



**Cambridge**  
**International**

**Professional Research Thesis**

**Titled**

**"Harnessing Digital Technologies for Inclusive  
Development: Lessons from Successful  
Transformation Initiatives"**

**Researcher**

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**2024**



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## **Thank s and appreciation**

While I am putting the final touches on this study, I cannot extend my thanks to everyone who had even a small contribution to my research journey and everyone who helped me, and I especially thank

### **Professor Dr. Fatma E Elithy**

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Best Regards

**Researcher in April 2024**

## **Dedication**

To the one who laid down the rules of noble creation  
and how to restrain the reins of the soul

### **My Esteemed Father**

To the one who taught me patience and diligence in all  
aspects of life who had a great impact on me who am I  
in it now

### **My beloved mother**

To whom were the blessings of the bond and the  
blessings of the comrade who had the impact of success  
in my life and spared no effort in helping me.

### **My dear wife**

To those who had the role of constant encouragement  
and continuous support,

### **my brothers and friends**

To Prof. **Dr. Fatma El-Leith y**, who didn't have any  
information, I have my request for help at any time

**To all my family and friends I dedicate  
to you my humble message**

**Researcher in April 2024**

# Summary

## The

study focused on the reality of digital transformation in Egyptian universities

And the requirements of humiliation, and obstacles to implementation.

And they used the descriptive meej, as well as the construction of a questionnaire

Wave to university teaching staff, applied electronically blindness random sample

In the governorates of the seal, there are 137 male and female respondents. The study concluded

The high response rates of the sample blindness of the three axes of the resolution, where the relative averages are different

Leah ( )1.72 -1..1 -1..1 Blindness of the order

The research aimed to determine the degree of correlation between the application of the transformation strategy

Digital and achieving sustainable institutional excellence in the holding company EgyptAir

And to identify the level of application of the digital transformation strategy and the level of verification of art

Sustainable organizational excellence, and identifying any of the variables of sustainable organizational excellence

Most closely related to digital transformation strategy

The research addresses the digital transformation of the Egyptian state as an important means of achieving political and economic integration, and thus the development of the Egyptian political system. The meaning of digital transformation, the digital economy, as well as artificial intelligence is presented. The dimensions of this digital transformation in the Egyptian state strategy, knowledge of the role of digital transformation

in the financial integration of the Egyptian state, the objectives of digital transformation in the Egyptian state and the digital transformation processes in the various sectors of government, as well as the challenges of implementing this digital transformation, and ways to enhance the applications of artificial intelligence in the Egyptian state

Sustainable development focuses on the interconnected linkages of economic growth and combines economic and social development, integration, and environmental sustainability. It's a normative approach to set common goals to achieve the welfare and raise the living standards. Sustainable development is an analytical theory and a normative framework and sustainable development goals (SDGs) are a way to look at the world with new goals and the beginning of a new era. This study aims to precisely define the concept of sustainable development in economic fields, track the concept origins as well as monitor and investigate the stages of its development. It also aims to study the basic aspects and dimensions that affect it. The study focuses on the results of sustainable development goals (SDGs) on international, regional, and national levels for Egypt, Algeria, Brazil, and India. this study uses the descriptive approach, in addition to the historical and comparative approach in some parts of the study

**Researcher in April 2024**

## \* **The introduction:**

Societies are living in the midst of a fourth industrial revolution that is unique in its variables, applications, and repercussions. It includes complex and comprehensive digital trends. It is an intelligent digital industrial revolution that is different from the previous three revolutions in terms of speed, scope, and great impact in all areas of economic, industrial, cultural, and social development life.

**Therefore**, society had to keep pace with these challenges, which require societal capabilities and capabilities to confront and overcome them, and to benefit from this great revolution in all aspects of life completely.

Modern digital technology at the present time has had an impact on every aspect of human life because it plays prominent roles in all different areas of life. It has even become a major factor in the independent development of the service industry because of the integrated scientific environment it provides, and its effects are directly reflected in life relationships, ways of thinking and communication. Or indirectly.

Therefore, at the end of the second millennium, societies began to shift towards the digital age and its amazing development in information and communications technology, which has become a weapon used by technologically and economically advanced nations to achieve many gains in various fields.

## **Study Problem:**

In light of the massive scientific and technological revolution it is witnessing today, as one of the manifestations of technological globalization, the world has previously become frantic in order to keep pace with this revolution, which is the most important feature of the current situation and which represents a real challenge facing countries. Therefore, it has become necessary for those countries to benefit from the new features, understand them, and interact with them. The work is to employ it to serve its goals and provide its people with advanced methods that enable them to catch up with those developed countries.

The research problem is determined in the state of decline represented in some government sectors in terms of the quality of their services, their flexibility, and the necessity of resorting to modern technology and to the digital transformation that imposes itself strongly in these times, especially after the threats of the Covid-19 pandemic to national and global security and the development obstacles of the Egyptian state, in addition to clarifying the role that it plays. This transformation will be achieved by achieving Egypt's Vision 2030, although the process of digital transformation and benefiting from artificial intelligence may witness some obstacles and difficulties that the Egyptian state will face, such as the lack of budgets allocated to these programs, as well as the fear of information security risks that could be reflected in Egyptian national security, as well as the

lack of competencies. And the scientifically and practically qualified capabilities to lead digital transformation and artificial intelligence

### **Importance of studying:**

Despite the interest of many Arab governments and international organizations in the technology and innovation sector and its various indicators, the studies that addressed identifying the strengths and weaknesses of the science, technology and innovation system in Arab countries are few, and the same is true for studies that included presenting and analyzing relatively recent indicators of the inputs and outputs of science, technology and innovation and analyzing them.

Also, many studies did not review what has recently emerged on the international scene in terms of sustainable development goals and other concepts related to science, technology and innovation systems and how to use their tools to achieve the goals of economic and social development in the Arab countries in general and in Egypt in particular.

With the increasing effective role of digital transformation in linking the governmental and private sectors to each other in a way that supports the implementation of joint business in harmony and harmony, which is reflected in the quality of products and services provided to the people and areas and affairs of enhancing the use of information technology in life, whether in governmental or private sector transactions, in a way that keeps pace with the latest developments and developments of the times.

## **Practical importance:**

Dealing with emergency crises that require solutions to shift to the digital world and its electronic services

## **Objectives of the study:**

The study aims to review the development goals adopted globally. It also reviews the scene of science, technology and innovation, including the inputs, outputs and dilemmas of scientific research in Arab countries, in order to answer the following questions:

How can science, technology and innovation systems contribute to achieving economic and social development in the Arab countries in general and in the Arab Republic of Egypt in particular?

Then, we study the results of using digital transformation devices in their various dimensions for government electronic applications, which are expressed in the quality of services provided by administrative institutions to citizens, and it focuses on the standards of digital transformation procedures and the complexities of their application to Egypt in confronting the challenges it faces, of which we mention the following:

- Explaining the importance and goals of digital transformation
- Clarifying the most important factors and determinants of the success of the digital transformation strategy and identifying the elements for activating it in all government sectors
- Clarifying the nature of the challenges facing the implementation of digital transformation mechanisms

- Clarifying the nature of digital transformation and its relationship to achieving comprehensive development
- Explaining ways to enhance artificial intelligence applications in the Egyptian country

### **Study assignments and questions:**

Through our investigation of the research problem, the following research questions emerge:

First: The main research questions:

- \* To what extent can the Egyptian state succeed in its transformation strategy towards the world of digital transformation?
- \* To what extent can the Egyptian state activate the elements of this in all its sectors towards achieving comprehensive development?

Secondly, the sub-questions:

- 1- What is the role of digital transformation in promoting the financial integration of the Egyptian state?
- 2- What are the goals of digital transformation for the Egyptian state?
- 3- To what extent will the digital transformation process affect the economy, health, education, tourism, government sector, banks, and airlines?
- 4- What are the challenges that the Egyptian state will face when implementing digital transformation mechanisms?

5- To what extent can artificial intelligence applications be enhanced in the Egyptian country?

6-What is the level of application of the digital transformation strategy at the level of achieving the dimensions of institutional excellence for comprehensive and sustainable development?

**Research assumptions:**

-Implementing the digital transformation strategy in the Egyptian state contributes to improving the Egyptian economy and ensuring Egyptian national security.

Harnessing modern technology mechanisms contributes to achieving comprehensive and sustainable development

Activating digital transformation mechanisms as a basis for enhancing financial integration contributes to improving the quality of electronic government services in the Egyptian state.

- Activating modern technology mechanisms contributes to enhancing institutional excellence in all governmental and private sectors

- The contribution of activating artificial intelligence as one of the components of modern technology in achieving comprehensive and sustainable development.

## **Methodology:**

To achieve the desired goals of this research and to determine the role of the digital transformation strategy and modern technology mechanisms in achieving sustainable institutional excellence, and in order to give a greater picture linking science and practical application on the subject of this research, and given the scarcity of current academic research, a case study approach will be followed. In addition, the philosophy What the researcher will use in this study are induction and deduction, as the process of testing hypotheses is done through deduction, while the process of generating hypotheses is done through induction. The researcher will also rely on the descriptive analytical method during this research in approaching the theoretical side of the research with the aim of collecting facts and data. About the phenomenon that is the subject of the study and his attempt to explain and analyze these facts and provide roots for these concepts

In addition to extracting some theoretical concepts, in the light of which the applied aspect of the research will be addressed, as well as reaching the research objectives.

Identifying the basic aspects related to the study's inquiries, deducing the relationships between them, and then presenting the results and recommendations

### **The limits of the study:**

The current study is determined according to the following points:

#### **Spatial or objective boundaries:**

Studying digital transformation in the Egyptian country and ways to enhance applications of modern technology and artificial intelligence

#### **Time limits:**

The date of the beginning of studies on this topic leading up to this study will be mentioned

#### **Study plan:**

The study plan will be organized as follows: several chapters, several topics, demands, and a conclusion as follows

#### **Introductory chapter: The theoretical framework and scientific concepts:**

##### **The first topic:** digital transformation and its technologies

**First:** The concept of digital transformation and its fields

**Second:** The importance of digital transformation

**Third:** The pros and cons of digital transformation

##### **The second topic:** artificial intelligence and the digital economy

**First:** The concept of artificial intelligence and the digital economy

**Second:** Advantages and disadvantages of artificial intelligence and its role in comprehensive development

**Third:** The digital economy: the advantages and challenges of its driving drivers

**The third topic:** comprehensive (sustainable) development.

**First:** the concept of sustainable development

**Second:** Sustainable development in economic thought

**Third:** The emergence of sustainable development and the evolution of its goals

**Chapter One: “The Egyptian state’s strategy towards digital transformation”**

**The first section:** The Egyptian state’s strategy towards digital transformation

**First:** Dimensions of the Egyptian state’s strategy towards digital transformation

**Second:** The role of digital transformation technologies in enhancing the financial integration of the Egyptian state

**Third:** The goals of digital transformation for the Egyptian state

**The second topic:** “The process of digital transformation in different business sectors”

**The first topic:** digital transformation in the economy, health and education sectors

**First:** Digital transformation in the Egyptian economic sector

**Second:** Digital transformation in the Egyptian health sector

**Third:** Digital transformation in the Egyptian education sector

**The third topic:** “Digital transformation in various sectors and ways to enhance artificial intelligence applications in the Egyptian country.”

**First:** the process of digital transformation in the government sector

**Second:** The process of digital transformation in the Egyptian tourism sector

**Third:** The challenges of implementing digital transformation in the Egyptian country and ways to enhance artificial intelligence applications in the Egyptian country.

**Chapter Two: “Sustainable development and ways to achieve it through providing digital services”**

**The first topic:** the concept and development of the term sustainable development

**First,** the concept of sustainable development

**Second:** Sustainable development goals

Third: 1- The role of society’s parties in achieving sustainable development

2- Countries of the world and achieving sustainable hydration

**The second topic:** “Measuring the development and growth of the Internet and its role in economic development.”

**First:** Information and communications technology and comprehensive or sustainable development

**Second:** Analyzing the impact of information and communications network services on achieving the goal of sustainable development in Egypt

**The third topic:** “Obstacles and challenges of using Internet networks and digital transformation to achieve comprehensive development.”

**First:** depriving many individuals around the world of using the Internet

**Second:** The problem of accepting Internet culture

**Third,** Egypt’s current situation through sustainable development and Egypt’s Vision 2030

**Chapter Three:** “The role of the digital transformation strategy in achieving sustainable institutional excellence in both Egyptian universities and airline companies.”

**The first topic:** Digital transformation in Egyptian universities: reality - requirements - obstacles)

**First:** previous studies and comments on that

**Second:** Modern technologies for digital transformation in universities and developing a special strategy for them

**Third:** The requirements for digital transformation in Egyptian universities and the obstacles to its implementation

The second section: “A case study of EgyptAir holding companies to identify digital transformation countries in achieving sustainable institutional excellence.

**After the study plan has been explained in brief details, I will list the details of each chapter separately as follows:**

**Introductory chapter: The theoretical framework and scientific concepts:**

**The first topic:** digital transformation and its technologies

**First:** The concept of digital transformation and its fields

**Second:** The importance of digital transformation

**Third:** The pros and cons of digital transformation

**The second topic:** artificial intelligence and the digital economy

**First:** The concept of artificial intelligence and the digital economy

**Second:** Advantages and disadvantages of artificial intelligence and its role in comprehensive development

**Third:** The digital economy: the advantages and challenges of its driving drivers

**The third topic:** comprehensive (sustainable) development.

**First:** the concept of sustainable development

**Second:** Sustainable development in economic thought

**Third:** The emergence of sustainable development and the evolution of its goals

## **Conclusion**

**Adopting and adapting digital is more than just a prominent idea in today's business in order to maintain**

**On competitiveness and convenience, it is important for companies to start and progress in the transformation process**

**Digital. This transformation will be the beginning of .enabling technology to control and get things done**

**Effectively and accurately, and in parallel we will find an ecosystem that is less harmful than before when man was**

**The traditional is the one that controls the course of events.**

**The concern for many countries and companies is**

**They have already lagged behind. Some think they are too late to start. In fact digital speed is**

**Five times greater than traditional work, and this speed is .essential for inclusive growth across the board**

**Government Sectors**

## Results

Advancing digital transformation as an IT

development, transforming learning processes

To include new art and human capital capable of achieving excellence in digital work and excellence

.Social

The progress of digital transformation as an IT development focuses on the creation of a system digital communications, ensuring its preservation and accessibility, and enhancing the efficiency of its operation

As well as the convenience of its cost to government units

Digital transformation could be a gateway to the national security of the Egyptian state, if the rules are breached

.Data for different government sectors

Digital transformation strategies are based on four main dimensions: the use of technology

To achieve the strategic role of government institutions and support their future vision, and changes in the composition of

Values, structural changes, and other financial aspects of digital transformation

## Recommendations

We recommend the need to establish and maintain digital communications infrastructure and ensure Managing them and quick access to them, as a basis for activating digital transformation mechanisms and enhancing indicators

.Financial inclusion at the national level

Providing full protection for the information databases of all government sectors, especially

The army and the police so that Egyptian national security is not threatened by using them in reverse

Against the sovereignty and security of the Egyptian state

The study recommends that economic research related to development goals should be further encouraged

sustainable and support, and the need to take into account strategic planning decision makers

For the future, the following points

Sustainable development as a normative perspective cannot be ignored by ideology or politics

or fail to address them, they are widely accepted as a political and economic goal

and social desirability among many institutions concerned with

.the future development of resources

And that there are those who likened her to being like motherhood and God it is hard not to agree to her

With this normative concept, governments must draw up road plans with a comprehensive vision of what

An advanced society should be, keeping in mind that no one-size-fits-all approach

All countries to mobilize and mobilize the various mechanisms of governments to achieve development goals

Do more to end hunger, end malnutrition and achieve justice  
Equality, building innovation-based societies, allocating more  
resources

.for research, development and technology

Efforts need to continue to shift to sustainable agriculture, ▪  
water efficiency and transformation

To renewables and environmental safety

Conflict and violence make the SDGs elusive and therefore  
must

.Termination

It is necessary to exert more efforts in the challenges facing ▪  
Egypt in achieving

«Sustainable Development Goals

Helping countries and governments around the world to deploy  
and make available the use of the

International information (Internet), especially in developing  
countries, with non-discrimination

in gender or gender, due to the importance of the role of women  
in achieving development goals

Sustainable, with the deployment and activation of the role of  
ICTs in

All issues related to society, especially in communities

And remote and border governorates such as the Sinai Peninsula  
region and the

Halayeb and Shalateen, in order to take advantage of the  
services provided by technology Digital

R&D activities should be strengthened, to enhance and increase  
the volume of

New materials technology, biotechnology, with the adoption of  
scalable mechanisms

.for sustainability

□ Focus on the positive aspects of media and cultural bodies

The educational in the country, on the benefits of applying digital services, and how you will  
Community members benefit from it  
For continuous follow-up by the governments of States, with organizations and bodies  
International ICTs - such as ITU  
International Telecommunication and Information Company - to benefit from the expertise of these workers  
bodies, with the technical support and assistance available to these  
Bodies. Also promote and build capacity in science and technology  
and innovation, with the aim of achieving the Sustainable Development Goals through the Knowledge-based  
The researcher draws the attention of EgyptAir that the digital transformation process is completely  
Like a trip, every trip requires a map. The successful transformation must always be  
Driven by an updated digital strategy, because of its contribution to the promotion of  
Leverage digital technology in planning, analyzing, researching and taking  
The decision, therefore, the company needs to develop guidelines for digital transformation  
and define them in the vision, mission and values and include digitization and digitization in its strategy This is to enable the company's leaders to focus employees on the goals of  
Clear, clear direction for planning employee engagement in the transformation plan  
digital, so the company can start building integrated capabilities difficult Replicate it to achieve that strategy  
The researcher draws the attention of the senior management of EgyptAir to the importance of developing

Strategy for digital transformation, articulate it to employees and clearly, create

A roadmap and commitment to it, then mobilizing the company 'with measurable goals and incentives To access them

The researchers draw the attention of Eda Art Egypt Folding Arn Company that it must be practical

Develop the digital transformation strategy in a systematic and systematic manner, and should not be

To develop a strategy of "blind spots", there should not be a "base rigid

Strategy Development

Digital transformation is about generating sustainable value for all stakeholders Important for achieving sustainable organizational excellence

Communicate with

stakeholders on the future plan for digital transformation, which should be

In a way that makes everyone feel part of the company, to succeed

sustainable, with the need to involve company stakeholders when formulating the company's vision

digital, and consider the strategy as a guide to action by formulating it in a way Describe future goals

The researchers draw the attention of the departments of EgyptAir to the importance of working on

Attracting, developing and retaining talent and highly qualified employees

Retaining them, developing their skills, and constantly motivating them to improve their performance

The researchers recommend conducting a comparative study on the role of transformation strategy

Digital in achieving institutional excellence in institutions producing goods and institutions

.Provides services

(b) The researchers recommend a study related to the application of the research model in the number of

Larger than service institutions

The researchers recommend a comparative study between the application of the transformation strategy

Digital in the service sector in Egypt and its application in some institutions

Service in Arab countries of a similar nature such as Dubai

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