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DIGITAL TRANSFORMATION AND ITS ROLE IN ACHIEVING COMPETITIVE ADVANTAGE WITHIN ORGANIZATIONS: A CASE STUDY OF KING KHALID UNIVERSITY

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ABSTRACT

This study explores the role of digital leadership in achieving competitive advantage in institutions, focusing on a case study of King Khalid University. The research aims to examine the impact of digital transformation in management on institutional performance, efficiency, and innovation. It highlights the digital tools and technologies adopted by university leaders to enhance academic and administrative services. The study also addresses the challenges faced by digital leadership and the institution's readiness for digital transformation. A descriptive-analytical methodology was used, collecting data through surveys and interviews with university officials and faculty members. The findings indicate that digital leadership plays a crucial role in improving service quality, increasing stakeholder satisfaction, and enhancing institutional competitiveness. The study recommends adopting more integrated strategies for digital transformation to maximize the benefits of modern technological capabilities.

1. INTRODUCTION

1.1. Research Problem and Significance

1.1.1. Research Problem

With the increasing digital transformation across various sectors, educational institutions must adopt digital leadership to ensure improved performance and achieve a sustainable competitive advantage. However, this transformation faces numerous challenges, such as resistance to change, weak digital infrastructure, and a shortage of qualified personnel. Therefore, the research problem focuses on: To what extent does digital leadership impact the achievement of a competitive advantage at King Khalid University?

1.1.2. Research Significance

- It contributes to understanding the relationship between digital leadership and achieving a competitive advantage in educational institutions.
- It offers practical solutions to address the challenges of digital transformation.
- It helps other universities benefit from King Khalid University's experience in this field.

1.2. Main Question and Sub-Questions

Main Question To what extent does digital leadership impact the achievement of a competitive advantage at King Khalid University?
Sub-Questions
- What is the concept of digital leadership and its importance in educational institutions?
- How does digital leadership affect the quality of academic and administrative services at King Khalid University?
- What are the most prominent challenges facing the implementation of digital leadership at the university?
- What strategies are proposed to enhance the role of digital leadership and achieve a sustainable competitive advantage?

1.3. Hypotheses

- There is a positive relationship between implementing digital transformations and improving the quality of academic and administrative services at the university.
- Adopting digital leadership leads to increased beneficiary satisfaction and enhanced institutional performance.
- Digital transformations face a significant challenge in the form of a shortage of digital skills and weak technological infrastructure,

which affects their effectiveness.

1.4. Research Objectives

1. To analyze the concept of digital leadership and its importance in educational institutions.
2. To study the impact of digital leadership on achieving a competitive advantage at King Khalid University.
3. To identify the challenges facing digital leadership at the university.
4. To propose strategies to enhance the effectiveness of digital leadership and achieve a sustainable competitive advantage.

2. PREVIOUS STUDIES

A study by Samia and Khawla (2021) entitled: "Digital Transformation Governance in Educational Administrations in the Kingdom of Saudi Arabia in Light of Global Practices." This study aimed to define the nature of digital transformation governance, its impact on educational administrations in the Kingdom, and how to utilize it to improve their performance. This was achieved through the use of a comprehensive analytical approach based on a review of theoretical and applied literature related to digital transformation governance. The study concluded that digital transformation governance is a comprehensive and integrated strategy that faces a number of difficulties and obstacles, including legislative challenges, a lack of a suitable culture within educational organizations and institutions, and a limited number of qualified personnel. _ A study titled (▪ Fadwa & Nissirine 2020), "Roadmap for Digital Transformation: A Literature Review," addresses the fact that digital transformation has become a global issue of paramount importance to all companies across various sectors. The authors aimed to outline a roadmap that businesses should follow to achieve smooth and effective digital transformation. The descriptive approach was employed, reviewing existing literature on the topic and presenting the digital transformation process for businesses in a clear and usable manner. The study concluded with several key findings, most notably that digital transformation is more than just a process; it is a multi-dimensional strategy. This research paper also presented various roadmaps that businesses can adopt in their pursuit of the desired digital transformation.

A study by Bassam, 2022, titled "The Reality of Government Digital Transformation in Algeria Through E-Government Readiness Indicators," aims to demonstrate the importance, value, and position of digital transformation in Algeria by reviewing

United Nations indicators on e-government readiness. The author employed a descriptive-analytical approach by reading and analyzing the United Nations' annual reports on countries' readiness for e-government. The study concluded with a number of findings, most notably that the pace of digital transformation in Algeria is very slow, as reflected in Algeria's ranking in the United Nations' e-government readiness indicators.

3. RESEARCH METHODOLOGY

The research utilized the descriptive-analytical method to collect, classify, and analyze data, given its suitability to the descriptive nature of the study and its alignment with its objectives. This method is a crucial approach used in scientific studies, contributing to answering the research questions, explaining all surrounding circumstances, and placing them within their proper context. This process is the starting point for arriving at the research findings and formulating recommendations and proposals.

4. FIRST REQUIREMENT: THE CONCEPT OF DIGITAL TRANSFORMATION AND ITS IMPORTANCE

This section will address the origins of digital transformation, including its concept and importance

4.1. Section 1: Origins and Concept

Origins of Digital Transformation In the 1960s, information technology spread and developed in the fields of chemistry and petroleum research to automate certain equations and calculations. According to theoretical literature, there are five major technological revolutions. The first, from 1785 to 1845, saw the emergence of hydroelectric power, textiles, and iron. From 1845 to 1900, the era was characterized by steam engines and railways. The period from 1900 to 1950 was marked by the advent of electricity and the development of chemistry. The third, from 1950 to 1990, was the era of petrochemicals, electronics, and the development of aviation. Finally, the early 1990s were characterized by the era of computer science, the internet, and communication technologies. This stage paved the way for the emergence of mobile phones and websites, which had a direct and significant impact on the emergence of the concept of digital transformation that humanity is currently experiencing. The concept of digital transformation:

This means a shift in the way organizations operate, reducing repetitive tasks and increasing time spent on development. It accelerates daily work

processes by leveraging significant technological advancements to serve customers faster and better. It also represents increased efficiency in workflows, eliminating errors and boosting productivity, in addition to expanding the team without the need for new hires. It is also defined as a government project encompassing all services of various institutions and sectors within the state. It involves transforming vital and essential services related to serving individuals, institutions, and various investments from their traditional form to a smart, electronic form, relying on modern and advanced technologies.

Digital transformation, from an e-government perspective, is defined as the gradual shift towards using technology or the effective use of information and communication technologies to facilitate administrative and financial processes between (government and individuals) or between (businesses and individuals). In other words, it's using technology to improve users' access to various financial services. Therefore, digital transformation has become essential in the financial and business environment due to the dangers of the widening digital divide between developed and developing countries. This divide implicitly refers to the gap in countries' ability to acquire digital technologies, information, and products.

4.2. Section Two: The Importance of Digital Transformation

The importance of digital transformation is evident through a set of elements, including

- Contributing to the process of connecting government and private sectors through cooperation and coordination via a network to provide various services more easily and quickly, without resorting to long waiting periods.
- The Internet: The necessity for institutions to keep pace with the times and adopt technology to implement digital transformation in providing services as quickly as possible to achieve customer satisfaction.
- Overcoming Pressures exerted by various segments of society on institutions, organizations, and companies to improve their services and online technological programs.

The digital transformation of various institutions, especially universities, to compete in order to modernize, maintain their competitiveness, and create the required value.

5. SECOND REQUIREMENT: OBJECTIVES AND CHARACTERISTICS OF DIGITAL

TRANSFORMATION

This section will address the objectives and characteristics of digital transformation

5.1. First: Objectives of Digital Transformation

Digital transformation has several objectives, including

- Reshaping the culture of society in general, whether in work, thinking, interaction, or communication, by relying on available modern technologies, along with sustainable research and development planning and the reformulation of scientific and practical expertise.
- Improving efficiency and raising the level of services and products offered, making them more flexible and faster.
- Changing the models and methods used in managing services and organizational strategies towards marketing and future market share.
- Trying to maximize the benefits of modern technologies, such as artificial intelligence, to add flexibility and speed, save time on services and products, and analyze data, make predictions, and then plan for the future.

Other objectives of digital transformation include

- Encouraging the organization to adopt an approach that allows for the development of a clear transformation strategy and provides a clear vision of the commitment of all stakeholders.
- Comprehensive development and improvement of the speed and efficiency of financial processes and services, and then providing these services at reasonable prices for customers with ease. - Conducting business more transparently and simplifying information dissemination to customers, citizens, and suppliers.
- Reducing the high costs of international transfers.
- Accelerating social and human transformations.
- Continuous development and the building of vast knowledge and expertise.
- Demonstrating how organizational processes are performed to reach innovative levels and develop business models and production services.

5.2. Second: Characteristics of Digital Transformation

Current digital transformations have facilitated the exchange of information and data without spatial or temporal barriers. This is due to the characteristics of digital transformation, **the most important of which are**

- **Interactivity** where the communicator and receiver exchange roles, and communication is two-way and reciprocal, not one-way, but rather involves dialogue between the two parties.
- **Asynchronicity** the ability to interact with communication processes at a time that suits the individual, whether as a receiver or sender.
- **Sharing and Dissemination**
  Digital transformation allows anyone with simple means to become a publisher of their message and share it with others.
- **Flexibility** Digital networks are characterized by flexibility, as digital systems are typically controlled by computer software, allowing for a high level of usability.
- **Intelligence** Digital networks are highly intelligent, as the system can be designed to continuously monitor and adjust communication channels.

Digital transformation is also characterized by several other features, including

- **Diversity** The development and proliferation of digital communication technologies, coupled with increased production, storage, and availability of communication content, have led to a diversification of communication elements. This provides the recipient with more options for utilizing communication in accordance with their needs and motivations.
- **Integration** The internet represents a communication umbrella that brings together communication systems and their forms, various digital media, and content in its various forms into a single system. It provides the recipient with options within an integrated framework by offering methods of exposure, access, and storage in a comprehensive manner throughout the internet and its websites.
- **Transcending the limitations of space and time** Digital transformation enables remote communication, thus eliminating the requirement for the parties involved to be in the same location, as was the case with face-to-face communication, which was a prerequisite for flexibility and interactivity.
- **Immersion in the communication process** One of the distinctive characteristics of digital transformation is the decrease in the cost of

communication or use due to the availability of communication infrastructure and the spread of digital devices. Also, the development of information programs and communication systems at a low cost has encouraged users of computers and their programs to immerse themselves in these programs for long periods of time for individual learning. The development of hypertext programs and hypermedia has also contributed to the length of time spent navigating through the information and ideas they contain for the purposes of acquiring information or entertainment. Therefore, the time spent using computers and their programs often exceeds the time spent reading, listening, or watching, especially after the World Wide Web became an additional source for displaying global materials provided by media outlets on their websites on this network. Therefore, information and communication technologies (ICTs) and digital transformation play a vital role in enhancing human, economic, social, and financial development. This is due to their distinctive characteristics and greater efficiency compared to traditional communication methods. The widespread use of ICTs transcends geographical and political boundaries, reaching any point in the world that older communication methods could not. Furthermore, they are characterized by a wealth of diverse information and educational programs for various segments of society, available anytime, anywhere, and at a low cost. They are a vital source of information for individuals, organizations of all types, and governments.

6. THIRD REQUIREMENT: DIGITAL TRANSFORMATION STRATEGIES IN SAUDI UNIVERSITIES

6.1. First: The Kingdom's Digital Transformation Strategy

The Kingdom of Saudi Arabia has taken significant strides in achieving digital transformation. Numerous accomplishments have been achieved through the adoption of a comprehensive set of coordinated plans, programs, and strategies, enabling it to achieve digital leadership at both the regional and global levels. To achieve digital transformation, the Kingdom has developed numerous programs, which can be summarized **as follows** 1. The First Implementation

Plan: During the period between 2006 and 2010, the Kingdom established a national vision aimed at making electronic services more user-friendly. This was achieved through working towards three strategic objectives

- Providing user-friendly, high-quality electronic services with a high degree of security and reliability, available at any time and covering various priority sectors.
- Developing internal efficiency and effectiveness by facilitating cooperation among different government departments through interconnection and transitioning to providing various services digitally.
- Working to enhance the Kingdom's progress and prosperity by making digital and electronic services and knowledge the primary drivers of production, with the goal of achieving operational and productive efficiency.

2. **The Second Implementation Plan: This plan spanned the period between 2011 and 2016** It aimed to enhance the achievement of the strategic objectives of the first implementation plan and focused on four strategic themes

- Improving the quality of services provided by enhancing the public experience in their various electronic interactions with different government departments and agencies.
- Fostering a culture of creativity, innovation, and collaboration across all sectors and among all individuals.
- Enhancing government efficiency and effectiveness.

3. **The Third Implementation Plan:** This plan complements the previous two plans, reflecting the Kingdom of Saudi Arabia's commitment to pioneering and leading the way in adopting and promoting digital transformation. **It focuses on the following elements**

- Providing various services electronically and expanding their use to the widest possible extent, while also working towards achieving maturity.
- Developing and strengthening the shared digital infrastructure across various government sectors and agencies.
- Developing and promoting the use of shared national electronic applications.
- Supporting the electronic participation of all citizens in various government processes.
- Building and enhancing the efficiency of human capital and improving its ability to handle digital transformation and adapt to

providing services electronically.

- Defining the institutional framework through which e-government will operate.
- In continuation of previous implementation plans and in furtherance of supporting digital transformation and enhancing e-government in the Kingdom, Vision 2030 was launched in 2016. This vision represents a methodology and roadmap for achieving economic and social development in the Kingdom, accompanied by the launch and adoption of the National Transformation Program, of which digital transformation is a key component.

6.2. Second: An Overview of King Khalid University and its Digital Transformations

King Khalid University is one of the oldest universities in the Kingdom of Saudi Arabia. Established in 1998 in the Asir region of southwestern Saudi Arabia, it currently comprises 15 academic campuses and 29 colleges across various areas within the Asir province. The university embraces a set of values including integrity, commitment, respect, excellence, innovation, and transparency.

Since its inception, King Khalid University has strived to achieve several objectives, **most notably** improving the quality of education and learning, providing an attractive academic environment, fostering effective partnerships with the community, supporting and developing scientific research, developing postgraduate studies, enhancing institutional performance, and developing financial resources.

King Khalid University, like other universities and government institutions in the Kingdom, has taken the initiative to adopt digital transformation across its various operations, activities, and services offered to students and faculty members in particular, and to the wider public in general. This was achieved through a clear and effective policy based on the establishment of the Digital Transformation and Institutional Architecture Unit on July 23, 2017 (King Khalid University, 2022). This unit is responsible for overseeing and monitoring the tasks and requirements of digital transformation at the university in line with Vision 2030. It also supervises the development of plans, programs, and studies aimed at accelerating the pace of digital transformation. The efforts exerted by the university's Digital Transformation Unit and its senior leadership have made King Khalid University a leader in digital transformation among its

counterparts in the education and training sectors in the Kingdom of Saudi Arabia. The university achieved a general digital transformation index of 42.87% in the Digital Government Authority's 2022 report, ranking it third out of 36 education and training institutions in the Kingdom included in the tenth edition of the Digital Government Authority's index for measuring government digital transformation, and 26th out of 217 government entities included in the report.

7. CONCLUSION

In conclusion, this research leads us to a set of points summarized in these results and recommendations, which we hope will be taken seriously to achieve a qualitative leap in digital leadership and its role in achieving a competitive advantage for institutions within Saudi universities, particularly King Khalid University.

8. RESULTS

Digital transformation is inevitable for all countries, governments, and governmental bodies; indeed, it has become a necessity upon which various modern global economies are based. The Kingdom of Saudi Arabia has made significant strides toward achieving digital transformation in line with Vision 2030, thanks to dedicated efforts and a strategic plan aimed at digitizing all sectors and services.

Achieving digital transformation across various government entities requires a set of prerequisites, most importantly, leadership commitment to this strategic goal, the development of a comprehensive strategic plan to guide the transformation process, and the availability of adequate infrastructure and financial support.

9. RECOMMENDATIONS

- Establish a department or administrative unit within the university's Projects Agency organizational structure dedicated to community partnerships and to encourage university staff to leverage new technological advancements.
- Establish technical planning committees to study the current and future needs of companies and the private sector in light of modern technological and scientific changes, with the aim of developing the level of scientific research within the Kingdom.
- Utilize artificial intelligence applications to develop guidelines for contracting tools with companies and the private sector, in order to find innovative solutions to problems

encountered by university staff.

- Develop the necessary designs for contracting mechanisms with companies and the private sector to facilitate partnership processes.
- Develop strategic plans to leverage the technical and material human resources of companies and the private sector and utilize them in the professional development of

faculty members and students, and vice versa.

- Enhance the role of the university's Agency for Business and Knowledge Economy in local and international partnerships with scientific and technological institutions and centers, and benefit from these partnerships in scientific and applied aspects, drawing on the experiences of other universities.

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