



THE IMPACT OF DIGITAL TRANSFORMATION ON THE QUALITY OF FINANCIAL SERVICES: AN EMPIRICAL STUDY OF THE FINANCE DEPARTMENT AT THE UNIVERSITY OF TIKRIT

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Abstract: This study aimed to investigate the relationship between the implementation of digital transformation and the enhancement of financial service quality. It employed a descriptive and analytical approach based on quantitative data and was conducted at the Finance Department of the University of Tikrit. A questionnaire measuring the model's variables was developed after reviewing a body of theoretical literature. The questionnaire was distributed electronically using a comprehensive survey method to gather the opinions of the study sample. A total of 92 questionnaires were collected; after verifying their validity, it was determined that the valid sample size for statistical analysis was 90 questionnaires.

The statistical analysis in this study was conducted using SPSS. The most significant findings of the study were as follows: The most important conclusions reached were that there was a moderate level of the digital transformation variable and a moderate level of the financial services quality variable at the University of Tikrit. There was a statistically significant positive correlation between digital transformation and the quality of financial services at moderate levels, indicating that higher levels of digital transformation lead to a moderate increase in the quality of financial services. The results also showed a significant and positive impact of digital transformation, in all its dimensions, on the quality of financial services in the Finance Department at the University of Tikrit. Based on the findings: administrative efforts should be coordinated to provide higher-quality financial services; the organizational structure of the Finance Department should be reviewed to strengthen its role in enhancing the quality of financial services; and the adoption of digital transformation should be aligned to ensure the reliability of digital services.

Keywords: digital transformation, financial services, University of Tikrit.

Introduction

Societies and organizations have witnessed a rapid transformation in information and communication technology and the resulting digitalization, making this a subject of numerous scientific studies since the beginning of the 21st century. As the business environment has changed in tandem with technological advancements, organizations have become increasingly interested in digital transformation. Digital transformation for organizations can be defined as keeping pace with digital technological advancements and adapting them to all of their business processes [1]. The primary goal of digital transformation is to provide more effective and efficient services to maintain customer satisfaction by implementing changes to internal business processes and technological elements, leveraging advanced information and communication technologies [2]. Currently, digital transformation stands out as a critically important approach that public and private organizations of all sizes cannot afford to ignore. Organizations capable of achieving the required digital transformation are expected to advance, while those unable to do so are expected to fall behind in keeping pace with modern developments and the competitive demands of the current era [3]. The rapid development of innovative technologies—such as networking technologies, mobile technologies, social media applications, the Internet of Things, big data, virtual reality, and data analytics—is leading to the emergence of new business models. This, in turn, compels organizations to make more flexible and rapid decisions regarding digital transformation and to implement them. Digital transformation has also become a cornerstone of contemporary organizations, as it is radically reshaping how public services are designed, delivered, and evaluated through the strategic integration of digital technologies. By streamlining administrative processes and enhancing efficiency, digital transformation aims to improve access to services and the speed of response, and a greater focus on the beneficiary [4]. This transformation can also be viewed as a shift in the organizational structure and corporate culture. Consequently, employees are likely to experience changes as a result of this comprehensive transformation affecting all administrative, financial, and organizational processes. This is because the digital transformation of business also entails transforming the workplace into a digital environment [5].

Technological advancements have also led to the emergence of numerous types of services and transactions offered by financial and non-financial institutions; these digital technologies have helped transform financial services to align with the demands of the technological age. This transformation aims to introduce new services, improve existing ones, and provide solutions to the problems faced by beneficiaries and customers, while taking their expectations and preferences into account through continuous improvement [6]. Service quality is also one of the fundamental concepts that institutions must understand if they wish to grow and compete in today's market, as high service quality leads to happier and more satisfied customers and beneficiaries, which in turn enhances the institution's reputation; Therefore, organizations must provide superior service to distinguish themselves from competitors [7]. Consequently, understanding the expectations of customers and beneficiaries will help both financial and non-financial institutions maintain a sustainable competitive advantage; Therefore, financial and non-financial institutions that aim to provide the highest level of service must be able to understand these expectations and do their utmost to satisfy their customers and beneficiaries [8].

This study addresses four sections. In the first section, the researcher discusses the general framework of the study; in the second section, the researcher presents

the theoretical framework regarding digital transformation and the quality of financial services; and in the third section, the researcher presents the empirical aspect, including a descriptive overview of the study variables and the results of the hypothesis testing. In the fourth section, the researcher also presents the conclusions and findings of the study and offers a set of recommendations based on these findings.

Research Methodology

Research Problem:

In recent years, the world has witnessed rapid developments in digital transformation programs and the integration of digital technologies across all areas of work within organizations. Modern digital technologies have become one of the most important tools that directly contribute to the development of organizational services and performance; they are also considered a requirement for quality and excellence standards. Most universities worldwide have devoted significant attention and focus to integrating digital solutions into educational, administrative, organizational, and research processes, as well as to continuous development, given the impact this has on enhancing university efficiency, facilitating access to information, and strengthening the competitive capabilities of academic institutions. However, the public sector in Iraq still faces low levels of technological readiness and an underdeveloped information and communications technology (ICT) infrastructure. Furthermore, many government employees lack digital training and confidence in using digital systems, which further hinders the effective implementation of digital transformation programs. Furthermore, the success of digital transformation depends not only on the adoption of digital technologies but also on organizational capabilities that enable institutions to adapt to changes and developments. In addition, Iraq has recently been affected by the regional conflicts ravaging the Middle East, Specifically, the U.S.-Iran conflict, which directly affected oil sales and had a negative impact on revenues; furthermore, Iraq faces structural challenges, including weak fiscal discipline and high levels of financial waste, in addition to financial corruption and large-scale theft and embezzlement. However, despite the adoption of digital transformation in government institutions in recent years, its impact on improving financial service quality indicators remains limited. This prompted the current study, which focuses on the impact of digital transformation on the quality of financial services at the Finance Department of the University of Tikrit.

Research Questions:

The research problem can be defined through the following questions:

First Main Question: What is the level of digital transformation—in its various dimensions (technical, human, and organizational)—in the Finance Department at the University of Tikrit?

Second Main Question: What is the level of quality of financial services—in terms of reliability, responsiveness, empathy, dependability, and security—at the Finance Department of the University of Tikrit?

Third Main Question: Is there a correlation between digital transformation and the quality of financial services at the Finance Department of the University of Tikrit?

Fourth Main Question: What is the impact of digital transformation, in its combined dimensions (technical, human, and organizational), on the quality of financial services in the Finance Department at the University of Tikrit?

The following sub-questions stem from this main question:

- 1) What is the impact of digital transformation, in its combined dimensions, on the quality of financial services in terms of the “reliability” dimension at the Finance Department

of the University of Tikrit?

- 2) What is the impact of digital transformation, in its combined dimensions, on the quality of financial services in terms of the "responsiveness" dimension at the Finance Department of the University of Tikrit?
- 3) What is the impact of digital transformation, in its combined dimensions, on the quality of financial services in terms of "empathy" at the Finance Department of the University of Tikrit?
- 4) What is the impact of digital transformation, in its combined dimensions, on the quality of financial services in terms of "dependability" at the Finance Department of the University of Tikrit?
- 5) What is the impact of digital transformation, in its combined dimensions, on the quality of financial services in terms of the "security" dimension at the Finance Department of the University of Tikrit?

Significance of the Study:

First: Scientific Significance

The scientific significance of this research stems from the fact that it addresses one of the most cutting-edge topics: digital transformation. Digital transformation is considered one of the most prominent tools for financial and administrative reform, enhancing financial transparency, achieving financial stability, and reducing corruption through the digital monitoring of all completed transactions, as it makes it difficult to manipulate the content of financial transactions within institutions. The study also examines the field of financial services in Iraqi educational institutions, which are vital pillars for enhancing institutional performance and improving the quality of services provided to beneficiaries. These services contribute to increasing the accuracy, speed, and reliability of financial transactions, which positively impacts beneficiary satisfaction and their trust in the institution. Furthermore, the quality of financial services represents an important gateway to developing financial procedures and expediting the completion of transactions, which in turn enhances the effectiveness of financial resource management. This requires institutions to prioritize digital transformation and to develop their technical infrastructure and improve their financial processes in line with the needs of beneficiaries. Furthermore, the present study contributes to enriching the Arabic administrative literature on the relationship between digital transformation and the quality of financial services by presenting a theoretical framework that clarifies the nature of this relationship and verifying it empirically in the context of Iraqi universities, particularly at the University of Tikrit.

Second: Practical Significance

The practical significance of this research lies in providing practical findings and recommendations that the administration of the University of Tikrit can utilize in implementing digital transformation programs and their impact on the speed of completing financial, administrative, operational, and organizational transactions, thereby contributing to improving the quality and as well as the university's performance and sustainability. This is because the transition to digital transformation aligns with the demands of the modern era, in which the modern work environment now requires the integration of digital technologies to improve the quality of educational and administrative services. Furthermore, the research findings help the administrations of Iraqi universities accelerate digital transformation processes and make them a priority in strategic plans, given the fundamental role this transformation plays in enhancing service quality and improving universities' global rankings, thereby strengthening the university's ability to achieve sustainability and gain a competitive

edge. The research findings can be utilized in designing digital transformation plans, as well as in illustrating how to use them to improve the quality of financial services. Furthermore, other Iraqi universities seeking to enhance their financial and institutional performance can draw guidance from these findings.

Research Objectives:

This study aims to achieve the following objectives:

- 1) **Primary Objective 1:** To identify the level of digital transformation across its dimensions (technical, human, and organizational) in the Finance Department at the University of Tikrit.
- 2) **Second Main Objective:** To identify the level of financial service quality across its dimensions (reliability, responsiveness, empathy, dependability, and security) in the Finance Department at the University of Tikrit.
- 3) **Third Main Objective:** To clarify the relationship between digital transformation and financial service quality in the Finance Department at the University of Tikrit
- 4) **Fourth Main Objective:** To identify the impact of digital transformation, in its combined dimensions (technical, human, and organizational), on the quality of financial services in the Finance Department at the University of Tikrit.

The following sub-objectives stem from this main objective:

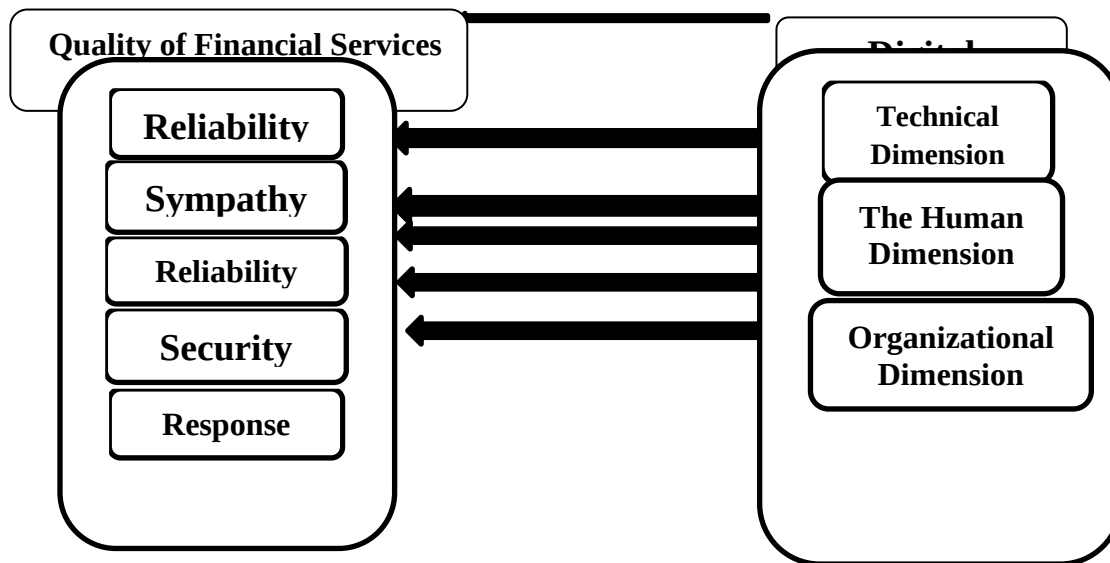
- 1) To identify the impact of digital transformation, in all its dimensions, on the quality of financial services in terms of reliability at the Finance Department of the University of Tikrit.
- 2) To identify the impact of digital transformation, in its combined dimensions, on the quality of financial services in terms of the "responsiveness" dimension at the Finance Department of the University of Tikrit.
- 3) To identify the impact of digital transformation, in its combined dimensions, on the quality of financial services in terms of the "empathy" dimension at the Finance Department of the University of Tikrit.
- 4) To identify the impact of digital transformation, in its combined dimensions, on the quality of financial services in terms of the "Dependability" dimension at the Finance Department of the University of Tikrit.
- 5) To identify the impact of digital transformation, in its combined dimensions, on the quality of financial services in terms of the "Security" dimension at the Finance Department of the University of Tikrit .

Research Model:

The study consists of a set of variables, as follows:

- **Independent variable:** Digital transformation: Digital transformation was measured through three dimensions (the technical dimension, the human dimension, and the organizational dimension).
- **Dependent variable:** Quality of financial services: The quality of financial services was measured across five dimensions: reliability, responsiveness, empathy, dependability, and security.

Figure 1: Research Model:



Source: Prepared by the researcher based on previous studies

Sixth. Research Hypotheses

The main hypotheses are defined as follows:

First Main Hypothesis: There is a correlation between digital transformation and the quality of financial services in the Finance Department at the University of Tikrit

Second Main Hypothesis: Digital transformation, in its combined dimensions (technical, human, and organizational), has an impact on the quality of financial services at the Finance Department of the University of Tikrit.

The following sub-hypotheses are derived from these:

1. Digital transformation, in all its dimensions, has an impact on the quality of financial services in terms of reliability at the Finance Department of the University of Tikrit
2. Digital transformation, in its combined dimensions, has an impact on the quality of financial services in terms of the "responsiveness" dimension at the Finance Department of the University of Tikrit.
3. Digital transformation, in its combined dimensions, has an impact on the quality of financial services in terms of the "empathy" dimension at the Finance Department of the University of Tikrit.
4. Digital transformation, in its combined dimensions, has an impact on the quality of financial services in terms of the "dependability" dimension at the Finance Department of the University of Tikrit.
5. Digital transformation, in its combined dimensions, has an impact on the quality of financial services in terms of the "security" dimension at the Finance Department of the University of Tikrit .

To achieve the study's objectives and after reviewing a number of previous studies related to the variables of the current research—digital transformation and the quality of financial services—the researcher determined that the appropriate scientific approach for this study is the descriptive-analytical method, which helps the researcher accurately diagnose the research problem, in addition to describing the variables within the scope of the research, This approach was also used to develop the study's questionnaire—the primary tool for collecting raw data—as well as to test

the hypotheses and analyze their interrelationships; therefore, the researcher adopted the descriptive-analytical approach.

Limitations of the Study

The limitations of the study are as follows:

Scientific (Objective) Limitations: This study examined “the impact of digital transformation in its dimensions (technical, human, and organizational) on the quality of financial services in its dimensions (reliability, responsiveness, empathy, dependability, and security): An applied study on the Finance Department at the University of Tikrit.”

- ✓ **Geographical Scope:** This study was conducted at the University of Tikrit.
- ✓ **Population Scope:** All employees of the Finance Department at the University of Tikrit were included in the study.
- ✓ **Temporal Scope:** This study was conducted during the third quarter of 2026.

Ninth. Study Terminology

Digital transformation, by definition, is the strategic adoption of digital technologies to redesign business processes, organizational structures, and value creation mechanisms, thereby enhancing operational efficiency, the quality of decision-making, and organizational resilience—all of which are essential elements for achieving long-term business sustainability—rather than focusing on short-term performance outcomes.

Quality of financial services, as defined: refers to the processes and activities that involve financial utility, consisting of tangible and intangible elements provided by the organization and perceived by stakeholders from all parties that interact with the organization—whether the organization is financial or non-financial, meaning that while its primary function is not financial, the nature of its work requires the completion of financial transactions, such as universities and others— and through its characteristics and utilitarian values, which serve as an important source for meeting their current and future financial needs and desires.

Theoretical Framework

First: Digital Transformation

Digital transformation has become of great importance to public and private institutions seeking to develop and improve the quality of their services and to facilitate access to and use of those services by beneficiaries. Digital transformation does not merely mean the application of digital technologies within an institution; but rather a comprehensive program encompassing all technical, human, and organizational aspects of the organization. It is also a practical, internal approach to delivering services to beneficiaries more easily and quickly in response to modern business requirements. Digital transformation also represents one of the most important drivers of growth in organizations, compelling them to race to develop innovative solutions to deliver higher-quality services. In this way, digital transformation broadens the scope of development and change and leads to unprecedented transformations in all fields.

The Concept of Digital Transformation

Digital transformation is defined as a comprehensive, ongoing strategic process of modernization and development aimed at utilizing digital technologies and tools to carry out an organization’s operations and transactions and to improve work methods and services. This is achieved by developing employees’ skills and capabilities in using modern digital technologies, fostering a culture of change, and practicing effective

digital leadership to contribute to improving performance and raising the efficiency and quality of services. Digital transformation is also defined as the process of integrating digital technologies into government operations, which radically reshapes the way public institutions operate, interact with citizens and beneficiaries, and deliver services. Digital transformation is not limited to merely digitizing existing processes; rather, it involves a strategic shift toward leveraging digital tools to enhance efficiency, transparency, and adaptability in governance systems. The ultimate goal is to develop responsive services in line with the demands of the digital age. Digital transformation also refers to the use of digital technologies to improve business processes and increase operational efficiency, and to bring about fundamental changes aimed at improving performance and redefining value creation. Digital transformation is also defined as the use of information and innovative technology to bring about radical change in various aspects of an organization, including the creation of new business models, the transformation of existing work methods, and the improvement of customer service. Chen et al. also referred to digital transformation as the process of rapidly adopting and implementing digital technologies in the business environment, which primarily refers to significant changes in areas such as business processes, production processes, regulatory frameworks, and management concepts. Furthermore, Battistoni et al. defined digital transformation as "the integration of digital technologies across all areas of business, which brings about a radical change in how organizations operate and deliver value to customers; it involves restructuring business models, operational processes, and customer interactions through the adoption of advanced technologies such as the Internet of Things, big data analytics, artificial intelligence, and cloud computing. Digital transformation has also been defined as the ability of organizations to recognize modern digital development processes aimed at bringing about qualitative changes to transition from traditional methods to the use of modern systems for carrying out administrative and financial transactions that rely on digital technology, thereby achieving effective functional and organizational performance.

Based on the foregoing, digital transformation is defined as a strategy implemented by the university with the aim of adopting and leveraging modern digital technologies to transition toward paperless digital operations in place of traditional work models, in order to keep pace with the demands of the current era. It also involves using these technologies to develop the university's processes and activities and to modify its organizational structures, thereby promoting flexible work, improving internal communication, and facilitating effective communication with the university's stakeholders, in addition to supporting decision-making through the availability and analysis of big data for future forecasting, thereby enhancing the university's ability to adapt to environmental and educational changes as well as digital technology.

The Importance of Digital Transformation

The importance of digital transformation lies in its effective contribution to achieving an organization's strategic goals, as digital transformation is a strategic tool that helps enhance an organization's efficiency and increase its ability to adapt and respond quickly to changes in the business environment. Digital transformation has also become a fundamental requirement for organizations seeking to maintain their position and keep pace with the evolving needs of customers and beneficiaries. Furthermore, digital transformation enables organizations to accelerate the completion of their transactions, improve service quality, and reduce average service delivery time. It also facilitates the flow and sharing of information between the organization

and its employees, which in turn accelerates the completion of administrative and operational processes through the use of modern digital technologies. The importance of digital transformation is evident in the following points:

- It enhances the organization's ability to make accurate decisions by relying on big data analytics.
- It contributes to creating a comfortable organizational climate and a flexible work environment, thereby fostering an atmosphere that encourages individuals to innovate and be creative.
- It enhances the organization's competitiveness by keeping pace with and utilizing the latest digital technologies, which in turn ensures the organization's continuity and stability.
- Enables organizations to build new business models and redesign organizational structures.
- Automates repetitive tasks and processes, streamlines unnecessary steps in transaction completion, and improves service quality.
- Helps save time, effort, and resources by reducing human error through the use of digital transformation models and predictive analytics.
- Accelerate decision-making with high accuracy, as digitization aggregates and analyzes reliable insights.
- Enhance organizations' ability to operate more efficiently, boost productivity, and deliver error-free services, which in turn positively impacts the organization's revenue and the value it provides to both the organization and its beneficiaries.

Objectives of Digital Transformation

The objectives of digital transformation in organizations can be summarized as follows.

- Fostering and developing a culture that encourages innovation and the use of modern digital technologies, and building collaboration at the organizational, sectoral, or societal level.
- Bringing about a qualitative leap and positive change from traditional work systems and transitioning to modern work based on the use of digital systems.
- Equipping employees with new digital skills aligned with future trends so they can effectively use modern digital tools and maintain them as needed.
- Helping the organization achieve a competitive edge in its management by implementing the latest management practices, now referred to as digital management or digital leadership.
- Facilitating access across departments and divisions and enabling the easy sharing of information and expertise among employees, which enhances service quality and reduces costs in the long term.
- Ensuring digital data protection and transparency, safeguarding privacy and independence, and strengthening trust between the organization's management, its employees, beneficiaries, and the government.
- Improving the organization's ability to reach customers, beneficiaries, and strategic partners, which in turn enhances the quality of the digital services provided to them.
- Fulfilling the requirements for achieving digital governance objectives, including transparency, accountability, responsibility, and digital oversight in organizational operations.

Dimensions of Digital Transformation

After reviewing studies on the topic of digital transformation, the researcher

identified three dimensions for measuring digital transformation: the technical dimension, the human dimension, and the organizational dimension.

Dimension 1: The Technical Dimension: Digital infrastructure—which consists of communication networks, information systems, databases, and cloud computing—is one of the essential foundations upon which the success of digital transformation depends, as an organization's possession of advanced technical infrastructure helps it operate digital applications efficiently and effectively, exchange data and information quickly, and provide more reliable digital services. This requires organizations to integrate such infrastructure into their operations and organizational structures in a way that achieves their strategic objectives. This dimension refers to an organization's possession of a technological and digital infrastructure that enables it to accelerate the implementation of digital transformation programs, outperform competitors, and contribute to improving organizational performance.

The Second Dimension: The Human Dimension: The human element—qualified human resources with the digital skills to handle and use modern digital technologies—is one of the most important pillars of successful digital transformation, because technology can only achieve its objectives through employees who are practically and technically qualified to use and apply it effectively to accelerate transactions and improve service quality. Therefore, organizations must invest in training and developing their employees' digital capabilities, as well as attracting and hiring individuals with specialized expertise in technical fields. Furthermore, fostering a digital culture within the organization helps reduce resistance to change and encourages individuals to adopt new work methods based on digital innovations, development, and continuous improvement. This refers to attracting technically qualified employees who are capable of handling and using modern digital technologies in a way that helps accelerate the completion of transactions and improve the quality of services provided to beneficiaries, thereby enhancing the organization's reputation and fostering a positive perception of it among its clients.

The Organizational Dimension: The success of digital transformation and the achievement of its objectives require organizations to develop an organizational culture and manage change, since the integration of digital technologies—or the transition to incorporating digital technologies into an organization's operations—requires adjustments and changes in the nature of job functions and decision-making processes by leveraging the information these technologies provide. However, at the outset of a digital transformation project, organizations face various forms of resistance forms, stemming from a fear of change or an inability to adapt to modern systems. This underscores that an organizational culture supportive of change is a fundamental capability for organizations to successfully achieve sustainable digital transformation. This dimension refers to an organization's ability to optimally use and leverage its organizational resources in a manner that fosters transparency and credibility within the workplace.

Quality of Financial Services

One of the most important pillars of achieving quality in financial services is ensuring customer satisfaction. To achieve this, an institution must fully understand the requirements and expectations of its customers in order to provide more comprehensive services that meet their current and future needs and desires. The issue of financial service quality has received significant attention from economies around the world, whether developed or developing. Consequently, both for-profit and nonprofit financial institutions have focused on achieving a high level of quality in their

financial services with the aim of achieving excellence and attracting beneficiaries and customers.

The Concept of Financial Service Quality

The quality of financial services is defined as the provision of a financial service that satisfies customers and beneficiaries, and as the institution's ability to identify these requirements while ensuring it has the capacity to meet them. This requires the institution to strive to provide high-quality service by focusing on exceeding the expectations of beneficiaries and customers. It also refers to the provision of a financial service in the sense of completing a financial transaction for the beneficiary at a high level of quality, encompassing both procedural and personal dimensions as aspects of reputation in delivering this service to those who seek it. It also refers to the financial products offered by financial institutions or the financial departments and divisions within non-financial institutions; one of their characteristics is that they are intangible goods traded with the aim of meeting the needs and desires of beneficiaries and providing them with benefits. The quality of financial services is also defined as a bank's ability to respond to customers' constantly changing expectations and requirements. Through quality, banks seek to enhance and strengthen their competitive capabilities by providing excellent service that reinforces the bank's position in the targeted competitive market. It also refers to the bank's ability to fulfill the customer's wishes in a manner consistent with what the customer expects the bank to provide, within the limits of the bank's available resources and capabilities, through the effective use of factors related to the quality of banking services. Financial service quality is also defined as a measure of the alignment between the actual performance of the service provided and the expectations of the beneficiaries and customers of that service; in other words, it reflects the difference between their expectations of the service and their perception and experience of its actual performance and both Ibrahim and Balqasour defined financial service quality as the provision of a high-quality service that is appropriate and meets customers' expectations of the service, in line with their actual perception and understanding of the benefits they derive from it. It also reflects the bank's ability to design and deliver services correctly and achieve their intended purpose on the first attempt. Financial service quality can be defined as the outcome that reflects the extent to which the service provided by the bank aligns with the beneficiary's or customer's expectations and their anticipated level of banking services; it serves as a measure of how well the type of service matches what satisfies beneficiaries, thereby ensuring their satisfaction. It also refers to the customer's or beneficiary's comparison of the service they actually receive with the service they wish to receive; based on this comparison, the service is judged to be of high quality.

Based on the foregoing, the quality of financial services is defined as the quality of the financial services provided by the Finance Department at the University of Tikrit to its beneficiaries, whether these services are expected or perceived—that is, those that beneficiaries expect or those they perceive in their actual interactions with the department. It constitutes the primary determinant of beneficiary satisfaction or dissatisfaction and is, at the same time, one of the main priorities that the Department seeks to achieve in order to raise the quality of its services.

The Importance of Financial Service Quality

The importance of financial service quality lies in the following:

- Achieving various competitive advantages that keep pace with the evolving requirements and desires of beneficiaries and customers, thereby contributing to

strengthening the institution's standing and its leading competitive position.

- Identifying the level of requirements and needs of beneficiaries of financial services.
- Working to provide new and diverse financial services that meet beneficiaries' expectations.
- Attracting and acquiring new customers by promoting high-quality financial services.

The importance of financial service quality is also evident in the following points:

- Growth in the service sector, as demand for high-quality financial services is increasing among institutions and organizations that provide products throughout the economy as a whole.
- Increased competition among institutions, as an institution's survival in the market depends on securing the largest possible market share; therefore, improving the quality of financial services will have a positive impact and provide competitive advantages that, over time, will enable the institution to achieve sustainability in the market.
- Realizing financial benefits: When the university provides services of a higher quality than those offered by other universities, this will enable the university—specifically the Finance Department—to possess the capacity to deliver high-quality financial services. This, in turn, will lead to growth in revenue and financial profits, as well as the financial discipline and stability the university derives from these services.
- Retaining department staff: Improving employee performance, enhancing their skills and competence, and utilizing their abilities and potential helps reduce staff turnover and lower training costs, while ensuring that employees serve beneficiaries in a manner, style, and quality that satisfies them.
- Creating a clear, positive image of the university in the minds of its beneficiaries and those who interact with it, and providing high-quality service that ensures the university's survival, continuity, and development..

Distinctive Characteristics of Financial Services

Financial services possess many characteristics that set them apart:

- **Intangibility:** This means that these services are intangible, as the service provider often delivers value associated with the service itself or with the skills and competencies required to provide this service to clients and beneficiaries.
- **Indivisibility:** In many cases, it is difficult for beneficiaries and auditors to examine the services provided by the financial departments of government institutions during the service delivery process.
- **Perishability:** Financial services are considered perishable and disappear immediately after they are provided or after a specific, predetermined period of time, as these services cannot be stored but can generate a psychological response in the recipient of the service.
- **Variability of characteristics:** Standardization is difficult to achieve in services, which clearly illustrates that no two services are alike.
- **Customer Interaction:** Most services provided by banks require the customer or beneficiary to visit the bank in person, as these services often necessitate the customer's involvement in requesting the service and specifying its details. This makes it impossible to provide a uniform model or content for these services.

Dimensions of Financial Service Quality

To measure financial service quality, the researcher adopted five dimensions: (reliability, responsiveness, empathy, dependability, and security).

Reliability: This refers to the physical infrastructure, including attention to the aesthetic appeal of the exterior appearance and the internal components of equipment, tools, and all physical facilities, as well as attention to the employees'

appearance in terms of neatness and cleanliness of attire, and the provision of all tools that contribute to the comfort of the department's staff. It is also defined as the tangible components and aspects involved in providing financial services, such as buildings, equipment, physical facilities, and all digital and technical equipment and media that facilitate the delivery of financial services to clients and beneficiaries.

Responsiveness: This reflects the Financial Department's ability to effectively address the needs of customers and beneficiaries, respond directly to their complaints, and make efforts to resolve them quickly and efficiently in a manner that satisfies the beneficiary and customer and fosters a sense in the beneficiary that they are respected and valued by the Financial Department with which they interact to complete their financial transactions. It also refers to the bank's ability and willingness to proactively offer assistance to customers and address their concerns by handling all requests, responding immediately to service-related complaints, and actively seeking to resolve them efficiently and promptly, thereby strengthening their trust in the bank. This responsiveness is also evident in the initiatives taken by financial department staff while providing service, as well as in their open-minded approach, which reflects a constant readiness to serve. This is reflected in the speed with which transactions are completed and all inquiries and questions directly related to the service are addressed.

Empathy: This refers to the ability to connect with service recipients, understand and identify their needs in order to meet them, foster a spirit of friendship between service recipients and Financial Department staff, show concern for service recipients, make them feel valued, and demonstrate a desire to provide services tailored to their needs. It also refers to the skill and ability of service providers (customer service staff) to communicate effectively with customers, pay attention to them, and focus on them to ensure their satisfaction. It also refers to the level of attention given to the customer, the specialized handling of their transactions, and the focus on resolving the problems they face, as well as the earnest effort to find solutions through advanced and sophisticated methods.

Reliability: This refers to the capacity of financial and non-financial institutions to provide financial services to beneficiaries and customers on time. This includes the service provider's commitment to delivering services on time as requested by the customer, as well as accuracy in records and invoices. It also refers to consistency in the level of performance required of customer service employees who provide these services, as evidenced by their commitment to delivering the service on time and in a manner that satisfies customers and beneficiaries [8, p. 18]. It also refers to the degree or level of trust or reliance on a person or thing to perform a task or provide a service in reliable and consistent ways—that is, the ability to rely on something to function consistently, be productive, and achieve the expected results.

Safety: This refers to the beneficiary's perception and sense of reassurance when receiving a service, along with the assurance that the service is free from errors, risks, or doubts. This reassurance encompasses both psychological and physical safety. It also refers to the organization's creation and maintenance of an atmosphere of trust to protect the transactions it conducts for beneficiaries and customers, thereby avoiding risks—whether physical or financial—as well as providing all technical tools to ensure the confidentiality of transactions and safeguard the information they contain. It is also defined as the protection of the bank's and customers' data and information from potential threats and risks. Security aims to ensure the integrity and confidentiality of information and to prevent unauthorized access, tampering, or damage.

The Applied Aspect of the Research

Research Population: The research population consists of all employees in the Finance Department at the University of Tikrit, numbering approximately 100.

Study Sample: Given the small and limited size of the target research population, this study employed the exhaustive enumeration method.

Preparing Data for Statistical Analysis: Data for this study were collected from the Finance Department at the University of Tikrit. Using a comprehensive survey method, the opinions of department employees were gathered via an electronic questionnaire. During this phase, several departments within the Finance Department were contacted by phone to provide guidance on completing the questionnaire and to explain the study's objectives, with the aim of achieving a higher response rate. Data collection continued throughout August 2026. Out of 100 employees in the Finance Department, 92 questionnaires were collected. All of these questionnaires were fully completed and free of repetitive response patterns, as the content of each questionnaire was verified immediately upon submission. After collecting the data sample, statistical analysis began by coding the responses according to the quantitative weights specific to each scale. After converting the data to their quantitative weights, it was found that the data contained outliers—observations that deviate significantly from the distribution of observations around the regression line of the regression equation, as such observations distort the results of the equation's estimation. There are many statistical methods for detecting outliers, and in this study, we relied on the Cook's distance coefficient; whenever this coefficient exceeded a threshold of 0.1, it indicated the presence of an outlier that should be removed, as noted by Weinberg and Abramowitz. In the data for this study, upon examining the Cook's distance coefficients in the model, only two observations recorded high levels of the Cook's distance coefficient, both of which exceeded 0.1. Consequently, they were removed from the data sample, leaving the sample free of outliers. Thus, the sample size suitable for statistical analysis was 90 observations.

Research Instrument: The current research instrument—a questionnaire—was developed to collect primary data on the study variables. It consisted of the following sections:

Section One: Personal and Professional Information: This section included five variables: (gender, educational level, age, number of years of experience, job title)

Part Two: Addresses the dimensions that measure digital transformation, namely (the technical dimension, the human dimension, and the organizational dimension).

Part Three: Addresses the dimensions that measure the quality of financial services, namely (reliability, responsiveness, empathy, dependability, and security).

Table 1: Sections of the Questionnaire

Part	Dimension	Paragraphs
Digital Transfor mation	Technical	1. The Department is committed to providing reliable
	Dimension	technical infrastructure to carry out the digital transformation process.

2. The Department works to provide the latest systems and modern software that support digital transformation.
3. The Department continuously updates its systems to keep pace with new developments and requirements.
4. The Department is committed to providing modern digital tools that help improve the efficiency of its operations.
5. The Department is committed to adopting advanced digital technologies, such as cloud computing, for data storage and management.

**Human
Dimension**

1. The Finance Department is committed to developing employees' skills and attitudes regarding the use of modern digital transformation technologies.
 2. The Finance Department is dedicated to raising employees' awareness of the importance of digital transformation and its role in improving the quality of its services.
 3. The Department is committed to ensuring that its employees are capable of working with and utilizing modern digital technologies.
 4. The Department encourages employees to acquire new skills that keep pace with technological advancements.
 5. The Department is committed to providing ongoing support to help employees address digital challenges.
 6. The university administration fosters a culture that encourages innovation.
-

- Organization al Dimension**
1. The university administration adopts policies and regulatory procedures that support digital transformation.
 2. The Finance Department has a clear strategy for digital transformation.
 3. The department works to define roles and responsibilities to ensure the efficient implementation of the digital transformation program.
 4. The university administration provides regulations that facilitate the use of digital transformation technologies within its finance department.
 5. The university administration ensures that appropriate support is provided for the implementation of digital transformation initiatives.
 6. Clear organizational mechanisms are in place to ensure the continued implementation of digital transformation programs at the university and its units.

Total

17

Quality of Financial Services

Reliability

1. The Finance Department at our university keeps its promises to employees.
2. Our department always provides accurate information.
3. I can rely on our department in emergencies.
4. Our department consistently performs its services properly.
5. I trust our department's ability to meet its financial obligations.
6. Our department demonstrates consistent financial performance over time.

7. Our department is reliable in managing financial transactions.

Response

1. Our department addresses complaints from employees and auditors promptly.
2. The department handles complaints from employees and auditors with a high degree of professionalism.
3. Department staff are available when needed.
4. The department has a good system for resolving financial issues.
5. The department takes suggestions from employees and clients seriously.

Sympathy

- 1- Department staff understand employees' personal financial needs.
- 2- Department staff show concern and care when interacting with employees.
- 3- Those who interact with the department feel appreciated.
- 4- Department staff are polite and respectful.
- 5- It is easy for employees to voice their concerns to the department.
- 6- Department staff are willing to go above and beyond standard procedures to provide assistance.

Reliability

- 1- Our department strives to provide high-quality financial services.
- 2- Our department ensures that financial services are delivered on time.
- 3- Our department's staff are committed to resolving technical issues for all clients.

4- Our department is committed to providing its services with the highest integrity to earn the trust of all parties with whom it interacts.

Security

- 1- Our department ensures complete confidentiality in safeguarding the personal data of its clients.
- 2- Our department is committed to earning the trust of all parties at the university.
- 3- Our department is committed to ensuring that no errors occur when providing financial services to clients both within and outside the university.
- 4- Our department is committed to continuously monitoring and ensuring the quality of its financial services.

Total

26

Total Questionnaire

Source: Based on previous studies

After designing the preliminary questionnaire based on a review of previous studies and literature related to the research topic.

Study Scales: In constructing the study questionnaire, a 5-point Likert scale was used, which provides five levels of agreement with the questionnaire items ("Strongly agree" 5, "Agree" 4, "Neutral" 3, "Disagree" 2, "Strongly disagree" 1). To present the overall level of respondents' agreement with the study variables, a three-category scale was used, which classifies the arithmetic means as follows: Arithmetic means between 1 – 2.339 reflect a low level of agreement; arithmetic means between 2.34 – 3.669 reflect a moderate level of agreement; and arithmetic means between 3.67 – 5.00 reflect a high level of agreement. The category width for this scale is 1.33, calculated by subtracting the lower limit of the five-point scale from its upper limit and then dividing the result by 3—the number of categories in the three-point scale—in accordance with the equation provided by Bougie and Sekaran.

Analysis Method: The statistical analysis in this study was conducted using SPSS (Statistical Package for the Social Sciences), Version 27, to code the data, prepare the data, and then perform statistical analysis and extract the results. Therefore, a set of statistical tests and tools was applied, including verification of the questionnaire's characteristics, presentation of descriptive statistics, and testing the effects of the variables on one another.

Verifying the statistical reliability of the questionnaire: For a study questionnaire to be adopted for data collection, it must possess a set of statistical properties that demonstrate its ability to measure variables accurately and validly.

These properties include both statistical reliability and internal consistency. Starting with statistical reliability, which indicates the questionnaire's ability to provide consistent measurement results for the construct each time the instrument is administered to measure the construct in a statistical population under similar conditions, the recommendations of were followed to verify statistical reliability using Cronbach's alpha, which assesses statistical stability based on the equation's output. A Cronbach's alpha coefficient above 0.60 provides statistical evidence that the scale possesses statistical reliability, and a value of 0.70 or higher is an even better indicator of statistical reliability.

Table 2 presents the Cronbach's alpha coefficients used to verify the statistical reliability of the questionnaire, and all domains recorded Cronbach's alpha coefficients above 0.60, which is the minimum statistically required threshold to verify statistical reliability. These results indicate that the scale possesses reliability, confirming the validity of this questionnaire for data collection in this study.

Table 2: Verification of the questionnaire's statistical reliability using Cronbach's alpha (n = 90)

Cronbach's alpha coefficient	Paragraphs	Scope
0.696	5	Technical Dimension
0.669	6	The Human Dimension
0.654	6	Organizational Dimension
0.803	17	Digital Transformation Variable
0.682	7	Reliability
0.666	5	Response
0.710	6	Sympathy
0.656	4	Reliability
0.659	4	Security
0.770	26	The Variable of Financial Services Quality

Prepared by the researcher based on SPSS results

Verification of the questionnaire's internal consistency: After verifying statistical reliability, internal consistency was assessed. Internal consistency refers to the coherence of the internal components of each scale—that is, the set of items that collectively measure the constructs within each domain. Consistency indicates that these items share and contribute to the variance specific to the scale. Internal consistency is statistically verified by following the recommendations, which require confirming a significant correlation between the items and the total score for the domain. The correlation must be both significant and positive to confirm the item's contribution to the domain's variance; furthermore, the correlation must exceed a minimum level of 0.20.

Table 3 summarizes the Pearson correlation coefficients between each item and the total score for its respective domain. All items showed statistically significant correlations with the total score for their domain; all items were statistically significant at the 0.01 level, and all items exceeded the minimum threshold of 0.20, and showed good levels of positive correlation strength. This confirms that the conditions for internal consistency have been met, which once again confirms that the scale possesses internal consistency—indicating the validity of using this instrument to measure the questionnaire variables.

Table 3: Verification of the questionnaire's internal consistency using Pearson's correlation coefficient between subscales and total scores for the domains (n = 90)

Domain Relationship	Paragraph	Scope	Domain Relationship	Paragraph
0.649**	R1	Reliability	0.610**	T1
0.476**	R2		0.645**	T2
0.579**	R3		0.660**	T3
0.651**	R4		0.701**	T4
0.618**	R5		0.741**	T5
0.522**	R6		0.576**	H1
0.613**	R7	Sympathy	0.653**	H2
0.625**	S1		0.558**	H3
0.707**	S2		0.661**	H4
0.648**	S3		0.594**	H5
0.744**	S4		0.640**	H6
0.602**	S5		0.625**	O1
0.516**	S6		0.555**	O2

0.737**	D1	Reliability	0.547**	O3
0.712**	D2		0.637**	O4
0.664**	D3		0.663**	O5
0.693**	D4		0.599**	O6
0.646**	SE1	Security	0.619**	RE1
0.669**	SE2		0.552**	RE2
0.795**	SE3		0.705**	RE3
0.702**	SE4		0.743**	RE4
			0.660**	RE5

**The relationship is significant at the significance level ($\alpha \leq 0.01$). Prepared by the researcher based on SPSS results.

The study model and its compatibility with statistical methods: There are several statistical assumptions that the data must satisfy in order to proceed with statistical tests. These include tests of normality and multiple linear regression, both of which are essential for proceeding with statistical analysis.

Starting with the verification of normality of the data—a prerequisite for applying linear regression models—normality is assessed through the skewness and kurtosis coefficients, both of which are indicators used to assess the validity of the normal distribution of the data. George notes that the data are considered normally distributed if the skewness coefficients do not fall outside the range of ± 2.3 and the kurtosis coefficients do not fall outside the range of ± 3.6 . Upon examining the skewness and kurtosis coefficients in Table 4, all recorded coefficients fell within the specified ranges, confirming the normality of the data distribution. This confirms the suitability of these data for applying the linear regression model.

Table 4: Verification of the normality of the data distribution using the skewness and kurtosis coefficients (n = 90)

Scope	Torsion coefficient	Flattening coefficient
Technical Dimension	-.492	.096
The Human Dimension	-.452	-.459
Organizational Dimension	-.316	-.655
Digital Transformation Variable	-.175	.201
Reliability	.084	-.965
Response	-.346	-.297

Sympathy	-0.442	-0.831
Reliability	-0.118	-1.151
Security	-0.450	.268
The Variable of Financial Services Quality	-0.051	-0.448

Prepared by the researcher based on SPSS results

The prerequisite for applying the multiple linear regression model—namely, the absence of high linear correlation—is essential for verifying the accuracy of the estimation results and ensuring they are not distorted by high correlation among the independent variable categories. The recommendations of Pallant were followed to assess the extent of multicollinearity among the variables; these recommendations require examining the results of three tests, which are presented in Table 5 of this study. The recommendations indicate that the model is considered free of multicollinearity if the variance inflation factors do not exceed a certain level, the covariance factors do not exceed the permissible limit, and the Pearson correlation coefficients do not exceed 0.90. According to the results in Table 5, all criteria were met, as the highest level of the variance inflation factor, the lowest value for the allowable variance coefficient was 0.674, and the highest value for the Pearson correlation coefficient was 0.510**. This indicates that the model is not affected by high linear correlation among the variables, reflecting the model's suitability for multiple linear regression.

Table 5: Testing for multicollinearity in the model using the coefficient of variance inflation, the allowable coefficient of variance, and Pearson's correlation coefficient (n = 90)

Scope	Variance inflation coefficient	Allowable coefficient of contrast	Pearson correlation coefficient		
			1	2	3
Technical Dimension	1.382	.724	1		
The Human Dimension	1.483	.674	0.510**	1	
Organizational Dimension	1.224	.817	0.322**	0.407**	1

****The relationship is significant at the significance level ($\alpha \leq 0.01$).**
Prepared by the researcher based on SPSS results.

Results

Description of the Study Sample: Using frequencies and percentages

presented in Table 6, a description of the characteristics of the study sample was provided, revealing the following: Regarding gender, the proportion of males exceeded that of females, with males accounting for (n = 62, 68.9%) of the sample, while females accounted for (n = 28, 31.1%) of the sample. The age distribution of the participants was as follows: those under 24 years old (n = 7, 7.8%), those aged 25 to 34 (n = 5, 5.6%), those aged 35 to 44 (n=23, 25.6%), ages 45 to 54 (n=35, 38.9%), and ages 55 and older (n=20, 22.2%) [9]. As for educational qualifications, the results showed that those with a diploma or lower accounted for (n=10, 11.1%), those with a bachelor's degree (n=41, 45.6%), those with a master's degree (n=36, 40.0%), and those with a doctorate (n=3, 3.3%) [10].

Years of experience were as follows: the category with 5 years or less of experience accounted for (n=9, 10.0%); the 5–10 years experience category (n = 27, 30.0%); the 11–15 years experience category (n = 35, 38.9%); and the 16–20 years experience category (n = 19, 21.1%) . Finally, the job titles of the respondents were as follows: Division Manager (n = 1, 1.1%), Bookkeeper (n = 13, 14.4%), Cashier (n = 15, 16.7%), Payroll Accountant (n = 14, 15.6%), cashier (n = 14, 15.6%), disbursement accountant (n = 18, 20.0%), and auditor (n = 15, 16.7%).

The results of the sample description indicate a notable diversity in the distribution of respondents across all demographic categories. Furthermore, the respondents possessed high levels of academic qualifications and experience, which suggests that this sample is well-equipped to evaluate the study questionnaire, which serves as the primary source of data in this study [11], [12] .

Table 6: Descriptive Overview of the Study Sample Using Frequencies and Percentages (n = 90)

Variable	Category	Repetition	Lineage
Gender	Male	62	68.9%
	Female	28	31.1%
Age	Under 24 years old	7	7.8%
	25 to 34 years	5	5.6%
	35 to 44 years	23	25.6%
	45 to 54 years	35	38.9%
	55 years and above	20	22.2%
	Diploma or below	10	11.1%
Educational Qualification	Bachelor	41	45.6%
	Master	36	40.0%
	PhD	3	3.3%
Years of	5 years and below	9	10.0%
	5 years to 10 years	27	30.0%
	From 11 years to 15	35	38.9%

Experience	years		
	From 16 years to 20	19	21.1%
	years		
	From 21 years to 25	--	--
	years		
	26 years and older	--	--
Job Title	Division Officer	1	1.1%
	Accountant of	13	14.4%
	Records		
	Fund Accountant	15	16.7%
	Payroll Accountant	14	15.6%
	Treasurer	14	15.6%
	Accountant	18	20.0%
	Auditor	15	16.7%

Prepared by the researcher based on the results of the SPSS program

Results of the Descriptive Analysis of the Model Variables: The presentation of the study's results began with the findings of the descriptive analysis of the variables; Table 7 summarizes the arithmetic means and standard deviations of the overall agreement scores for the model variables, It was evident that the respondents' agreement scores regarding the model's variables and their dimensions fell within the moderate range, reflecting moderate levels of digital transformation adoption and moderate levels of financial service quality in the Finance Department at the University of Tikrit. For the digital transformation variable, the overall arithmetic mean was 3.54, and the domains of this variable recorded the following arithmetic means: the technical dimension 3.43, the human dimension 3.56, and the organizational dimension 3.62 [13], [14].

As for the financial service quality variable, the overall arithmetic mean was 3.51, and the sub-dimensions recorded the following means: reliability 3.51, responsiveness 3.50, empathy 3.61, trustworthiness 3.49, and security 3.46.

There was also a notable consensus among the study sample regarding the study variables, as evidenced by the standard deviations, which did not exceed a value of 1. This indicates that the responses are clustered around the overall arithmetic means, reflecting consensus and agreement among the respondents [15].

Table 7: Descriptive Analysis Using Arithmetic Means and Standard Deviations (n = 90)

Grade	Rank	Standard	Arithmetic	Scope
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		deviation	Average	
Digital Transformation Variable				
Medium	3	0.37	3.43	Technical Dimension
Medium	2	0.31	3.56	The Human Dimension
Medium	1	0.29	3.62	Organizational Dimension
Medium	--	0.25	3.54	General arithmetic average
The Variable of Financial Services Quality				
Medium	2	0.31	3.51	Reliability
Medium	3	0.35	3.50	Response
Medium	1	0.31	3.61	Sympathy
Medium	4	0.36	3.49	Reliability
Medium	5	0.36	3.46	Security
Medium	--	0.20	3.51	General arithmetic average

Prepared by the researcher based on SPSS results

Results of the Hypothesis Testing:

After processing the data and presenting the results of the descriptive analysis, this section moves on to present the results of the hypothesis testing, which were conducted first using Pearson's correlation coefficients and then using linear regression models [16] .

First Main Hypothesis: There is a correlation between digital transformation and the quality of financial services in the Finance Department at the University of Tikrit.

Table 8: Testing the First Main Hypothesis Using Pearson's Correlation Coefficients (n = 90)

The Variable of Financial	Scope
---------------------------	-------

Services Quality	
0.489**	Technical Dimension
0.568**	The Human Dimension
0.323**	Organizational Dimension
0.594**	Digital Transformation Variable

****The relationship is statistically significant at the $\alpha \leq 0.01$ level**

All Pearson correlation coefficients listed in Table 8 showed positive and statistically significant correlations at the 0.01 significance level, indicating a positive relationship between the digital transformation variable and the financial services quality variable. All correlations were of moderate strength, meaning that higher levels of digital transformation lead to moderately higher levels of financial services quality [17]. The correlation between the digital transformation variable and the financial service quality variable was 0.594. As for the dimensions of the digital transformation variable, the technical dimension showed a correlation of 0.489 with the financial service quality variable, the human dimension showed a correlation of 0.568 with the financial service quality variable, and the organizational dimension showed a correlation of 0.323 with the financial service quality variable. All of the above results lead to the acceptance of the first main hypothesis.

Second Main Hypothesis: Digital transformation, in its combined dimensions (technical, human, and organizational), has an effect on the quality of financial services in the Finance Department at the University of Tikrit.

Table 9 presents the results of the multiple linear regression analysis among the model variables to test the second main hypothesis:

Table 9: Testing the second main hypothesis using a multiple linear regression model (n = 90)

Linear Regression Model	Correlation coefficient R	Interpreted coefficient of variance R ²	F value	Model Function
	0.617	0.381	17.636	0.000*
Independent variable	Non-standard transactions		Standard Transactions	Test (T)
	Value b	Standard Error	Beta Value (β)	Value (T) Function
Fixed Value	1.916	.249	--	7.690 .000*

(a)					
Technical Dimension	.141	.055	.258	2.583	.011*
The Human Dimension	.261	.066	.407	3.934	.000*
Organizational Dimension	.051	.065	.074	.790	.432

Dependent variable: Quality of financial services at the Finance Department of the University of Tikrit

The effect is statistically significant at the significance level ($\alpha \leq 0.05$)

Table 9 presents the results of the multiple linear regression analysis, which revealed a statistically significant effect of the digital transformation variable—in all its dimensions—on the quality of financial services at the Finance Department of the University of Tikrit. The model was statistically significant at the 0.05 level, with a calculated F-coefficient of 17.636 [18], [19]. The model results showed that the correlation coefficient R in the model was 0.617, indicating a moderate positive correlation; that is, as levels of digital transformation increased, there was a corresponding moderate increase in the quality of financial services. It was also found that the coefficient of determination, R^2 , in the model was 0.381, indicating that the independent variables explained 38.1% of the variation in the dependent variable, which demonstrates the importance of these variables in explaining one another. The beta coefficients also revealed the specific impact of each dimension of the digital transformation variable on the financial services quality variable. Both the technical dimension and the human dimension had a statistically significant positive effect, with the human dimension being the strongest influencer on financial services quality, with a beta coefficient of 0.407, which means that every 1% increase in the human dimension leads to a 40.7% improvement in the quality of financial services [20]. The beta coefficient for the technical dimension was 0.258, while the organizational dimension recorded a beta coefficient of 0.074, which is a very weak effect and was not statistically significant; thus, it has no impact on the model. This reflects the need to reconsider the application of the organizational dimension within the digital transformation process to enhance its role in improving the quality of financial services. Based on the preceding results, the second main hypothesis is accepted.

1. Digital transformation, in its combined dimensions, has an effect on the quality of financial services—specifically the “reliability” dimension—in the Finance Department at the University of Tikrit.

Table 10 presents the results of the simple linear regression test between the model variables to test the first sub-hypothesis:

Table 10: Testing the First Sub-Hypothesis Using the Simple Linear Regression Model (n = 90)

Linear Regression	Interpreted Correlation coefficient	F value	Model Function
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Model	coefficient		of variance		
	R	R ²			
	0.362	0.131	13.241	0.000*	
Independent variable	Non-standard transactions		Standard Transactions	Test (T)	
	Value b	Standard Error	Beta Value (β)	Value (T)	Function
Fixed Value (a)	1.960	.427	--	4.587	.000*
Digital transformation in its dimensions	.438	.120	.362	3.639	.000*

Dependent variable: Quality of financial services (reliability) at the Finance Department of the University of Tikrit

The effect is statistically significant at the significance level ($\alpha \leq 0.05$)

Table 10 presents the results of the simple linear regression test, which showed a statistically significant effect of the digital transformation variable—in its combined dimensions—on the quality of financial services (reliability) at the Finance Department of the University of Tikrit [21]. The model was statistically significant at the 0.05 level, with a calculated F-coefficient of 13.241. The model results showed that the correlation coefficient R in the model was 0.362, indicating a moderate positive correlation; that is, as levels of digital transformation increase, there is a corresponding moderate increase in the quality of financial services (reliability). It was also found that the coefficient of determination R² in the model was 0.131, indicating that the independent variable explained 13.1% of the variation in the dependent variable [22]. Furthermore, the beta coefficient 362 indicates that every 1% increase in the implementation of digital transformation across its dimensions leads to a 36.2% improvement in the quality of financial services (reliability). Based on the above results, the first sub-hypothesis is accepted.

2. Digital transformation, in its combined dimensions, has an effect on the quality of financial services (responsiveness) at the Finance Department of the University of Tikrit.

Table 11 presents the results of the simple linear regression test between the model variables to test the second sub-hypothesis. :

Table 11: Testing the Second Subhypothesis Using the Simple Linear Regression Model (n = 90)

Linear Regression Model	Correlation coefficient R	Interpreted coefficient of variance R ²	F value	Model Function	
	0.566	0.320	41.467	0.000*	
Independent variable	Non-standard transactions Value b	Standard Error	Standard Transactions Beta Value (β)	Test (T) Value (T)	Function
Fixed Value (a)	.753	.429	--	1.754	.083
Digital transformation in its dimensions	.778	.121	.566	6.440	.000*

Dependent variable: Quality of financial services (responsiveness) at the Finance Department of the University of Tikrit

The effect is statistically significant at the significance level ($\alpha \leq 0.05$)

Table 11 presents the results of the simple linear regression test, which showed a statistically significant effect of the digital transformation variable—in its combined dimensions—on the quality of financial services (the response variable) at the Finance Department of the University of Tikrit. The model was statistically significant at the 0.05 level, with a calculated F-coefficient of 41.467 [23]. The model outputs showed that the correlation coefficient R in the model was 0.566, indicating a moderate positive correlation; that is, as levels of digital transformation increased, they were accompanied by a moderate increase in the quality of financial services (the response variable) [24]. It was also found that the coefficient of determination, R^2 , in the model was 0.320, indicating that the independent variable explained 32% of the variation in the dependent variable. Furthermore, the beta coefficient, which was 0.566, indicated that every 1% increase in the implementation of digital transformation across its dimensions leads to a 56.6% improvement in the quality of financial services (responsiveness). Based on the above results, the second sub-hypothesis is accepted.

3. Digital transformation, in its combined dimensions, has an effect on the quality of financial services in terms of “empathy” at the Finance Department of the University of Tikrit.

Table 12 presents the results of the simple linear regression test between the model variables to test the third sub-hypothesis:

Table 12: Testing the Third Sub-Hypothesis Using the Simple Linear Regression

Model (n = 90)

Linear Regression Model	Correlation coefficient R	Interpreted coefficient of variance R ²	F value	Model Function	
	0.363	0.132	13.349	0.000*	
Independent variable	Non-standard transactions Value b	Standard Error	Standard Transactions Beta Value (β)	Test (T) Value (T)	Function
Fixed Value (a)	2.014	.439	--	4.590	.000*
Digital transformation in its dimensions	.451	.124	.363	3.654	.000*

Dependent variable: Quality of financial services (empathy) at the Finance Department of the University of Tikrit

The effect is statistically significant at the $\alpha \leq 0.05$ level

Table 12 presents the results of the simple linear regression test, which showed a statistically significant effect of the digital transformation variable—in its combined dimensions—on the quality of financial services (empathy) at the Finance Department of the University of Tikrit. The model was statistically significant at the 0.05 level, with a calculated F-coefficient of 13.349 [25], [26]. The model results showed that the correlation coefficient R in the model was 0.363, indicating a moderate positive correlation; that is, as levels of digital transformation increase, there is a corresponding moderate increase in the quality of financial services (empathy). It was also found that the coefficient of determination, R^2 , in the model was 0.132, indicating that the independent variable explained 13.2% of the variation in the dependent variable. Furthermore, the beta coefficient, which was 0.363, indicated that every 1% increase in the implementation of digital transformation across its dimensions leads to a 36.3% improvement in the quality of financial services (empathy). Based on the above results, the third sub-hypothesis is accepted.

4. Digital transformation, in its combined dimensions, has an effect on the quality of financial services in terms of “reliability” at the Finance Department of the University of Tikrit.

Table 13: Testing the fourth sub-hypothesis using the simple linear regression model (n = 90)

Linear Regression Model	Correlation coefficient R	Interpreted coefficient of variance R ²	F value	Model Function	
	0.313	0.098	9.574	0.003*	
Independent variable	Non-standard transactions Value b	Standard Error	Standard Transactions Beta Value (β)	Test (T) Value (T)	Function
Fixed Value (a)	1.922	.510	--	3.771	.000*
Digital transformation in its dimensions	.444	.143	.313	3.094	.003*

Dependent variable: Quality of financial services (reliability) at the Finance Department of the University of Tikrit

The effect is statistically significant at the significance level ($\alpha \leq 0.05$)

Table 13 presents the results of the simple linear regression test, which showed a statistically significant effect of the digital transformation variable—in its combined dimensions—on the quality of financial services (reliability) at the Finance Department of the University of Tikrit. The model was statistically significant at the 0.05 level, with a calculated F-coefficient of 9.574. The model results showed that the correlation coefficient R in the model was 0.313, indicating a moderate positive correlation; that is, as levels of digital transformation increase, there is a corresponding moderate increase in the quality of financial services (reliability) [27]. It was also found that the coefficient of determination, R², in the model was 0.098, indicating that the independent variable explained 9.82% of the variation in the dependent variable. Furthermore, the beta coefficient, which was 0.313, indicated that every 1% increase in the implementation of digital transformation across its dimensions leads to a 31.3% improvement in the quality of financial services (reliability). Based on the preceding results, the fourth sub-hypothesis is accepted.

5. Digital transformation, in its combined dimensions, has an effect on the quality of financial services—specifically the “security” dimension—at the Finance Department of the University of Tikrit.

Table 14: Testing the Fifth Sub hypothesis Using the Simple Linear Regression Model (n = 90)

Linear Regression Model	Correlation coefficient R	Interpreted coefficient of variance R ²	F value	Model Function	
	0.172	0.030	2.686	0.105	
Independent variable	Non-standard transactions Value b	Standard Error	Standard Transactions Beta Value (β)	Test (T) Value (T)	Function
Fixed Value (a)	2.592	.537	--	4.831	.000*
Digital transformation in its dimensions	.248	.151	.172	1.639	.105

Dependent variable: Quality of financial services (security) at the Finance Department of the University of Tikrit

The effect is statistically significant at the significance level ($\alpha \leq 0.05$)

Table 14 presents the results of the simple linear regression test, which showed that the digital transformation variable, in its combined dimensions, had no significant effect on the quality of financial services (security) at the Finance Department of the University of Tikrit, as the model was not significant at the 0.05 significance level. Based on the above results, the fifth alternative hypothesis cannot be accepted.

Discussion

The results show that digital transformation in the Finance Department of the University of Tikrit is still at a moderate stage ($M = 3.54$), yet it already explains 38.1% of the variance in the perceived quality of financial services ($R = 0.617$, $F = 17.636$, $p < 0.05$). This agrees with studies that link the use of information technology, management information systems and financial technology to better service quality in financial units and banks [28], [29], as well as with evidence from the non-profit sector. At the same time, more than 60% of the variance remains unexplained, which suggests that digital tools alone do not determine service quality. Workload, financial regulations and procedures set outside the department are likely to shape the outcome as well, and these factors were not included in the present model.

The most notable finding concerns the relative weight of the three dimensions. The human dimension had the strongest effect ($\beta = 0.407$, $p < 0.001$), followed by the technical dimension ($\beta = 0.258$, $p = 0.011$), whereas the organizational dimension

had no significant effect ($\beta = 0.074$, $p = 0.432$), even though it received the highest mean score (3.62). The leading role of the human dimension supports the view that technology delivers results only through employees who have the skills to use it [30], [31]. The weak contribution of the organizational dimension points to a gap between declared administrative support and its translation into changed procedures that beneficiaries can actually notice. Organizational effects of digital transformation tend to appear indirectly and over a longer period, through changes in structures and strategic agility, which may explain why they are not yet visible in a cross-sectional survey. Since the variance inflation factors were low 1.224–1.483, this pattern cannot be attributed to multicollinearity among the dimensions.

Among the dimensions of service quality, digital transformation had its largest effect on responsiveness $R^2 = 0.320$, $\beta = 0.566$, while its effects on reliability $R^2 = 0.131$, empathy $R^2 = 0.132$ and the fourth dimension $R^2 = 0.098$ were noticeably weaker. This ordering is logical: electronic systems shorten the time needed to process salaries, payments and requests, which is precisely what beneficiaries experience as responsiveness. Empathy, by contrast, depends largely on interpersonal behaviour, which technology can support but cannot replace. Similar findings have been reported for electronic payment applications, where speed and ease of use were the main channels through which digital services raised satisfaction [32].

Digital transformation had no significant effect on security ($R^2 = 0.030$, $\beta = 0.172$, $p = 0.105$, which was also the lowest-rated dimension ($M = 3.46$). One plausible explanation is that the protection of financial data depends on cybersecurity controls, access policies and central university systems that lie largely outside the department's control. Partial digitalization may also make employees more aware of new risks without yet providing adequate safeguards. This is consistent with reviews that treat security and trust as distinct determinants of digital banking service quality, requiring dedicated investment rather than following automatically from digitalization [33], [34]. In practical terms, digital transformation programmes at the university should include an explicit information-security component.

These findings should be read in light of the study's limitations [35]. The data come from a single finance department, were collected at one point in time, and reflect employees' own assessments rather than those of the beneficiaries who receive the services, which raises the possibility of common-method bias. Future research could compare several universities, include beneficiaries' perspectives, and test mediating factors such as digital culture and staff training over a longer period [36], [37].

Conclusions

This section of the study presents the most important conclusions and recommendations reached by the researcher regarding the impact of digital transformation on the quality of financial services at the Finance Department of the University of Tikrit, based on statistical analysis as well as the theoretical framework. Based on the descriptive results and the results of the correlation and regression analyses, the study's conclusions can be summarized as follows: 1. The results indicated a moderate level of digital transformation adoption in the Finance Department at the University of Tikrit, with all dimensions of digital transformation falling within the moderate range, as follows: First came the organizational dimension, followed by the human dimension, and finally the technical dimension. This requires the university to work toward providing the appropriate digital infrastructure and to accelerate digital transformation processes to encompass all financial and administrative operations, thereby achieving an advanced level of digital

transformation. This will positively impact the university's performance, as well as enhancing its ability to keep pace with digital transformations. 2. The results indicated moderate levels of financial service quality in the Finance Department at the University of Tikrit. They also showed that all dimensions of financial service quality scored at a moderate level, with the results as follows: first came empathy, followed by reliability, then responsiveness, then dependability, and finally security. This level requires the university administration to provide adequate support to the Finance Department and to enroll its staff in training courses on how to deliver financial services and on the use of methods that directly contribute to improving the quality of financial services—for example, leveraging fintech services to enhance the quality of financial services provided by the department. 3. There is a positive and statistically significant correlation between digital transformation and the quality of financial services at a moderate level; that is, higher levels of digital transformation lead to higher levels of financial service quality at a moderate level. 4. There is a statistically significant positive effect of digital transformation, in all its dimensions, on the quality of financial services in the Finance Department at the University of Tikrit, and there is a moderate positive correlation; that is, as levels of digital transformation increase, they are accompanied by a moderate increase in the quality of financial services. 5. There is a statistically significant positive effect of digital transformation, in its various dimensions, on the quality of financial services (reliability) in the Finance Department at the University of Tikrit, and there is a moderate positive correlation; that is, as levels of digital transformation increase, there is a corresponding moderate increase in reliability. 6. There is a statistically significant positive effect of digital transformation, in its combined dimensions, on the quality of financial services (responsiveness) in the Finance Department at the University of Tikrit, and there is a positive correlation of moderate strength; that is, as levels of digital transformation increase, levels of responsiveness also increase to a moderate degree. 7. There is a statistically significant positive effect of digital transformation, in its combined dimensions, on the quality of financial services (empathy) in the Finance Department at the University of Tikrit, and there is a positive correlation of moderate strength; that is, as levels of digital transformation increase, levels of empathy increase to a moderate degree. 8. There is a statistically significant positive effect of digital transformation, in its combined dimensions, on the quality of financial services (reliability) in the Finance Department at the University of Tikrit, and there is a positive correlation of moderate strength; that is, as levels of digital transformation increase, levels of reliability increase to a moderate degree. 9. However, the results showed that the variable of digital transformation, in its combined dimensions, had no statistically significant effect on the quality of financial services (security) in the Finance Department at the University of Tikrit. 10. Overall, the results confirm that the university has digital transformation programs and seeks to keep pace with technological developments and leverage them to improve the university's performance and enhance its ability to achieve its strategic goals, as well as to transition to digital operations instead of traditional paper-based work—in other words, to transition toward green operations— but it remains at an average level, which requires accelerating digital transformation programs so that this has a positive and direct impact on its performance and the quality of its practical outputs.

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