Digital Transformation to achieve Sustainability (UAE development plan till 2030- case Study)

*Saif alddin I. Al-Imam
Department of Economics of Investment and Business Administration, College of Business Economics, Al-Nahrain University, Baghdad, Iraq
Saif-aldeen@nahrainuniv.edu.iq

Ali Th. Al-Abadi
Ministry of higher education and scientific research, Baghdad, Iraq
a.alithalibadi@gmail.com

معلومات البحث:
- تاريخ الاستلام: 17–01– 2023
- تاريخ ارسال التعديلات: 11–02– 2023
- تاريخ قبول النشر: 18–02– 2023

***المؤلف المراسل:**
Saif alddin I. Al-Imam
Saif-aldeen@nahrainuniv.edu.iq

Abstract

Problem of the Research- lately the economic environment is completely differing than 20th century and even than the last decades of 21st century. Novel idioms, notable expectations have been innovated that related to economic, social, political and even behavioral aspects of life; the competency does not limit with qualified intellectual human resources rather than the use of knowledge and novel aspects of technologies due to the rapid dynamic development of virtual economy. Thus, global economies experienced a rebirth of economic system.

Design, Methodology, Approach- it is an inductive study "UAE" as a sample; in which it extrapolates and analyze the studies and essays that related to economic digitization. Descriptive and analytical tools used to study the related aspects of phenomena.

Finding- UAE in general and Dubai in specific has a great role in achieving many entrepreneurial projects as a part of intelligent governmental program. Digitization programs become an obvious feature in most governmental programs such as medical, smart educational and banking usages; meanwhile, these programs are available for all in a lowest price of cost. Dubai tries to follow its vision for (2020-2030) of achieving sustainability through rapid change in technology towards green-zone technology environment under the supervision of rational policy of decisions, then expands it experiences to UAE as a whole.

Research limitations- implications- the study covers only studies and essays that related to scan UAE "Dubai" entrepreneurial projects for the last decade of 20th century and early decades of 21st century.

Practical implications- the study confines to use the descriptive, analytical tools to study the related phenomena.

Social implications- it specifics to review the Dubai Emirate as a society of study.

Objectives of the Research

- Transferring the societies into digital ones to expand the career opportunities especially among adult talents.
- Distinguishing the economic digitalization & digital economy.
- Analyzing the main threats toward digital economy.
- Focusing on the role of digital economy especially for those graduated talents.

Importance of the Research- as far as the study reviews, few studies in Arabian libraries are handling this dynamic topic; and still the meaning of facilitating the digitization to achieve sustainability is not clear enough, meanwhile, UAE considered as a "Spark" to most of Arabian countries. Thus, having their successful experience of entrepreneurial projects would be a "guide" for followers.

Keywords: economic environment, innovation, digitization, virtual economy.

https://doi.org/10.56967/ejfb2023253

Introduction

The expansion of using internet leads to the appearance of electronical trade, it facilitates the business management and decreases time, cost and efforts as well, from last many decades, digitization becomes the most important topic due to the technological expansion, globalization, and private economic sector plays a great role in economic development around the world that obviously influence both the governmental as well as private competitive business environments. Under this consideration, novel type of economy was born to transfer the economy form traditional one to a digital economy. This paper as wishes can be considered as a method to illustrate the use of digital economy to achieve the sustainability in supporting the social and economic life in Arabian Region. Digitization can be the "engine" of transferring the way of developing economy through publishing the spirit of innovation; meanwhile it is a tool to innovate novel ideas towards achieving new projects that serve the national economy of every nation, then solving the economic dilemmas as well. Furthermore; the dynamic change global competitive environment nature and the high demand of markets lead to many challenges to direct the economic policy, and the threats become much more complex. The logical solution as the paper proposes; "who to diverse the sources of developing the economy!", to develop the entrepreneurial projects and supports those entrepreneurs to start their projects. This paper will stimulate "Dubai" experience of using digitization in economic life, and trying to get the moral lessons accordingly.

The use of digital technology in economic operations leads to increase the productivity and developing both the products and services as well. It is the interaction, integration, and consistency between information technology and communication on one side, and from another side the national, global economy, that achieve the transparency and instant of productivity of trade goods, services and financial ones for a period of time.

Digitization economy considered as an economy of "abundance" due to its main dependency on human mentality as a capital; it is a "Scarcity Science" in a world of rarity that depends on information technology, global communication and on the ability of a person to innovate and create to face the globalization threats.

Digitation takes much more horizons to start with rather than increasing the productivity of good, in education for instant, the integration between the use of technology and communication in educational process, participating the teaching staff with continues training courses to follow the latest usages of digitization; mean while encouraging students to train themselves to use the internet and electronic libraries to have self-learning that ensure the sense of innovation and creation towards achieving the entrepreneurship.

Another horizon that digitization has its influence in is, the effectiveness of global health through gets the advantages of information technology and communication to increase the health system and to qualified the health service as well; meanwhile investing the infrastructure and the available capitals to reach the effectiveness of serving the whole level of society with effective health system. Moreover, digitization usages to share the sense of general safety to reduce and/ or prevent the disaster that happened because of nature.

Back Ground on Emerging

Sustainable development becomes as an obsession anywhere for everyone, and sustainability becomes a need for continuity in modern sustainable concept especially under the consideration of globalization. The need for solving the environmental dilemmas and facilitating the relationship between human beings and environment through such sustainable solutions, moreover many different kinds marketing strategies are known to solve modern dilemmas such us the use of cryptocurrency as a tool of sustainability (Hromov, 2022:1-3; Aabdali & Salam, 2022: 3-7).

From this concept, digitization starts its initial steps to solve and encourage the global economy to grow again after many lacks during last decades; digitization has a great role in achieving economic development and creating novel opportunities of jobs, because digitization encourages human resources to innovate and great to ensure its ability to continue and sustain. Although many lacks had took place for many years but digitization participate in providing (5.9 million) employee, which means (3.9 %) of total employment in US as compared with other industries (Barefoot, et al., 2018: 5).

Developed countries seek to use digitization as a tool to develop their sectors, for example decreasing the level of poverty, having qualified education, serving effective health services, encouraging the economic as well the trade businesses as well; but still these objectives need a high level of responsibility to understand this critical situation and how to facilitate its abilities of providing and supporting their infrastructure then align them with information technology and communication to reach the world of digitization (Ruiz, 2013: 13).

Three main aspects, sustainability trying to cover them; economy, environment, and cultural social aspects; in which the interaction and integration are the main concept of merging these aspects while talking on sustainability. Logic governs these interactions; for instant social sustainability leads to develop societies and achieve balance among levels of that society; environmental sustainability leads to protect the nature and its resources; while economic sustainability leads to develop the economic infrastructure through effective and efficient management (Al- Ghamdi, 2007: 9).

Studies refer that there should be a wide sense of knowledge of information technology and communication do not use a mean to develop only, but it takes another further demission towards achieving the integration of those aspects of sustainability, as mentioned earlier (Chile, 2014: 66). Never the less, sustainable development has a sense of complexity that needs a long term of efforts to be done in a desirable way; because it depends of the concept of satisfying the human needs for time being and for future as well.

Sustainable development involves the rapid transformation of the technological infrastructure of industrial culture to another novel ones that featured as a green- zone environment through a vision of integrated political participation and the use of logic in decision making to ensure the sustainability of economy, society, technology, and environment as well (Grosskurth & Rotmans, 2005: 135-150).

Lately, the modern strategies of developed countries depend on measuring the sustainable development through such indicators that includes economy, environment, culture, society civilization, the role of policy, the use of resources, health, quality, papulation, common safety, level of luxury, and communication channel. Moreover, other indicators like the opportunities of jobs, the justice of equity, training, and others refer to childhood care, charity activities as sustainable indicators (Hosseini, 2014: 25).

Related Literature Review

Although of the modern use of sustainability as a concept of developing every aspect of societies, but it becomes an obvious matter while talking about economy under the consideration of digitization. Academic libraries submitting many dimensions concerning the objective of sustainability to achieve the luxury of society and trying to decrease the poverty through investing in a logical way of natural resources, mean while developing the industrial techniques into using those natural resources (Hosseini, 2014: 30). Economic development, economic justice and essential needs satisfaction are considered as the main dimensions according to a study. The sustainable development committee in United Nations UN select certain indicators to measure it such as: (GDP, Per capita/GDP), (Current Account Average/ GDP), (Importers & exporters/ GDP & Foreign Investment), (Use Average more than 15/years), (Average of rare

economic activity), and also number of line-telephone for every (100/ person), mobile lines for every (100/ person), number of internet users for every (100/ person), average of using natural resources and hazardous waste, then the average of recycled those waste hazardous (www.un.org.sustainabledevelopment/ar).

A study for Chile (2014) interests in presenting that sustainable development rejects the idea of poverty, employment, rejects "glass ceiling" against women, great gap between those rich people and poor ones, and the study also presents certain elements to control the social dimension of sustainability such as; controlling the demographic growth, education, health, public participation, culture diversity, justice among all levels of society (Chile, 2014: 71). United Nations Un select certain indicators to measure this dimension for instant; employment average, the average of population under the poverty edge, the average of females/ and males' wages, the average of dead children under the age five, the estimated average of life, the average of population who have service of (electricity, water, and insurance), and the average of educated children (www.un.org.sustainabledevelopment/ar).

Hosseini in 2014 presents the need of protecting environment and its natural resources due to its importance to any one and anywhere (Hosseini, 2014: 31); United Nations UN also select certain indicators to measure this fact such as; pollution rates in cities, the validity of cultivation, the yearly average of hunting, nature reserve, the average of using pesticides (www.un.org.sustainabledevelopment/ar).

Never the less, still this concept has a long path to cross, studies are still few compared to the need; in which another study illustrates that legislation and rules should be reviewed to challenge the threats that stand against sustainability specially to protect environment from the deterioration of Ozone layer, and global warming; in addition, the lack of wise policy is also handled by studies that support sustainability development (Chile, 2014: 72).

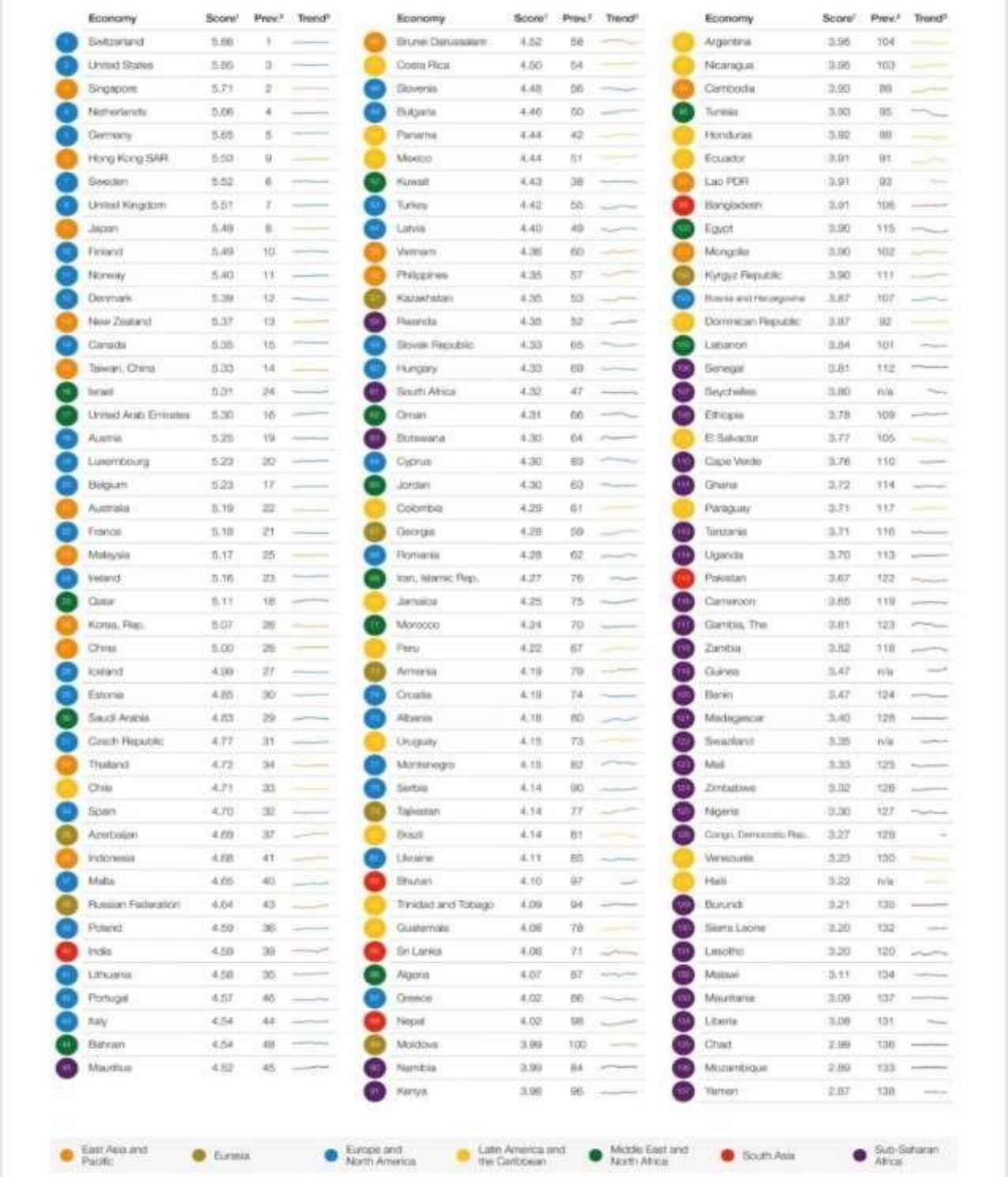
Digital transformation is growing trend day by day till reaching the fifth generation of technological revolution especially in trading manufacturing enterprises like in China where every process becomes as promoting digital transformation (Xue et al., 2022: 1-2).

United Nations UN in 2018, draws certain objectives (17 objective) of sustainable development to transfer the current world into another world that is called "*our world*", these objectives should be concluded by 2030 (sustainable development, 2018:1); a study of Wiki in 2018 presents the integration of economy, environment and society to achieve sustainable development in many aspects such as; poverty, hunger, education, climate changes, equity among genders, water, health, power, environment, and social justice (Wiki, 2018:1).

• Research Method

Inductive analysis is used here to explain and analysis sustainability process of "Dubai" as an experience, UAE in general, and specially Dubai tries to protect its situation for current and future moment without damaging its natural resources through adopting digitization management in every aspect and depending on sustainable productivity and consuming of all trade as well as service, meanwhile following the latest updates of information technology and communication to rescue the global market of "Dubai" as a center of technology.

Dubai seeks to activate the diversity of economy, merging and integrating the national sectors with each other to achieve the sustainable development. United Arab Emirates continues in leading the Arabian region under the consideration of activating global competition. UAE gain number (17 out of 137) country according to global competition indicator for 2017-2018 and its rate is (5.30 out of 7 degree) globally and number one among Arabian countries. Under mentioned table shows the yearly report of global competition (The Global Competitiveness Report 2017-2018).



Yearly report of global competition 2017-2018, p: 299-300.

This grade shows the ability of UAE of having well-structured infrastructure in health, education and meanwhile developing the governments' institutes to adopt the information technology and communication to serve the desired sustainability. Dubai as one of UAE has the great market share of GDP, according to statistical measures Dubai population is (2976455) for 2017 and the growth percentage is (5%), while the GDP for 2017 is (410564

million Dirham), this ratio is greater than 2016. Although the luxury ratio of a person for 2016 is (38 thousand Dollar) which is lower than earlier years but still it is higher than other selected countries except Qatar, as shown below.

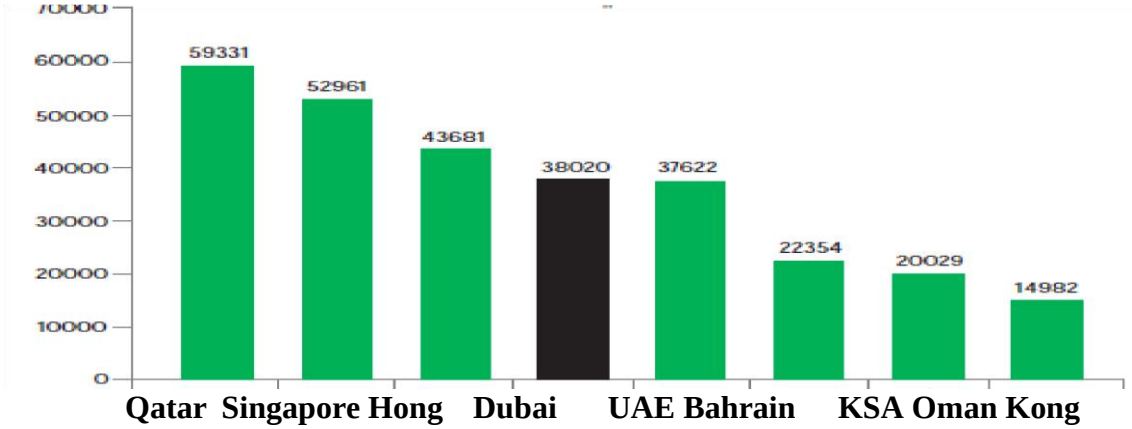


Figure (1) the person capital of GDP according to Luxury for selected countries.
Source: Dubai Economic Outlook, 2017-2018, 6.

Results & Discussion

Dubai seeks to direct the development "engine" towards entrepreneurship especially through developing those programs of using information technology and communication. It publishes its initiative "digitization transformation" for 2020-2030 in health, education, banking services till reaching smart nation. After 2015, number of using internet rather than using mobile phones for (100 person) as shown below.

Table (1) sustainability development indicators of information technology

Indicators	2013	2014	2015	2016	2017
Users of mobile phones	6265523	6430336	5696569	6348125	5878057
Users of Internet	563222	492965	607219	623379	657379
Mobile phone/ 100 of population	2830 .2	2762.9	2328.3	2352	2352
Internet /100 of population	207.3	211.8	221,1	231	231

Source: data issued by Dubai Statistics Center, 2013-2017.

Health services consider as the main dimension of achieving sustainable development, because Dubai tries build a healthy system for future usages and digitization makes serving health easier and cheaper than before as shown below.

Table (2) sustainability development indicators of population

Indicators	2013	2014	2015	2016	2017
Population	2 158 740	2 269 420	2 385 775	2 568 860	2 976 455
Normal increase	26 544	26 961	27 820	29 240	29 213
Population growth%	5	5	5	5	5
Normal increasement of population	8 170	8 062	7 439	7 540	7 225
Average of increasing	12.3	11.88	11.66	11.38	9.81
Number of healthy institutions	14	14	14	15	13
Population/ per healthy institute	154196	162101	170413	171257	228958

Source: data issued by Dubai Statistics Center, 2013-2017.

Dubai initiative of digitization seeks to provide health services in a better way, facilitate the use of health services, increasing the healthy activities to satisfy the current and future demands of society. The insurance of health is the right of every person in Dubai, this right is one of the most essential requirements of sustainability.

Dubai seeks to develop the situation of education and this project is achieved under the supervision of ministry of education and teaching, with general counsel of communication in Dubai, the project works on transferring the traditional syllables into digital ones, and increasing the depends on digital teaching to encourage students to get knowledge from many resources rather than normal methods. The next table shows the indicators of education for the years 2013-2017.

Table (3) sustainability development indicators of education

Indicators	2013	2014	2015	2016	2017
Registered students/ primary schools	112878	119176	125738	124561	124561
Average of students in primary schools	41.4	41.9	42.6	42	42
Registered students/ illiteracy	346	299	196	515	515
Average of students in illiteracy	0.9	0.8	0.6		-
Average of registered students/ public schools	0.093	0.1	0.09	0.09	0.09
Average of registered students/ private schools	0.903	0.9	0.91	0.91	0.91
Average of registered adult/ illiteracy	1	1	1	1	1
Average of education / more than 15 years	97.4	97.4	97.4	-	-
Average of illiteracy/ more than 15 years	2,6	2.6	2.6	-	-
Average of illiteracy/ population	2.3	2.3	2.2	-	-
Average of those (read & write)/ more than 15 years	5.2	7.9	7	-	-

Source: data issued by Dubai Statistics Center, 2013-2017.

another initiative to achieve sustainability development is developing the tourism services through announcing many digital applications to guide tourists to get their needs in a comfortable way, tourism council adopts a novel application of issuing "Dubai marks" that leads tourists to change their marks into visiting new places due to achieve the vision of having "Dubai the most luxury city in 2020". In addition, Dubai government issues many programs that severs the many aspects of life such as; traffic taxes through using a robot who provide (100 duties/ per a visit). Meanwhile, information technology and communication participate in creating new opportunities of job as shown in the table (4) below.

Table (4) sustainability development indicators of education

Indicators	2013	2014	2015	2016	2017
Employment Ratio	0.002	0.003	0.004	0.04	0.05
Employment ratio/ UAE population	0.026	0.026	0.028	0.029	0.034
Average of employment/ Male	0.01	0.019	0.024	0.022	0.026
Average of employment / Female	0.06	0.037	0.035	0.044	0.049

Source: data issued by Dubai Statistics Center, 2013- 2017.

Conclusions, Limitations and further Research

Those mentioned data show that social impact of digitization is very obvious, in which information technology and communication seek to achieve many differences in life in any society that leads to increase the prosperity of society.

Meanwhile those data show the lack of such sectors that still need to develop them such as; transformational industries, and still the levels of challenging "glass ceilings" are high and need to be improved as well.

Digitization process is not a vision but it is discipline towards achieving the global competition among Arabian countries, MENA region then merging the next generation with digitization economy.

More efforts on sharing the knowledge of technology among every person in Dubai either he/she is citizen or none.

Increasing the efforts to provide Dubai and other region of UAE with early alarm systems for health sector in special.

References

Research, article, periodic

1. Alabdali, Mahmoud Abdulhadi; Salam Mohammad Asif, 2022, "*The Impact of Digital Transformation on Supply Chain Procurement for Creating Competitive Advantage: An Empirical Study*", MDPI, https://www.mdpi.com/jurnal/sustainability
2. Al-Ghamdi, Abdullah bin Jumban, 2007, "*Sustainable Development between the Right to Exploitation of Natural Resources and Responsibility for Environmental Protection*", department of Political Science, King Saud University, Saudi Arabia, p. B. 2451 Riyadh 11451, e-mail: ajghamdi@gmail.com, August 10.
3. Bannister, F., & Connolly, 2011, "*Trust and transformational government: A proposed framework for research"*, Government Information Quarterly, *28*(2), 137–147.
4. Barefoot, Kevin & Dave Curtis, William Jolliff, Jessica R. Nicholson, Robert Omohundro, 2018, "*Defining and Measuring the Digital Economy*", Working Paper.
5. Chang, Ann Mei., 2015, "*Foreign Assistance in the Digital Age, Executive Director*", U.S. Global Development Lab, U.S. Agency for International Development Prepared for Brookings Blum Roundtable.
6. Chile, 2014, "*Important, the role of the overall quality strategy in achieving sustainable development in the economic institution*", field study in the port institution Biskakdh memorandum submitted as part of a master's degree requirements within the doctoral school in management science specialization: Strategic Business Administration for Sustainable Development.
7. Carl & Sam Mealy and Martin Wermelinger, 2016, "*Harnessing the digital economy for developing countries, OECD DEVELOPMENT CENTRE*", Working Paper No. 334, Research area: Perspectives on Global Development.
8. Grosskurth, J. & J. Rotmans, 2005, "*The Scene Model: Getting Grip on Sustainable Development in Policy Making. Environment, Development and Sustainability*", 7, no.1, 135–151.
9. Heeks, R., 2018, "*Examining "Digital Development"*, Development Informatics Working Paper 64, University of Manchester.
10. Hromov, Maksym, 2022, "*Incubation of Crypto Projects in Marketing: analysis of Digital Marketing Tools*", Scool of Business and Governance.
11. Hussaini, Maryam, 2014, "*The Dimensions of Sustainable Development and its Relation to Sustainable Development, Case Study in the City of Al-Hujaira*", Master Thesis, Qasidi University, Marabah, Vargla, Faculty of Law and Political Science.

12. Janowski. Tomasz, 2015, "*Digital government evolution: From transformation to contextualization*", Government Information Quarterly, Volume 32, Issue 3, Pages 221–236, doi: 10.1016/j.giq.2015.07.001.
13. Kerber, Wolfgang& Schweitzer, Heike, 2017, *"Interoperability in the Digital Economy"*, © 2017 Wolfgang Kerber and Heike Schweitzer.
14. Klapper, Leora &, Mayada El-Zoghbi, and Jake Hess, 2016, "*Achieving the Sustainable Development Goals the Role of Financial Inclusion*", CGAP, 1825 I Street NW, 7th Floor Washington, DC 20006 All publications are available online at www.cgap.org.
15. Oikos, 2017, *Digital Economy and Sustainability"*, oikos Associate Report Christoph Rappitsch, May.
16. Ruiz, Alejandra Lagunes Soto, 2013, "*National Digital Strategy. National Digital Strategy Coordinator*", Mexico, November.
17. Sarah, Grand-Clement, 2017, "*Digital learning: Digital technology's role in enabling skills development for a connected world*", March, Open science: the citizen's role and contribution to research – Published by the RAND Corporation, Santa Monica, Calif., and Cambridge, UK, Copyright 2017 RAND Corporation and Corsham Institute SCOTT BRENNEN & DANIEL KREISS. Digitalization and digitization, *Culture Digitally*, 8 Sep. http://culturedigitally.org/2014/09/digitalization-and-digitization/2014.
18. Shea, William., & Birch, Patricia., 2017, "*Rethinking Health Plan Business Models for the Emerging On-Demand Digital Economy, Digital Business*", United Nation, www.un.org/sustainabledevelopment/ar
19. Xue, Fang; Zhao, Xiaokang; Tan, Yunqing, 2022, "*Digital Transformation of Manufacturing Enterprises: An Empirical Study on the Relationship between Digital Transformation, Boundary Spanning, and Sustainable Competitive Advantage*", Discrete Dynamic in Economic and Business Systems, Vol. 2022, Article ID 4104314, https://doi.org/10.1155/2022/4104314

Reports & websites

20. Dubai statistic center, www.dsc.gov.ae.
21. Health information systems, www.who.int/healthinfo/systems/WHO_MBHSS_2010_section3_web.pdf
22. Healthcare UK, Digital health, © Crown copyright, Published January 2015 by UK Trade & Investment URN: UKTI/14/1319 2015, healthcare.uk@ukti.gsi.gov.uk,2015.
23. https://ar.wikipedia.org/wiki2018.
24. https://sustainabledevelopment.un.org/sdgs . https://www.ntia.doc.gov/category/digital-economy-board-advisors.
25. https://www.un.org/sustainabledevelopment/ar/sustainable-development-goals/.
26. Human Rights Council, Report of the Special Rapporteur on the right to education, General Assembly, Thirty-second session Agenda item 3 Promotion and protection of all human rights, civil, political, economic, social and cultural rights 2016.
27. IMF, MEASURING THE DIGITAL ECONOMY, Electronic copies of IMF Policy Papers are available to the public from http://www.imf.org/external/pp/ppindex.aspx International Monetary Fund Washington, D.C. 2018 International Monetary Fund.
28. Klaus Schwab, The Global Competitiveness Report,2017-2018, World Economic Forum. Narasimhan, R., 1983. The socioeconomic significance of information technology to developing countries, *The Information Society*, 2(1), 65-79.
29. National Transformation in The Middle East, 2017 Deloitte & Touche (M.E.).

30. United Nations General Assembly, Final Document of the High-level Meeting of the General Assembly on the General Review of the Implementation of the Outcome of the World Summit on the Information Society, 79th plenary meeting 16 December 2015. Dist.: General 1 February 2016. Seventieth session, agenda item 17.
31. WORLD HEALTH ORGANIZATION, developing health management information systems: a practical guide for developing countries, REGIONAL OFFICE FOR THE WESTERN PACIFIC ,2004.
32. World Health Organization, Draft Shanghai Declaration on Health Promotion in the 2030 Sustainable Development Plan: Ensuring Sustainable Health and Health for All, WHO Discussion Paper, 2016