

The History of Egyptian Japanese relations and how to develop the digital economy in Egypt

Prof. Dr. Zeinab Tawfik Elewa
Faculty of Economics and Political Science
Future University in Egypt (FUE)

Abstract

The research explores the history of Egyptian Japanese relations, which span more than a century. These relations began with limited cultural, commercial contacts, evolved into a strategic partnership encompassing politics, economics, and culture. Relations between the two countries have witnessed various stages of cooperation, particularly after World War II, when Japan became an important partner for Egypt in development projects, education, infrastructure, and investments.

The research reviewed the reality of the digital economy in Egypt, which is witnessing rapid growth within the framework of Egypt Vision 2030, as the state adopts policies to support digital transformation across various sectors. In this context, the Japanese experience in the digital economy was highlighted, as ways Egypt can benefit from its expertise in developing its digital economy. The research concludes by emphasizing the importance of strengthening this partnership to achieve sustainable development and advance the Egyptian digital economy.

Keywords:

Digital economy, digital transformation, financial technology, sustainable development, artificial intelligence, e-commerce, digital infrastructure, smart cities, technology investment.

Introduction

Egyptian Japanese relations span more than a century, characterized by cultural, economic, and educational cooperation. These relations officially began at the end of the nineteenth century and have continued to grow, becoming a model for East-West cooperation. Considering the global shift toward a digital economy, these relations can play a pivotal role in promoting digital transformation in Egypt. Therefore, this research will monitor and analyze the history of Egyptian Japanese relations and how to leverage them to develop Egypt's digital economy through four axes. The first axis depicts the history of Egyptian Japanese relations. The second axis explains the nature and most important features of the digital economy in Egypt. The third axis examines how to leverage relations between the two countries to develop Egypt's digital economy. The fourth axis addresses the challenges facing Egyptian Japanese cooperation in the digital economy and how to overcome them, as follows:

1. The History of Egyptian Japanese Relations

Egyptian Japanese relations are characterized by a long and distinguished history spanning more than a century of cooperation and mutual understanding. These relations officially began in 1922, when Japan recognized Egypt's independence. Since then, relations have developed to encompass the political, economic, cultural spheres. The following is an explanation of the stages of this development⁽¹⁾:

1.1 The Historical Beginnings of Egyptian Japanese Relations (Before 1922):

Japan discovered the Arab region in 1862 when it sent a samurai mission⁽²⁾ to Egypt to learn about its modernization experience. The Japanese learned from Egypt's experience: Arabization of Western medicine, the organization of railways, and the legal system repre-

sented by courts. Relations between Egypt and Japan date back to the nineteenth century, when the first contacts between the two countries began in the context of Japan's interest in modernizing its state and opening to the outside world after a long period of isolation.

Japan sent a diplomatic mission known as the "Samurai Mission" in 1862 to several countries, including Egypt, with the aim of studying global governance, administration, and modernization methods. Members of the mission also visited Cairo and studied Egyptian irrigation and dam projects, which were among the pioneering development projects of the time. Prince Komatsu Akihito, a member of the Japanese imperial family, visited Egypt in 1872 as part of a world tour to learn about the achievements of advanced countries in the fields of development and modernization. This prince met with Khedive Ismail, which strengthened understanding between the two countries.

When the Suez Canal opened in 1869, Japan was among the countries invited to the celebrations, reflecting the beginning of mutual interest between the two countries despite the lack of formal relations at the time. Japanese merchants began exporting silk and textiles to Egypt in the late 19th century, while Egypt exported cotton to Japan, contributing to the expansion of economic ties between the two countries. By the early 20th century, Japanese exports to Egypt had increased, particularly in textiles and light manufacturing. When Egypt gained independence from Britain on February 28, 1922, Japan was one of the first countries to officially recognize Egypt's independence, laying the foundation for diplomatic relations between the two countries. In 1926, Japan opened its first diplomatic representation office in Cairo.

That is, before 1922, Egyptian Japanese relations were centered around cultural and commercial exchange, as Japan sought to benefit

from the Egyptian experience in development, while Egypt became an important market for Japanese goods. With the official recognition of Egypt's independence in 1922, a new phase of bilateral relations began, which later developed to include broader areas such as education, culture, and investment, as Japan was viewed as a model of a modern state that had succeeded in achieving development⁽³⁾.

1.2 Diplomatic Recognition:

(1922) Japan officially recognized Egypt's independence on April 7, 1922, becoming the first Asian country to do so. This recognition marked the beginning of diplomatic relations between the two countries, with Japan opening a consulate general in Alexandria in 1926 and a legation in Egypt in 1936. Although these offices were closed during World War II, they reopened in December 1952. In 1953, Egypt opened a legation in Tokyo, further strengthening bilateral relations.

1.3 Egyptian Japanese Relations During World War II:

Egyptian Japanese relations were significantly affected during World War II (1939-1945) due to the prevailing global conditions at the time. The most prominent features of this period were the suspension of diplomatic relations as the global conflict escalated. The Japanese Consulate General and Legation in Egypt were closed, leading to the suspension of diplomatic relations between the two countries during the war.

During this period, Egypt was under British influence, which affected its relations with the Axis powers, including Japan, which was part of the Axis powers at war with the Allies. This limited communication and cooperation with Egypt. However, relations resumed after the war, and the Japanese Consulate General and Legation in Egypt were reopened in December 1952, restoring diplomatic relations between the two countries. Egypt opened a legation in Tokyo in 1953, and the level of diplomatic representation was

upgraded to an embassy in 1954, strengthening bilateral relations and leading to fruitful cooperation in the following decades.

1.4 Developments in Egyptian Japanese Relations after World War II (1952-1970):

Following the end of World War II, Egyptian Japanese relations witnessed remarkable development in various fields, contributing to the strengthening of bilateral cooperation between the two countries. Among the most notable milestones in this development were the resumption of diplomatic relations in December 1952, when Japan reopened its legation in Cairo, followed by Egypt in 1953, thus restoring diplomatic relations between the two countries.

In terms of economic cooperation, Japanese aid to Egypt began between 1998 and 2002, with Japan providing loans and grants exceeding \$3.5 billion, contributing to the support of various development projects. In terms of trade exchange, the volume of bilateral trade between Egypt and Japan exceeded \$1 billion in 2002, with Japanese exports focusing on transportation equipment and electronic machinery, and Egyptian exports on petroleum, petroleum products, and cotton. Regarding cultural and educational cooperation, it was agreed to adopt the “Egypt-Japan Partnership Program” in April 1999 during the Egyptian President’s visit to Japan, with the aim of supporting cooperation in the fields of youth and academic exchange.

Regarding joint educational projects, cooperation was embodied in the establishment of the Egyptian Japanese University of Science and Technology in Alexandria, in addition to the Japanese school’s project in Egypt, reflecting the two countries’ commitment to promoting education. Regarding cooperation in infrastructure, Japan participated in financing and implementing vital projects in Egypt, such as the Grand Egyptian Museum in Cairo, the fourth line of the metro, and the development of Borg El Arab Airport. As for the

strategic partnership, in 2023, when the Japanese Prime Minister's visit to Egypt, bilateral relations between the two countries were elevated to the level of strategic partnership, reflecting the depth of ties and ongoing cooperation between them.

1.5 Economic Relations between Egypt and Japan (1970-2000):

Economic relations witnessed remarkable development during this period, characterized by enhanced cooperation between the two countries in the fields of trade, investment, and development projects. The most prominent features of these relations during this period were: The 1970s and 1980s witnessed an increase in the volume of trade exchange between the two countries, as Japan exported transportation equipment and electronic machines to Egypt, while Egypt exported petroleum, petroleum products, and cotton to Japan. In the late 1990s, a decline in trade exchange was noted, as Japanese exports to Egypt fell from \$914 million in 1997 to \$507 million in 2002, while Egyptian exports to Japan declined from \$153 million in 1997 to \$69 million in 2002.

An agreement was signed between Japan and Egypt in 1978 to encourage and protect mutual investments, which contributed to the strengthening of Japanese investments in Egypt. This period also witnessed the entry of Japanese companies into the Egyptian market, particularly in the fields of manufacturing, energy, and infrastructure. Regarding development cooperation and official aid, Japan provided development assistance to Egypt during this period, including soft loans and grants to support infrastructure projects, such as the development of the transportation and energy sectors. A technical cooperation agreement was signed between the two countries in 1984, contributing to the exchange of expertise and the enhancement of human capacity in various fields.

Regarding official visits and strengthening relations, officials from both countries exchanged official visits, which contributed

to strengthening economic relations. A joint declaration entitled “Partnership Towards a Better Future” was issued in 1995, and the “Egypt-Japan Partnership Program” was launched in 1999 with the aim of enhancing cooperation in various fields. Subsequently, the period from 1970 to 2000 was marked by the deepening of economic relations between the two countries, through increased trade, enhanced investments, and cooperation in development projects. Despite some challenges in the late 1990s, the foundations laid during this period contributed to the continuation and development of economic cooperation between the two countries in the following decades.

1.6 Cultural and Educational Relations between Egypt and Japan:

Egypt and Japan enjoy strong cultural and educational relations spanning decades, characterized by active cultural and educational exchanges that enhance mutual understanding between the two peoples. The following are the most prominent manifestations of this cooperation: The Japanese Cultural Center in Cairo was opened in 1965 and is currently known as the Center for Information and Culture. The center offers courses in the Japanese language, flower arranging, and tea ceremonies, in addition to periodic screenings of Japanese films. It also houses a library containing a large collection of Japanese books, newspapers, and magazines.

Many major cultural events have been organized, such as “Japan Week” in 1994 and “Japan Cultural Week in Egypt” in 2000, which witnessed the first performance of “Gagaku” music in the Middle East. Student exchange programs have also been organized between the two countries. In 2023, an agreement was reached on a program for the exchange of high school students between Egypt and Japan, whereby Egyptian students would visit Japan and host Japanese students in Egypt, with the aim of learning about different cultures and strengthening bilateral relations ⁽⁴⁾.

Regarding educational cooperation and scholarships, Japan offers “Monbu kaga kusho” scholarships to Egyptian students for post-graduate studies, allowing them to study in Japan at the expense of the Japanese Ministry of Education, Science, Sports and Technology. Japanese schools also serve as a model for educational cooperation between the two countries, blending Egyptian curricula with Japanese educational methods, with an emphasis on building students’ character and promoting moral values. Within the framework of cooperation in the field of sports, Japanese experts were sent to Egypt in the late 1970s to train Egyptian youth in judo and karate, contributing to the spread and development of these sports in Egypt. These ongoing efforts embody the depth of cultural and educational relations between Egypt and Japan and affirm the two countries’ commitment to enhancing mutual understanding and fruitful cooperation in various fields.

1.7 Recent Relations between Egypt and Japan (2000–present):

Egypt and Japan have enjoyed strong and growing bilateral relations since 2000, manifested in close cooperation in various fields, most notably the economy and education. Regarding economic cooperation, Japanese investments in Egypt have witnessed remarkable growth, reaching \$73.7 million in 2021, compared to approximately \$37.1 million in 2020. Japan accounts for 31 percent of total Asian investments in the Egyptian market and ranks 31st among countries investing in Egypt, with 106 Japanese companies operating in diverse fields such as engineering, automotive, pharmaceuticals, infrastructure, and information technology. Development cooperation between Egypt and Japan began in the field of technical cooperation in 1954 and expanded to include grants in 1973 and concessional financing in 1974.

The Japan International Cooperation Agency office was established in Egypt in 1977, contributing to the implementation of nu-

merous joint development projects. Regarding educational cooperation, the Egyptian political leadership has placed great emphasis on developing education through partnerships with Japan until October 2024. There are 55 Egyptian Japanese schools spread across 26 governorates, with more than 16,000 students and 2,000 teachers. These schools focus on implementing Japanese “tokka tsu” activities aimed at developing students’ skills and promoting moral values.

Relations between the two countries have also been strengthened through mutual official visits. In 2016, the Egyptian President visited Japan, contributing to strengthening bilateral cooperation. The Japanese Prime Minister visited Egypt in 2015 to discuss ways to enhance the partnership between the two countries. Egyptian Japanese relations continue to develop and flourish, with a focus on enhancing cooperation in the fields of economy and education to achieve the common interests of both countries.

1.8 Cooperation between Egypt and Japan in the field of sustainable development:

Egypt and Japan enjoy close cooperation in the field of sustainable development ⁽⁵⁾, as they jointly strive to achieve the sustainable development goals in Egypt. In this field, Japan began providing various forms of assistance to Egypt in 1954, including grants and development loans. Among the most prominent joint development projects are: the Egyptian Opera House, which was built with Japanese support as a symbol of cultural cooperation between the two countries; the Peace Bridge, one of the largest suspension bridges in the world, linking the continents of Asia and Africa; the Cairo University Specialized Children’s Hospital, which provides advanced medical services to children; and the Grand Egyptian Museum, which is considered the largest museum in the world dedicated to a single civilization and embodies cooperation in the fields of antiquities and culture.

Support for vital sectors is also supported, as the development cooperation portfolio between Egypt and Japan includes more than 18 development projects worth up to \$3.9 billion, covering areas such as health, education, energy, transportation, tourism, and irrigation. This cooperation aims to support sustainable economic growth, promote social inclusion, advance education, develop human resources, and combat climate change.

1.9 Cooperation between Egypt and Japan in the field of digital transformation:

Egypt and Japan enjoy close cooperation in the field of digital transformation ⁽⁶⁾, as they jointly seek to enhance Egypt's digital infrastructure. Among the most prominent joint development projects is the digital agricultural transformation. Within the framework of the economic and social development program, an agreement was signed between Egypt and Japan worth 500 million Japanese yen to implement the digital agricultural transformation project.

The project aims to establish a program for leasing and monitoring agricultural machinery using remote control devices, supporting the country's drive towards digital transformation and e-government. Egypt and Japan are also cooperating in developing healthcare management systems by adopting artificial intelligence applications and digital solutions in the healthcare sector, with the aim of improving the quality of medical services provided to citizens. The Egyptian Space Agency also emphasized the importance of cooperation with Japan in the field of space technology, including the use of advanced digital technologies in this field, which contributes to strengthening Egypt's capabilities in space sciences.

Egypt also seeks to bridge the digital divide through cooperation with Japan in the field of artificial intelligence, and coordination with initiatives such as the "Hiroshima AI Operation," launched by

Japan with the aim of adopting the latest technologies and promoting innovation across various sectors. Through these partnerships, Egypt and Japan seek to enhance digital transformation across various sectors, positively impacting the Egyptian economy and society.

2. The nature and most important features of the digital economy in Egypt

The digital economy⁽⁷⁾ represents one of the most important drivers of global economic growth in the modern era. With the rapid shift towards digitization, Egypt is striving to build a strong digital economy capable of competing globally. These efforts rely on developing digital infrastructure, promoting digital transformation in institutions, and supporting entrepreneurship in the technology sector. This section briefly reviews the reality of the digital economy in Egypt in terms of its definition, importance, and most important features, then the most important challenges it faces and how to overcome them, as follows:

2.1 Definition of the digital economy and its importance

2.1.1 The digital economy refers to economic activities that rely on the use of digital technologies and information and communications technology (ICT) at all stages of the economic process. This concept encompasses e-commerce, digital financial services, online marketing, technological innovation, and electronic information exchange. The digital economy encompasses all sectors that rely on technology to improve productivity and services.

It is characterized by saving time and effort and reducing costs through processing automation and improving the speed of data transfer and decision-making. Therefore, the digital economy is considered a fundamental pillar of growth and competitiveness in the modern era, as it contributes to achieving sustainable development and improving the economic performance of societies at the local and global levels.

2.1.2 The importance of the digital economy in Egypt is evident in its efforts to: improve efficiency and productivity, as digital systems simplify business processes and reduce bureaucracy, leading to increased productivity and faster, more effective results; expand market access, as e-commerce and digital marketing enable companies to easily access global markets, increasing opportunities for expansion and business growth; create new job opportunities, as the digital economy generates new, specialized jobs in the fields of information technology, data, and digital analytics, contributing to the development of the labor market;

Enhance financial inclusion, as digital financial services contribute to providing banking and financial services to broad segments of society, including individuals underserved by traditional banks; work to attract foreign investment, as it helps attract global technology companies to invest in the Egyptian market; support small and medium-sized enterprises, as it provides opportunities for SMEs to access global markets via e-commerce platforms; and support innovation and development, as reliance on digital technologies encourages research and development, leading to the emergence of innovative solutions that contribute to addressing economic and social challenges.

By providing digital government, education, and health services, the digital economy contributes to improving the level of services provided to citizens and enhancing the overall quality of life.

2.2 Features of the digital economy in Egypt

2.2.1 The Egyptian government has implemented major projects to develop the communications infrastructure, to create a satisfactory digital infrastructure such as improving internet networks and expanding the scope of optical fibers. Egypt has also achieved remarkable progress in improving internet speed, as it has become a leader in the African continent in terms of quality. The e-commerce

sector⁽⁸⁾ has witnessed rapid growth thanks to the increased use of smartphones and high rates of internet connection. Among the most prominent platforms launched by the Egyptian government are (Jumia and Amazon Market).

2.2.2 Regarding the digital transformation of government services: The Egyptian government launched the “Digital Egypt” platform, which provides electronic government services such as issuing official documents, electronic tax payment, and license renewals. It also implemented digital transformation in the education sector through electronic platforms. Among Egypt’s most prominent initiatives to support innovation and entrepreneurship are: encouraging entrepreneurship through business incubators and accelerators such as (Flat 6 Labs and Tech Crunch); initiatives to support emerging companies in the fields of financial technology ⁽⁹⁾ and artificial intelligence⁽¹⁰⁾; signing partnerships with global institutions such as Microsoft, Huawei, and Cisco to develop technological skills and infrastructure; and collaborating with the Japan International Cooperation Agency to support the digital economy.

2.3 Challenges facing the digital economy in Egypt and opportunities to overcome them

Despite efforts to promote digital transformation, Egypt’s digital economy faces several challenges that hinder its full potential. These challenges and future opportunities for the digital economy in Egypt can be explained below:

2.3.1 Weak technical competencies, represented by: the lack of digital skills among the workforce compared to global markets; cybersecurity, which is the challenges related to protecting personal and corporate data from electronic threats; the digital divide, which represents the disparity in access to technology between urban and rural areas; and legislation and laws, which represents the need to

update laws related to data protection, electronic transactions, and digital commerce.

2.3.2 To develop the digital economy, Egypt has launched several national initiatives, such as: Egypt's Digital Strategy 2030, which aims to transform Egypt into a regional hub for digital innovation. It includes developing digital infrastructure, improving e-government services, and encouraging innovation. The "Digital Egypt" project includes a national platform offering more than 100 e-government services, facilitating e-payments and providing remote services.

It also includes educational and training initiatives such as the "Our Digital Future" initiative to equip youth with technological skills, and training programs in cooperation with international companies to enhance digital skills. It also supports financial inclusion through the expansion of e-payment services such as "Fawry" and "Meeza" and encouraging the use of digital wallets and e-banking services.

2.3.3 Future opportunities for the digital economy in Egypt include: the potential to use artificial intelligence to improve productivity across various sectors; enhancing e-commerce through growing demand for e-services with increased digital awareness; fostering innovation in the financial technology sector to meet growing market needs; and supporting small and medium-sized enterprises (SMEs) by increasing their growth opportunities through the use of digital platforms to market their products.

The digital economy thus represents a significant opportunity for Egypt to boost its economic growth, attract investment, and improve citizens' quality of life. Despite the challenges, government initiatives and growing private sector interest are putting Egypt on the right path to building a strong digital economy, whose success depends on investment in digital education, infrastructure development, and legislation that promotes innovation.

3. How to leverage Egyptian Japanese relations to develop the digital economy

Egyptian Japanese relations span over a century and are witnessing continuous development in various fields, including the economy and technology. With the global shift toward digitalization, Egypt has a unique opportunity to leverage Japan's advanced expertise in the digital economy to develop its digital infrastructure and drive digital transformation. This section focuses on analyzing ways to leverage Egyptian Japanese cooperation to enhance the digital economy in Egypt, highlighting the opportunities, challenges, and opportunities available for its development, as follows:

3.1 The Reality of the Digital Economy in Egypt and the Japanese Experience

This section will address the reality of the digital economy in Egypt, the challenges it faces, and the opportunities available for its development. We will then review the Japanese experience in this field, with the aim of drawing lessons that Egypt can benefit from to accelerate the pace of digital transformation and achieve sustainable economic development.

3.1.1 The Reality of the Digital Economy in Egypt:

The digital economy is one of the main drivers of economic growth in the modern era, relying on digital technologies across various sectors, contributing to enhancing productivity, creating new job opportunities, and improving the quality of services. In Egypt, digital transformation has become an essential part of Egypt Vision 2030, as the state seeks to build an integrated digital economy by adopting modern technologies such as artificial intelligence, big data, financial technology, and others. Egypt has witnessed remarkable progress in this field through the launch of government initiatives to support startups, develop digital infrastructure, and

enhance financial inclusion through technology. The following is an overview of the most prominent features of this development:

3.1.1.1 Digital Infrastructure: Regarding telecommunications networks, Egypt handles 90 percent of data traffic between East and West, making it a major hub for international data transfer. Regarding mobile phone penetration, the number of mobile phone subscribers has exceeded 96 million, with a smartphone penetration rate of 57 percent.

3.1.1.2 Digital transformation in government institutions: Digital transformation in government institutions has become a reality in Egyptian state institutions, with approximately EGP 8 billion allocated from the 2020 budget to modernize the information infrastructure and digital content.

3.1.1.3 Growth of the digital economy: The size of the digital economy in Egypt increased at current prices to approximately EGP 276 billion during the fiscal year 2022-2023, at a compound annual growth rate of 19 percent. Regarding the cross-border digital services strategy, Egypt aimed to triple export revenues from cross-border digital services, at a compound annual growth rate of 19 percent during the period from 2022 to 2026.

3.1.1.4 Challenges and opportunities: The challenges facing the digital economy in Egypt include the need to improve the quality and scope of internet networks, facilitate individual subscriptions, and enhance awareness of modern technology. As for opportunities, the increasing number of internet users and the spread of smartphones may provide significant opportunities for the growth of e-commerce and digital services in Egypt.

Egypt's digital economy is witnessing remarkable growth, supported by government investments in digital infrastructure and initiatives

to promote digital transformation. However, challenges remain that must be addressed to maximize the benefits of this transformation.

3.1.2 The Japanese Experience in the Digital Economy:

Japan is one of the leading countries in advanced technology, particularly in the fields of artificial intelligence, the Internet of Things, cloud computing, and the digital economy. It has benefited from technological advancements to enhance its economic growth and achieve a comprehensive digital transformation. The Japanese experience in this field can be summarized through several key axes, the most important of which are:

3.1.2.1 Strong digital infrastructure: Japan has one of the fastest internet networks in the world, supporting e-commerce, technological innovation, and digital services. Japan has invested heavily in deploying 5G network technology to enhance digital transformation in various sectors, such as industry, healthcare, and transportation.

3.1.2.2 Innovation in modern technologies: Japan is currently developing advanced applications of artificial intelligence in manufacturing, financial services, and medicine. Japan is also a global leader in the field of industrial robotics and automation, using them in manufacturing, healthcare, and services. Many Japanese companies also rely on the Internet of Things to increase efficiency and improve productivity in factories and smart cities ⁽¹¹⁾.

3.1.2.3 Digital transformation in government and society: Japan seeks to digitize government services to facilitate transactions for citizens and businesses, such as online tax filing and health insurance. Japan also offers technology-based educational programs, including smart classrooms and online learning.

3.1.2.4 Digital Economy and Entrepreneurship: In terms of e-commerce, Rakuten and Mercari are among the largest e-commerce platforms in Japan, and there is widespread use of QR codes⁽¹²⁾ and cashless payments via applications such as PayPal and LINE Pay. The Japanese government also provides support and incentives to technology startups to promote digital innovation.

3.1.2.5 Challenges of the digital economy in Japan: These challenges include an aging population that affects the availability of the workforce, which pushes Japan to rely more on technology and robotics, cybersecurity, which increases the need to protect data from cyber-attacks with the increase in digitization, and global competition, as Japanese companies face challenges from major technology companies such as Google, Amazon, and Alibaba.

3.1.2.6 Lessons learned from the Japanese experience: Investment in digital infrastructure promotes economic growth, and continuous education and training in technology are essential to keep pace with digital developments. Digital transformation in government facilitates citizens' lives and speeds up administrative procedures. Innovation in artificial intelligence and robotics can compensate for labor shortages.

Thus, Japan has achieved significant success in building a strong digital economy, but it still faces challenges that require further innovation and effective policies. However, other countries can benefit from the Japanese experience to develop their digital economies and achieve successful digital transformation.

3.2 Areas of Benefit from Egyptian Japanese Relations in Developing the Egyptian Digital Economy

Egyptian Japanese relations represent a model of fruitful cooperation between two countries with distinct capabilities and expertise. Japan has achieved significant success in building a strong

digital economy, but it still faces challenges that require further innovation and effective policies. However, other countries can benefit from the Japanese experience to develop their digital economies and achieve successful digital transformation. The following are some of the key areas in which Egypt can benefit:

3.2.1 Developing digital infrastructure: Through the transfer of Japanese technology, Egypt can benefit from leading Japanese IT companies such as NEC, Fujitsu, and Hitachi to modernize telecommunications networks and improve internet services. Partnerships can also be leveraged in 5G projects, as Japan is a leader in these technologies. This can help Egypt accelerate the deployment of this technology and enhance digital transformation. Egypt can also benefit from Japan's experience in developing smart cities, such as Fujisawa Smart City, and apply the same concepts to projects such as the New Administrative Capital.

3.2.2 Cooperation in artificial intelligence and robotics: This is achieved through the transfer of expertise in the field of artificial intelligence. Egypt can cooperate with Japanese universities and companies to develop artificial intelligence programs in agriculture, health, and industry. It can also use robots in manufacturing, as Japan's progress in industrial robotics can help improve productivity in Egyptian factories and enhance automation in the industrial sector. It can also use smart applications in agriculture, as Japan has developed digital agriculture technologies using artificial intelligence. These technologies can be transferred to the Egyptian agricultural sector to enhance production.

3.2.3 Cooperation in digital education and training: Sharing Japan's experience in digital education. Egypt can benefit from Japanese technological education in developing curricula, particularly in the fields of programming, artificial intelligence,

and data analysis. It can also exchange educational missions by sending Egyptian students to study at Japanese universities, such as Tokyo University of Technology, to acquire advanced digital skills. It can also train government employees. Egypt can benefit from Japanese training programs in digitizing government services and improving administrative efficiency.

3.2.4 Promoting e-commerce and digital payments: By transferring the expertise of Japanese e-commerce platforms, Egypt can leverage the success of Rakuten and Mercari, two of Japan's largest e-commerce platforms, to develop strong local platforms and electronic payment systems. Japan has advanced experience in cashless payments, such as QR codes and e-wallets, which can help promote digital payments in Egypt. Egypt can also support companies through Japan's extensive experience in supporting financial technology startups and transferring this expertise to the Egyptian market.

3.2.5 Cooperation in the field of cybersecurity and data protection: Japan is considered a leading country in information security and cybersecurity ⁽¹³⁾, and Egypt can cooperate with it in protecting digital infrastructure, securing electronic services, and training to combat cyber-attacks, by benefiting from Japanese experts to train government institutions and companies to confront cyber threats. Egypt can also benefit from advanced Japanese digital laws and legislation in protecting personal data and strengthening cybersecurity laws.

3.2.6 Supporting startups and technological innovation: Japanese investments can be attracted to support Egyptian startups in the fields of technology and digital innovation, and Japanese innovation centers can be leveraged to establish business incubators that support new ideas in financial technology and

e-commerce. Egyptian research institutions can also collaborate with Japanese technology institutes to conduct joint research in artificial intelligence and the Internet of Things.

Egyptian Japanese relations thus provide significant opportunities to enhance Egypt's digital economy through technology transfer, infrastructure development, and the promotion of digital innovation. Egypt can also benefit from Japan's experience in education, artificial intelligence, cybersecurity, and e-commerce to accelerate digital transformation and achieve sustainable economic growth.

4. Challenges Facing Egyptian Japanese Cooperation in the Digital Economy and How to Address Them

Despite the significant potential for cooperation between Egypt and Japan in the digital economy, achieving a sustainable and effective partnership faces several challenges that require careful consideration. These challenges stem from the technical and regulatory differences between the two countries, as well as the financial and human resources required to support this cooperation. These can be explained as follows:

4.1 The most prominent challenges facing Egyptian Japanese cooperation in the field of the digital economy:

4.1.1 Uneven levels of technological development and infrastructure: Japan has one of the most advanced digital economies in the world, with advanced infrastructure including 5G networks, artificial intelligence systems, and the Internet of Things. In contrast, Egypt is still working to improve its digital infrastructure, particularly in rural and remote areas, making achieving technological integration between the two countries a challenge. Regarding communications infrastructure, despite significant improvements in internet speed and the development of communications networks in Egypt, the infrastructure still needs

further modernization to meet the requirements of digital cooperation with Japan.

4.1.2 Lack of specialized digital and human resources: Egypt suffers from a shortage of qualified human resources to work in advanced technology fields such as artificial intelligence, cybersecurity, and cloud computing, while Japan relies heavily on high-tech skills to develop its digital economy. There are also differences in the educational and training systems between the two countries, requiring significant efforts to prepare Egyptian youth to meet the required level of competence to maximize the benefits of cooperation with Japan.

4.1.3 Regulatory and legal challenges: While the legislative frameworks, such as laws and regulations related to the digital economy and data protection in Japan, are highly developed and in line with international standards, some laws in Egypt still need to be updated to keep pace with modern technological developments. Cybersecurity and data protection are among the most prominent issues facing digital cooperation. Egypt needs to develop robust data protection systems and ensure compliance with the global standards adopted by Japan.

4.1.4 Financing Challenges: The high costs of advanced technology that Japan can offer are often prohibitive, which can pose a financial challenge for Egypt, especially given its other economic priorities. Furthermore, the need for massive investments requires the implementation of major digital projects, such as the establishment of smart cities or the development of 5G networks, and significant investments can be a burden on financial resources.

4.2 How to address the challenges facing Egyptian Japanese cooperation in the field of digital economy:

4.2.1 Strengthening public-private partnerships: By fostering collaboration between governments and private companies in Egypt and Japan to develop joint digital projects, contributing to the exchange of expertise and technologies.

4.2.2 Developing digital infrastructure: By leveraging Japan's experience in developing digital infrastructure, including fast communications networks and advanced data centers.

4.2.3 Developing human skills and capabilities: Through implementing joint training programs between Egyptian and Japanese educational institutions to develop digital and innovation skills.

4.2.4 Enhancing cybersecurity: By leveraging Japanese expertise in cybersecurity to develop strategies to protect sensitive data and information.

4.2.5 Supporting innovation and entrepreneurship: By establishing business incubators and accelerators in cooperation between the two countries to support emerging companies in the fields of technology and the digital economy.

4.2.6 Enhancing governmental cooperation between the two countries: By holding periodic meetings between Egyptian and Japanese officials to discuss challenges and opportunities in the digital economy and enhance cooperation.

Thus, Egyptian Japanese relations represent a successful model of international cooperation based on shared interests and mutual respect. As these relations continue to develop, it will be important for Egypt to strengthen partnerships with Japan in the fields of the digital economy and advanced technology, contributing to the

realization of Egypt's Vision 2030 for digital transformation and sustainable development.

5. Conclusion

The research examined and analyzed the history of Egyptian Japanese relations, spanning more than a century, highlighting the depth of cooperation between the two countries in the economic, cultural, and educational fields. The research also discussed how to leverage these strong ties to develop the Egyptian digital economy, especially considering the global trend toward digitization. The research also reviewed Japan's pioneering experience in modern technologies such as artificial intelligence and the Internet of Things, and what Egypt can learn from them. The following are the most important findings and recommendations reached by the research:

5.1 Results:

5.1.1 Egyptian Japanese relations represent a model of cooperation that can be leveraged to support the Egyptian digital economy. Japan possesses advanced expertise in digital technology, making it a strategic partner that can contribute to the transfer of knowledge and technology to Egypt.

5.1.2 The Egyptian digital economy faces challenges related to infrastructure, a lack of skills, and the digital divide. These issues can be addressed through cooperation with Japan in areas such as technical education, innovation, and entrepreneurship, supporting the construction of a sustainable digital economy.

5.1.3 Cooperation between Egypt and Japan contributes to the development of e-commerce platforms and the improvement of digital payment systems, helping support startups and small businesses in Egypt to access global markets.

5.1.4 Exchanging expertise in developing digital infrastructure

will enhance digital integration between various sectors, contributing to the more efficient and sustainable growth of the Egyptian digital economy.

5.2 Recommendations:

5.2.1 Strengthening educational and technical cooperation between the two countries by establishing joint training programs to equip Egyptian youth with advanced digital skills.

5.2.2 Attracting Japanese investments to support digital infrastructure projects, especially in remote areas, while establishing joint business incubators between the two countries to support innovation and entrepreneurship in digital technology.

5.2.3 Updating Egyptian legislation related to the digital economy and data protection to keep pace with international standards and enhance the business environment.

5.2.4 Enhancing cooperation in cybersecurity to protect data and secure digital systems in Egypt, leveraging Japanese expertise in this field.

References:

- 1- For more information on modern and contemporary Japanese history, see: Hisham Abdel Raouf Hassan, *Modern and Contemporary Japanese History, Taisho-Showa Period, 1912–1989* (Cairo: Anglo-Egyptian Library, 2003). See also: Raouf Abbas, *Enlightenment between Japan and Egypt: A Comparative Study of the Thought of Rifa'a al - Tahtawi and Fukuzawa Yukichi* (Cairo: Merit Publishing and Information, 2001).
- 2- For more information about the Japanese samurai mission to Egypt in 1862... to understand the reasons for the renaissance of Egypt, see: <https://www.masrawy.com/news/news-ayamzaman/details/2015/4/30/551030>
- 3- To study the historical framework of Japan from the Meiji era, which is called the stage of the formation of the modern state in Japan, in which its isolation from the outside world was ended. This isolation lasted for about two centuries and was abolished by the Tokugawa regime in 1720, as it was forbidden to study Western sciences and import books. By the 19th century, Japan opened to the world through the Dutch language. See: Raouf Abbas, *Enlightenment between Japan and Egypt: A Comparative Study of the Thought of Rifa'a al - Tahtawi and Fukuzawa Yukichi* (Cairo: Merit Publishing and Information, 2001).
- 4- To learn about the stages of scientific and cultural change in Japanese society and to establish the foundations for a new era of reform in various fields, including the modern education system, see: Raouf Abbas Hamed, *Japanese Society in the Meiji Era* (Cairo: University Publishing House, 1980).
- 5- It talks about sustainable development, continuous development, or continuous development, as one of the relatively modern development patterns, which is characterized by a set of characteristics, including: that the human being is its goal, purpose, and means, with its emphasis on the balance between the environment in its various and diverse dimensions, and its keenness to achieve both the development of natural resources. For more, see: Medhat Muhammad Abu al-Nasr, *Sustainable Development - Its Concept - Dimensions - Indicators* (Cairo: Arab Group for Training and Publishing, 2017).
- 6- The digital transformation has led to the emergence of the concept of “digital entrepreneurship,” which is a branch of “entrepreneurship.” This concept integrates digital technologies and entrepreneurship. To learn more about the concept of digital transformation and its role in the emergence of new business models called “digital entrepreneurship,” explore the emerging concept of

digital entrepreneurship, its advantages and challenges, and recognize the importance of modern technology in stimulating a climate of entrepreneurship and innovation. To explore the relationship between digital transformation and achieving sustainable development goals, see: Maha Khalil Yousef Shehadeh, "Digital Transformation and Digital Entrepreneurship," *Ramah Journal of Research and Studies* (Jordan: Center for Research and Development of Human Resources - Ramah, 2022). See also: Chinmay Shahi & other, *Digital transformation: Challenges faced by organizations and their potential solutions*, *International Journal of Innovation Science*, December 2020.

- 7- For more on the topic of the digital economy, see: Ahmed Mustafa Muhammad Maabad, *The Digital Economy between Theory and Practice* (Cairo: Al-Nahda Al-Ilmiyah for Publishing and Distribution, 2018).
- 8- For more information on the emergence and development of e-commerce, its types, the challenges it faces, and prospects, see: Jamal Qasim Hassan and Mahmoud Abdel Salam, *E-Commerce* (Abu Dhabi: Arab Monetary Fund, 2021).
- 9- Innovative financial technology has become one of the most promising industries worldwide, due to its ability to utilize modern technological mechanisms and techniques and benefit from them in expanding the scope of providing financial and banking services and products. See the following reference, which provides case studies that depict the problems, solutions, and opportunities associated with financial technology: John Hill, *Fintech and the Remaking of Financial Institutions* (United States, Academic Press, 2018).
- 10- For the nature of artificial intelligence and its history from 1940 to 2000, and some terms related to this field such as deep learning, machine learning, algorithms, robotics, expert systems, etc., in addition to the philosophy and limits of artificial intelligence, its uses in several fields, and the future of artificial intelligence, see: Abdullah Musa and Ahmed Habib Bilal, *Artificial Intelligence: A Revolution in Modern Technologies* (Cairo: Arab Group for Training and Publishing, 2021).
- 11- A smart city is a technologically advanced urban area that uses various types of electronic methods, voice activation methods, and sensors to collect specific data. The information gained from this data is used to efficiently manage assets, resources, and services. In turn, this data is used to improve operations throughout the city. This includes data collected from citizens, devices, buildings, and assets, which is processed and analyzed to monitor and manage traffic and transportation systems, power plants, utilities, water and

waste supply networks, crime detection, information systems, schools, libraries, hospitals, and other community services. Smart cities are defined as being smart in terms of the ways their governments harness technology, as well as in how they monitor, analyze, plan, and govern the city. For more on this topic, see: Ghada Mahmoud Qamar, "Smart Cities in Egypt - A Case Study of Badr City," *Journal of the Egyptian Scientific Institute* (Cairo: The Egyptian Scientific Institute, 2024).

- 12- QR code, also known as Quick Response code, or QR code, is the trademark name for a two-dimensional barcode matrix system. It was first used in automotive design. More recently, the system has spread beyond industry due to its easy readability and high storage capacity. The code consists of black modules arranged in a square on a white background. It was invented by Denso Wave, a Toyota subsidiary, in 1994 to track vehicle parts during manufacturing. It was designed for high-speed decoding, and the technology has become widely used in Japan; the United Kingdom is the seventh largest consumer of QR codes. PayPal is a commercial website that allows users to transfer money online and via email to various addresses. Users can also send money to others or transfer it to a bank account. The electronic currency service is an alternative to traditional paper methods such as checks or money orders.
- 13- For more details about cybersecurity, please refer to: R. Kissel, "Xplore terms: a glossary of common cybersecurity terminology", National Initiative for Cybersecurity Careers and Studies, (2013), available at: (accessed 27 Feb. 2025).<https://niccs.us-cert.gov/glossary>