial banking relationship marketing strategies in the nation.

4.4 Level of Responses

The mean and standard deviation were used in the response analysis to display the different properties for the data sets. Descriptive statistics aid in this study by presenting the data in a more relevant manner that facilitates an easier understanding of the data. Anwar and Abdullah (2021) who studied in a similar location were the source of the study's means score rating, which was 4.51–5.00 excellent, 3.51-4.50 very good, 2.51-3.50 good or average or moderate, 1.51-2.50 fair, and 1.00–1.50 low.

4.4.1 The Current Practices of Business Intelligence

Table 5 Analysis of Practices of Business Intelligence

Items	N	Range	Mean	Std. Deviation
This company gathers information from multiple sources: Gather information from various client sources.	182	4	4.02	1.0085
This business leverages a combination of data provided by customers (e.g., customer surveys).	182	4	4.09	1.0074
This company has a high level of consumer involvement (e.g., chatbot discussions with the help desk).	182	4	4.03	1.0092
This film makes use of outside resources (such as social media).	182	4	4.05	1.0134
<i>Customer Intelligence</i>			4.05	
This bank interacts with suppliers in an efficient manner.	182	4	3.36	1.0034
This company bargains skilfully in banking sector.	182	4	3.55	1.0034
This bank has strong relationships with the vendors that offer services to businesses.	182	4	3.68	1.0338
This company has excellent supplier partnerships.	182	4	3.27	1.0117

	<i>Supplier relation</i>			3.47	
	This bank maximizes its service delivery or output while minimizing expense (extensively use of scarce resources).	182	4	3.58	1.0133
	This bank provides potential fixes to close the efficiency gap.	182	4	3.84	1.0187
	The capacity of my organization to evaluate current procedures and develop new ones.	182	4	3.77	1.0234
	The aim is to streamline and automate the work of its staff as much as possible.	182	4	3.78	1.0229
	Against an inefficient bank, which can drop to zero, this company attains a maximum value of one.	182	4	3.43	1.1272
	<i>Internal Efficiency</i>			3.68	
	Grand Mean				3.73

Source: Survey Study, 2024

The average grand rating (3.73) for banking Business intelligence was rated as very good. Additionally, one sample test result of itemized factors that showed larger than 0.05 is included in this table. Thus, it may be concluded that there is a substantial difference in the mean scores of all the latent variables. This suggests that respondents in the sample were more aware of the bank's extensive client targeting. It displays this bank has a good banking software, hardware, and best practices that make it possible to analyze important data. Business intelligence implementation has a lot to offer financial companies. As per one interviewee (E1)

This bank holds good Business intelligence technologies that will improve its banking workflow efficiency, automate repetitive procedures, and allocate resources optimally to streamline financial operations. They facilitate the identification of bottlenecks, the streamlining of procedures and the enhancement of overall efficiency by providing real-time insights into critical performance measures.

The process of converting unprocessed data into useful business insights is known as business intelligence (BI). It includes any method or instrument that helps leaders and organizations make better, data-driven decisions. According to research by Maharani (2018), 60–73% of an organization's data is not used for analytics. By standardizing, analyzing, and converting this unused data into reports, business intelligence solutions

help leaders better understand their operations, clients, and the industry at large. One manager indicated that this bank had somewhat ability to use this data is provided by an efficient business intelligence system, which enables management to keep an eye on and improve all aspects of a financial organization's operations. Several of these domains consist of:

- Evaluation and control of risks
- assisting with the planning and budgeting procedures
- estimating costs and forecasting sales
- Increasing the effectiveness of operations and resource distribution

This bank does not use it for the following

- streamlining procedures for regulatory compliance
- Recognizing and evaluating market patterns
- Evaluating the success of advertising campaigns
- Optimization and cost control
- Segmentation and customer insights

4.4.1.1 Customer Intelligence

The grand mean for customer intelligence 4.05 was rated as very good. This means this business collects data from a variety of sources: Collect data from different client sources. This company makes use of a variety of consumer-provided data (such as customer surveys).This business actively engages its customers (e.g., through chatbot conversations with the help desk).This movie uses external resources, like social media. Awash Bank utilize business intelligence to learn more about how customers interact with them through a variety of channels, such as ATMs, mobile apps, and internet banking. Customer experience and channel optimization strategies are informed by this data. These days, all financial organizations have to have superior business intelligence capabilities as a major competitive advantage. It expedites processes, improves customer comprehension, and converts raw data into insights that can be put to use. Business intelligence allows for data-driven decision-making, optimized operations, and proactive risk management (Pancić et al., 2023).

4.4.1.2 Supplier Relation

The degree of reactivity to banking supplier relationship had an average rating of 3.47, which is good. This table also includes one sample test result for itemized factors that demonstrated larger than 0.05. Therefore, it may be said that the mean scores of each latent variable deviate significantly from one another. As per one interviewee (E2)

There are two primary suppliers to this bank. The first consists of its depositors, who provide the main capital resource; the second group consists of its workers, who provide the labor resource. The threat posed by individual depositors is negligible due to consumer bargaining power.

This bank has effective interactions with its suppliers. This business is a skilled negotiator in the banking industry. Strong ties exist between this bank and the suppliers who provide services to companies. This business has great relationships with its suppliers. This bank has good practices to collect consumer data and deriving insights and it shows this bank has good practices of customer intelligence. Through customer intelligence, this bank somewhat learn about the wants, problems, buying habits, preferred goods, demographic information, and much more of their clientele. The "deep know-how of customer" obtained through several customer data components (transactional, social, and reference) is the main future of customer intelligence (Heba, 2022). By employing business intelligence for banking, they can obtain a great deal of information on specific customers from a variety of sources. They can provide personalized experiences based on the behavior, tastes, interests, and other traits of each individual client after transforming this raw data into smart understandings (Denning, 2019). Supplier relations are the interactions that take place between a company and its suppliers. It is the process of contacting, haggling, and building a relationship with the suppliers of goods and services to a company (Ghaida, 2018).

4.4.1.3 Internal Efficiency

According to Table 5, the average grand rating for internal efficiency (3.68) of the

responses was very good. Additionally, this table shows that one itemized variable sample test result showed larger than 0.05. As a result, it may be said that there is a significant difference in the mean scores of all hidden variables. This suggests that the bank is more adept in applying and maintaining the data of its clients. In terms of performance, customer service, and safety, it was also compared to other banks. Additionally, it suggests that this relationship marketing for bank banking is special or unique. This bank makes extensive use of limited resources to save costs while maximizing output or service delivery. This bank offers several solutions to reduce the disparity in efficiency. It also means this organization's ability to assess existing practices and create new ones. The goal is to automate and simplify the staff members' duties as much as feasible. This business achieves a maximum value of one in comparison to an inefficient bank, which can fall to zero.

Through the analysis of customers' spending habits, segmentation based on preferences, and comprehension of their online banking behavior, banks can employ automated machine learning as a beneficial tool to predict and provide suitable financial services. Banks can anticipate and identify customer requests and generate opportunities for more business by utilizing these consumer trends. Companies can use this consumer data to identify opportunities for upselling and cross-selling (Kingazi et al., 2020).

4.4.2 Organizational Characteristics

Table 6 Practices of Organizational Characteristics

Items	N	Range	Mean	Std. Deviation
Awash Bank employs enough employees to serve customers.	182	4	3.40	1.0308
Customers can quickly and easily transfer to another business if they need identical services or goods.	182	4	3.42	1.0292
In the industry that Awash Bank operates in, there is fierce competition among businesses.	182	4	3.49	1.0337

Awash Bank offers a wide range of substitute financial services that fulfil similar functions as those offered by other providers, but are distinct from one another.	182	4	3.97	1.1333
Awash Bank provides up-to-date banking information for kits users.	182	4	3.88	1.1351
It is crucial that this bank has quick access to information anytime customers need it.	182	4	3.87	1.1327
Awash Bank has to have access to accurate, timely, and trustworthy information.	182	4	3.98	1.1298
Awash Bank uses modern technology for banking operational services.	182	4	3.98	1.1270
Customers can use secure intermediaries to obtain banking operational services in Awash Bank S.C. without having to physically be present.	182	4	3.11	1.1730
Customers may access policies simply at Awash Bank S.C.	182	4	3.10	1.0770
Customers have the ability to make payments at Awash Bank S.C. via mobile devices or the internet.	182	4	3.32	1.0642
Grand Mean				3.59

Source: Survey Study, 2024

This study revealed that the mean average score for organizational characteristic was 3.59 and it also found that 3.40 as minimum itemized mean, 3.98 as maximum and below one standard deviation as per Table 6. This table also displays that one sample test result of itemized variables; which exhibited greater than 0.05. Therefore, it can be concluded that the mean scores for all latent variables are significantly different. This implies that sampled employees said there are adequate workers at Awash Bank to handle client needs. If customers require the same products or services, they can easily and swiftly switch to another company. Businesses in the industry that Awash Bank works in compete fiercely with one another. Awash Bank provides extensive arrays of alternative financial services that serve comparable purposes to those provided by other suppliers, but are unique in their own right. Users of kits can get the most recent

banking information from Awash Bank. This bank has to be able to quickly obtain information whenever its clients require it. Awash Bank has to have reliable, fast, and accurate information available to it. Modern technology is used by Awash Bank to provide operational banking services.

The bank had worse practices in some organizational qualities, such as clients being able to obtain policies at Awash Bank S.C. quite readily, as shown by the lowest mean, or mean below 3.50. Customers of Awash Bank S.C. can obtain banking operating services through secure intermediaries without having to be physically present. At Awash Bank S.C., customers utilise mobile devices or the internet in part to make payments. At Awash Bank, the staff is largely sufficient to meet customer needs. Customers migrate to another company rather quickly and easily if they need the same goods or services. Companies in the sector Awash Bank operates in face intense competition from one another.

One of the bank's best practices is that it must always have fast access to information that its customers need. Awash Bank provides users with the most up-to-date banking information. Awash Bank offers a wide range of alternative financial services that are distinctive in and of itself, but also fulfil similar functions as those offered by other providers. Awash Bank needs access to accurate, timely, and dependable information. Awash Bank uses contemporary technologies to deliver functional financial services. One of the Managers indicated that (M1)

The Chairperson, Vice Chairperson, Board of Members, and, in particular, the Sharia Advisory Committee comprise the leadership of Awash Bank at the board director level. The Office of the CEO, which consists of the CEO's executive assistant, a senior advisor, and the director of ethics and anti-corruption, is also included in Executive Management. Chief Internal Audit, S. Chief, Enterprise Risk and Communications Management, Chief, Legal Service Officer, Director, Customer Experience Directorate are also included in this level. The Chief Executive Officer is the highest ranking member of this body. The Directors of Planning and Business Intelligence and Research and Bank Modernization are present. Chief IFB Officer: consists of the

Directors of IFB Finance and Investment and Operation and Support.

A manager (M2) also evaluated the organizational characters, such as teamwork and leadership, as the primary strategy for the bank's success.

Thanks to the unwavering support, faith, and unwavering backing of our esteemed shareholders and all other stakeholders, Awash Bank was able to achieve yet another astounding outcome in each of the major banking operations during the year under review, demonstrating its leadership among the nation's private banks. Thanks to the diverse support it has received from all stakeholders, I believe this bank will continue to achieve its aim of placing among the top 10 banks in Africa in the years to come and keep onto its position as the leading private bank in the business.

An employee made the following statement: (E4)

But what really propels the Bank's overall success is the wise counsel of the Board of Directors, the CEO's cautious and well-coordinated quality leadership, the unwavering dedication and hard work of the Management Members, the enormous and selfless contribution of all Bank employees, and the community's overall outstanding efforts to maximize the Bank's wallet share—all of whom deserve an honorary recognition.

Its annual report for 2022/23 also indicated that (Page 17, 2022, 23), with everyone working together, our bank was able to go farther in the just concluded year to take advantage of all available business prospects in order to maintain its position as the industry leader. Some of our accomplishments and areas of strength that helped us to successfully establish ourselves as a top performer in the field included the total amount of commodities exported in the fiscal year 2022–2023 brought in USD 3.64 billion. 79% of the overall revenue from exports comes from agriculture, 11% from manufacturing, 6.9% from minerals, and 3% from other sources. Coffee continued to be the most valuable export good, bringing in about 1.3 billion dollars out of the total. Due to everyone's enormous efforts, the foreign currency that our bank generates from export operations as well as from other sources was \$1.49 billion, as opposed to \$1.24

billion at the same time previous year.

4.4.3 Organizational Performance

Table 7 Practices of Organizational Performance

Items	N	Range	Mean	Std. Deviation
Awash Bank has achieved higher Customers retention rate for the last three year.	182	4.00	3.7253	1.02252
Awash Bank has achieved higher sales growth rate for the last three year.	182	4.00	3.8077	1.08771
Awash bank has harvested higher profit for the last three year.	182	4.00	3.8516	1.00440
Awash Bank has achieved overall competitive position for the last three year.	182	4.00	4.0495	1.03564
Awash Bank has achieved has increased its revenue for the last three year.	182	4.00	3.5879	1.10673
Awash Bank has increased Market Share for the last three year.	182	4.00	3.4945	1.05331
Awash Bank has attracted more Customer Acquisition for the last three year.	182	4.00	3.6374	1.03544
Considering Awash Bank S.C., I am happy in its service delivery.	182	4.00	3.9560	1.03577
Within the corporation, internal conflict is incredibly rare.	182	4.00	3.6154	1.05360
The demands of the owners and shareholders can be satisfied by my business.	182	4.00	3.8187	1.09259
Grand Mean				3.75

Source: Survey Study, 2024

This study found that the grand mean score 3.375 that was rated as very good; the respondents were in difficult situation to agree on its organizational performance. Correspondingly, the standard deviation values were less than two which is a small

standard deviation and therefore suggests that respondents had similar opinions. This shows that this organization's performance relevant to corporation's goals. Over the past three years, Awash Bank has seen an increase in its customer retention rate. For the past three years, Awash Bank's revenue growth rate has increased. For the past three years, Awash Bank has made more money. For the past three years, Awash Bank has maintained an overall competitive position. Over the past three years, Awash Bank has seen an increase in revenue.

Over the past three years, Awash Bank has seen a gain in market share. The past three years have seen an increase in customer acquisition for Awash Bank. In light of Awash Bank S.C., respondents are pleased with the quality of its service. Internal strife in the company is extremely uncommon. Their company is able to meet the needs of the owners and shareholders. A manager (M1) also stated that

Awash Bank committed to the ongoing development of a safer and more robust bank that might provide investors with greater profits. The Bank has a history of providing investors with sizable returns, and over the last twelve years in particular, it has shown increase in income and earnings per share (EPS).

The effort to achieve such excellence is through the fundamental elements of the human resource management that is focusing on learning, quality, team work and reengineering which are driven by the way organization get things done and how they treat their people. This can be a challenging because of their various standards including sustainability, profitability, pleasing the group, and willingness to deal with environmental changes. This suggests that this company has built good organizational practices that help to shape job infrastructure that can provide maximum amount of information to employee, decentralize decision making, and motivate employees to attain organizational goals. It annual report for 2022/23 also indicated that (Page 27, 2022, 23),

To improve staff efficiency, foster a high-performance culture, and deliver exceptional customer service, the Bank has persisted in offering its employees role-specific, targeted, and general trainings.

Over 19,000 workers received nearly 287 distinct leadership and technical trainings from the Bank during the reporting period, at a total training cost of Birr 196.6 million. Furthermore, Awash Bank has maintained its ability to draw in and keep the top employees by offering competitive pay and a positive work atmosphere. As a result, the Bank hired almost 4,300 new employees, bringing its total workforce to 20,055 by the end of June 2023. The personnel of the Bank consists of a blend of youthful aspirants, seasoned executives, and specialists in their respective fields.

The lowest mean indicates that this firm struggles to minimize internal conflict and falls short of meeting the needs of its owners and shareholders. This suggests that additional organizational enhancement programs are required for this organization's hiring, training, remuneration, and performance management systems, plans, and guidelines. In the contemporary market economy, obstacles have arisen for all kinds of enterprises due to the growing global rivalry, customer focus, speed, and adaptability. Even Nevertheless, research is still needed to pinpoint exactly which organizational procedures are marginally associated with improved organizational performance. Strategic view, according to Denning (2019), is a planned pattern of organizational deployments and activities meant to help the company reach its objectives.

This bank has been chosen by Global Finance as Ethiopian Best Bank 2023 for the second time in a row because to its outstanding performance in deposits, loans and advancements, assets, profit, capital, branch network, client base expansion, product innovation, and digital banking activities. Its annual report for 2022/23 also indicated that (Page 17, 2022, 23),

In the fiscal year 2022–2023, the total value of commodities exported was USD 3.64 billion. 79% of the overall revenue from exports comes from agriculture, 11% from manufacturing, 6.9% from minerals, and 3% from other sources. Coffee continued to be the most valuable export good, bringing in about 1.3 billion dollars out of the total.

Thanks to everyone's amazing efforts, our bank's foreign currency generation from export business and other sources was USD 1.49 billion, compared to USD 1.24 billion during the same period last year.

4.5 Correlation Analysis

This study determined the relationships existed between businesses intelligent in terms of customer intelligence, supplier relation and internal efficiency and organizational characteristics as well as organizational performance.

Table 8 Correlation Analysis Test Result - N= 182

		Correlations					
		Customer Intelligence	Supplier relation	Internal Efficiency	Composite Business Intelligence	Organizational Characteristics	Organizational Performance
Customer Intelligence	Pearson Correlation	1	.495**	.297**	.969**	.392**	.557**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	182	182	182	182	182	182
Supplier relation	Pearson Correlation	.495**	1	.290**	.490**	.484**	.541**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	182	182	182	182	182	182
Internal Efficiency	Pearson Correlation	.297**	.290**	1	.279**	.474**	.553**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	182	182	182	182	182	182
Composite Business Intelligence	Pearson Correlation	.969**	.490**	.279**	1	.395**	.580**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	182	182	182	182	182	182
Organizational Characteristics	Pearson Correlation	.392**	.484**	.474**	.395**	1	.490**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	182	182	182	182	182	182
Organizational Performance	Pearson Correlation	.557**	.541**	.553**	.580**	.490**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	182	182	182	182	182	182

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

Source: Survey Study, 2024

It is apparent from the above table that this study tested the relationship between customer intelligence and organizational performance by means of correlational

analysis. A positive, medium and significant correlation was found between customer intelligence and organizational performance (0.557; .000; $P \leq 0.05$). This finding was line with this study of Maharani (2018) who found that it has positive relationship with organizational performance.

This study involved in testing the correlational analysis or the association between supplier relation and organizational performance. Consequently, strong evidence was found that there is a positive, substantial and significant association or relationship between supplier relation ($r=.541$; .000) and organizational performance in banking or service organization. As it was expected that the study of Mirjana et al., (2018) on the relationship between impact of it and organizational performance found similar result; it has positive relationship with organizational performance.

A positive correlation was found between internal efficiency and organizational performance, r (0.553; .000); $P \leq 0.05$; thus, the relationship is significant statistically. This was found as this study testing the correlational between internal efficiency and organizational performance. A comparison of other results, similar finding was found; for example, Pancić et al., (2023) found that it has positive relationship with organizational performance.

Business intelligence and organizational performance were found to positively correlate, r (0.580;.000); $P \leq 0.05$, indicating that the association is statistically significant. This was discovered during the investigation of its relationship to organizational performance. Similar findings were obtained when additional results were compared; Mirjana et al. (2018), for instance, discovered a favorable link with organizational performance.

Similarly, the results, as seen in the correlation table, it is apparent that there is a relation between organizational characteristics and organizational performance, r (0.490; .000; $P \leq 0.05$). In line with this study, Maharani (2018) found that organizational characteristics have positive relationship with organizational performance.

4.6 The Effect of Business Intelligence on Organizational Performance

The main objective of the research was to determine the effect of business intelligence

and on organisational performance through the role of organizational characteristics in leading private commercial banks in Ethiopia. Hypothesis three of the study sought to establish business intelligence has a positive and significant on organizational performance through the mediation role of Organizational Characteristics in the banking sector, particularly in the Awash Bank context in Ethiopia. This was conducted in four steps:

- The first step was to establish regression analysis of the individual variables and the dependent variable. Where the composite index of the independent variables businesses intelligent in terms of customer intelligence, supplier relation and internal efficiency were aggregated to form one composite variable.
- The second step involved establishment of regression analysis of composite of businesses intelligent and the mediator, organizational characteristics.
- The third step was the establishment of regression analysis of organizational characteristics and organizational performance.
- The fourth step was establishment of regression analysis of businesses intelligent, organizational characteristics, and organizational performance.

4.6.1 Effect of Business Intelligence on Organizational Performance

The first step was to establish regression analysis of the individual variables and composite of independent variables and the dependent variable.

Hypothesis 1 – H₁ - Business intelligence has a positive and significant effect on organizational Performance in the banking sector, particularly in the Awash Bank context

Table 9 Regression Analysis Test Result 1 - N= 182

Variables	B	Std. Error	SCB	t	Sig.	R Square	Adjusted R Square	DW	F
Composite Effect									
Business Intelligence	.843	.059	.728	14.229	.000	.529	.527	1.564	202.463

DW- Durbin-Watson SCB- Standardized Coefficients Beta

Source: Survey Study, 2024

Business Intelligence and Organizational Performance

Normality Test

In order to show that the distribution is normal and that the data has a suitable variance for use in further research, the current study used the descriptive statistic of Kurtosis and Skewness statistics computation. Kurtosis and Skewness are in the range of -2 and +2.

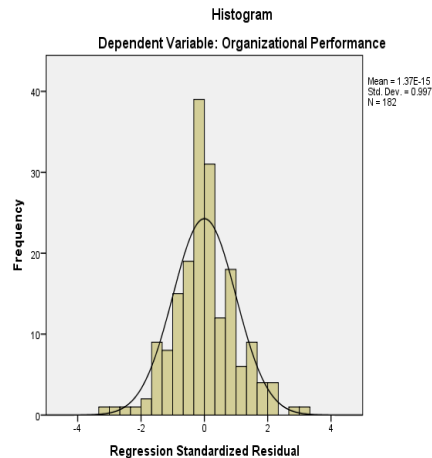


Figure 2 Histogram – Business Intelligence and Organizational performance

Source: Survey Study, 2024

The study determined that the significance in both tests was less than 0.05 based on the results of the histogram test for normality. This suggests that the data on the variables were normally distributed, which is a sign that the null hypothesis—that the data on all variables were not normally distributed—was rejected.

Test for Autocorrelation

If there is a natural sequence in the observations' time or space, the lack of independence is referred to as autocorrelation. The covariance between the error terms across time (or cross-sectional, for that sort of data) is assumed to be zero for the disturbance terms of multiple linear regressions (Rasoul and Mohammad, 2017). In this investigation, the widely used Durbin-Watson Test was utilized to determine whether autocorrelation was present. Since the residuals are uncorrelated, as indicated by the Durbin-Watson value of 1.564, the independence condition for this study is satisfied.

Model Summary

To assess how well a regression model fits the data (See Table 9), the first table primarily provides the R, R², modified R², and the standard error of the estimate. R can be viewed as one metric for evaluating how well the dependent variable—in this case, organizational performance—was predicted in this test. The value of R, or the multiple correlation coefficients, is shown in the "R" column. In this study, a number of .728 denotes a high degree of prediction accuracy. The study discovered that, with an R-squared of .529, its independent variables account for 52.9 %, or half, of the variability in its dependent variable, organizational performance (See Table 9).

Furthermore, factors other than the predictors listed in 47.1 % (100% - 52.9 %) of the variation is caused by this model. However, appropriately reporting the "Adjusted R Square" (adj. R²) data interpretation is also a crucial component. In this study, the predictors that should remain in the model account for 52.7 % of the variation in the outcome variable, as indicated by the coefficients table value of .527. A good model fit is shown by the minimal difference between R-squared and Adjusted R Square values; also, Adjusted R² is always less than or equal to R² (See Table 9 and Appendix III).

ANOVA

The overall fit of the regression model to the data is evaluated using the F-ratio in the ANOVA (Table 12). The table indicates that the dependent variable, $F(1, 180) = 202.463$, $p(.0001) < .05$, is statistically substantially predicted by the independent variables; in other words, the regression model fits the data well (See Table 9).

Statistical Significance of the Independent Variables

Every independent variable's statistical significance determines whether its standardized or unstandardized coefficients are equal to 0 (zero) in the population; that is, for every coefficient, a comparison between $H_a: \beta \neq 0$ and $H_0: \beta = 0$ is made. The coefficients are statistically substantially different from 0 (zero) if p is less than .05. These significance tests are useful in determining if each explanatory variable is necessary to include in the model in light of the presence of the others (Nafei, 2016).

The previous table makes it clear that correlational analysis was used in this study to examine the effect of customer intelligence on organizational performance. The results showed that business intelligence has a positive and significant effect on organizational performance ($B=.843, 0001; P < 0.05$). Additionally, investigation shows that there was a .843 increase in organizational performance for each extra effort business intelligence (See Table 9). This result was consistent with research by Dubey et al., (2020), which discovered that customer intelligence has a positive and significant effect on organizational performance. To test the attendance of autocorrelation, the widespread known testing mechanism namely Durbin-Watson Test as 1.564 that is between 1.5 to 2.5. This test was employed in this study to test the presence of autocorrelation. If the observations have a natural sequence in time or space, the lack of independence is called autocorrelation.

During the first stage, the constant (β_0) was non-significant at $\beta=0.843; p > 0.05$. This indicates that, under the same conditions, an increase of one unit in business intelligence would correspond to an increase of 0.843 units in organizational performance. This indicates a positive relationship between business intelligence and organizational performance. Business intelligence had a strong positive relationship with organizational performance at $p=0.00$.

4.6.2 Effect of Organizational characteristics on organizational performance

Hypothesis 2 – H_2 - Organizational characteristics has a positive and significant effect on organizational performance in the banking sector, particularly in the Awash Bank context

Table 10 Organizational characteristics and organizational performance

Variables	B	Std. Error	SCB	t	Sig.	R Square	Adjusted R Square	DW	F
Single Effect									
Organizational Characteristics	.438	.058	.490	7.535	.000	.240	.236	1.576	56.773

Source: Survey Study, 2024

The constant (β_0) was non-significant at $\beta=0.438$; $p >0.05$ at the first stage. This suggests that an increase of one organizational characteristics unit would translate into an increase of 0.438 organizational performance units under the same circumstances (See Table 10 and Appendix III). This suggests that organizational characteristics and organizational performance are positively correlated. At $p=0.00$, there was a significant positive correlation between organizational characteristics and organizational performance.

The previous table makes it clear that correlational analysis was used in this study to examine the effect of organizational characteristics on organizational performance. The results showed that organizational characteristics has a positive and significant effect on organizational performance ($B=.438$, 0001 ; $P < 0.05$). Additionally, investigation shows that there was a .438 increase in organizational performance for each extra effort organizational characteristics (See Table 10 and Appendix 10). This result was consistent with research by Caroline et al., (2022), which discovered that customer intelligence has a positive and significant effect on organizational performance. Clear objectives and goals, a well-defined structure and hierarchy, an effective labor division, formalized procedures, a strong organizational culture, efficient communication channels, flexibility, good resource management, and a dedication to accountability and continuous improvement are all characteristics of a well-functioning organization (Kingazi et l., et. al. 2020).

4.6.3 Effect of Business Intelligence on Organizational Performance through Organizational Characteristics as Mediating Factor

Hypothesis 3 – H₃ - Business intelligence has a positive and significant on organizational performance through the mediation role of Organizational Characteristics in the banking sector, particularly in the Awash Bank context in Ethiopia

Table 11 Business intelligence has a positive and significant on organizational performance through the mediation role of Organizational Characteristics

Variables	B	Std. Error	SCB	t	Sig.	R Square	Adjusted R Square	DW	F
Multiple Effect									
Business Intelligence	.442	.060	.458	7.377	.000	.417	.410	1.958	64.020
Organizational Characteristics	.276	.056	.309	4.972	.000				

Source: Survey Study, 2024

This section of this study include tests for multicollinearity, autocorrelation, normality, and the average value of the error term, all of which have been carried out in addition to the data collecting instrument. According to Olszak (2016), it accepts that the data was normally distributed and free of autocorrelation and multicollinearity issues.

Multicollinearity Test

According to Nafei (2016), a VIF more than 10 is grounds for concern, although the Variance inflation factor (VIF), which was assessed in every investigation, is not a reason for alarm. The basic premise is that there is no multi-collinearity (i.e., the error terms for distinct observations are uncorrelated); the variance in function of both variables was 1.185.

Normality Test

In order to show that the distribution is normal and that the data has a suitable variance for use in further research, the current study used the descriptive statistic of Kurtosis and Skewness statics computation. Kurtosis and Skewness are in the range of -2 and +2. The study determined that the significance in both tests was less than 0.05 based on the results of the histogram test for normality. This suggests that the data on the variables were normally distributed, which is a sign that the null hypothesis—that the data on all variables were not normally distributed—was rejected.

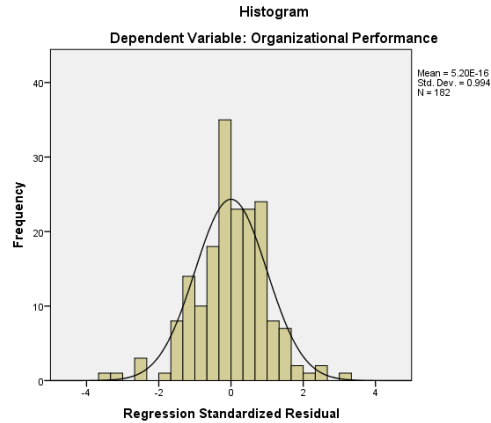


Figure 3 Histogram in mediation role of Organizational Characteristics

Survey result, 2024

Test for Autocorrelation

If there is a natural sequence in the observations' time or space, the lack of independence is referred to as autocorrelation. The covariance between the error terms across time (or cross-sectional, for that kind of data) is assumed to be zero for the disturbance terms of multiple linear regressions (Heba, 2022). In this investigation, the widely used Durbin-Watson Test was utilized to determine whether autocorrelation was present. Since the residuals are uncorrelated, as indicated by the Durbin-Watson value of 1.958 (See Table 11), the independence condition for this analysis is satisfied.

Model Summary

To assess how well a regression model fits the data, the first table primarily provides the R, R², modified R², and the standard error of the estimate. R might be viewed as one indicator of how well the dependent variable (in this case, customer loyalty) was predicted in this test. The value of R, or the multiple correlation coefficients, is shown in the "R" column. In this study, a number of .417 denotes a high degree of prediction accuracy. Customer satisfaction, the study's dependent variable, has a variability that is half, or 41.7 %, explained by the independent factors, according to the study's value of

.417. Furthermore, factors other than the predictors listed in 58.3 % (100% - 41.7 %) of the variation is caused by this model. However, appropriately reporting the "Adjusted R Square" (adj. R²) data interpretation is also a crucial component (See Table 11). In this study, the predictors that should remain in the model account for 41.0 % of the variation in the outcome variable, as indicated by the coefficients table value of .410. A good model fit is shown by the minimal difference between R-squared and Adjusted R Square values; also, Adjusted R² is always less than or equal to R² (See Table 14).

ANOVA

The F-ratio in the ANOVA tests whether the overall regression model is a good fit for the data. The table shows that the independent variables statistically significantly predict the dependent variable, $F(2, 179) = 64.020, p(.0001) < .05$ (i.e., the regression model is a good fit of the data) (See Table 11).

Statistical Significance of the Independent Variables

Based on the *t*-value and corresponding *p*-value are in the "t" and "Sig." columns (Table 14), respectively, in this study, the tests tell us that business intelligence ($b=.442$ and $\text{Sig.} = .0001, p(.0001) < 0.05$) is significant. Additionally, investigation shows that there was a .442 increase in organizational performance for each extra effort business intelligence (See Table 11). This implies that the explanatory variable in business intelligence is in the model, it has more adds a substantial contribution to explaining organizational performance. In line with this study, Kingazi et. al. (2020) perceived that it positively affecting organizational performance.

Considering the *t*-value and corresponding *p*-value are in the "t" and "Sig." columns (Table 14), respectively, in this study, the tests tell us that incorporating organizational characteristics ($b=.276; \text{Sig.} = .0001, p(.003) < 0.05$) is significant. Additionally, investigation shows that there was a .276 increase in organizational performance for each extra effort organizational characteristics (See Table 11). This shows that the explanatory variable in organizational characteristics is in the model, it has more adds a substantial contribution to explaining organizational performance. In line with this study, Denning (2019) found that it has a significant positive effect on organizational performance.

The role of mediating variable of Organizational Characteristics on the Effect of Business Intelligence on Organizational Performance

Table 12 Effect of Business Intelligence and Organizational Performance via Organizational Characteristics

Model	B	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F
Multiple Effect							
Business intelligence effect on organizational characteristics	.843	.529	.529	.527	.230	1.564	202.463
Organizational characteristics and organizational performance	.438	.490	.240	.610	.776	1.576	56.773
The mediation role of Organizational Characteristics							
Business intelligence	.442	.646	.417	.410	.681	1.958	64.020
Organizational characteristics	.276						
Change	-0.401	0.117	-0.112	-0.117	0.071	0.394	-138.44

Source: Survey Study, 2024

The findings summary above indicates that a 0.401 decrease in business intelligence is caused by the addition of the mediating variable in relation to the impact of the independent variable. There was an 11.7% rise in the relationship's strength (r square). R2 was 0.529 and $\beta=0.843$ when the independent variable's index was regressed against the dependent variable. The R2 increases to 0.646 when the independent variable's index is added while the mediating variable is still present. Regressing the dependent variable, mediator variable, and independent variable index results in a 0.646 R2 and a 0.442 β (business intelligence). In other words, the index β value decreases as the R2 value rises.

4.7 Discussions

Hypothesis 1 – H₁ - Business intelligence has a positive and significant effect on organizational performance in the banking sector, particularly in the Awash Bank

context

The constant (β_0) was non-significant at $\beta=0.843$; $p > 0.05$ at the first stage. This suggests that business intelligence and organizational performance are positively correlated. At $p=0.00$, there was a significant positive correlation between business intelligence and organizational performance. Adoption of business intelligence (BI) led to enhanced decision-making capabilities in the end, making BI a widely used information technology (IT) innovation (Olszak, 2016). Many BI components are used by employees in various roles to obtain corporate data and evaluate it for management purposes. Adoption of BI facilitates more efficient organizational processes. Additionally, BI can assist a company in redeveloping its operations and investigating new avenues (Ghaida, 2018).

Hypothesis 2 – H₂ - Organizational characteristics has a positive and significant effect on organizational performance in the banking sector, particularly in the Awash Bank context

At this stage, the constant (β_0) was non-significant at $\beta=0.438$; $p > 0.05$. According to this, in the same set of circumstances, an increase of one organizational characteristics unit would correspond to an increase of 0.438 organizational performance units. Similarly, the results show that there is a relationship between organizational performance and attributes, as indicated by the correlation table, where $r(0.490; .000; P \leq 0.05)$. According to Maharani's (2018) research, organizational performance and attributes have a favorable association. This shows a favorable correlation between organizational success and qualities. The relationship between organizational performance and attributes was significantly positive ($p=0.00$). Resources must be used by businesses or sectors in an efficient and well-managed manner, and it's critical to understand the particular requirements of each project and industry (Ismail, Isa & Mia, 2018). In order to accomplish the highest business goals and objectives, managers of manufacturing companies must deal with enormous amounts of complexity on a daily basis regarding hierarchical operational distribution and controlling those with professional hands (Maharani, 2018). Various business elements, including labor procedures, team and group connections, corporate culture and policy image, leadership, and climate that

fosters innovation, all contribute to the overall effectiveness of a firm. The capacity of an organization to maximize outcomes and accomplish its objectives is known as organizational performance. Organizational performance in today's workforce is the capacity of a business to meet objectives in an ever-changing environment (Kingazi et al., 2020).

Hypothesis 3 – H₃ - Business intelligence has a positive and significant on organizational performance through the mediation role of Organizational Characteristics in the banking sector, particularly in the Awash Bank context in Ethiopia

The analysis in this study indicates that business intelligence is important ($b=.843$ and $\text{Sig}=.0001$, $p(.0001)<0.05$). This suggests that business intelligence, the explanatory variable, is included in the model and contributes significantly to the explanation of organizational performance. The tests in this study indicate that incorporating organizational characteristics is significant ($b=.276$; $\text{Sig}=.0001$ $p(.0001)<0.05$). This demonstrates how the explanatory variable in the model contributes significantly to the explanation of organizational performance.

According to the findings of the study, the addition of the mediating variable results in a 0.401 drop in business intelligence relative to the influence of the independent variable. The strength of the link (r square) increased by 11.7%. Regressing the index of the independent variable against the dependent variable yielded $R^2 = 0.529$ and $\beta = 0.843$. When the index of the independent variable is added while the mediating variable remains constant, the R^2 rises to 0.646. A 0.646 R^2 and a 0.442 β are obtained by regressing the dependent variable, mediator variable, and independent variable index (business intelligence). Put otherwise, when the R^2 value increases, the index β value falls.

Denning (2019) observed that it significantly improves organizational performance, which is consistent with our study. According to Kingazi et al. (2020), this investigation supports their belief that it positively affecting organizational performance. BI is related to collect, transform, and display structured data from multiple sources. This reduces

the time needed to obtain important business data and makes it possible for managers to use it efficiently in decision-making processes. It also enables dynamic enterprise information retrieval, analysis, and clarification of the requirements for administrative decisions (Rasmey and Raghul, 2017). Business Intelligence (BI) focuses on obtaining, analyzing, and presenting data on clients, competitors, industry, technology, and goods. According to Arokodare and Makinde (2019), business intelligence (BI) is a framework that converts information into data and then into learning, improving a company's fundamental decision-making process.

There could be multiple bases to support the findings. One of an entity's primary competencies that allow it to maintain a competitive edge throughout time is its organizational characteristics. First, the descriptive results demonstrated that respondents gave high marks to claims about a skilled and professional staff, a variety of technologies, and a high degree of computerized processes or company operations (Ismail, Isa & Mia, 2018). The descriptive results are consistent with the resource-isolating mechanism's conclusions, which show that the examined commercial bank chose strategic fitness, accepted the use of technology in business operations, and consented to take advantage of business environment opportunities. It was noted that the organizational leadership, culture, teamwork, resources, priorities, and workflows is the source of organizational characteristics (Rasmey and Raghul, 2017). The second theoretical foundation is the Business Intelligent Theory, which posits that an entity's competitive advantage is derived from its individuals' ability to use cognition to solve problems and make decisions that are bolstered by goals, technology, and organizational structure (Kingazi et al., 2020). Business Intelligent shows a critical role in improving organizational effectiveness, affordability, and general performance by turning data into actionable intelligence, thereby facilitating a more informed and proactive approach to business management (Mirjana et al., 2018).

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The last chapter of the study, which is included in this section, includes a summary of the findings, a conclusion, and pertinent recommendations based on the study's findings.

5.2 Summary of Key Findings

With the use of an explanatory and descriptive research approach, this study discovered that

Hypothesis 1 – H₁ - Business intelligence has a positive and significant effect on organizational characteristics in the banking sector, particularly in the Awash Bank context

- At the first stage, the constant (β_0) was non-significant at $\beta=0.773$; $p > 0.05$. This shows a positive correlation between organizational success and business intelligence. Business intelligence and organizational performance showed a substantial positive connection at $p=0.00$.

Hypothesis 2 – H₂ - Organizational characteristics has a positive and significant effect on organizational performance in the banking sector, particularly in the Awash Bank context

- At $\beta=0.438$; $p > 0.05$, the constant (β_0) was not significant at this point. This means that an increase of one organizational characteristics unit would translate into an increase of 0.438 organizational performance units under the same set of conditions. Likewise, the correlation table, where $r (0.490; .000; P \leq 0.05)$, indicates a relationship between organizational performance and qualities based on the results. Attributes and organizational performance had a statistically

favorable link ($p=0.00$).

Hypothesis 3 – H₃ - Business intelligence has a positive and significant on organizational performance through the mediation role of Organizational Characteristics in the banking sector, particularly in the Awash Bank context in Ethiopia

- The findings of the study indicate that when the mediating variable is added, business intelligence decreases by 0.401 in comparison to the impact of the independent variable. The link's strength (measured by r square) rose by 11.7%. $R^2 = 0.529$ and $\beta = 0.843$ were obtained by regressing the independent variable's index against the dependent variable. The R^2 increases to 0.646 when the independent variable's index is introduced while the mediating variable stays unchanged. Regressing the dependent variable, mediator variable, and independent variable index yields a 0.646 R^2 and a 0.442 β (business intelligence). Put another way, the index β value decreases as the R^2 value rises.

5.3 Conclusions

The MacKinnon, Fairchild, and Fritz (2007) rule, which argues that if both the direct and mediated interactions are substantial, then there is evidence of mediation, is followed in order to determine whether or not there is mediation. The link is fully mediated by the mediating variable if, once the mediator is included in the model, the treatment coefficient is zero. On the other hand, the mediation effect is deemed partial if, following the adjustment for the mediator, the absolute magnitude of the direct effect between the independent and dependent variables is decreased.

In line with this guideline, the test results for hypothesis three demonstrated evidence of an organizational characteristic's partial mediating influence on the association between business intelligence and organizational performance. This suggested that H03 is not supported, and the study came to the conclusion that organizational characteristics derived determine how much business intelligence affects organizational performance.

Enhanced business performance: BI assists in locating inefficiencies, bottlenecks, and potential improvement areas for a company. Through data analysis and report generation, business intelligence (BI) helps firms improve efficiency, streamline operations, and boost overall performance. It concluded that business intelligence has a positive and significant effect on organizational characteristics in the banking sector, particularly in the context of Awash Bank.

It is a thorough assessment that determines whether you are doing the appropriate things as well as whether banks are doing things correctly. Individual workers, as well as groups, initiatives, workflows, and the organization as a whole, are the main subjects of organizational performance management. Consequently, this study concluded that in the banking industry, organizational characteristics have a favourable and substantial impact on organizational performance, especially when considering Awash Bank.

5.4 Recommendations

- This study suggests that the bank should assist stakeholders in assessing the health of their organization by informing them of potential improvements as well as problems. By keeping teams informed about key performance indicators (KPIs), business intelligence can also aid in team organization. This bank should appropriately gather, integrate, analyze, and present business information using its banking technologies, applications, and procedures. It entails a calculated process that converts unprocessed data into insightful knowledge that helps make wise business decisions.
- This study proposes that Awash Bank discuss its business plan with its team since it discovered that organizational features have a positive and significant impact on organizational success in the banking industry. Ensure that every employee has a thorough awareness of the company's business plan. It should also cultivate trust within the team. Workers need to understand that leaders and supervisors genuinely care about them as individuals and are invested in their success.
- It is recommended that this bank need to concentrate on building the firm's business intelligence and analytic-supported innovation capabilities in order to

successfully translate the use of analytics and business intelligence into improved firm performance. This bank should customize vendor-provided business intelligence software through better modification that has the potential to affect an organization's competitive advantage and efficacy over time.

5.5 Implications

For many businesses, business intelligence remained a major focus, and its benefits are drawing in an increasing number of supporters. Business intelligence systems, which facilitate tasks like data analysis, business performance monitoring, and managerial decision-making, ought to be widely implemented in enterprises now or in the process of being implemented. The current study's findings suggest that when business intelligence systems closely align with corporate strategy, structure, culture, and process, they are likely to improve organizational performance. Improved environmental fit, organizational resource alignment, and overall firm performance are all made possible by the impacts of these contextual organizational resources. The internal environment (efficiency) level is critical for the adoption of business intelligence systems, and while organizational and business intelligence systems effectiveness shows inadequacies in operational performance that occurred at the process level, the issue may actually be there. The pleasant atmosphere of business intelligence systems, which is made up of an ideal alignment of corporate strategy, structure, culture, and process, is illuminated by this study.

5.6 Direction for Future Studies

The current study can be repeated in the future on businesses that use different BI software from different business intelligence suppliers.

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APPENDIX

Appendix I: Questionnaire

Employees Study

(To be completed by Employees)

Dear Respondent,

My name is Adugna Baymot, and I am a postgraduate student at the College of Business and Economics Graduate Studies, Department of Management, Addis Ababa University. My research study on consumer behavior is titled "The Effects of Business Intelligence Systems on: Organizational Performance: The Mediation role of Organizational Characteristics in Awash Bank S.C., Ethiopia" This survey's objective is to collect data to

partially complete the Master of Business Administration degree requirements. As such, the researcher declares that the only reason this study is being done is for academic objectives.

You are kindly asked to complete this questionnaire as directed in order to aid with the study. This document includes private information that will not be disclosed to third parties.

I'm appreciative now.

With all due respect,

Adugna Baymot

Tel : +2519 47076030

Email: adugnabaymot@gmail.com

Section I: Inquiries Concerning Demographic Elements (Overall data)

Direction: Please tick (✓) the corresponding box.

Variables (Category)			
Gender	Female	<input type="checkbox"/>	
	Male	<input type="checkbox"/>	
Age (in years)	18-29	<input type="checkbox"/>	
	30-40	<input type="checkbox"/>	
	41-50	<input type="checkbox"/>	
	above 51	<input type="checkbox"/>	
Education	High school	<input type="checkbox"/>	

	Diploma	[]	
	Degree	[]	
	Masters Above	[]	
Working Experience total with banking industry	1 – 3 years	[]	
	4 – 7 years	[]	
	8-10 years	[]	
	11– 15years	[]	
	above 16 years	[]	
Working Experience with customers	Below 1 year	[]	
	1-5 years	[]	
	6-10 years	[]	
	11-20 years	[]	
	Above 20 years	[]	

Part-II: Questions Related to Main Study

1. How would you rank the business intelligence and other role in your bank services? Please check the appropriate box: 5-Very much or Strongly Agree (SD), 4- Agree or Very much (A), 3 -Moderate or Neutral (N), 2- Disagree or Limited (D), and 1-Strongly Disagree (SD) or none at all.

Code	Measurement Items	Measurement Scale				
		<i>SD</i>	<i>D</i>	<i>N</i>	<i>A</i>	<i>SA</i>
		1	2	3	4	5
Business Intelligence						
<i>Customer Intelligence</i>						
BI1	This company gathers information from multiple sources: Gather information from various client sources.					
BI2	This business leverages a combination of data provided					

	by customers (e.g., customer surveys).					
BI3	This company has a high level of consumer involvement (e.g., chatbot discussions with the help desk).					
BI 4	This film makes use of outside resources (such as social media).					
Supplier relation						
BI5	This bank interacts with suppliers in an efficient manner.					
BI6	This company bargains skilfully in banking sector.					
BI7	This bank has strong relationships with the vendors that offer services to businesses.					
BI8	This company has excellent supplier partnerships.					
Internal Efficiency						
BI9	This bank maximizes its service delivery or output while minimizing expense (extensively use of scarce resources).					
BI10	This bank provides potential fixes to close the efficiency gap.					
BI11	The capacity of my organization to evaluate current procedures and develop new ones.					
BI12	The aim is to streamline and automate the work of its staff as much as possible.					
BI13	Against an inefficient bank, which can drop to zero, this company attains a maximum value of one.					
Organizational Characteristics						
Size, Organizational Leadership, Culture, Teamwork, Resources, Priorities, and Workflows						
OC1	Awash Bank employs sufficient employees to serve customers.					
OC2	Customers can quickly and easily transfer to another business if they need identical services or goods.					
OC3	In the industry that Awash Bank operates in, there is fierce competition among businesses.					
OC4	Awash Bank offers a wide range of substitute financial					

	services that fulfil similar functions as those offered by other providers, but are distinct from one another.					
OC5	Awash Bank provides up-to-date banking information for kits users.					
OC6	It is crucial that this bank has quick access to information anytime customers need it.					
OC7	Awash Bank has to have access to accurate, timely, and trustworthy information.					
OC8	Awash Bank uses modern technology for banking operational services.					
OC9	Customers can use secure intermediaries to obtain banking operational services in Awash Bank S.C. without having to physically be present.					
OC10	Customers may access policies simply at Awash Bank S.C.					
OC11	Customers have the ability to make payments at Awash Bank S.C. via mobile devices or the internet.					

D. Organizational Performance Indicators

3 Please describe the following Awash Bank performance indicators in Awash Bank S.C.?

Please check the appropriate box: 5-Very much or Strongly Agree (SD), 4- Agree or Very much (A), 3-Moderate or Neutral (N), 2- Disagree or Limited (D), and 1-Strongly Disagree (SD) or none at all.

Code	Items	1	2	3	4	5
OP1	Awash Bank has achieved higher Customers retention rate for the last three year.					
OP2	Awash Bank has achieved higher sales growth rate for the last three year.					
OP3	Awash bank has harvested higher profit for the last three year.					

OP4	Awash Bank has achieved overall competitive position for the last three year.					
OP5	Awash Bank has achieved its revenue for the last three year.					
OP6	Awash Bank has increased Market Share for the last three year.					
OP7	Awash Bank has attracted more Customer Acquisition for the last three year.					
OP8	Considering Awash Bank S.C., customers are happy in its service delivery.					
OP9	Within the corporation, internal conflict is incredibly rare.					
OP10	The demands of the owners and shareholders can be satisfied by my business.					

THANK YOU FOR YOUR COOPERATION!

Appendix II: Interview Check List

1. How does Awash Bank portray the relative likelihood that a consumer may switch from another bank provider in its business intelligence system? What is the effect of business intelligence system on organizational characteristics?

2. What impact does organizational characteristic affect organizational performance, in your opinion or that of Awash Bank customers?

3. In your opinion, what makes organizational traits— organizational leadership, culture, teamwork, resources, priorities, and workflows—applied in Awash Bank or its practices?

4. Could you explain how you have seen the impact of business intelligence on organizational performance via the mediation role of organizational features in banking sector?

. . . Thank you; Once again, I'm grateful!

Appendix III : Regression Results Customer Intelligence and Organizational Performance

Table 13 Regression Analysis Test Result 1 - N= 182

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.557 ^a	.310	.306	.739	2.021

a. Predictors: (Constant), Customer Intelligence

b. Dependent Variable: Organizational Performance

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	44.210	1	44.210	80.957	.000 ^b
	Residual	98.297	180	.546		
	Total	142.506	181			

a. Dependent Variable: Organizational Performance

b. Predictors: (Constant), Customer Intelligence

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
		1	(Constant)	1.965		
	Customer Intelligence	.521	.058	.557	8.998	.000

a. Dependent Variable: Organizational Performance

Source: Survey Study, 2024

In the first stage, the constant (β_0) was non-significant at $\beta=0.521$; $p > 0.05$, meaning that an increase of one unit in customer intelligence would translate into an increase of 0.521 units in organizational performance under the same set of conditions.

Supplier Relation and Organizational Performance

Table 14 Regression Analysis Test Result 2 - N= 182

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.541 ^a	.293	.289	.748	1.363

a. Predictors: (Constant), Supplier relation

b. Dependent Variable: Organizational Performance

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41.785	1	41.785	74.674	.000 ^b
	Residual	100.721	180	.560		
	Total	142.506	181			

a. Dependent Variable: Organizational Performance

b. Predictors: (Constant), Supplier relation

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.231	.207		10.776	.000
	Supplier relation	.471	.054	.541	8.641	.000

a. Dependent Variable: Organizational Performance

Source: Survey Study, 2024

In a part of the first stage, the constant (β_0) was non-significant at $\beta=0.471$; $p > 0.05$, meaning that an increase of one unit in supplier relation would translate into an increase of 0.471 units in organizational performance under the same set of conditions.

Internal Efficiency and Organizational Performance

Table 15 Regression Analysis Test Result 2 - N= 182

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.553 ^a	.305	.302	.742	1.332

a. Predictors: (Constant), Internal Efficiency

b. Dependent Variable: Organizational Performance

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	43.534	1	43.534	79.175	.000 ^b
	Residual	98.973	180	.550		
	Total	142.506	181			

a. Dependent Variable: Organizational Performance

b. Predictors: (Constant), Internal Efficiency

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.181	.207		10.549	.000
	Internal Efficiency	.459	.052	.553	8.898	.000

a. Dependent Variable: Organizational Performance

Source: Survey Study, 2024

During the first stage, the constant (β_0) was non-significant at $\beta=0.459$; $p > 0.05$. This indicates that, under the same conditions, an increase of one unit in internal efficiency would correspond to an increase of 0.459 units in organizational performance.

Step Two

Hypothesis 1 – H₁ - Business intelligence has a positive and significant effect on organizational Performance in the banking sector, particularly in the Awash Bank context

Table 16 Business Intelligence and Organizational Performance

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson

1	.728 ^a	.529	.527	.610	1.564
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a. Predictors: (Constant), Business Intelligence

b. Dependent Variable: Organizational Performance

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.438	1	75.438	202.463	.000 ^b
	Residual	67.068	180	.373		
	Total	142.506	181			

a. Dependent Variable: Organizational Performance

b. Predictors: (Constant), Business Intelligence

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients		
				Beta		
1	(Constant)	.767	.229		3.355	.001
	Business Intelligence	.843	.059	.728	14.229	.000

a. Dependent Variable: Organizational Performance

Source: Survey Study, 2024

Table 17 Organizational characteristics and organizational performance

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.490 ^a	.240	.236	.776	1.576

a. Predictors: (Constant), Organizational Characteristics

b. Dependent Variable: Organizational Performance

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34.170	1	34.170	56.773	.000 ^b
	Residual	108.336	180	.602		
	Total	142.506	181			

- a. Dependent Variable: Organizational Performance
- b. Predictors: (Constant), Organizational Characteristics

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.379	.217		10.973	.000
	Organizational Characteristics	.438	.058	.490	7.535	.000

- a. Dependent Variable: Organizational Performance

Source: Survey Study, 2024