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THE IMPACT OF E-LEARNING ON THE ECONOMIC DEVELOPMENT OF SELECTED DEVELOPING COUNTRIES FOR THE PERIOD (2000-2017)

Dr. Dina Ahmed Omar[1] , Dr. Zakariya Hassan Hussein Abu dames[2]

[1]Assistant Professor, Technical Institute, Northern Technical University, Nineveh, Iraq.
[2]Assistant Professor , Researcher of political , International and regional affairs , Jordan.

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ABSTRACT

The study of the relationship between e-learning inputs and economic growth is a constant topic in theoretical circles, and new ideas are often gained when discussed, as classical economic theory says that the economic growth of a country depends mainly on capital growth, employment growth, human capital growth and technological progress. An important way to increase human capital. There is a relationship between technology education and economic development that is mutually influencing and mutually reinforcing. On the one hand, e-learning encourages technological innovation by improving the quality of workers, thus effectively promoting economic growth. On the other hand, economic growth is the material basis and condition for the development of technological education. Economic growth can also drive thedevelopment of higher education with increased social demand and expanded human capital.

Based on the theoretical analysis of the relationship between e-learning inputs (virtual) and economic growth, this study selects a sample of data from developing countries for the period 2000-2017, and uses a simple linear regression model to test the relationship between the two

using PanelData, where consistent data for seven were obtained Ten countries (Jordan, Algeria, Tunisia, the Arab Republic of Egypt, the Kingdom of Saudi Arabia, Iraq, Qatar, the Emirates, Kuwait, Bahrain, Oman ,, Palestine, Iran, Libya, Mauritania, Djibouti, Lebanon). The results showed that educational inputs and economic growth constitute an interaction mechanism characterized by dynamic circulation. E-learning inputs (virtual) are important factors in economic growth. Nowadays, e-learning input is an important source and driver of innovation for economic growth, and technology education will promote economic growth. However, technological education has a positive effect on economic growth.

Introduction:

Today, the world is living in the era of cloud technology that not only transcends geographical borders, but also furnished virtual worlds of learning, education, influence and influence between the brightness of the earth and its west, where the so-called virtual education or electronic education has emerged as one of the most important requirements for developing and improving the quality of the educational process due to what It provides it with elements such as the flexibility of the study in terms of timing, age, social and professional status and place of residence, which cannot be used through traditional education systems, and the modern electronic revolution, which was represented by the emergence of the Internet, has radically changed the methods of pursuing educational attainment and that the concept of e-learning has begun to crystallize Seriously at the global level, as it is characterized by innovative characteristics that distinguish it from traditional education systems, represented by its elimination of the time and place barriers and its main focus on developing intellectual capabilities and practical and practical skills.

Research problem: There are many developing and developed countries that have introduced an e-learning system in their schools and universities and called them virtual universities. This aims to provide opportunities for transferring knowledge to students to develop their skills and abilities in order to enable them to contribute to the fields of work efficiently and achieve great productivity, and this in turn reflects positively on Sustainable development and the advancement of society However, the problem facing these countries is the reality of university education, which is still failing to achieve its goals, due to the use of indoctrination method in teaching, which limits the student's ability to self-education, in addition to the fact that many universities lack the infrastructure in the field of information and communication technology. Weak information exchange there.

Research objective: The research aims to introduce the concept of virtual (electronic) education as a new educational style and to clarify its role in economic and political development.

Research hypothesis: The research is based on the hypothesis that virtual (electronic) education is one of the pillars of economic and political development, as it provides educational opportunities.

- Research methodology: In an effort to test the research hypothesis, an applied study was conducted using descriptive and quantitative analysis according to the experimental method, where consistent data were obtained for seventeen countries (Jordan, Algeria, Tunisia, the Arab Republic of Egypt, Saudi Arabia, Iraq, Qatar, the Emirates, Kuwait. Bahrain, Oman ,, Palestine, Iran, Libya, Mauritania, Djibouti, Lebanon) for the period (2000-2017). Panel data has been used.

The importance of the research: The importance of the research comes from the fact that it deals with a modern topic whose features have begun to expand clearly as a result of the great revolution in technology and means of communication, as information technology encouraged the use of virtual (electronic) education as a substitute for traditional education, as well as that this education is a productive resource that strengthens the source. Economic growth.
First - Previous studies: Several studies have dealt with the effect of e-learning (virtual) on

Economic growth:

1-Study (Hanushek, Wobman, 2007) This study reviews the role of e-learning in promoting economic well-being, with a special focus on the role of quality education, and that there is strong evidence that the cognitive skills of the population are closely related to individual profits, income distribution and economic growth, Empirical results show the importance of both lower and higher-level skills, their complementarity, the quality of economic institutions and the strength of the relationship between skills and growth. International comparisons that include extensive data on cognitive skills reveal a much greater deficit of skills in developing countries than is generally derived from mere school enrollment and achievement. Bridging the economic gap with developed countries will require major structural changes in educational institutions.
2- Study (Abu Al-Sindas, 2006) His study revealed the effect of using e-learning as well as information technology techniques in the teaching process and its role in the economic information system and the economic system using multiple linear regression for a group of North American countries, and the results of the research had a positive impact on the impact of e-learning on growth Economic.
3- The study (Costkava, 2015) aimed to clarify the relationship between virtual education and economic growth in India from 1975-2016 using the focus on primary, secondary and higher education levels using the Granger causality method and the method of co-integration, and the results of the study were that virtual education plays a fundamental and important role in growth Economic growth for India was a positive relationship between levels of e-learning and economic growth.
4- The study (Kasraie, 2010) aimed at using e-learning (new technology) on the Internet by measuring the cost-effectiveness of e-learning and studying the three main sectors of the e-learning industry and discussing the economic effects on the growth of this industry in the American countries.
5- Study (Kaushik, 2017) This study seeks to know the e-learning approach that is called educational technology that is used by learners and teachers in homes, schools, higher education, businesses and other places. The results of the study showed that e-learning affects education, the economy and society in a positive way.

Second: E-learning and virtual (electronic) education

E-learning: It is an educational style in which modern technical means such as computers, the Internet, and multimedia are used in order to communicate information to the student in a manner that enables the educational process to be managed effectively by controlling it, measuring and evaluating performance (Zahran, 2002,8).

As for virtual (electronic) education: it is a new educational model based on the use of e-learning methods, which is the third generation of its generations. The first generation of e-

learning began in the early eighties of the twentieth century as a development process for distance education, where the use of CDs began, and the educational process continued. Through traditional means of communication.

As for the second generation, it began with the use of the Internet, and thus the method of delivering educational content to students via the Internet developed, and there was a slight improvement in the content and the management of the educational process also developed while remaining on the use of traditional tools.

With the development of the Internet in the late nineties of the last century and the development of multimedia technologies, virtual reality and three dimensions, the third generation of electronic education emerged from which virtual education emerged, which is done through a virtual learning environment that does not mimic the traditional educational environment, in which electronic media are used to simulate the real and imaginary environment, This opens the way for education to spread widely (Ismail, 2003,36).

The third generation of e-learning has not completely canceled the previous two generations, as it has its uses, especially in many developing countries, and they are completely different from the third generation, which refers to virtual education.

The difference between both teaching is subtle, as virtual education is limited to its concept that it is comprehensive electronic learning that takes place remotely in a virtual environment, and the term virtual education does not apply to all types of e-learning and its techniques as an auxiliary process in the field of traditional education where the direct contact between the teacher and the learner is.

Third: virtual education (electronic) and political and economic development:

1- The role of e-learning (virtual) in economic development:

Political development is the most important frameworks and orbits of comprehensive development. Comprehensive development is the general framework from which all development processes fall.

The success of comprehensive development can only be achieved through realizing its developmental orbits represented in political, economic, social, educational and other development. From this standpoint, the development problem is a concern of developing countries in particular.

Global experiences confirm that the first and most important axis of development is human beings, not just the production of goods and services. Therefore, focusing on human development is one of the basic tasks of development strategies (Ghanima, 1996, 17).

Education is one of the most important tools for human development because of its role in the development of social, political, economic and cultural life. Development can only be achieved by developing education according to global changes and the requirements of the labor market. Development is its method of education and its means of education, and it can only be achieved with the presence of individuals who are aware and aware of the developments of the times and its requirements. .

International developments in the labor market and economy have made nations compete to develop education in terms of quality and quality, and the progress made in science, technology and communication has contributed to the existence of special and new types of education that will effectively contribute to the development and obtain educational outputs compatible with the requirements and needs of development (Muhammad, 1999) , 4).

Virtual (electronic) education as a modern type of distance learning imposed by technical and scientific progress will contribute to the comprehensive development in developing countries through its contribution in all developmental areas, of which political development is the most important.

The importance of political development is that it is a multi-faceted process of social change, so it is closely linked with all other development frameworks, influencing and influencing it through what they contribute to creating pluralistic systems that will achieve economic growth, political participation and political competition, and consolidate national and political concepts. Patriotism.

Political development, in its general concept, is a process that aims to develop the individual and society in all aspects of life by making the individual able to change his lifestyle, modify his behavior and production methods, in order to follow the path of progress and catch up with the developed world for the purpose of achieving his well-being and that of society (Morsi, 2000,20).

Political development in any country has multiple and complex dimensions that encompass all aspects of life. Its strategic goal is to enhance the values of citizenship among the members of society and to pave the way for them to participate in a positive and conscious way to bring about a comprehensive community development, the most important of which is active political participation in public life.

The goals of political development can be achieved through the development of education. This is achieved through the trend towards modernizing the educational process and taking advantage of the developments of the age and its advanced technologies to bring about radical transformations in educational systems and educational institutions to produce competent learners who possess the knowledge and skills that enable them to participate actively in political life (Imad al-Din , 2004,18).

Virtual (electronic) education possesses the capabilities, means and ability to open up and communicate between individuals and groups of different peoples in all parts of the world, exchanging ideas and experiences, which makes it one of the mechanisms and tools that can contribute effectively to achieving the goals of political development.

It possesses capabilities that may exceed traditional education in building the personality of the learner, enhancing his role in research, capacity for knowledge, enhancing his thinking skills, and providing him with various experiences that raise the general educational level of any society to renewal and change (SPY, 2003,22).

Virtual (electronic) education works to achieve the goals of political development in terms of being a means of political and social expression, as it contributes to building individuals who can consciously exercise their rights and perform their duties with responsibility, enhance the culture of political participation and democratic practice for them, and give them the ability to confront hegemony and tyranny (Badran, 2003, 9).

Virtual (electronic) education also plays a role in the occurrence of multi-faceted social change, so the correlation between political development and other developmental frameworks requires that we briefly address the role of virtual (electronic) education in economic development, societal development, and scientific and educational development.

2- The role of e-learning (virtual) in economic development:

Economic development is a historical and civilizational event that affects various aspects of economic, social, cultural and political life in society (Muhammad, Mubarak, 2001, 26).

Therefore, economic development and economic growth have always been a major and advanced goal of most governments.

E-education is a fundamental pillar for achieving economic progress and one of its most important inputs. Studies on the relationship of education to development have shown that education is the second influential factor in economic growth in terms of importance after technical progress (Attia, Abdel Qader 1999, 84).

Economists in this era are working to directly introduce the knowledge factor into development theories. The relationship between development and the generation of information and its uses has become clear, and information and development have become the most important factors of production in the knowledge economy, and information has turned into the most important commodity in the information society. Statistics in developed countries indicate that More than 50% of its GDP is based on knowledge and its product is thus there is a vital relationship between e-learning and economic growth, and that the development of e-learning contributes to raising its rates, increasing job and employment opportunities, improving income, and reducing poverty (Al-Muhaisin, 2004,5).

Therefore, e-learning is one of the most important means that play a fundamental role in achieving political and economic development.

Fourth: data sources and time period

The World Bank publications were relied upon to obtain data appropriate to the variables used in the research, which include many developing and developed countries whose data are available in the issuance of international organizations and bodies, where consistent data were obtained for seventeen countries (Jordan, Algeria, Tunisia, Arab Republic of Egypt, the Kingdom Saudi Arabia, Iraq, Qatar, Palestine, Syria) for the period (2000-2017). Panel data has been used.

Fifth: Description of the used form

A model is adopted to measure:

1- Determinants of the GDP growth rate

YG=a +b1ITC+ b2S/Y+b3INF/Y+b4Open+b5GY/Y----------(1)

Growth rateYG

Spending on information and communication technology (e-learning), ICT / GD ..

The ratio of saving to gross national product. S / Y

Inflation rateINF

Degree of trade open

The ratio of government spending to GE / y

It was based on the economic theory in building the model, the type of tests and the methodology used to determine the relationships between the model variables, as well as previous reference studies on the subject of our research.

Sixth - the behavior of the model variables:

1- E-learning (virtual): E-learning (virtual) was measured by using the spending variable on information and communication technology as a percentage of GDP, and we expect a positive relationship between information and communication technology (e-learning), as an increase in information and communication technology leads to an increase in the rate of output growth Gross national.

2- The ratio of saving to gross national product:

We expect that the effect of domestic savings on corruption indicators will be a direct one, as local saving leads to increased investment and production, job creation, increased productivity and per capita income, and thus an increase in corruption indicators, especially for oil-producing countries.

3- Domestic inflation rate (INF): The annual rate of change in the GDP implicit, which shows the rate of domestic price change in the economy as a whole. This variable is obtained by dividing the state's gross domestic product in constant prices measured in local currency by the gross domestic product at constant prices measured by In local currency as well, with the division product multiplied by 100. We expect that inflation will have a negative effect on the growth rate of the gross national product in which the price level rises, due to the instability of economic policy.

4- The degree of economic openness (Open) Total exports and imports of the state of goods and services at constant prices measured in the US dollar divided by the GDP with the division product multiplied by 100. We expect that it will have a positive impact on the rate of growth of the gross national product.

5- Government spending (GE): The size of the state's government spending as a percentage of GDP

We expect that there will be two effects of government spending on the growth rate of the gross national product. The first is a direct effect on the growth rate of the gross national product in developing countries where government spending is directed towards health and education, and a negative impact in countries where government spending is directed towards other purposes.

Seventh: unit root test

This test aims to determine the staticness of the research variables, and in the event that these variables contain the root of the unit, the differences must be taken to make them static. The test was performed twice, the first to estimate Fisher's regression that contains a cutter and a general direction and this is the most comprehensive model. This method is summarized by first conducting the test using the first model that contains a disconnector and a general trend, and if we cannot reject the null hypothesis, we must consider whether the presence of the general trend affected the test, by testing whether the general trend parameter is equal to zero. If it is equal to zero, then we proceed to perform the test only.

- Unit root tests for panel data:

There are several ways to test the unit root, one of the most important and accurate is the Fisher test developed by (Maddala), as it relies on combining different levels of significance to test the

stability of the time-series variables that make up the double data (P-Panel, as it is based on the calculated values from the P-Panel test. (ADF) or (PP) for each cross section separately, then take the significant levels (P-values) for these tests and then calculate the statistical calculation for (Fisher) according to the following formula:

$$\lambda = -2\sum_{i=1}^{n} \log \pi_i \dots\dots\dots\dots (3-19)$$

As:

: Fisher test

:The level of significance of the cross-section i.

That $-2\sum_{i=1}^{n} \log \pi_i$It has a distribution$\chi^2$ with two degrees of freedom, so$_{\text{It has a}}$ distributionχ^2 With degrees of freedom 2n (Maddala& Wu, 1999,636). A test is based on the sum of logarithms of (p) values.

The Fisher test can be used when random errors are related across cross-sections, but it does not fully address the problem. Some errors remain correlated with each other, but at decreasing rates as the number of years increases (T) and the number of cross sections decreases (N).

Therefore, (Maddala) and (Wu) developed the (Fisher) test by using the (Bootstrap) method to get out of the problem of cross-linked random errors and to obtain better experimental distributions for the Fisher test and as a result obtain more accurate and less biased estimation results (Maddala& Wu, 1999) 644-645).

The null hypothesis and the alternative hypothesis for this test are as follows:

For (i)

:one0≠ (i) At less

The null hypothesis implies that all cross-sections of the double data have unstable time series (suffering from the unit root), while the alternative hypothesis implies that there are at least some cross-sections with stable time series.

Eighth: The results of the Fisher-PP test for the unit root for the Banl data

The Fisher test was based on the time series PP test because it is the most accurate stability test, and the following tables show the results of the estimation:

Table (1) Fisher-PP test results to equate the growth rate of gross national product for the period 2000-2017

((I_1))The first difference		((I_0))The original difference		Variables
Fixed with direction	Fixed	Fixed with direction	Fixed	
----------	----------	321.221 (0.000)	247.241 (0.000)	YG
----------	----------	76.344 (0.326)	56.586 (0.020)	ITC
63.511 (0.132)	--------	6.162 (0.212)	56.221 (0.525)	S/Y
48.511 (0.127)	78.611 (0.351)	3.154 (0.321)	85.221 (0.525)	INF
---------	----------	412.689 (0.000)	251.211 (0.000)	Open
---------	----------	657.322 (0.000)	312.587 (0.000)	GE

Source: Prepared by the researcher based on the results of Eviews10 program.

• The numbers in parentheses represent the P-Values of Fisher-PP, and the acceptable level of significance is (5%) or less.

• The significant variables at the level (I (0)) do not have a unit root at the first differences (I (1)).

From Table (1) that the data of the growth rate of gross national product (YG), electronic education (ITC), economic openness (Open) and government spending (GE) are stable in the original difference (I (0)) at a significant level (5%), whether By the constant or the constant and the trend, as its probability values reached less than (0.05), as for saving (S / Y), it stabilizes after taking the second difference for it, while the inflation rate (INF) stabilizes after taking its first differences and at the constant or constant and the trend.

Eighth: Analysis and discussion

To reach the goal of the research, we will reconcile the equation for the regression of electronic education (virtual education (ICT) on the growth rate of the gross national product, the saving rate to the gross national product, the inflation rate, economic openness and government spending on the growth rate of the gross national product.

Table (2) shows the results of the regression. Model described using data

(PANAL DATA for the period (2000-2017) and the analysis included seventeen countries, of which the data necessary to conduct the analysis were available.

Table (2) Results of estimating the formula for the growth rate of gross national product for the period 2000-2017

Response Variable: YG				
Variables	Coff.	Std.Error	t_stat	Prob
ITC	0.243261	0.048661	12.74321	0.00000
s/Y	0.264136	0.033112	9.005513	0.00002
INF	6.034301	0.205248	-15.59961	0.00000
open	3.162360	0.132655	7.259153	0.00000
GE	0.3214611	0.724931	5.339142	0.00000

N=17
$R^{2=46\%}$
$R^{2.adj=45\%}$
F_stat=30%

Source: Prepared by the researcher based on the results of Eviews10 program.

From Table (1), the formula for the growth rate of the gross national product by applying the ordinary least squares method (OLS) for the period 2000-2017 indicates that the effect of (virtual) e-learning is significantly positive on the growth rate of the gross national product at a significant level of 5% in this group of countries .

The estimates presented in Table (2) also indicate that the rate of inflation appeared negative at a level of 5% in this group of countries, and this is consistent with the text of economic theory, that is, the higher the inflation rate leads to a decrease in economic growth.

The ratio of saving to gross national product and economic openness appeared positive in morale at the level of 5% in this group of countries, and this is consistent with the content of economic theory.

The results also showed that government spending is negatively significant in its impact on the rate of growth of the gross national product. This means that government spending in these countries is directed towards other purposes other than health and education.

Results:

The research included analyzing the relationship between e-learning (virtual) and the economic growth of the research sample countries, and through the descriptive and standard analytical study, the research reached the most important conclusions that are summarized as follows:

1- The results of the study showed the existence of a positive and positive relationship, as shown by electronic learning (the default) and the growth rate of the gross national product.

2- The nature of virtual (electronic) education, including the possibilities of communication and communication and access to information sources and knowledge areas, makes it play an important role in political, economic and cultural development, and building individuals who are able to lead the movement of change and progress.

3- Virtual education is classified within the knowledge economy, as it is a multidisciplinary investment sector that has economic returns, and has an economic benefit in reducing the educational cost rate, overcoming the shortcomings of traditional education capabilities, and facing the economic challenges that education generally suffers from in developing countries. Therefore, it contributes to the development and to obtaining educational outcomes that are compatible with the requirements and needs of comprehensive development.

4- Virtual education has become a reality in the era of globalization, as it contributes to the globalization of education through the spread of multinational educational institutions, which makes it an educational challenge for educational systems in all societies, which poses a threat to the future of higher education in developing countries if it keeps itself in Isolation from keeping pace with the global development in the field of education.

5- Virtual education faces difficulties in its application, especially in developing countries, and faces challenges in its credibility and accreditation of certificates. Also, the lack of clarity of his concept among many people and their ignorance of its nature makes them exaggerate its negatives and do not trust its results, and see that it is less efficient than traditional education.

Recommendations:

1- Developing countries should lay down the necessary plans and policies to exploit and employ the information and communication technology sector in order to achieve comprehensive and sustainable development, keep pace with the pace of progress, build a knowledge society, develop the economic structure towards a knowledge economy and a knowledge-based economy, and narrow the digital divide that is constantly widening. Between developing countries and between developed countries. In order for the advancement of the ICT sector to achieve its desired goals, it is necessary to activate the principle of the participation of all societal sectors in this, such as: civil society institutions, non-governmental organizations, private sector institutions, and all stakeholders.

2- Establishing specialized centers in the field of information and communication technology, and the horizontal and vertical expansion in their use. Providing computers to individuals at reasonable prices.

3 - Encouraging the principle of continuous education as a developmental process for the individual in all scientific and applied fields, and working to develop it continuously and facilitate the enrollment process to attract an increasing number of Palestinian citizens.

4 - Ensure and facilitate public access to information and communication technologies without discrimination and without incurring additional costs to the user

5. Supporting partnership and joint cooperation between public sector institutions and the private sector in the process of planning and developing e-learning

6. Preparing the legal framework and legislations that regulate e-learning applications (virtual), facilitate entry and protect investment in this field. The need to integrate information and communication technology with education to overcome the digital and technical gap between developed and developing countries, and to achieve educational reform, within the framework of a comprehensive national plan in which all participate The relevant authorities in the education sector and the telecommunications and information technology sector, so that technology becomes an essential part of the educational environment with all its components, and the national plan should have a clear strategy defined by a time frame, and that it has the capabilities, tools and components necessary for it.

List of sources

First: Sources in Arabic:

1- Al-Muhaisin, Ibrahim bin Abdullah. E-learning ..a luxury or a necessity ..? (A working paper presented to a symposium: The Future School, King Saud University, 16-17 / Rajab / 1423 AH.

http.//www.ksu.edu.sa/seminars/futur-school/Papers/AlMuhaisin.

2- Ismail, Fadi. Infrastructure for the use of information and communication technology in education, and distance education.Regional Symposium on the Use of Information and Communication Technologies in Education and Distance Education. Damascus, 15-17 July 2003.

3- Zahran, Mudhar Adnan and Zahran, Omar Adnan: Education via the Internet. Amman: Zahran House for Publishing and Distribution. 2002.

4- Spybot, Jack in Collaboration with Others: Science at the Service of Development. A study on the emergence of scientific policy and the principles of its organization in countries.Translated by Antoine Khoury and Abdel-Razzaq Al-Haffar. 1st Edition, Beirut: Lebanon Library, 2003.

5- Imad al-Din, Mona Mutamen: Civic Education and its Impact on Political Development. Conference on Women and Political Development.the Hashemite Kingdom of Jordan. 2004/3 / 25-23http: www.moe.gov.jo/dera/dera16.pps

6- Attia, Abd al-Qadir Muhammad Abd al-Qadir: Recent trends in development. Alexandria: University House 1999.

7- Ghanima, Mohamed Metwally: Current Situation and Future Prospects. Cairo: The Egyptian Lebanese House 1996

8- Muhammad, Muhammad Jasim: Individualizing Education and Continuing Education. 1. Oman: House of Culture for Publication and Distribution. 2004

9- Muhammad, Yunus Muhammad and Mubarak, Abdel-Moneim Muhammad: In Development Economics and Planning. Beirut: Arab Renaissance House for Printing and Publishing. 2001.

10- Morsi, Mounir Muhammad and Al-Nouri, Abdul-Ghani: Education Planning and Economics. Cairo: The Arab Renaissance House. 2000.

11- Badran, Shebel: The Arab Education System and Democracy - An Absent Relationship -. Intervention and commentary on a study: Towards an educational educational system in a changing world, by Dr. Adnan Badran. http://www.metransparent.com/texts/Badran_arab_democraty.htm.

Sources in English:

1- A.A.Abu Al Sondos,2006,"The Impact of Applying IT and E-Learning in Economic Information SystemsJihad ". https://www.researchgate.net/publication/26439803_The_Impact_of_Applying_IT_and_E-Learning_in_Economic_Information_Systems.

2-Kotásková.A , Petr. P , Smutka.N , Maitah.S , Kuzmenko.A , Kopecká2 ,2018 "THE IMPACT OF EDUCATION ON ECONOMIC GROWTH: THE CASE OF INDIA" http://scholar.google.com/scholar?q=%E2%80%9CTHE+IMPACT+OF+EDUCATION+ON+ECONOMIC+GROWTH:+THE+CASE+OF+INDIA%E2%80%9D&hl=ar&as_sdt=0&as_vis=1&oi=scholart

3-Esrafill Kasraie,2010," Economies Of Elearning In The 21st Century" https://www.researchgate.net/publication/298332160_Economies_Of_Elearning_In_The_21st_Century.

4-Shant KaushikEducational,2005, Economical and Societal Impacts of E-learning, http://ijarcsse.com/Before_August_2017/docs/papers/Volume_7/5_May2017/V7I5-0187.pdf.

5-Hunushek.E.A,Wobmann,2007,"The Role of Education Quality for Economic Growth".

https://openknowledge.worldbank.org/handle/10986/7154.

6-Maddala and Wu Shaowen ,1999,Acomparative study of unit root tests with panel data and anew simple test, oxford bulletin of economic and statistics, special issue.