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RESEARCH ARTICLE

The Impact of Digital Transformation and Quality Educational Services on the Satisfaction of Students at the College of Business at Imam Muhammad Ibn Saud Islamic University

Dr. Abdul Rahman Mohammed Idris Mohammed*

Business Administration Department, Imam Mohammad Ibn Saudi Islamic University (IMSIU), Riyadh 13242, Saudi Arabia

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***Corresponding Author:**

ammohmmed@imamu.edu.sa

ABSTRACT

The study aimed to identify the impact of digital transformation and the quality of educational service on student satisfaction at the College of Business, where the student community consisted of students at the College of Business at Imam Muhammad bin Saud Islamic University. The study items were selected from the student community through a random sample, where several (370) male and female students were surveyed. The study followed the descriptive analytical approach in addressing its topic, to achieve its objectives, and adopted the questionnaire to collect data. The questionnaire included the dimension of the independent variable represented by the dimensions of digital transformation (information technology infrastructure, digital education, digital libraries), the dimensions of educational service quality represented by (tangibility, reliability, responsiveness, security, and empathy) and the dimensions of the dependent variable represented by student Satisfaction the study relied on the statistical program (SPSS) and the program ((AMOS). The study achieved several results, the most important of which are: The existence of a significant impact of some dimensions of digital transformation (information technology infrastructure, digital education) on student satisfaction, as well as some dimensions of educational service quality represented by (tangibility, Reliability, responsiveness, and security) has a positive moral impact on student satisfaction. The study suggested a set of recommendations, the most important of which is: the need to increase attention to the digital transformation process in the College of Business at Imam Muhammad bin Saud University due to the importance of digital transformation on student satisfaction, by focusing on knowing the students' desire for digital educational services that must be present at the university and working to provide them.

1. INTRODUCTION

Digital transformation is the basis for businesses and services' progress and effective and efficient performance. It is one of the necessary necessities for all institutions that seek to improve their services and achieve governance and effective communication, whether internally between their management and organizational structures or externally with their various clients with whom they have relationships. Rather, it has become a natural process for organizations that claim to be leaders of change and enjoy high competitiveness in their field (Goin Randy2020).

University education institutions are among the most important institutions that have undergone radical and profound transformations affected by the developments that have occurred in recent decades, within the framework of seeking to achieve quality and improve their services. Digitization is also one of the important transformations that university institutions in various countries of the world are currently witnessing. Thus, the higher education sector has become the heart of the digital revolution hurricane, immersed in the process of continuous digital transformation (DT)) (Rof, 2020).

According to Fisher (Fisher,2006), technologies enable the use of digital products as building blocks for further development and enable institutions to increase enrollment in digital transformation at little or no cost, reduce the workload in educational and administrative activities, reuse digital content in different contexts, and conserve digital technology resources at low cost. These claims remain recurring motivators in the prevailing discourse on the digitization of higher education today (Munro, 2018). Digital education has enabled radical revision and reconstruction of education (Kellner, 2004) as well as radical changes in the teaching process (Burbules, et al, 2000) for more than twenty years. The death of campus-based universities has been predicted one by one (Moodie, 2016).

Implementing digital transformation ensures several benefits for universities such as improving productivity, reducing costs, improving quality, simplifying procedures, and providing greater opportunities for universities to spread and expand. Therefore, having a clear strategy for the deployment and independence of digital technologies is crucial for future business success (Gurbaxani, et al, 2019).

The quality of educational service is of great importance in student satisfaction. It is an organized social process through which educational service providers interact with service recipients in the presence of an appropriate educational environment (El Alfy, 2020). It is the process of the educational system meeting the agreed standards and levels efficiently and effectively with its various elements (inputs, processes, outputs, and environment) to achieve the highest level of value, efficiency, and effectiveness for each of the system's goals and student expectations (Forghani, et al, 2020). Adinegara explained that higher education institutions operate in the service sector, where providing high-quality services can create a competitive advantage over others (Adinegara, et al, 2016). Successful survival in the education sector depends on providing high-quality services (Zhu, et al, 2022). However, it is difficult to provide standard and good-quality services to students because there is no single agreed-upon opinion on the quality standard (Sibai, et al, 2021). To measure service quality, Serval is a widely accepted model presented by (Parasuraman, et al., 1988.) It is a multidimensional tool that includes five dimensions (tangibility, reliability, responsiveness, security, and empathy). Moreover, there is a growing trend towards digitization of education services in the higher education sector. Accelerating the Fourth Industrial Revolution, (Xiao, 2019), stated that the digital transformation of education services ensures lifelong learning for students, thus enabling them to communicate with faculty or university staff anytime and anywhere, overcoming the limitations of traditional education services.

Student satisfaction is linked to a set of factors related to the educational process, especially the educational system followed. Student satisfaction and responses to the traditional educational system differ from the modern online education system. All systems work to achieve high rates of student satisfaction and achieve a high percentage of educational service quality that ensures an advanced level of student satisfaction (Geier, 2021).

Student satisfaction is one of the positive indicators that indicate their loyalty to the educational institution (Weerasinge, et al, 2018). The reason for higher education institutions' interest in their students' satisfaction is due to its great impact on motivating and retaining them on the one hand and on their ability to attract new students on the other hand in light of the intense competition between universities.

The statement of the problem:

One of the main pillars for achieving the Kingdom's Vision 2030 is digital transformation. The digital transformation process in education has faced difficulties and challenges related to its ability to develop its systems, human and material resources, and curricula in line with the major changes taking place in our contemporary world, ensuring that the skills and knowledge acquired by graduates are linked and that they will need in the world of work and their private lives, in addition to its ability to accommodate the growing numbers of students within growth budgets that do not grow at rates consistent with this growth, which threatens the quality of education provided on the one hand and the ability of the educational system to continue providing equal educational opportunities on the other hand. Therefore, facing and overcoming these challenges is of utmost importance. Higher education can compete and develop, so it was necessary to have digital education

and quality educational services provided to students to improve the educational environment and enable universities to excel.

Therefore, this study came to answer the following questions:

- What is the direct impact of the dimensions of digital transformation on the satisfaction of students of the College of Business at Imam Muhammad bin Saud Islamic University?
- Is there a direct impact of the quality of educational service in its dimensions on the satisfaction of students at the College of Business at Imam Muhammad bin Saud Islamic University?
- Is there a difference in the degree of availability of digital transformation requirements from the point of view of students at the College of Business at Imam University?
- Is there a difference in the degree of availability of educational service quality from the point of view of students at the College of Business at Imam University?

The objectives of the study are as follows:

- Measuring the direct impact of the dimensions of digital transformation on student satisfaction
- Determining the direct impact of the dimensions of educational service quality on student satisfaction
- Providing a set of recommendations for the impact of applying digital transformation and educational service quality on student satisfaction.

2- Previous Studies

A study, by (Basil, et al., 2022) entitled (The Impact of Digital Transformation of University Services on Enhancing Student Satisfaction at Tishreen University) The study aimed to identify digital transformation and its importance in universities and to measure the impact of digital transformation on student satisfaction at Tishreen University. The descriptive analytical approach was used, and the questionnaire was distributed to a sample of graduate students. The data was analyzed using SPSS and SMATPLS programs. The study concluded with the most important results: There is a statistically significant impact of digital transformation on student satisfaction at Tishreen University.

Study (Sarah, 2024) entitled (Digital Transformation and the Quality of Social Service Education: A Study Applied to Public Universities in Riyadh). The study aimed to study digital transformation and its relationship to the quality of social service education in Saudi universities, to understand the different dimensions of this transformation, which include the organizational, human, and technical dimensions. The research adopted the social survey approach, targeting faculty members in social service departments in public universities in Riyadh, selecting a deliberate sample from three Saudi universities: Princess Noura University, King Saud University, and Imam Muhammad bin Saud University. The number of participants reached 63 members. The study yielded a set of results, the most important of which are: There is a high digital transformation and a positive relationship between digital and the quality of social service education in Saudi universities. The labor market came in first place, followed by the human dimension, then the technical dimension.

A study (Saniya, 2021) entitled (The Impact of Digital Transformation and Educational Service Quality on Mansoura University Students' Satisfaction). The study aimed to know the direct impact of both digital transformation and educational service quality on Mansoura University students' satisfaction. 384 questionnaires were distributed to six different faculties of the university. SPSS V.25 statistical analysis was used with a response rate of 86%. The results found a positive significant impact on some dimensions of digital transformation represented by (information technology infrastructure, digital education, and digital libraries) on student satisfaction, and some dimensions of educational service quality represented by (tangibility, reliability, and security) had a positive significant impact on student satisfaction.

A study (Forid. M.s 2022) study entitled Student Satisfaction and Retention: The Impact of Service Quality and Digital Transformation. This study aimed to investigate how the dimensions of educational service quality and digital transformation affect student satisfaction and retention in private universities in Bangladesh.

The statistical analysis was conducted through the SPSS.26.0 program. The study results found that all dimensions of service quality positively affect student satisfaction except for the dimension of empathy. The study also found that digital transformation significantly affects student satisfaction.

Study (Ahmed et al., 2022) entitled The Impact of the Quality of Educational Services on Student Satisfaction in Saudi Universities The study aimed to reveal the level of quality of services provided to students in Saudi universities and to show the impact of the quality of services provided to them on enhancing their satisfaction. 948 questionnaires were distributed to three Saudi universities (King Abdulaziz, Qassim, and Taif). The results showed a statistically significant effect of the quality of services provided to students in Saudi universities in its dimensions (material, reliability, guarantee, and empathy) on their satisfaction. And the absence of a statistically significant effect of the dimension of response to the quality of services provided in Saudi universities on their satisfaction).

Study (Noureddine, 2021). entitled Evaluation of students at the College of Education at Hail University of the quality of educational services provided by the college in light of some quality standards and institutional academic accreditation. The study aimed to evaluate the quality of educational services provided by the College of Education at Hail University from the student's point of view. The descriptive survey method was used, and (108) questionnaires were distributed. The researcher used the SPSS program package for social sciences. The results of the study showed that the overall educational services provided by the college were above average, the quality of faculty performance axis was above average, then the tangible material elements axis, the response provided by the college was average and highly rated, and finally, the quality of the educational environment was average.

Study (Al-Tayeb, 2023) entitled Service Quality and its Impact on Student Satisfaction at Shendi University, the researcher used the descriptive analytical approach, the study sample consisted of (71) male and female students, the sample was taken randomly, the data were analyzed descriptively using arithmetic averages and standard deviation. The results of the study showed that the level of educational service quality among students was at an average level, as well as student satisfaction was at an average level, the study revealed the absence of a statistically significant effect on the quality of educational service as a whole and its five dimensions (tangibility, reliability, responsiveness, security, empathy)

Study (Van Nguyen, 2021) entitled Solutions to Improve the Quality of Educational Service at Vietnam University) The study aimed to examine the relationship between the dimensions of educational service quality (support services, reliability, empathy, responsiveness, assurance, tangibility) and student satisfaction, the results of the study concluded that there is a positive correlation between all dimensions of educational service quality and student satisfaction. By reviewing previous studies that examined the relationship between digital transformation and student satisfaction, in addition to studies that examined the relationship between educational service quality and student satisfaction, some conclusions can be summarized as follows:

- The scarcity of studies that combined digital transformation and educational service quality as independent variables and examined their impact on student satisfaction in one model.
- The difference between previous studies regarding the dimensions of digital transformation and the dimensions of educational service quality, and this matter allowed the researcher to test the most common dimensions that are appropriate for the study problem.

3. THEORETICAL FRAMEWORK: LITERATURE REVIEW

3.1 What is digital transformation?

Digital transformation is a process supported by digital technologies that bring about changes in organizations and have a tremendous impact on organizational assessment through the Internet of Things, big data analysis, cloud computing, mobile technologies, and artificial intelligence (Feroz.et al,2021). It is also known as the organization's use of digital technology in managing its business, services, and operations in processing and analyzing its data, in interaction between its members, and in implementing its transactions electronically in a complete manner. This must be done in a technological or digital environment that has been fully secured based on the databases of the Jonsson Group (Jonsson,2020). believes that the digital transformation of universities is an intentional change in the pattern of services, functions, administrative, educational, research, and

service practices of the university from the usual traditional form to an electronic and digital image through smart human resources, technical infrastructure components and smart technological applications via the Internet within the university campus (Stark, 2020). Brooks believes that digital transformation in higher education institutions is more than just transferring paper records to a computer and adopting technologies to perform operations faster and more efficiently. Rather, it is a series of deep and coordinated culture, human workforce, and technological transformations that enable new educational and operational models and transform the institution's business model, strategic directions, and value-added offering across the entire institution, which requires innovative leadership at all levels, as well as coordination between units, flexibility, and agility.

The movement (Brooks, et al, 2020). The digital transformation of university education involves a strategic effort at the campus level to plan, implement, and adopt an integrated technological system of technologies for advising supported by data analytics to improve student continuity and graduation rates. Digital transformation is not a single project or initiative but must be repeated automatically to become the digital culture and approach that the university uses to achieve many strategic goals (Miller, 2021), and (Petrava, 2022), defined it as a series of deep and coordinated culture, workforce and technological transformations that enable new educational and operational models, and transform the institution's operations, strategic directions, and value propositions. Limei sees it as "the use of new educational technology by faculty members to bring about radical changes in university educational institutions through electronic platforms that enhance communication with students, prepare study materials electronically, electronic assessment tests and other tasks in university life. Benedek also defined it as "the occurrence of interactive communication between the individual and the technological machine and the formation of spatial independence for human communication capabilities, which entails new educational challenges such as building and developing digital content, and projects to digitize educational content using information technology and university applications (Benedek, 2020).

3.2 Supporting theories

Sociologists, when they are in the process of developing their theories, follow organized ways and methods of thinking, which are like perspectives that influence their work. Therefore, it becomes of great importance that the evidence and proof that sociologists use to support and confirm their theoretical judgments can be subjected to scrutiny by an independent party. The organized theory directs the research so that its results contribute directly to the development and growth of knowledge building. The study relied on the theoretical statements and opinions of different sociologists, to identify their theoretical trends in interpreting the subject of the current study.

In the functional school, K. Mannheim 1893-1947 emphasized. Education is not a means to achieve specific cultural goals such as human progress or professional specialization, but rather an integrated social process that aims to prepare individuals for the social life expected of them successfully in their society. This process includes training individuals to successfully practice their expected social roles in their society. Accordingly, this process cannot be understood, and its goals and results cannot be evaluated without analyzing the nature of the society it serves, as well as its social structure and the culturally specific social positions that its individuals will occupy in the future. Accordingly, Mannheim emphasized the necessity of education, its goals, programs, and methods in the social context (Al-Sayed, 1993).

Mannheim also raises in the educational formulation the necessity of looking at the environment surrounding the student as a set of models that need to be discovered to serve the purposes of education and meet the needs of society, with the necessity of investing in educational and educational systems in societies to serve the socially required goals according to their priority, and thus education becomes an integral part of the general awareness of society (Mannheim, 1962)

It is clear from the above that Karl Mannheim confirms that education is not a means to achieve specific cultural goals such as human progress or professional specialization, but rather an integrated social process that aims to prepare individuals for social life in society, and he also emphasizes that the university provides the student with various types of knowledge and skills necessary to enter the labor market.

Jacob Mincer, 1922-2006, believes that human capital is related to improving the capabilities acquired through formal and informal education, and through on-the-job training, experience, and labor migration (Cakar et al, 2021). He also pointed out that human capital analyses of labor market behavior depend on post-university training when using direct measures of such training, and linked training, learning, and trends in technological change (Mincer, 1989).

Gary Becker (1930-2014) linked human capital to skills, abilities, and knowledge acquired through education (Kallmuenzer et al. 2021). He believes that investing in human capital is an investment that can lead to increased income by enhancing a person's abilities, knowledge, or skills, and believes that the stock of human capital consists of natural and cognitive abilities and skills acquired through an educational institution and fluency and experience that comes from time spent on the job (Tovar, 2020).

It is clear from the above that Becker showed the importance of training and its impact on an individual's income, as well as the importance of investing in his human resources at a young age so that he can reap the fruits of this investment because the rate of increase in income has a greater impact until the youth of an individual. In the theory of modernization, we find Burton Clark, one of the most important sociologists of education, who presented a book entitled "Education of the Expert Society" in 1962, in which he raised the issue of technological change and emphasized that it requires the presence of individuals with a very high degree of skill and experience.

He indicated that life in contemporary society requires several skilled technicians and specialized experts, and the survival of society depends on such an elite and the extent of effective use of appropriate intellectual resources. Therefore, the educational and teaching system must be directed to achieve this task (Ibrahim, 1989).

Modernization theory advocates believe that the expansion of education and the diversity of educational programs reflect the technological changes imposed by professional construction and the increasing demand for specialized skills. This vision is based on its theoretical framework of the theory of industrial society that dominated Europe during the fifties of the twentieth century. This theory, the content of which is determined by the fact that technological change, especially in the field of production, provides the required basis for change in educational systems, in addition to emphasizing the role of education itself in modernizing production systems and societal systems, and the sign that links them (Robert, 1985).

It is clear from the above that information and communication technology has allowed integration into educational systems, starting in classrooms, through the establishment of electronic universities and ending with digital education via the Internet, as well as providing opportunities for all students to engage in educational and training activities outside the scope of traditional classrooms. Those who lack computer and technological skills will suffer from a kind of information and cognitive poverty.

The research will adopt a theoretical framework based on theoretical interpretations of human capital to understand and explain the role of digital transformation and service quality in student satisfaction at the College of Business at Imam Muhammad ibn Saud University, as the human capital theory focused on specific aspects such as growth, raising the level of knowledge, and developing human capabilities among students and faculty members. The importance of caring for the importance of human capital also came from a multi-dimensional perspective, the most important of which is the scientific dimension, which is represented in the university providing scientific cadres capable of research, innovation, invention, development, and creative thinking, which contributes to bringing about various civilizational shifts, bringing about technological progress in various areas of life, and continuous improvement in means of living, and the economic dimension through qualified and trained human resources to achieve progress, and provide the needs of the population for goods and services, in addition to the fact that the individual who is qualified in education and training has a greater opportunity to work as a productive citizen.

3.3 The importance of digital transformation in universities

Digital transformation has become a contemporary trend in universities, and it has become a necessity in work. Most universities around the world started the digital transformation process decades ago, and today they are reaping its positive results in the educational process and the

satisfaction of their customers with the teaching process and other services related to registration, testing, and training. (Kuali ,2020) believes that the importance of digital transformation lies in the following:

- **The ability to adapt and adapt:** Universities need to be able to quickly adapt to changing circumstances, and the centralization of basic operations provides the basis through which they can innovate and plan. Transformation helps universities take advantage of future opportunities and gain an advantage over competitors. In addition, it supports the transition to the modern Student Information System (SIS) as part of the transformation process, which in turn contributes to facilitating many things such as admission processes and curriculum management.
- **Improving student experience and saving cost and time for him:** Among the manifestations of digital transformation in universities, we refer to e-learning, where the student can learn without having to be restricted to a specific place or time, and he can also choose the curriculum that suits his lifestyle and his own schedule, which allows him high flexibility in learning.
- **Reducing costs and conserving resources**: By transforming the institution digitally, costs can be reduced by eliminating old practices such as paper and moving to digital files. Pooling resources and tools can also reduce technical and technical costs.
- **Higher flexibility**: Digital transformation makes universities more flexible, raising institutions to improve and speed up seizing opportunities and taking the lead in owning the largest share of the market and introducing continuous improvements to the strategy, allowing them to have the flexibility and the ability to innovate while maintaining the path of growth and development (Editorial.2021)
- **Raising the level of scientific research**: (James, 2021) believes that through the tools provided by digital technology, researchers are now able to access sources and references through electronic journals, libraries, and others via the Internet, as well as communicate and collaborate in research with their colleagues around the world, as well as publish their research and deliver it to a wider range than before, thus spreading knowledge that will benefit and contribute directly to improving the quality of human life, and other benefits.

3.4 Dimensions of digital transformation:

3.4.1 Information technology infrastructure:

The technological components of digital transformation in the educational process are the physical equipment of computers and their various accessories, educational software, and the infrastructure of communications and networks to use e-learning and various applications. This is achieved through the following component. (Dong, 2016))

- Technical devices (computers, interactive screens, cameras, broadcasting and transmission devices)
- Smart classrooms
- The presence of modern applications to deal with increasing data
- Cybersecurity
- Digital training systems
- High-speed Internet network
- Sufficient virtual laboratories and labs

3.4.2 Digital education:

Digital education is considered one of the most important mechanisms and pillars supporting digital transformation and development alike because it provides knowledge and enhances its acquisition and development in various fields and areas of knowledge production. It also increases opportunities for creativity and innovation because it enhances capabilities and develops and improves skills. Thus, it enhances the trend of transformation towards digital transformation and a knowledge society.

Delgado defines it as "the creative use of digital resources and innovations during teaching and learning, as exploring the use of emerging technologies provides teachers with the ability in their classrooms to design interactive learning environments, which can take the form of blended or fully

online programs and courses and refers to digital education as technology-enhanced education (TEL) or e-learning.(Delgado, et al, 2017), and Addam also defined it as "the process of teaching, training and disseminating information through information through the use of electronic devices and modern multiple technological media without being restricted by the time or place factor, where communication and interaction between faculty members and students take place through a variety of means of communication, and the educational process proceeds according to the readiness and circumstances of the learner's abilities." (Adam marks, et al, 2020).

3.4.3 Digital libraries

They constitute all digital electronic resources and all their contents, and do not need buildings, but rather a group of servers and a network that connects them to the ends of the group for use (Imad, 2006). Abdul Rahman defined them as having a physical entity and include various and diverse materials from traditional and electronic information containers and is managed by a system that has the minimum of subsystems, and it also provides its services in two forms, physical and digital (Abdul Rahman, 2006).

Digital libraries play a multiple role that can be summarized in five functions (Suzy, 2002)

- Encouraging the information needs of the beneficiary community

- We aim to provide various information services

- They work to organize information in a way that makes it tradable and retrievable

- They manage different information sites and coordinate between them

- They provide channels through which information is broadcast to beneficiaries

By disregarding these dimensions, it becomes clear beyond doubt that the organization of libraries and information should play a leading role in creating experts in the field of digital libraries. We can help beneficiaries, provide information services, produce and manage electronic resources. This means that it is necessary to reformulate the vision of education in the field of libraries and information to suit the multiple information needs of the beneficiary community.

3.5 Obstacles to digital transformation:

Many obstacles limit the digital process, including (Ross et al, 2017).

- **Resistance to change**: One of the biggest obstacles to digital transformation is resistance to change from employees, stakeholders, and customers. People may be reluctant to adopt new technology, change business processes, or change their work habits.
- **Lack of skills and expertise:** Digital transformation often requires a skilled workforce with expertise in areas such as data analysis, artificial intelligence, and software development. However, many organizations may lack these skills or may struggle to attract and retain talent.
- **Legacy systems and infrastructure:** Many organizations have legacy systems and infrastructure that may not be compatible with new technology solutions, making it difficult to integrate and scale digital solutions.
- **Lack of a clear strategy and vision:** Without a clear strategy and vision for digital transformation, organizations may struggle to prioritize initiatives and align them with business goals. - IT security risks that threaten university big data networks, such as viruses, Internet hacking, and the need to constantly update cybersecurity procedures (Tomte, et al, 2019).

3.6 Quality of educational service

3.6.1 The concept of service quality

Service is an intangible product that provides direct benefits and advantages to the customer because of applying effort or using human or mechanical energy on specific people or things. These products cannot be possessed or consumed physically (AL-Zoubi, 2009)

Quality: It is a standard for the degree to which the actual performance of the service matches the customers' expectations for this service: Providing a quality service means that the service matches the customers' expectations (Ali, 2002)

Service quality: It means the suitability of what they expect from the service provided to them with their actual awareness of the benefit they gain because of obtaining the service, so good service from the students' point of view is the one that matches their expectations (Ismail, 2007)

3.6.2 Quality of educational service:

The quality of educational service is an organized social process through which interaction takes place between educational service providers and educational service recipients in light of the availability of an appropriate educational environment to meet the needs and desires of the beneficiaries of the educational service (El Alfy, 2020).

Referred (Forghani, 2020) to the quality of educational service as the process of the educational system meeting the agreed standards and levels with the efficiency and effectiveness of the educational system with its various elements (inputs, processes, outputs, environment) to achieve the highest level of value, efficiency, and effectiveness for each of the system's goals and student expectations, educational service). (Galeava, 2016) indicated that the quality of educational service refers to meeting all the needs and desires of students to achieve a balance between their expectations and what is achieved, as defined by Alayoubi, that the quality of educational service refers to the success of the educational institution in providing an educational environment that enables students to achieve educational goals effectively according to appropriate academic standards.

3.6.3 Dimensions of educational service quality

The dimensions of educational service quality are represented in the following dimensions (Quinn et al, 2009)

- **Tangible**: It includes all physical aspects and facilities associated with providing the service, such as the appearance of the workers, the equipment used, and the physical facilities.
- **Reliability**: It means the university's ability to perform the service with confidence and accuracy as promised.
- **Responsiveness**: It reflects the university's desire to help students and respond to their requirements quickly.
- **Empathy:** This dimension reflects the care and individual attention that the university gives to its students.
- **Safety**: It means the extent to which employees are familiar with their job duties, which enables them to provide a service free of any kind of risk.

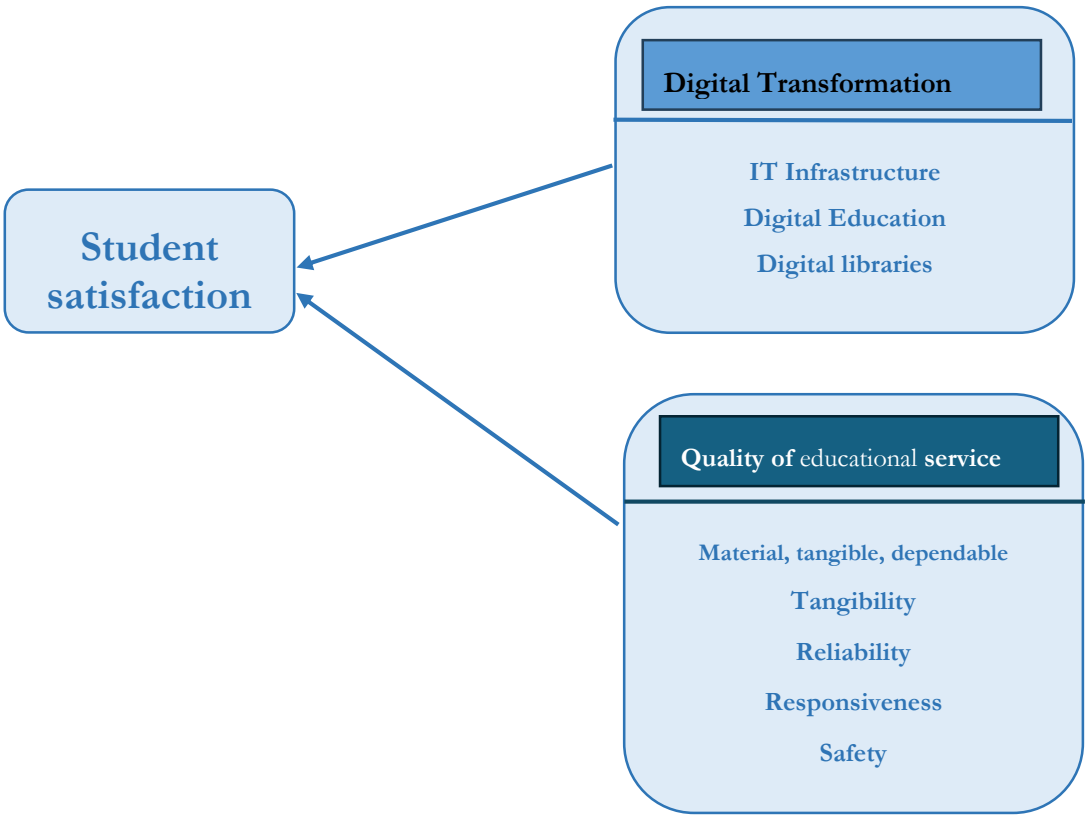
3.7 Student satisfaction

Student satisfaction refers to their positive feelings towards the educational institution to which they belong, and this feeling is usually linked to the possibility of these students obtaining the resources required to cover their academic and social needs, in addition to other determinants, which include academic performance, the quality of the guidance system, and the state of interaction between the students themselves and between them and those in charge of the teaching and administrative system.

In the context of higher education, students are considered the primary customers of their universities (Hall et al, 2014). Therefore, student satisfaction can be defined as the positive feelings of students towards the university to which they belong. Mark believes that student satisfaction is achieved when the actual performance meets or exceeds students' expectations (Mark, 2013). Student satisfaction is considered a positive indicator of loyalty to the educational institution (Weerasinghe et al, 2018). The reason for higher education institutions' interest in their students' satisfaction is due to its great impact on motivating and retaining them on the one hand and on their ability to attract new students on the other hand considering the intense competition between universities.

Puska also referred to student satisfaction as the experience gained by students with the services provided by university institutions. Student satisfaction occurs when they have positive impressions about the level of services provided to them (Puska et al, 2021), while Albassheer defined student satisfaction as the positive reactions of students to the level of services provided by educational institutions (Albasheer, 20210), and Jia also referred to student satisfaction as their assessment of the degree to which they meet their needs and academic requirements and meet their expectations, which include the selection of study materials, teaching methods, and professor evaluation (Jia, 2021).

3.8 Conceptual model in light of the problem and questions of the study, a research model was developed that explains the direct relationships between the variables as shown in Figure.1. below:



Considering the research model, the research hypotheses were formulated as follows:

F1: There is a positive significant effect of the dimensions of digital transformation (information technology infrastructure, digital education, digital libraries) on student satisfaction, and this hypothesis is divided into the following sub-hypotheses:

F1: There is a positive significant effect of the information technology infrastructure on student satisfaction

F2: There is a positive significant effect of digital education on student satisfaction

F3: There is a positive significant effect of digital libraries on student satisfaction

F2: There is a positive significant effect of the dimensions of educational service quality (tangibility, reliability, responsiveness, empathy, safety) on student satisfaction, and this hypothesis is divided into the following sub-hypotheses:

F2/1: There is a positive significant effect of tangibility on student satisfaction

F2/2: There is a positive significant effect of reliability on student satisfaction

F2/3: There is a positive significant effect of responsiveness on student satisfaction

F2/4: There is a positive significant effect of empathy on student satisfaction

F2/5: There is a positive significant effect Positive for safety on student satisfaction

4. METHODOLOGY

The quantitative approach was employed to conduct this study, which allows for objective measurement and analysis of the relationships between the study variables, and it adheres to a positive cognitive model to address its research inquiries.

Based on the study problem and its objectives. The study community consists of male and female students at the College of Business at Imam Muhammad bin Saud University. Items were selected from the study community using the random sample method that allows opportunities for random selection of each item of the community based on the homogeneity of the characteristics of the community subject to the study, as 370 male and female students were surveyed.

The impact of digital transformation and educational service quality dimensions on student satisfaction as a dependent variable is accurately addressed by this study. The first part of the questionnaire specifies the demographic information of the College of business students, which includes (gender, age, and specialization), while the second part delves into measuring the independent variables represented by the dimensions of digital transformation and the dimensions of educational service quality, in addition to the elements related to the dependent variable, which is student satisfaction. The respondents' answers were analyzed using the Statistical Package for the Social Sciences (SPSS) and the (AMOS) program, which provided a reliable and methodical approach to data analysis.

5. RESULTS OF THE FIELD STUDY ANALYSIS

This part includes the field study procedures, which are represented in the method of collecting data, processing it statistically and interpreting it, and conducting stability and validity tests to ensure its validity, in addition to a description of the study community and sample and the statistical methods by which the data were analyzed and the study hypotheses were tested, as follows:

5.1 Study tool

The data collection tool that the study relied on is to obtain the primary data on the questionnaire and consists of two sections: The first section: includes the data specific to the individuals of the study sample (gender, age, specialization), while the second section: includes the study variables as shown in the following table:

Table 1: Study variables

Variables	**Paragraphs**
Independent Variable Dimensions of Digital Transformation	12 paragraphs
IT Infrastructure	4-7
Digital Education	8-11
Digital Library	12-15
Independent variable dimensions of educational service quality	15 paragraphs
tangibility dimension	16-19
Dependency dimension	20-23
Response dimension	24-27
Security dimension	28-30
Empathy dimension	31-34
Dependent variable Student satisfaction	35-39

The degree of possible responses to the paragraphs was also measured on a five-point scale according to the five-point Likert Scale

5.2 Description of the study community and sample:

Based on the study problem, which aims to measure the impact of digital transformation and the quality of educational service on student satisfaction, the target community consists of students at the College of Business at Imam Muhammad bin Saud Islamic University. The research items were selected from the study community shown in the previous paragraph using the random sample method, which allows opportunities for random selection of each item from the community items based on the homogeneity of the characteristics of the community subject to the study, as several (370) male and female students were surveyed. The following table shows the characteristics of the study sample.

Table 2: Participant characteristics

Characteristics	Categories	Frequency	Percentage (%)
Sex	Male Female	204 166	55.1 44.49
Age	Less than 20 years From 21 to 23 years More than 23 years	77 236 57	20.8 63.8 15.4
Specialization	Business Administration (including all tracks Finance (including all tracks) Accounting Insurance Economics (including all tracks)	165 38 50 31 86	44.6 10.3 13.5 8.4 23.2

It is clear from Table (2) above that most of the sample members are males, as their percentage reached (55.1%), while the percentage of females reached (44.9%). We also find that the largest percentage of the students subject to the study are between the ages of (21-23 years) at a percentage of (63.8%), in addition to the fact that the percentage of (44.6%) of them are from the business administration specialization in all tracks, while the percentage of students from the finance and accounting specialization reached (23.8%), while the sample members from the insurance and economics specialization in all its tracks reached (31.65).

5.3 Validity and reliability test of the study tool: One of the basic characteristics that should also be available in the data collection tool before starting to use it is the reliability property, which indicates the degree to which the scale is free of errors, especially random errors. The importance of measuring the degree of stability and reliability of the scale lies in the necessity of obtaining correct results. To ensure the validity of the study tool, both validity and reliability tests were used as follows:

5.4 Validity of the study tool: Validity or reliability of the measurement tool means the ability of the performance to measure what it was designed for. Based on the theory of correct measurement, complete validity means that the tool is free of measurement errors, whether random or regular. The study relied on measuring the validity of the study tool on each of the following:

5.5 Validity test of the scale content: In general, the validity of the scale content represents one of the basic pillars on which the design of the data collection tool is based to confront the obstacles to measuring the statements of the study axes. Validity of the scale means determining to what degree the scale measures the purpose for which it was designed. To verify the validity of the scale, the study relied on apparent validity, as the draft of the measurement tool was presented to some specialists in The field of marketing and statistics, to know their opinions on measuring the relationship between the study variables before distributing them to the selected sample to verify the stability of the measurement. The arbitrators were asked to express their opinions on the study tool and the validity of the phrases, their comprehensiveness, the diversity of their content, and the evaluation of the level of linguistic formulation or any comments they deem appropriate regarding modification,

change or deletion. After the questionnaire was retrieved from all experts, their responses were analyzed, their comments were considered, and the required modifications were made. (B)/ Internal consistency validity: Structural validity is one of the measures of the validity of the tool that measures the extent to which the goals that the tool wants to achieve are achieved and shows the extent to which each dimension of the study is related to the total score of the tool paragraphs. According to this method, the stability will be tested by estimating the correlation coefficients for all study axes with the total sum, as the values of the correlation coefficient for all axes with the total sum were estimated. The following table shows the test results.

Table 3: Correlation coefficient of the study axes with the total score

Variables	**Correlation coefficient**	**Morale level**
IT Infrastructure Digital Education Digital Library	0.86 0.77 0.74	0.001 0.021 0.032
Reliability dimension Responsiveness dimension Security dimension Empathy dimension Dependent variable Student satisfaction	0.81 0.89 0.72 0.80 0.79 0.84	0.000 0.000 0.033 0.000 0.011 0.000

It is clear from Table (3) that all study axes have a positive and statistically significant correlation at the significance level (0.05) with the total sum of the axis to which they belong. Thus, all dimensions of the tool are considered to measure what they were designed to measure.

5.5.1 Questionnaire stability: Stability means (the stability of the scale, i.e. the scale gives the same results with a probability equal to the value of the coefficient if it is reapplied to the same sample). The stability of the study tool was estimated using Cronbach's Alpha coefficient (Cronbach's Alpha), and Table (4) indicates that the Cronbach's Alpha values for all study variables are greater than (60%), as the value of (Cronbach's Alpha coefficient) for all study axes is greater than (0.60). These values mean the availability of a high degree of internal stability, which enables us to rely on these answers to achieve the study objectives and analyze its results.

Table 4: Cronbach's Alpha coefficients

Variables	**Number of phrases**	**Cronbach's alpha coefficients**
IT infrastructure Digital Education Digital library **Dimensions of digital transformation**	4 4 4 **12**	0.77 0.73 0.80 **0.82**
Tangibility dimension Reliability dimension Responsiveness dimension Security dimension Empathy dimension **Dimensions of Educational Service Quality**	 4 4 4 3 4 **15**	 0.84 0.79 0.74 0.82 0.76 **0.78**
Student satisfaction	**5**	**0.80**

5.5.2 Statistical analysis methods used in the study

Both the (SPSS) program and the (AMOS) program were used through the following statistical tools:

1. Conducting a reliability test for the questionnaire statements using "each of:
    a. Apparent validity test
    b. Validity and reliability tests

2. **Descriptive statistics methods:** This is to describe the characteristics of the study sample items through:
    a. Arithmetic mean.
    b. Standard deviation.
3. The structural equation modeling methodology (SEM)

This is done by using path analysis and based on a set of indicators called goodness of fit indices. The most important of these indicators that are used in this study are: The chi-square ratio for degrees of freedom (and must be less than 5). Goodness of fit index (GFI) (and must be greater from (0.90). Comparative Fit Index (CFI) and must be greater than (0.90). Root Mean Square Error of Approach (RMSEA) (and must be less than 0.05).

5.6 Presentation and analysis of study data

The study aims, through the analysis of the basic data, to provide a "descriptive" statistic for the phrases of the study variables that reflect the degree of response to the researched units by estimating the arithmetic mean and standard deviation for the phrases of the study axes:

5.6.1 Presentation and analysis of the data of the independent variable axis: digital transformation.

Table 5: Descriptive statistical analysis of the phrases of the dimensions of digital transformation

phrase	Arithmetic mean	Standard deviation	Arrangement
The college's infrastructure can support digital transformation	4.03	0.95	1
The college's IT providers possess the required experience and knowledge	3.91	0.96	3
Information and digital assets are secured and protected by the college using strong systems	3.98	0.98	2
Technical support and resolution of technical problems are provided by specialists at the college as soon as they arise	3.76	1.11	4
IT Infrastructure Dimension	**3.92**	**0.99**	**2**
Digital learning develops independence, self-learning, and innovation skills.	4.20	0.94	1
An electronic testing system that is both modern and highly efficient can be found	4.14	0.99	2
Each course has electronic content that is easy to access	4.08	1.07	3
The educational process can benefit from the use of digital audio-visual media	4.06	0.91	4
Digital Education Dimension	**4.12**	**0.98**	**1**
The digital library fulfills my requirement for accessing global library catalogs	3.77	1.06	3
The digital library services are known for their speed of search and ease of use.	3.80	1.01	2
The beneficiaries of the digital library are taught how to search for information sources	3.67	1.05	4
The digital library's information sources are trustworthy to me	4.01	0.91	1
Digital Library Dimension	**3.81**	**1.01**	**3**

It is clear from Table (5) that all phrases of the dimensions of digital transformation achieved arithmetic mean greater than the hypothetical mean of the study, as the dimension (information technology infrastructure) achieved an arithmetic mean (3.92) with a standard deviation (0.99) and a response level (high), while the dimension (digital education) achieved an arithmetic mean (4.12) with a Standard deviation (0.98) and a response level (high). As for the dimension (digital library), it achieved an arithmetic mean (3.81) with a standard deviation (1.01) and a response level (high). The table also shows the low dispersion in the responses of the study sample regarding all phrases through the values of the standard deviation, which reflects the convergence in the views of the individuals ofin study sample regarding all phrases. At the level of arranging the relative importance of the dimensions of the digital transformation axis, the dimension (digital education) achieved first place, then the dimension (information technology infrastructure) achieved second place, while the dimension (digital library) achieved last place.

5.6.2 Display and analysis of data on the independent variable axis: educational service quality

Table 6: Descriptive statistical analysis of the phrases of the dimensions of educational service quality

Phrase	Arithmetic mean	Standard deviation	Arrangement
The college's facilities are both good and appropriate.	4.01	1.06	2
The classrooms are compatible with the educational process provided.	3.89	1.13	3
The college's specializations and courses are both appropriate and attractive.	4.06	1.10	1
The college has enough faculty members and employees.	3.81	1.18	4
tangibility dimension	**3.94**	**1.11**	**2**
The college is determined to meet the deadlines for lectures and tests	4.27	.94	1
The college is fully prepared to help students when a problem occurs	3.75	1.24	4
College administration keeps the interests of students in mind.	3.77	1.19	3
The college's faculty members and staff are always ready to help students	3.95	1.06	2
Reliability dimension	**3.93**	**1.1**	**3**
Transparency and clarity are hallmarks of the behavior of faculty and staff at the college	3.93	1.13	1
The college administration comprehends the specific requirements of students	3.75	1.23	3
In its relationship with students, the college administration displays friendliness	3.84	1.12	2
The college offers its students the chance to go on trips, socialize, and celebrate.	3.59	1.23	4
Response dimension	**3.77**	**1.12**	**5**
The security of students is enhanced by the behavior of faculty and staff	3.96	1.07	3
The college administration provides safety and security procedures	4.11	0.92	1
I want to complete my postgraduate studies at the college	3.79	1.18	2

Security dimension	**3.96**	**1.05**	**1**
The college administration is keen to sympathize with students when problems occur	3.81	1.16	3
The college administration is interested in organizing lecture schedules in a manner that suits the students' interests.	3.92	1.16	2
The relationship between faculty and students is harmonious**.**	3.95	1.05	1
The college and academic departments provide academic advisors to help and advice to students before and during the registration process	3.78	1.22	4
Empathy dimension	**3.87**	**1.14**	**4**

It is clear from Table (6) that all the phrases of the dimensions of the quality of educational service achieved an arithmetic mean greater than the hypothetical mean of the study, as the dimension (tangibility) achieved an arithmetic mean of (3.94) with a standard deviation of (1.11) and a response level of (high), and the phrase (specializations and courses in the college are appropriate and attractive) came in first place in terms of relative importance, while the dimension (dependability) achieved an arithmetic mean of (3.93) with a standard deviation of (1.1) and a response level of (high), and the phrase (the college is committed to providing lectures and tests on time) came in first place in terms of relative importance, as the dimension (response) achieved an arithmetic mean of (3.77) with a standard deviation of (1.12) and a response level of (high), and the phrase (the behavior of faculty members and employees in the college is characterized by transparency and clarity) came in first place in terms of relative importance, and the dimension (security) achieved an arithmetic mean of (3.96) with a standard deviation of (1.05) and a response level of (high). The phrase (the college administration provides safety and security procedures) came in first place in terms of relative importance. As for the dimension (empathy), it achieved an arithmetic mean of (3.87) with a standard deviation of (1.14) and a response level of (high). The phrase (the relationship between faculty members and students is characterized by harmony) came in first place in terms of relative importance. At the level of arranging the relative importance of the dimensions of the digital transformation axis, the dimension (safety) achieved first place, then the dimension (tangibility) achieved second place, then the dimension (reliability) achieved third place, and the dimension (empathy) achieved fourth place, while the dimension (responsiveness) achieved last place.

5.6.3 Display and analysis of data for the dependent variable axis: student satisfaction

Below is the descriptive statistical analysis of the statements measuring the student satisfaction axis

Table 7: Descriptive statistical analysis of the statements of the student satisfaction axis.

Phrase	Arithmetic mean	Standard deviation	Arrangement
I am satisfied with the college website because it allows me to register, add and delete courses from inside and outside the university	4.10	1.11	2
I am satisfied with the accuracy and reliability of the information provided by the college website	4.06	1.06	3
I am satisfied with the ease and speed of accessing the college website	3.99	1.15	4
I am satisfied with the digital library and its contents of databases	3.85	1.01	5

I am satisfied with the suitability of the classrooms to the nature of the educational service provided	4.11	1.11	1
Total phrases	4.00	1.08	

It is clear from Table (7) that the arithmetic mean of the student satisfaction axis is greater than the hypothetical means of the study according to the estimated five-point Likert scale (3), as all statements achieved a general average of (4.00) with a standard deviation of (1.08) and a high response level. The table also shows the low dispersion in the responses of the study sample on all statements through the standard deviation values, which reflects the convergence in the views of the study sample members on all statements. This result indicates the sample members' agreement to feel satisfied with the digital transformation services with a high response rate. The statement (I am satisfied with the suitability of the classrooms to the nature of the educational service provided) came in first place in terms of relative importance, as the average of the sample members' responses to the statement was (4.11) with a standard deviation of (1.11). As for the last place, the statement (I am satisfied with the digital library and its contents of databases) came in second place, as its average was (3.85) with a standard deviation of (1.01).

5.7 Study hypotheses' test:

To test the study model and discuss the hypotheses, the structural equation modeling (SEM) method was used to estimate all partial regression models to obtain estimates of all relationships in the measurement models and the structural model (path coefficients), as this model is considered an extension of the general linear model of which multiple regression is a part and is characterized by the fact that many relationships can be conducted between variables at once, in addition to its ability to discover latent variables while determining the extent to which the model is suitable for the data collected through a set of indicators called goodness of fit indicators.

5.7.1 The following is a discussion of the study hypotheses

There is a positive significant effect of the dimensions of digital transformation (information technology infrastructure, digital education, digital libraries) on student satisfaction. This hypothesis is divided into the following sub-hypotheses:

F1: There is a positive significant effect of information technology infrastructure on student satisfaction

F2: There is a positive significant effect of digital education on student satisfaction

F3: There is a positive significant effect of digital libraries on student satisfaction.

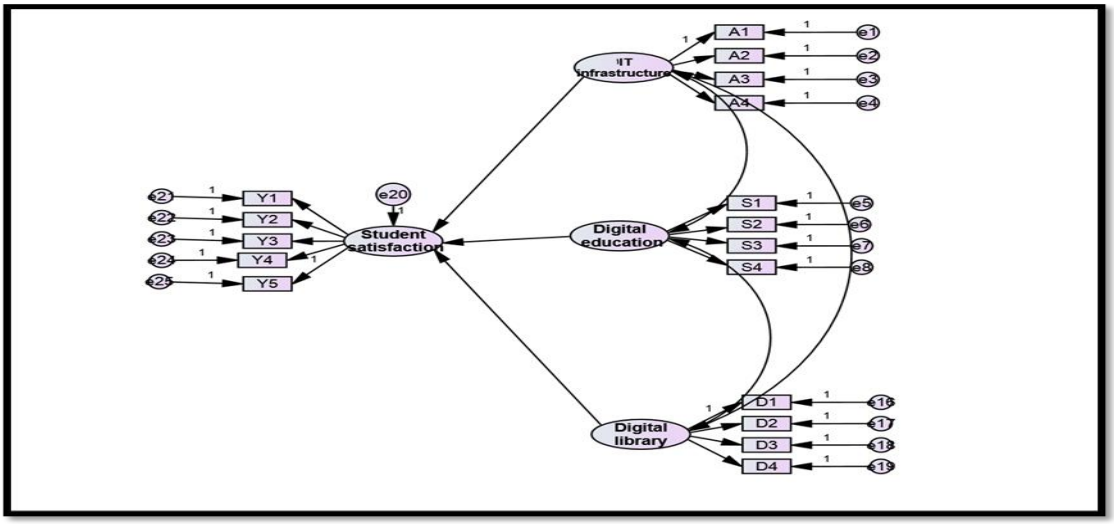


Figure 2: Model for measuring the impact of digital transformation on student satisfaction

To prove the validity of the hypothesis, the researcher used a path analysis model between the independent variable represented by (dimensions of digital transformation) and the dependent

variable represented by student satisfaction) and using estimation methods through the statistical analysis program (AMOS-27), the following results were reached:

Table 8: Conformity indicators for the study model

Conformity indicators	**Matching Availability**	**Test value**
Test value	> 5	2.332
GFI goodness-of-fit index	= or > 0.90	0.91
CFI comparative fit index	= or > 0.90	0.90
RMSEA root means square error of approximation index	= or < 0.08	0.06

It is clear from Table (8) that all the matching indicators were represented in the ideal range for each indicator according to the criteria for judging the quality of the model in the structural equations model, as the value of the chi-square ratio for the degrees of freedom reached (3.23), which is a value less than (5), and the value of the goodness of fit index (GFI) reached (0.91) and the value of the comparative fit index (CFI) reached (0.90), and all of them are greater than (0.90), and the value of the (RMSEA) index reached (0.060), which is a value less than the standard range (0.08), which indicates that the model has a good fit to the data under test.

Table 9: Results of estimating the relationship between the dimensions of digital transformation and student satisfaction

Dimensions of Digital Transformation	**Regression Coefficient (B)**	**Value (T)**	**Morale Level**
IT Infrastructure	**0.756**	**4.607**	**0.000**
Digital Education	**0.533**	**2.497**	**0.013**
Digital Library	**0.171**	**1.200**	**0.230**
Coefficient of Determination R2	**0.678**		

Table (9) shows the following:

- The path analysis process between each of the information technology infrastructure dimension and student satisfaction indicates the existence of a statistically significant relationship between the digital transformation dimension (information technology infrastructure) and student satisfaction, as the value of the relationship regression coefficient reached (0.756), and this value indicates that the use of information technology infrastructure directly affects student satisfaction, and thus a change of (1)% in the use of information technology infrastructure works to create a change of (0.8)% in student satisfaction, and the value of the significance level reached (0.000), which is a value less than the significance level (0.05), and this result indicates the existence of a statistically significant significant relationship between the information technology infrastructure dimension and student satisfaction with the community subject to the study.
- There is a statistically significant relationship between the digital transformation dimension (digital education) and student satisfaction, as the value of the relationship regression coefficient reached (0.533), and this value indicates that digital education has a direct impact on student satisfaction. Therefore, a change of (1) % in the use of digital learning creates a change of (0.5) % in student satisfaction. The value of the significance level reached (0.013), which is a value less than the significance level (0.05). This result indicates the existence of a statistically significant relationship between the digital learning dimension and student satisfaction with the study community.
- There is no statistically significant relationship between the digital transformation dimension (digital library) and student satisfaction, as the value of the relationship regression coefficient reached (0.171) with a significance level (0.230), which is a value less than the significance level (0.05).

- The coefficient of determination (R2), which reached a value of (0.678), also indicates that the digital transformation variable affects student satisfaction by (68) %, while other variables affect by (32) %.

From the above analysis results, the first hypothesis of the study is accepted, which states: (There is a positive moral effect of the dimensions of digital transformation (information technology infrastructure, digital education, digital libraries) on student satisfaction for each of the dimensions (information technology infrastructure, digital education) and its rejection for the dimension (digital libraries).

5.7.2 There is a positive significant effect of the dimensions of educational service quality (tangibility, reliability, responsiveness, empathy, safety) on student satisfaction, and this hypothesis is divided into the following sub-hypotheses:

F2/1: There is a positive significant effect of tangibility on student satisfaction. F2/2: There is a positive significant effect of reliability on student satisfaction. F2/3: There is a positive significant effect of responsiveness on student satisfaction. F2/4: There is a positive significant effect of empathy on student satisfaction. F2/5: There is a positive significant effect of safety on student satisfaction.

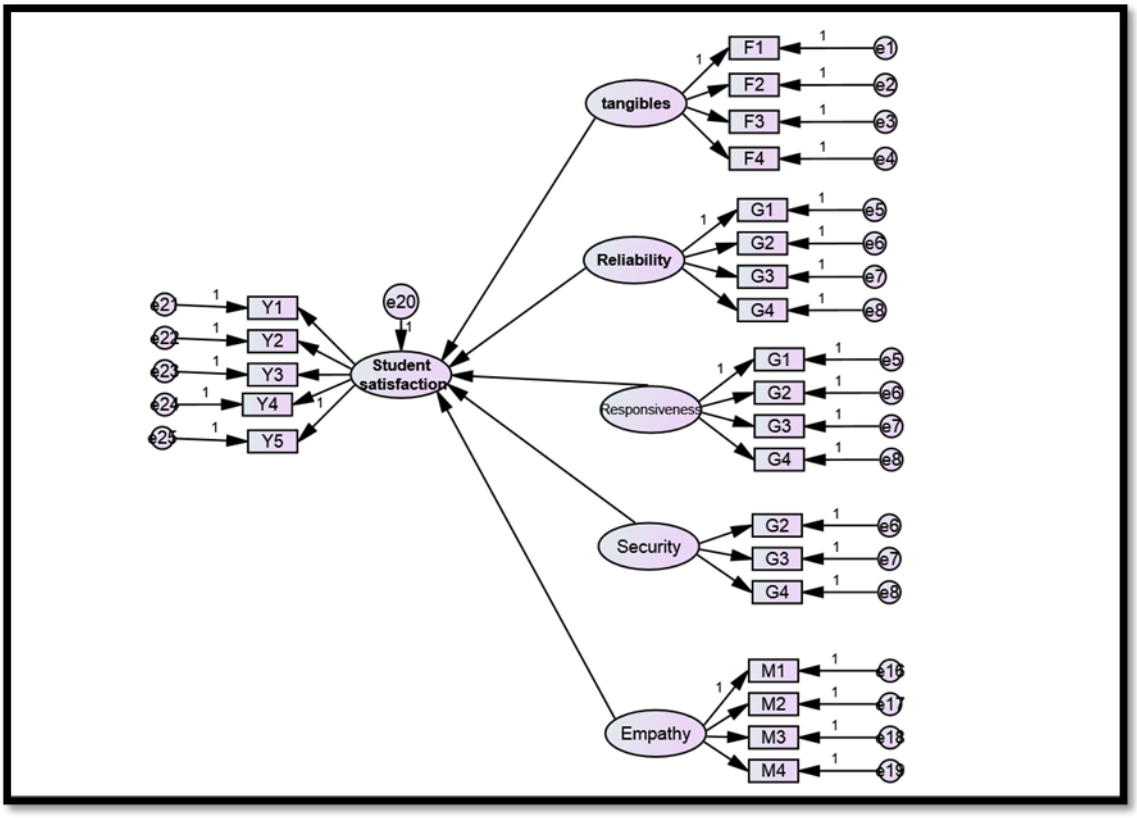


Figure 3: Model for measuring the impact of educational service quality on student satisfaction

To prove the validity of the hypothesis, the researcher used a path analysis model between the independent variable represented by the quality of educational service) and the dependent variable represented by student satisfaction) and using estimation methods through the statistical analysis program (AMOS-27), the following results were reached:

Table 11: Conformity indicators for the study model

Conformity Indicators	Matching Availability	Test value
Conformity Indicators Chi-square ratio of degrees of freedom	> 5	1.786
Goodness of fit index (GFI)	= or > 0.90	0.92
Comparative fit index (CFI)	= or > 0.90	0.91

Root means square error of approximation (RMSEA)	= or < 0.08	0.071

It is clear from Table (11) that all the matching indicators were represented in the ideal range for each indicator according to the criteria for judging the quality of the model in the structural equations model, as the value of the chi-square ratio for the degrees of freedom reached (3.23), which is a value less than (5), and the value of the goodness of fit index (GFI) reached (0.92) and the value of the comparative fit index (CFI) reached (0.91), and all of them are greater than (0.90), and the value of the (RMSEA) index reached (0.071), which is a value less than the standard range (0.08), which indicates that the model has a good fit to the data under test.

Table 12: Results of estimating the relationship between the dimensions of educational service quality and student satisfaction.

Dimensions of Educational Service Quality	**Regression Coefficient (B)**	**Value (T)**	**Morale Level**
Tangibility	0.242	4.476	0.000
Dependability	0.166	4.524	0.000
Responsiveness	0.026	2.751	0.006
Security	0.173	0.456	0.648
Empathy	0.216	3.243	0.001
Coefficient of determination R2	0.516		

Table (12) shows:

- The path analysis process between tangibility and student satisfaction indicates the existence of a statistically significant relationship between the dimension of educational service quality (tangibility) and student satisfaction, as the value of the relationship regression coefficient reached (0.242), and this value indicates that the dimension of tangibility directly affects student satisfaction, and thus a change of (1)% in the dimension of tangibility works to create a change of (0.2)% in student satisfaction, and the value of the significance level reached (0.000), which is a value less than the significance level (0.05), and this result indicates the existence of a statistically significant moral relationship between the dimension of tangibility and student satisfaction with the community subject to the study.
- There is a statistically significant relationship between the dimension of (reliability) and student satisfaction, as the value of the regression coefficient of the relationship reached (0.166), and this value indicates that the dimension of reliability has a direct effect on student satisfaction, and thus a change of (1)% in the dimension of reliability works to create a change of (0.2)% in student satisfaction. The value of the significance level reached (0.000), which is a value less than the significance level (0.05), and this result indicates the existence of a statistically significant moral relationship between the dimension of reliability and student satisfaction in the community that is the subject of the study. - There is a statistically significant relationship between the (response) dimension and student satisfaction, as the value of the regression coefficient of the relationship reached (0.026), and this value indicates that the response dimension has a direct effect on student satisfaction, and therefore a change of (1) % in the response dimension creates a change of (0.03) % in student satisfaction. The value of the significance level reached (0.006), which is a value less than the significance level

(0.05), and this result indicates the existence of a statistically significant relationship between the response dimension and student satisfaction with the community that is the subject of the study.

- There is no statistically significant relationship between the (safety) dimension and student satisfaction, as the value of the regression coefficient of the relationship reached (0.173), and the value of the significance level reached (0.648), which is a value greater than the significance level (0.05), and this result indicates the absence of a statistically significant relationship between the safety dimension and student satisfaction with the community that is the subject of the study. - There is a statistically significant relationship between the dimension of (empathy) and student satisfaction, as the value of the regression coefficient of the relationship reached (0.216), and this value indicates that the dimension of empathy directly affects student satisfaction, and therefore a change of (1) % in the dimension of empathy works to create a change of (0.2) % in student satisfaction. The value of the significance level reached (0.001), which is a value less than the significance level (0.05), and this result indicates the existence of a statistically significant moral relationship between the dimension of empathy and student satisfaction with the community that is the subject of the study. - The coefficient of determination (R2), which reached a value of (0.516), also indicates that the variable of educational service quality affects student satisfaction by (52) %, while other variables are affected by (48) %. From the above analysis results, the second study hypothesis is accepted, which states: (Positive for the dimensions of educational service quality (tangibility, reliability, responsiveness, empathy, safety) on student satisfaction) for each of the dimensions (tangibility, reliability, responsiveness, empathy) and rejected for the dimension (safety).

6. DISCUSSION

The analysis confirms that all variables used to measure the dimensions of digital transformation, and the dimensions of educational service quality were well and adequately defined, which confirms that they are all consistent with the structure that was prepared and are of great importance.

The research aimed to test the impact of the dimensions of digital transformation and the dimensions of educational service quality on the satisfaction of students at the College of Business at Imam Muhammad bin Saud University. The results of the study showed a positive moral impact for the dimensions of digital transformation (information technology infrastructure, digital education) and their rejection for the dimension of digital libraries, and the results of the study also showed that there is a positive moral impact for the dimensions of educational service quality (tangibility, reliability, empathy, and responsiveness) and their rejection for the dimension of security. The results of the study can be explained as follows:

- There is a positive moral effect linking the IT infrastructure and student satisfaction, as the value of the regression coefficient of the relationship reached (0.736) and this value indicates that the use of the IT infrastructure works to create a change of (0.8)% in student satisfaction, and the value of the significance level reached (0.000)) which is a value less than the significance level of (0.05).)%
- There is a positive moral effect between digital education and student satisfaction, as the value of the regression coefficient of the relationship reached (0.533) and this value indicates that digital education directly affects student satisfaction, and therefore a change of (1)% in the use of digital education works to create a change of (0.5)% in student satisfaction, and the value of the significance level reached (0.013)) which is a value less than the significance level of (0.05).)%
- The results of the study also showed a positive moral effect linking the tangibility dimension and student satisfaction at the College of Business, as the value of the regression coefficient of the relationship reached (0.242), and this value indicates that the tangibility dimension has a direct impact on student satisfaction at the College of Business.
- There is a significant effect between the dependability dimension and student satisfaction, as the value of the regression coefficient of the relationship reached (0.166), and this value indicates that the dependability dimension has a direct impact on student satisfaction at the College of Business.

- There is a positive moral effect linking the responsiveness dimension and student satisfaction, as the value of the regression coefficient of the relationship reached (0.026), and this value indicates that the responsiveness dimension has a direct impact on student satisfaction at the College of Business.
- There is a positive moral effect linking the empathy dimension and student satisfaction, as the value of the regression coefficient of the relationship reached (0.216), and this value indicates that the empathy dimension has a direct impact on student satisfaction.

The results of the study also showed that there is no significant effect linking the security dimension and student satisfaction at the College of Business, as the value of the regression coefficient of the relationship reached (0.173) and the level of significance reached (0.648), which is a value greater than the level of significance (0.05). Therefore, this result shows that there is no significant relationship between the security dimension and student satisfaction at the College of Business.

After reviewing the results of previous studies and comparing them with the current study, the following was reached:

The results of the current study regarding the impact of digital transformation on achieving student satisfaction agreed with the studies (Basil et al., Sara, 2024, Saniya, 2021, Forid, 2022) as all previous studies agreed that digital transformation in education leads to achieving student satisfaction. With a difference in some dimensions of digital transformation used in the study. Regarding the impact of the dimensions of educational service quality on student satisfaction, the results of the current study agreed about the impact of the dimensions of educational service on student satisfaction with the results of the studies (Ahmed, et al. 2022, Nour El-Din 2021, Van Nguyen, 2021) and differed with the results of the study (Al-Tayeb, 2023). Finally, the literature of this research contributes to matters related to educational administration, as it provides a knowledge base for understanding the way in which changes related to the digital transformation of the university and the dimensions of educational service quality affect emotional well-being and student satisfaction. The technology used must also be consistent with the values of the institution and truly aim to improve educational experience, in addition to achieving a significant impact on the university's reputation.

7. CONCLUSION

This study provides an overview of the impact of the dimensions of digital transformation and the quality of educational service on student satisfaction. This paper explores significant issues and future research directions in related fields and offers an overview of definitions and concepts related to digital transformation and educational service quality. This research is particularly relevant to educational administration in universities, as it enables those in charge of education to gain an in-depth view and understand how digital transformation and the quality of educational service a fundamental factor is affecting student satisfaction. Based on the results, several recommendations were proposed to those in charge of education in Saudi universities, especially Imam Muhammad bin Saud University, College of business. The first is that universities should work on developing a clear vision and strategic plan for digital transformation and provide modern technological programs that contribute to achieving digital management in a way that achieves the quality of educational management to keep pace with the growth of digital transformation. Training programs should also be provided periodically for students, professors and administrators, in addition to providing modern digital means and equipping universities with all the necessary requirements and technical resources that contribute to improving the educational process.

Universities should also conduct a continuous periodic evaluation of the digital transformation strategy, compare what has been achieved with what has been planned and correct existing deviations, as well as amend the strategy according to developments, with the need for universities to pay attention to the educational services provided in all their dimensions and work to improve their quality. Because this will be reflected positively on the level of student satisfaction, and universities must pay attention to students' needs, desires and future expectations in a balanced manner without discriminating between male and female students by continuously surveying their needs, desires and expectations and the problems they face, so that it becomes part of the culture of Saudi universities, with the need for Saudi universities to pay attention to improving the quality of educational services, especially the dimensions of quality in which students showed a low level, while improving the level of quality in the axes that showed relatively high levels of quality. In general, this

study contributes to understanding how digital transformation and the quality of educational services affect student satisfaction.

CONFLICT OF INTEREST: The author declares no conflict of interest.

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