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Integration into the Digital Economy and Modern Technology: An Analytical Study on the Importance of Integrating the Iraqi Economy

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Abstract : According to the study, decision-makers in both developed and developing nations are starting to give the digital economy a high priority. Large sums of money have been set aside for it, and strategies have been established. It has also received significant research and funding from international institutions due to its growing role in driving economic growth and improving market competitiveness by reducing transaction costs, improving access to information, and enhancing the characteristics and requirements of domestic and foreign markets. This, in turn, has contributed to the achievement of comprehensive and sustainable development, given the astonishing speed at which the economy is evolving. As a result of the digital transformation, through stimulating innovation, increasing efficiency, and enhancing social inclusion, economic impacts have emerged, including improved growth rates, increased employment, and improved services. Given that Iraq faces numerous and complex challenges, these must be overcome with scientific and practical approaches. This requires creating conditions for reform and evaluation based on logical and scientific foundations. This requires a shift toward a digital economy by developing policies that ensure economic reform. These paths must be corrected within a comprehensive structural vision and across the Iraqi economy as a whole, by promoting sustained and effective economic growth and laying the foundations for the development and economic advancement required at this stage.

Keywords: Digital Economy, Modern Technology, Iraq

Importance of the Study : The finding is important because it shows how the digital economy greatly boosts societal economic growth. It also illustrates how it helps disseminate the idea of the knowledge economy and contemporary technology, as well as how it may be applied in a variety of economic domains and industries. Because it depends only on technology, it spreads the idea and culture of knowledge and contemporary digital technologies in society, as well as how to make the best use of them. The study also demonstrates the importance of the digital economy in promoting independence, expanding employment opportunities, and enhancing economic diversification.

Research Problem: The study's foundation is the query: Does Iraq need to use contemporary technologies and join the digital economy in order to boost economic diversification and productivity?

Research Hypothesis: The study hypothesis is predicated on the idea that contemporary technologies, particularly digital technologies, are vital to contemporary economies and play a major and fundamental role in accomplishing social and economic objectives as well as achieving overall economic stability.

Goals of the research: The purpose of the study is to draw attention to the characteristics and significance of the emerging digital economy as well as the need for integration between the traditional and digital industries. In order to keep up with global advancements and boost the Iraqi economy, which is beset by a lack of economic diversification, it also seeks to determine the conditions for Iraq's integration into the new economy. In order to capitalize on the swift advancements in technology occurring worldwide, it also seeks to improve productivity and competitiveness and help mitigate external shocks.

Chapter One:The Conceptual and Cognitive Framework of the Digital Economy:

First Section: The Concept of the Digital Economy

This refers to an economy based on the principle of producing, using, and then disseminating knowledge, as the primary force for increasing wealth and driving growth. Knowledge, creativity, and innovation play a major and growing role in creating and sustaining growth (Al-Sheikh Ali, S.2002, p.222). It is also defined as an economy based

on digital information technology and employing information and knowledge in its management, as the new resource of revolution and a source of inspiration for new innovations (Al-Razzu, H. M. 2006 p.13). One of the most important concepts of the digital economy is the concept that focuses on the interconnection between information and communication technology, on the one hand, and the economy at the global, regional, and sectoral levels, on the other. This creates a vision and openness for all economic indicators supporting all economic, commercial, and financial decisions in a country during a given period (Al-Najjar, F. R. 2007 p. 25). The Organization for Economic Co-operation and Development defines the concept as "all economic activities that rely on the use of digital inputs, including digital technologies, digital infrastructure, digital services, and data, or those that the use of digital inputs helps support and significantly enhance, including all producers." Consumers, including government, and the digital economy involve conducting or facilitating economic activities electronically, based on the electronic processing, storage, and transmission of information, including the skills that enable physical and software structures. The digital economy thus refers to the general importance of information or knowledge in the economy, including e-commerce as an important, but not the only, component. The importance of the digital economy is growing, and information technology can have significant impacts on other sectors of the economy, including business strategies in the information age that require greater capabilities to manage information, as a product in itself (Singh, N. 2004, p. 5).

Second Requirement: The Importance of the Digital Economy in Achieving Economic Growth:

Digital transformation contributes to economic growth and growth by facilitating the international economy's competitiveness with the global economy. This opens up broad prospects for global trade and new global markets, which in turn increases revenues and significantly boosts the country's economy, thereby contributing to raising the standard of living for individuals. The digital economy achieves economic growth by: Transforming existing value chains, creating new sources of value, and implementing more efficient and sustainable innovative business models. It also deepens capital, meaning investment in digital equipment, information technology, and computer software, improving the efficiency of using production factors and innovations, leading to increased productivity. It also reduces the cost of transactions and information by introducing transparency, enhancing trust in transactions and pension relationships, and bringing services closer to individuals and the business sector, making them more accessible when they include all government institutions and their services. The infrastructure of the digital economy also contributes to growth through what is known as the network externality effect, or the network effect(United Nations, ESCWA,2020, p. 56). As the number of users increases, the network becomes a greater source of value creation and the information it produces. Thus, the contribution to economic growth is typically higher with digital infrastructure than with other types of infrastructure, particularly through information dissemination, increased organizational efficiency of enterprises, and increased opportunities for SMEs. Digitizing public procurement procedures can facilitate SME participation in public procurement markets. Research shows that when SMEs win public procurement contracts, they not only increase competition but also create jobs. (World Bank Group.2018, p.56), digital innovations have the potential to build new engines of economic growth, increase human and capital productivity, and distribute the benefits of growth more equitably across all segments of society. The technology-led transformation of the services sector—including e-commerce, e-health, e-payment systems, and e-learning platforms—is crucial to unlocking the potential of the private sector and creating millions of job opportunities for young people in the region (ibid.p.66). The emergence of numerous digital projects (e-commerce, e-marketing, virtual financial markets, currency exchange banks, digital schools, virtual private institutes and universities, modern applications and software) are collectively considered a national asset that contributes positively to the accumulation of real gross domestic product, making them the main driver of economic growth and, in turn, creating numerous job opportunities for young graduates (United Nations, ESCWA,p.14)

Section Two:The Reality of the Digital Economy in Iraq and its Potential for Development

First Section: The Path of Digital Transformation in Iraq

The Iraqi economy has witnessed remarkable developments in recent years. The Iraqi government has taken important steps to transform the Iraqi economy into a digital economy, such as approving the amendment to the Electronic Payments Instructions No. 2 of 2024. This step aims to reduce reliance on cash and enhance financial inclusion and economic transparency. Other measures aim to integrate the Iraqi economy with the digital economy and align the knowledge and technology used in countries around the world with Iraq. This is despite Iraq's sluggish economic growth, the worsening unemployment problem, and numerous environmental, social, and economic challenges. Another challenge facing Iraq is its reliance on cash, which is the primary means of daily transactions. Cash is the basis for monetary exchange among individuals, creating challenges in tracking funds and transparency. In addition to the difficulty of educating about the societal transformation of the transition to digital payments, which requires a cultural shift in the habits of Iraqi citizens, the prevalence of bureaucracy, complex administrative procedures, and paperwork in many institutions in Iraq hinders the transition to a digital economy.

However, we note that there are paths to promoting the culture and implementation of the digital economy in Iraq, through the first steps of this represented by digital payments. The Central Bank of Iraq is working to promote the use of digital payments, with the amount collected from digital payments reaching 7.6 trillion Iraqi dinars in October 2024, compared to 2.6 trillion Iraqi dinars in December 2023. This is a good indicator of the work to implement the digital economy in Iraq.

Iraq also possesses a qualified, advanced infrastructure capable of accommodating electronic payment tools and financial services. A transition to digital banking will soon take place, in accordance with plans by the Central Bank of Iraq and the Iraqi Ministry of Finance, in coordination with the General Secretariat of the Council of Ministers and specialized financial institutions. Support will also be provided to small and medium-sized enterprises (SMEs) by introducing them to cashless systems that reduce operational barriers for start-ups and small businesses, enhancing entrepreneurship and enabling Iraqi talent to flourish. Information and communications technologies (ICTs) are also crucial in addressing many technical and informational challenges and play a role in helping achieve a digital economy, which in turn contributes to achieving sustainable development goals. A well-thought-out digital plan would be an important tool for Iraq's progress and putting it on the right track more quickly. Iraq cannot stand outside this digital revolution. Rather, the advantages should be invested in, the risks should be addressed and addressed, and work should be done in a team-based and collaborative manner, using the strengths of society, which is distinguished by its enormous human potential and educated youth, supported by the government's financial resources and approvals. The benefits provided by the digital economy should be invested in transforming the Iraqi economy into a digital economy even by 2030 and achieving Iraq's vision. A comparison can be made between Iraq and the countries of the region that are seeking to achieve tangible progress in the digital economy in order to enhance their development path and network and technical connectivity with the countries of the world. We note from Table (1) and the accompanying Figure (1), which shows Iraq with Jordan and Syria for different years, that Iraq is spending on investment in wired and wireless communications at positive rates, as the volume of investment increased from 377 million dollars in 2012 to 661 million in 2013, which is a very high percentage, as the growth rate reached approximately 90%. This is an indicator that may indicate poor planning, randomness, and its connection to economic and social changes and political decisions, but it does not reflect well-thought-out plans in any case. This growth rate cannot be linked to changes in crude oil prices and the achievement of good financial revenues for Iraq, because it will reflect a negative image of the connection between the progress of the digital economy and the connection to changes in global crude oil prices, which is another problem that will occur in the future. Therefore, the connection between them must be disentangled and proceed according to well-thought-out scientific plans that are not affected by external changes to Iraq. When looking at 2013, we note that there was an increase in the volume of investments, as it reached $751 million, which is much less than the growth rate in the previous year. This is a result of the decline in crude oil prices and the inability to allocate additional financial resources for this type of investment, despite its importance. We also note a decrease in financial allocations for investment in wired and wireless communications to $459 million in 2015 alone. This is due to the occupation of some Iraqi provinces by terrorist gangs, which halted these projects, in addition to the significant decline in crude oil prices, which reduced the volume of those financial resources allocated to technical investment in Communications, as it continued to decline until 2018, when it reached only $514 million, while it began to improve after that to become $540 million in 2020, then to rise to $593 million in 2023, which is a good indicator that shows the balance of the size of the investment spending in the field of communications in order to develop the infrastructure and reach advanced levels in the digital economy and spread its use in society as it is a basic requirement at the present time and in the near and distant future. Figure (1) can also be observed regarding the development path of the size of this investment spending in Iraq, as we note that there was a sharp rise before 2015, then a decline in 2015, to stabilize in balanced growth after that until 2023.

Table (1)
Value of investment in wireless communications (million dollars)

2023	2020	2018	2015	2014	2013	2012	year / country
593	540	514	459	751	661	377	**Iraq**
230	243	258	276	33	87	128	**Syria**

689	670	663	650	329	107	127	**Jordon**

Source: United Nations, ESCWA, Report of the Committee on Technology for Development, The Digital Economy and the Transformation towards Smart Societies in the Arab Region, United Arab Emirates Report 2024, p. 23.

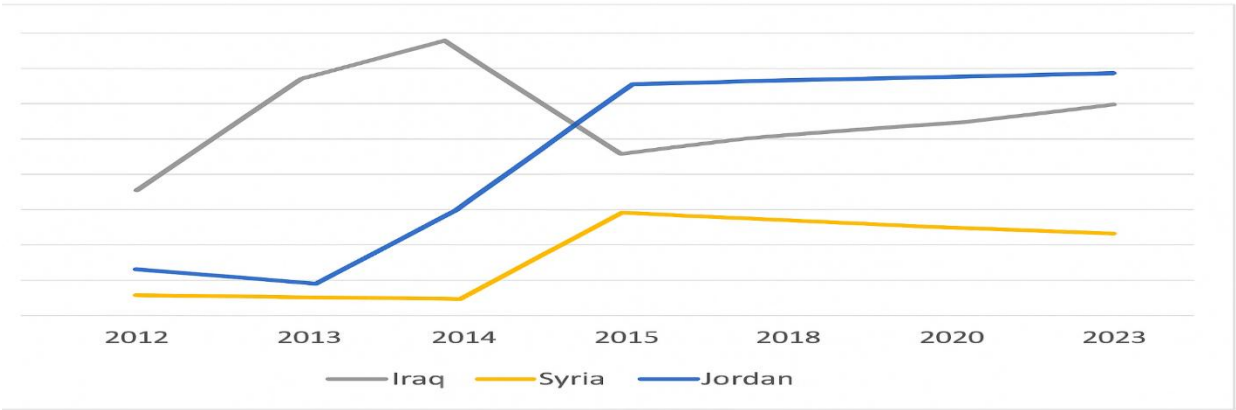
We note from the table above that the volume of investment in wired and wireless communications in the countries of the region, taken as an example, we find that Syria is declining annually in the rates of progress related to technical investment, and that what it allocates to it is very modest compared to the actual need, which is a natural matter as a result of the major security challenges that Syria has experienced, and the fall of some provinces into the hands of the opposition groups to the government, and part of Syria remaining under the control of the separatist Kurds, in addition to the Americans' control of the oil fields, the Russians' control of the seaports, and Israel's control of the Golan Heights and its launching of daily raids on the capital, Damascus. It is natural that all of this was a reason for the decline in the volume of annual spending on technical investment and communications, in addition to its smallness and Syria's inability to achieve the goals of the digital economy, as we note that in 2012 the volume of investment amounted to only $128 million and decreased to $87 million in 2013, meaning there is a huge decline in spending on investment in communications, which is the main artery of the digital economy, and it decreased to $33 million in 2014, and this is due to the aforementioned reasons. As for the period from 2015 to 2023: We note an increase in interest in this field, with investment volume reaching $230 million by 2023, after achieving relative stability, in addition to the necessity of entering the technical field to ensure the continuity of the country's overall economic activity.

Figure (1) below can also be viewed, which shows the trajectory of the volume of spending on communications-related investments in Syria for various years from 2012 to 2023, and note the annual rates of change as well as the decline in the volume of this type of investment. When looking at the indicators of the Hashemite Kingdom of Jordan, we note that there is a relative stability in the volume of annual spending on investment in the field of wired and wireless communications, which is the first link in the threshold of development towards the global digital economy. While there was a slight decrease in 2013 to become $107 million after it was $127 million in 2012, we note that the spending situation has improved since 2014, to become $329 million, then to rise to $650 million and continue until 2023 to reach $689 million. This can be attributed to many reasons, including security stability in the Hashemite Kingdom of Jordan, in addition to its excellent international relations and the facilities it obtains from countries around the world and specialized funding in various economic, technical and other fields. Moreover, Jordanian society has experiences since the beginning of the use of modern technologies and programs, so that it has infrastructure qualified for this development, the level of whose progress we see. Table (1) and Figure (1) show what was mentioned above.

Figure (1)

The volume of investments related to wired and wireless communications in Iraq and the countries of the region for various years from 2012 to 2023 Figure (1)

The volume of investments related to wired and wireless communications in Iraq and the countries of the reion for various years from 2012 to 2023



Source: Prepared by the researcher based on data from Table (1)

Second Requirement: Iraq's Requirements for Integration into the Digital Economy

There are several basic requirements that Iraq must meet in order to facilitate integration into the digital economy and keep pace with global technological changes. These can be summarized as follows:

1. Monitoring developments in the information and communications technology (ICT) sector, particularly internet networks in terms of coverage, speed, and price competitiveness, measuring the extent of investment in these networks, as well as the use of IPv6, adopting new technologies, and even providing "digital public goods," such as consistent, high-speed broadband internet solutions and digital payment solutions (United Nations, ESCWA. 2018,p.14).
2. Strengthening the supply side of the digital economy and increasing investment in research and development programs in emerging technologies, venture capital, and foreign direct investment in the production of new technologies, goods, and services, and increasing exports of ICT goods and services. (Al-Sabbagh, F. 2020).
3. Restructuring public spending by increasing the percentage of spending allocated to the digital economy and paying great attention to increasing research and development centers in the technical field. Encouraging e-commerce and banking, as they are among the most prominent pillars of the digital economy, and encouraging investment in ICT to accelerate economic development and benefit from foreign expertise, and developing capital. Intellectual property is one of the most important fundamental components of building the digital economy (Matar, Z. . p.30).
4. Strengthening the demand side of the digital economy by mobilizing political will to implement smart policies through smart governments, smart cities, and smart citizens, increasing e-participation to improve public service delivery and combat corruption, and enhancing and expanding smart e-government programs to create smart cities, smart homes, and smart governments.
5. Establishing a specialized entity to accelerate the pace of digital transformation in all sectors, ensuring increased levels of productivity and competitiveness across various economic sectors.
6. Focusing on supporting the infrastructure levels that support the process of entering the new economy by enhancing access to broadband routes and addressing the obstacles facing the digital transition process, most notably enhancing the competitiveness of the communications and information technology sector and adopting favorable regulatory frameworks to improve productivity and support economic growth.
7. Benefiting from the experiences of Arab countries in their digital transformation process and the methods and approaches they have adopted, such as establishing ministries responsible for the digital economy to help accelerate the pace of digital transformation. Digital transformation efforts have contributed to the speed of completing government services and reducing the cost of completing government transactions by 88 percent. They have also helped develop and grow the financial sector's contribution to the gross domestic product of some Arab countries, reaching 17 percent (International Monetary Fund).

Section Three:Conclusions and Recommendations

First: Conclusions

The researcher reached a set of conclusions, the most important of which are outlined below:

1 1. Absence of digital infrastructure To improve the adoption of the digital economy, Iraq must make large investments in digital infrastructure, including internet and telecommunications networks.
2. The continued existence of communication issues, such as spotty internet and telecommunications networks in some places, may make it more difficult to adopt the digital economy.
3. Iraq is still mostly reliant on cash, which makes transparency and money tracking difficult.
4. The adoption of digital payments is challenging since it necessitates a shift in the financial practices and habits of citizens.
5. There are cybersecurity threats, such as hacking and electronic fraud, which are increased by the adoption of the digital economy.
6. Considerable infrastructural and technology expenditures are necessary to make the shift to a digital economy.

Second: Recommendations

1. Continuous interaction between the ICT sector, government, and educational institutions is essential to develop new courses that ensure participants acquire appropriate cognitive skills.
2. Detailed statistics on the digital economy must be developed to help determine policy priorities and objectives.
3. Improve spending on ICT research and development by all stakeholders, especially the business sector.
4. Involve the private sector in the transition to the digital economy. The responsibility for designing the digital economy transformation plan lies with public policymakers in the government.
5. Adopt a participatory approach between the public and private sectors or a regular free market model, in accordance with sound and appropriate economic governance.

6. Bridge the gap between supply and demand for qualified human resources by carefully monitoring the quality of education through continuous monitoring of the digital infrastructure curricula adopted by a national regulatory authority.

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