Remittances Review
May 2023
Volume: 8, No: 2, pp. 343 - 357
ISSN: 2059-6588 (Print) | ISSN: 2059-6596 (Online)

Received: 11 November 2022 Accepted: 02 February, 2023
DOI: https://doi.org/10.33182/rr.v8i2.22

Higher Education and Challenges in Human Capital Development in Iraq During the Period of 2004-2021

Asst. Prof. Dr. Lawrence Yahya Saleh[1], Asst. Prof. Dr. Wisam Ali Hussein[2], Lecturer. Dalia Omar Nazmi[3]

Abstract

Education is considered one of the most important sources for enhancing international competitiveness, especially in the information society, as it is the key to entering the knowledge era and developing society through real human capital development, which is the focus of the educational process. The research highlights the importance of education and learning outcomes and their alignment with human development standards in Iraq, as they represent activities and achievements related to the quality of life that individuals experience and their ability to acquire knowledge to achieve social and economic goals and confront economic challenges. The characteristics and/or problems of the Iraqi labor market and the challenges it faces, especially the low level of demand for work compared to supply, have contributed to the emergence and exacerbation of unemployment, which continues to persist. This represents a waste of human capital investment, in addition to its negative economic and social effects, which have deepened this problem due to the high population growth and labor force and the decline in economic growth rates.

It is difficult to develop an effective strategic plan for human capital development to meet the demands of the labor market unless decision-makers have the will to develop graduates of the Iraqi Ministry of Higher Education through the implementation of an economic policy that aims to activate strategic planning to develop human capital and meet the requirements of the labor market. It is also necessary to align economic policies and achieve the required coherence between them, in addition to the need to effectively utilize public spending under the government's control. The importance of planning to support innovation is highlighted in the presence of an effective system of trade links with academic institutions and other organizations that can keep pace with the growing knowledge revolution and adapt it to local needs.

Keywords: *Higher education - Human capital development - Investment in human capital.*

Introduction

Human capital is the result of investing in human resources, and maximizing spending on education is a priority for developing these resources to meet the needs of various sectors and productive and service activities by providing a qualified and trained workforce to bridge the gap between labor supply and demand. The government and non-governmental spending on human resource development through education and training, emphasizing the promotion of knowledge and skills, is a key indicator towards achieving growth and development goals by effectively utilizing human resources that meet the requirements of the labor market. The success of development plans depends on the success of education strategies, policies, and programs, as well as the size, items, and details of the funding received by educational institutions. Similarly, to other countries, the responsibility of spending on education in Iraq lies with the government, aiming to achieve human capital outcomes characterized by high growth rates through the development of appropriate plans and strategies while providing the necessary financial allocations. Despite the allocation of high and increasing expenditures to the education sector since 2003, the National Human Development Report for Iraq in 2022 highlights a gap between labor supply and demand, indicating that the labor supply from economically active population was not at a level consistent with the requirements of the labor market. Moreover, there wasno favorable and supportive environment for the training and qualification of human resources, leading to various forms of unemployment.

[1]University of Baghdad / College of Administration and Economics
[2]Al-Fallujah University / College of Administration and Economics
[3]Ministry of Higher Education and Scientific Research Department of Studies and Planning. Iraq

Research Importance

The labor market, in terms of labor supply and demand, relies on the ability to develop and enhance human capital. Tangible assets are nothing but wealth that has evolved with the presence of the human element, and it is the factor that influences the success of labor market growth by increasing the value of the final output through human investment. There is a strategic relationship between education outcomes, training, and the labor market, which is governed by the gap between supply and demand and meeting the requirements of the labor market. By linking education strategies and policies in a systematic manner with the national economy based on the orientations of the labor market, this can undoubtedly help bridge the gap between education outcomes and the needs of the labor market, thereby reducing various forms of unemployment, especially involuntary unemployment. From this perspective, we can conclude that education plays a pivotal role in any policies, plans, or programs aimed at achieving economic reform to reach development goals.

Problem statement

The problem lies in the lack of alignment between the education outcomes and the requirements of the labor market. Unemployment rates in Iraq are particularly high among educated individuals, as statistical data indicates that the highest unemployment rate is concentrated among holders of higher degrees. This indicates a mismatch between education outcomes and the needs of the labor market. Moreover, institutions and companies tend to refrain from hiring degree holders, including many bachelor's degree holders, due to their lack of required skills and their distance from the changes occurring in the labor markets. One of the main reasons for this is the educational focus on quantitative achievements rather than qualitative ones, coupled with a decline in quality and efficiency levels.

Research hypothesis

The research is based on the hypothesis that the outputs of educational systems in Iraq do not adequately respond to the demands of the labor market, due to a lack of investment in human capital.

Research Aims

1. Identify the reasons behind the continued decline in the quality of outputs from universities.
2. Explore the path of developing human capital in Iraq amidst the increasing number of graduates in fields that are not needed by society or the labor market.

Temporal boundaries

1. The research covers the time period from 2004 to 2021.
2. Spatial boundaries: The research focuses on the country of Iraq.

Based on this, the research has been divided into four axes :

1. The first axis: The current state of investment in human capital in Iraq.
2. The second axis: Challenges of investing in the development of human capital in Iraq.
3. The third axis: The impact of investment in education on the development of human capital in Iraq.
4. The fourth axis: Evaluating the effectiveness and feasibility of investing in the development of human capital in Iraq.

1. The reality of investing in human capital in Iraq

Investing in human capital is the main axis for advancing the reality of a state, raising its level of economic and social progress, and achieving sustainable development and growth. However, investing in human capital in Iraq, similar to investing in physical capital and other sectors, has been a victim of years of economic sanctions, conflicts, and wars since 1981. Most institutions, especially in the education sector, have been subjected to various forms of destruction and sabotage, resulting in negative consequences for human resource development. This has led to the emergence of low indicators that have negatively affected the existence of a wide gap between labor supply and demand, leading to various forms of unemployment. This trend has persisted even after 2003, resulting in further challenges and problems in the face of economic globalization and the changes witnessed in global labor markets.

1.1 The reality of the development of investment in human capital

1.1.1 An overview of the reality of higher education institutions

Iraqi education institutions are considered among the oldest institutions in the Arab region. Baghdad University was founded in 1956, followed by the establishment of several important colleges and specialized universities. This information is mentioned in various sources, with one of the notable references being (Al-Rubai, 2007 : 27):
1- The number of government universities and institutes affiliated with the Ministry of Higher Education reached 35, subject to the regulations and laws of the Ministry under Law No. 40 of 1988.
2- The number of private universities and colleges amounted to approximately 70, regulated by the Private Education Law in Iraq under Law No. 25 of 2016.
3- There are specialized institutes affiliated with some government institutions such as the Ministry of Health, Ministry of Oil, Ministry of Transportation, and the Sunni and Shiite Waqf Diwans.
Despite the significant development witnessed in the education sector, including the horizontal expansion of universities and continuous improvement in infrastructure, laboratories, and equipment, the education sector has been affected, like other sectors, by various factors and changes, as well as the deterioration of the economic and political environment after 2003 (Al-Rubai, 2007 : 27) :
a) Political and security instability, which has disrupted the educational process, led to the emigration of competent academics, and discouraged many qualified individuals from returning.
b) Government budget constraints that focus mainly on operational aspects and fail to allocate significant increases in budgets for scientific research within public spending programs.
c) Weakness in the legal and legislative framework of higher education, which fails to keep up with the developments in the global higher education environment. This includes the lack of adherence to quality standards, academic accreditation, and the utilization of knowledge economy indicators, innovation index, and human capital index. As a result, most Iraqi universities have been excluded from international rankings.
d) The higher education sector suffers from various imbalances and inconsistencies in its laws, including the Private Higher Education Law No. 25 of 2016, which lacks strict regulations for governing the operation of private universities and colleges. Additionally, there has been a significant expansion in their numbers, surpassing the number of government universities. The total number of private universities/colleges reached 70, accommodating approximately 30% of secondary school graduates. The shortcomings in this sector can be highlighted by the following (Al-Judah, 2000 : 19) :

- Most private universities are managed by boards of directors, the majority of whom are investors who have no knowledge or understanding of education issues, concepts, and goals. Therefore, commercial profit becomes the primary objective for most of them, even at the expense of academic integrity.
- The inputs of private universities/colleges come from students with very low academic scores in secondary school. These institutions offer the opportunity for students to enroll in scientific disciplines that are significantly inferior to their counterparts in government universities.
- In contrast, the private education sector in other advanced countries is considered a leader. It plays a crucial role as a partner in the educational process and is characterized by academic integrity. However, in Iraq, this sector relies primarily on government support, both in terms of teaching staff and student admissions.

1.1.2 The evolution of education expenditure as a percentage of gross domestic product (GDP)

Spending is considered one of the main tools for the development and advancement of the education sector, as it is one of the most important inputs in creating and forming human capital, which reflects on the nature of the graduates' outcomes.

In Iraq, education spending has had varied impacts over the past period, closely related to the country's economic situation. It has witnessed fluctuations and decreases in the size of financial allocations, which have affected the level of development in the education sector. This sector has entered into significant competition with other sectors to secure appropriate allocations from the general state budget.

Regarding education expenditure as a percentage of gross domestic product (GDP), the decline in budget allocations and the failure to accommodate the rapid growth in pressing factors on education, such as population growth and expanding opportunities for people to access education, have had an impact. Additionally, there has been a decline in the existing institutional infrastructure and an increase in the proportion of unqualified infrastructure, which requires continuous renewal (Al-Judah, 2000 : 58).

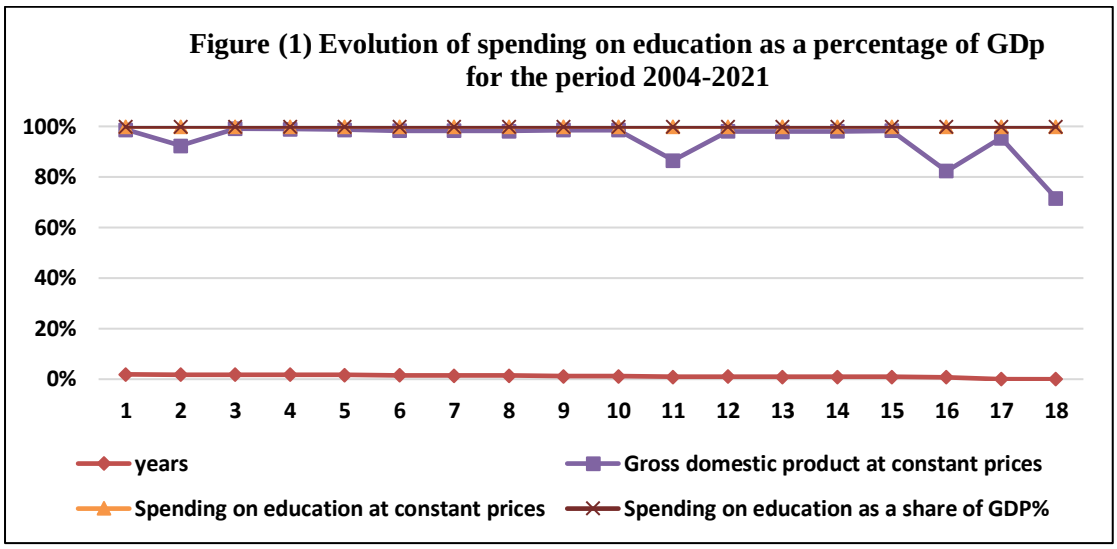
As observed from Table (1), the education expenditure index as a percentage of GDP has shown fluctuations. In 2005, it reached 0.84% after being 1.38% in 2004, and it increased to 2.13% in 2016. Despite the achieved oil revenues, there was no priority given to building a genuine education sector that keeps up with the changes in the world regarding shifts in labor market demands and the necessity of influencing the job market through workforce supply. By the year 2021, the percentage reached 3.64%.

Table (1) Percentage of Education Expenditure as a Share of GDP in Iraq for the Period (2004-2021)

Years	GDP at constant prices (1)	Spending on education at constant prices (2)	Spending on education as a share of GDP% (3)
2004	**101845.3**	**1408.89**	**1.38**
2005	**103551.4**	**8770.03**	**8.46**
2006	**109389.9**	**1027.19**	**0.93**
2007	**111455.8**	**1187.63**	**1.06**
2008	**120626.5**	**1628.04**	**1.34**
2009	**124702.1**	**2206.35**	**1.76**
2010	**132687**	**2358.27**	**1.77**
2011	**142700.2**	**2723.93**	**1.90**
2012	**162587.5**	**2405.25**	**1.47**
2013	**174990.2**	**2698.46**	**1.54**
2014	**178951.4**	**28280.22**	**1.58**
2015	**183616.3**	**3685.08**	**2.00**
2016	**208932.1**	**4463.51**	**2.13**
2017	**201059.4**	**4016.55**	**1.99**
2018	**202776.3**	**3589.76**	**1.77**
2019	**211789.8**	**45770.13**	**21.6**
2020	**189398568.7**	**9237890.129**	**4.87**
2021	**72468542.50**	**28730882.553**	**3.64**

Source : Column (1,2) Republic of Iraq, Ministry of Planning, Central Statistical Organization, Annual Statistical Bulletin, separate years.
- Column (3) of the researcher's work, based on the following formula through the formula :
100 x spending on education at constant prices / Gross domestic product at constant prices

Remittances Review
May 2023
Volume: 8, No: 2, pp. 343 - 357
ISSN: 2059-6588 (Print) | ISSN: 2059-6596 (Online)



Prepared by the researcher based on the data of Table (1).

1.1.3 The evolution of the volume of spending on education as a percentage of public spending

Education is considered an entry point towards achieving human capital as it adds social value that contributes to changing lifestyles and consumption patterns, and contributes to meeting the demands of the labor market. From Table 5, it can be observed that the contribution of education expenditure has been low during the years 2004-2008, ranging from 4.5% to 6.6%. These low percentages can be attributed to the deteriorating security and political situations, as well as fluctuations in oil revenues, which affected the financial allocations to the education sector and the educational services provided to students, which did not keep pace with the changes in the nature of the labor market and its transformations.

During the period 2009-2013, the contribution of education expenditure as a percentage of total public expenditure increased to 13.1%, 12.3%, 12.9%, 10.2%, and 10.8% respectively. This increase can be attributed to the rise in oil revenues and consequently the increase in the percentages allocated to education expenditure.

In 2014, the percentage decreased to 7.4% due to the war against terrorist groups, such as ISIS, which drained a significant portion of the expenditures to finance military operations. Afterward, the percentage started to increase again in the years 2015 and 2016, reaching 13.4% and 13.0% respectively, due to the increase in revenue and the subsequent improvement in the allocation of expenditure on education. However, in 2020, the percentage declined to 0.2% due to the COVID-19 crisis and its impact on various economic activities, especially in the education sector. It then rose to 1.2% in 2021. These fluctuations highlight several important facts.

1- The expenditure on education as a percentage is still directly linked to the general state budget, which does not reflect the philosophy and importance of investing in education as a foundation for building human capital.
2- Education and its outcomes are not a priority for the state in initiating the process of development or reconstruction in Iraq.
3- Unemployment among graduates is not among the reasons that necessitate studying and reconsidering scientific and academic curricula and the level of skills development.
4- Centralized appointment is the goal of students' admission and their choices in the centralized admission process. This can be observed annually through the announcement of centralized admission results and students' objections based on their preferences in the admission application forms, which mostly focus on medical specialties since they are subject to centralized appointment by the Ministry of Health and its departments.
5- Direct reliance on private education and hindering the development of the role of government educational institutions in the knowledge-building process.

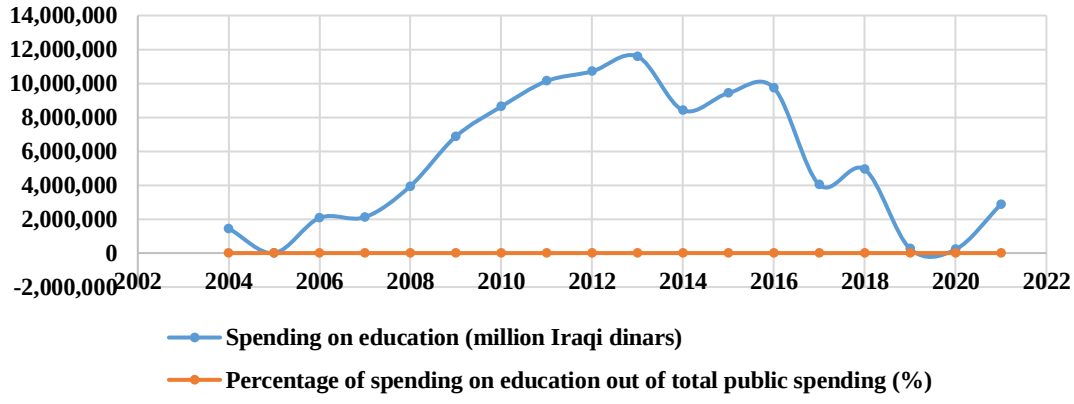
Remittances Review
May 2023
Volume: 8, No: 2, pp. 343 - 357
ISSN: 2059-6588 (Print) | ISSN: 2059-6596 (Online)

Table (2) The evolution of spending on education as a percentage of public spending in Iraq for the period (2004-2021)

Years	spending on education (million Iraqi dinars)	Percentage of spending on education out of total public spending (%)
2004	1,452,811	4.5
2005	1,796,776,	6.8
2006	2,074,119	5.3
2007	2,115,765	5.4
2008	3,947,233	6.6
2009	6,871,277	13.1
2010	8,629,215	12.3
2011	10,137,561	12.9
2012	10,705,617	10.2
2013	11,586,521	10.8
2014	8,415,938	7.4
2015	9,428,484	13.4
2016	9,732,367	13.0
2017	4,027,561	5.3
2018	4,932,611	6.1
2019	256,226	0.2
2020	215,300	0.2
2021	287,3088	1.2

Source : Ministry of Finance / Budget Department, Special Reports, Years 2019, 2020, 2021, Central Bank of Iraq, Annual Economic Report 2021. United Nations Development Program, Human Development Report for the year (2003), p. 153.

Figure (2) Percentage of spending on education out of total public spending for the period (2004-2021)



The figure was prepared by the researcher based on the data of Table (2) above.

4.1.1 Spending on research, development and patents

The funding sources for research and development are very limited compared to advanced countries. Financial support is considered the most important source for research and development (Al-Nashour, 2017, p. 133). The presence of scientific intellect alone is not sufficient without the financial capacity to provide the requirements for research and development, such as devices and laboratories associated with scientific research and technological development. Advanced countries spend approximately 2.5% of their total income on research and development, and about 80% of this expenditure is done by the private sector. However, the expenditure as a

Remittances Review
May 2023
Volume: 8, No: 2, pp. 343 - 357
ISSN: 2059-6588 (Print) | ISSN: 2059-6596 (Online)

percentage of Iraq's gross domestic product is almost negligible, and in some years, no percentage is allocated. The expenditure of the private sector has little impact on supporting this activity.

1- Evolution of spending on research and development

After 2003, spending on research and development in Iraq has been scarce, especially in industrial and agricultural activities, despite the increase in oil revenues. The reality of scientific research centers is characterized by limitations and modesty, facing numerous difficulties. Iraq ranks low globally according to indicators used to measure the progress of countries in the field of research and development, such as expenditure on scientific research, number of patents, and peer-reviewed scientific publications (Al-Nashour, 2017, p. 140). There are obstacles and challenges that hinder researchers and limit their scientific output.

Expenditure on research and development as a percentage of the gross domestic product (GDP) is low and has not reached more than 0.05% in the highest cases, compared to the global average of 2.3% and the average for developing countries of 1.5%. Table-7 shows a decline in the expenditure ratios on research and development, ranging from 0.03% to 0.05% throughout the study period. This expenditure is distributed between direct government spending, accounting for 93%, and higher education spending, accounting for 7%. This can be attributed to the state's failure to understand and comprehend the requirements and conditions of development, particularly in the knowledge domain, which emphasizes the necessity of human and technological capital as a fundamental axis in enhancing competitiveness.

In Iraq, there is no integration between government economic sectors or private activities on one hand and academic environments, research institutes, and research centers on the other hand. The society lacks investment and utilization of scientific achievements through research to enhance and improve the capacity for economic growth. The continued growth is primarily tied to the oil sector.

Table (3) Expenditure on research and development as a percentage of the gross domestic product in Iraq for the period (2004-2021)

Years	GDP at constant prices (1)	Spending on research and development as a share of GDP% (2)
2004	**101845.3**	**0.04**
2005	**103551.4**	**0.04**
2006	**109389.9**	**0.04**
2007	**111455.8**	**0.03**
2008	**120626.5**	**0.05**
2009	**124702.1**	**0.04**
2010	**132687**	**0.04**
2011	**142700.2**	**0.03**
2012	**162587.5**	**0.03**
2013	**174990.2**	**0.04**
2014	**178951.4**	**0.04**
2015	**183616.3**	**0.04**
2016	**208932.1**	**0.04**
2017	**201059.4**	**0.04**
2018	**202776.3**	**0.04**
2019	**211789.8**	**0.04**
2020	**212888□9**	**0□04**
2021	**221032□5**	**0□04**

Source : Column (1) Republic of Iraq, Ministry of Planning, Central Statistical Organization Annual Statistical Bulletin, separate years Column (2) World Bank data available at https;//data.albankaldawli.org

Remittances Review
May 2023
Volume: 8, No: 2, pp. 343 - 357
ISSN: 2059-6588 (Print) | ISSN: 2059-6596 (Online)

2- Research and development outputs

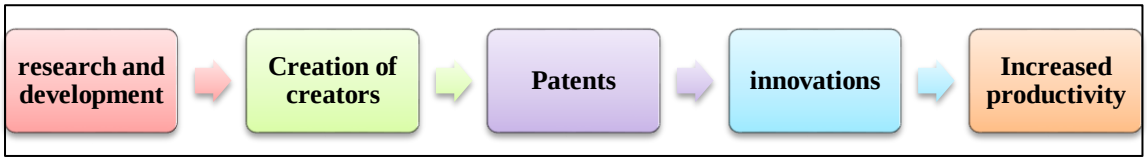
The outcomes of research and development, in general, manifest in the knowledge related to products and production processes, through which technological advancements play a central role in improving productivity and competitiveness. The restructuring of the global economy is based on information technology and technological changes. However, in Iraq, decision-makers do not actively study the implications of technological changes as an implicit result of research and development activities. As a result, companies are being left behind in competition.

With increased competition in Iraq and within the framework of global transformations, the ability to compete remains contingent on those who have the capacity for research and development of their products, whether in terms of price or quality (Alawi, 2006, p. 32). Scientific research is an essential element in increasing labor and capital productivity, and the process of development contributes to keeping the economy competitive. However, technological advancements in Iraq do not lead to the creation of new technologies due to the lack of necessary improvements to enhance the efficiency of the workforce, resulting in decreased national production and productivity.

The suboptimal use of economic resources in Iraq has led to the waste of those resources and a reduction in the overall gross domestic product in society. This negatively affects economic growth, as the country relies heavily on imports to meet domestic needs, leading to increased economic vulnerability and continuously hindering the knowledge-based growth.

The technological aspect, on the other hand, is a source of economic growth and a competitive advantage for the country. It is one of the key drivers of long-term growth. It is expected that radical discoveries such as the sixth generation of communication networks and interlinked electronic control devices will significantly impact production processes, enhance trade, and improve service levels and living standards, particularly in advanced countries. The ninth goal of sustainable development, adopted in 2015, emphasizes the establishment of resilient infrastructure, promotion of inclusive and sustainable industrialization, and fostering innovation. This signifies that manufacturing does not occur without technology and innovation, and development cannot happen without manufacturing (United Nations, Report, 2019). Figure (2) illustrates the mechanism of transferring the impact of research and development on economic growth through its influence on innovation.

A patent is a legal document issued by the state that recognizes the inventor's discovery and grants them the right to dispose of it. Regarding Iraq, there are various factors surrounding the research and development crisis, as indicated by the data in Table (4). It can be observed that patent registrations for residents were 13 in 2004 and 1 for non-residents. In 2005, no patent registrations were recorded, but they increased to 28 for residents and 1 for non-residents in 2008. In 2012, there were 81 patents for residents and 56 for non-residents, resulting in a total of 136 patents. The total number continued to increase, reaching 369 in 2014, including 130 for residents and 239 for non-residents. However, in 2015, there was a decrease, with a total of 50 patents, including 22 for residents and 28 for non-residents, indicating that Iraq has not reached the desired level of innovation and invention due to weak investment in this sector.



Furthermore, the table shows that in 2016, there were no patent registrations for residents or non-residents due to the country's situation, including the control of terrorist groups over certain provinces in Iraq. The heavy military expenditures burdened the general budget. After security control was restored in Iraq in 2017, the number of patents increased to 714, including 613 for residents and 101 for non-residents. The number further increased to 730 in 2018. However, in 2019, no patents were registered (Ministry of Planning, Central Statistical Organization, World Bank data for various years).

As for scientific and technological journals, scientific publications are a form of evaluation for institutions, individuals, and sciences. They help track developments in the field and push science forward. Despite the proliferation of publishing journals, especially with the emergence of information technology, and the increasing number of Iraqi universities and research centers in producing and disseminating information, their objectives are both scientific and research-oriented. However, despite the high number of scientific and technological journals published, there is a lack of evidence indicating the practical and applied utilization of the research findings, reflecting on the work of ministries and related institutions that suffer from a low technological level and a lack of competitive capabilities.

Table (4) Research and development outputs in Iraq for the period (2004-2021)

Years	Patents			Famous scientific and technological journals
	Patent residents	Non-resident patents	total	
2004	13	1	14	91
2005	---	----	---	141
2006	14	----	14	244
2007	14	2	16	241
2008	28	1	29	319
2009	26	3	29	408
2010	13	1	14	554
2011	52	5	57	640
2012	80	56	136	826
2013	100	140	240	839
2014	130	239	369	866
2015	22	28	50	894
2016	----	---	----	1236
2017	613	101	714	2256
2018	653	77	730	6073
2019	---	----	----	-----
2020	---	----	----	----
2021	---	---	---	-----

Source : The researcher's work based on the atlas data available on the website https://ar.knoema.com.

2- The indicator of the knowledge economy in Iraq

According to reports from the World Bank on the knowledge economy and the Arab Planning Institute, Iraq is not included in this index due to the lack of access to the standards and indicators that would qualify Iraq for clear inclusion. Table (8) illustrates this based on reports from the World Bank and the International Planning Institute, indicating that the value of the index ranges from 1 to 7. The data in the table shows that Iraq does not have a numerical value indicating the percentage of expenditure on research and development. There is also no real value for the number of patents. These two indicators are considered the most important indicators of the knowledge economy. This prevents Iraq from being able to occupy a position within the knowledge economy index, as stated in the latest World Bank report for 2021.

Reports issued by the United Nations Development Programme (UNDP) emphasize the importance of human development, which refers to investing in human capital. This involves expanding individuals' choices by increasing their opportunities in education, health, income, and employment. The reports also stress the principle of self-reliance, diversifying sources of income, and eliminating poverty through capacity building and the development of scientific and knowledge-based skills. It highlights the importance of developing and enhancing cultural and scientific capital (Ministry of Planning, Department of Economic and Financial Policies, Iraqi Economic Report for 2010). This is particularly relevant when studying indicators of the knowledge economy as they reflect the direction and achievement of the local economy and its adaptation to the requirements of the

global economy. They are the main drivers of competitiveness and economic success as they add value to production through the application of new technologies and ideas, whether in the form of inventions or new applications of existing knowledge. This drives reform and adaptation in the local market towards restructuring according to international labor market requirements. Iraq suffers from a lack of investment in human capital and a failure to utilize human capital adequately, leading to challenges in integrating graduates into the labor market, resulting in high unemployment rates. Consequently, Iraq is far from the competitiveness indicators and, consequently, the manifestations of the knowledge economy. This means that Iraq is not participating in the global economic system in its current state.

Table (5) indicators of the knowledge economy in Iraq

pointer	value or percentage	The indicator value is from 1-7
the basic education	**10.779**	**0**
Percentage of spending on education and education out of GDP	**4.81**	**0**
The percentage of GDP spent on research and development	**-**	**0**
The number of mobile phone subscriptions	**26.756.000**	**0**
Percentage of households equipped with a personal computer	**-**	**0**
The number of Internet users	**325.0002**	**0**
Number of patents and innovation	**325.0003**	**0**

Source : The location of Iraq in the World Bank's knowledge economy reports for the year 2021, which shows that Iraq is not included in the World Bank's reports for this indicator.

1.2 Investment challenges in the field of human capital development in Iraq

The Iraqi economy faces significant challenges in light of the continuous and rapid changes occurring in the world, including the accelerated changes in the field of information technology and communications, openness to global markets, and the use of e-marketing applications. These challenges necessitate the development of a strategic vision that enables the economy to capitalize on opportunities and avoid threats in order to survive and achieve growth in the markets through human capital and investment in it (Turki et al., Research Journal of Scientific Research, King Abdulaziz University, p. 2).

The absence of a serious consideration of international indicators in general, and specifically human capital indicators, is evident in the following points (Obaid, 2020, pp. 9-13):

1. State intervention in the economy and the dominance of the public sector, as intervention and dominance stifle innovation, which flourishes in a market economy and fosters a spirit of competition.
2. The culture of the state, society, and families, which focuses on natural material wealth rather than focusing on real wealth, which is human resources.
3. The cultural and values system, which has led to a clear absence of family organization and upbringing of children within the family and educational institutions.
4. The focus on population quantity rather than quality, which represents the cornerstone of achieving social and economic development.
5. Failure to utilize religion in the development of society in terms of education, health, and technology, but rather employing it in ways that serve narrow agendas and perpetuate conflicts, negatively affecting human capital.

- The relative importance in the budget amounted to 2.5% of the total current and investment expenditures.

- The population is estimated at (30,399,572) million people

6. The complete paralysis of the administrative system due to the October protests and the subsequent COVID-19 pandemic, with most institutions operating without a clear and carefully planned vision, resulting in the disruption of schools and universities and the absence of rigorous scientific supervision, especially on postgraduate studies.
7. The disconnect between education and the labor market, meaning that the outputs of education do not meet the needs of the labor market, while the labor market is unable to provide employment opportunities due to the economy's reliance on oil, which marginalized other job-generating sectors, leading to increased unemployment and the deterioration of human capital.
8. Weak spending on the health and education sectors in terms of specificity and technicality, meaning that public spending has become less effective and efficient compared to other countries.
9. Isolation from the world has allowed other countries to advance significantly while Iraq has lagged behind.
10. The existence of a hostile environment towards human capital, elites, and competencies, characterized by harassment, airports, and futile wars. There are unhealthy interventions dominated by a language of violence, which leads human resources, with all their financial resources, professionalism, and experience, to migrate, especially in light of enticing opportunities from security to economic and social security in many countries around the world.
11. Weak spending on the health and education sectors in terms of specificity and technicality, meaning that public spending has become less effective and efficient compared to other countries. For example, only 37% of the total health expenditure is allocated to hospitals, 16% to preventive care, and 13% to primary care, which are low percentages compared to other countries.
12. The level of spending per student is much higher in higher education, meaning that Iraq spends more on university students than on pre-university education, which is contrary to logic. In 2017, spending per student in education was about 3.5 times higher than in pre-university education, while the international standard is 2.5.

The inefficiency of spending is partly attributed to the high level of salary allocations, which have inflated at the expense of investment allocations. Salary allocations in health expenditure accounted for 76% of the total health budget, and 93% of the total education budget in 2019. Additionally, there is no real economic change to diversify the sources of general revenues, and there is no budget for the years 2014 and 2020.

1.3 The impact of investment in education on the development of human capital in Iraq

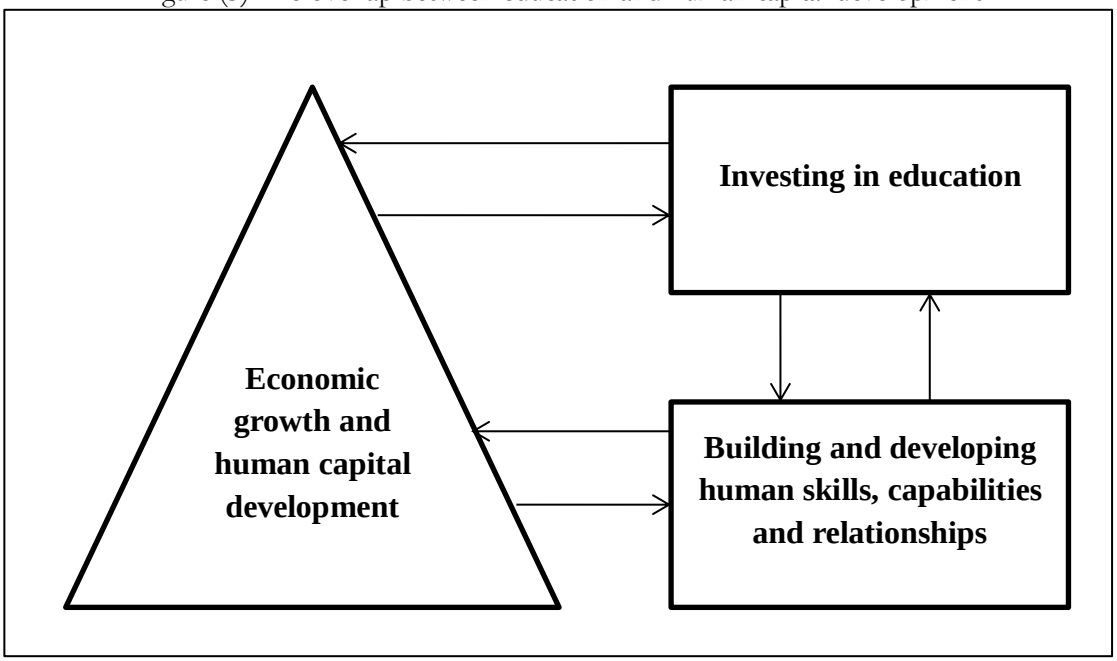
Education has a direct impact on economic growth, and studies by the World Bank indicate that education is a profitable investment. However, there is a weakness in the positive contribution of education to development, which depends on the quality of education and its suitability to the needs of society at different stages of development. In the era of knowledge-based industries, also known as "knowledge industries," which rely on human capital, it is crucial for workers to have high and up-to-date skills.

The successive calls for development have not been able to fulfill the aspirations of most recovering Iraqi governments. Decades have passed, and Iraq is still unable to achieve progress and economic growth. It continues to rely on the production and export of primary materials to form its national income.

One of the most significant challenges facing Iraq is the quality of its human resources in terms of education and their ability to acquire skills. Figure (3) illustrates the intersection between education and economic growth, which should be adopted.

Remittances Review
May 2023
Volume: 8, No: 2, pp. 343 - 357
ISSN: 2059-6588 (Print) | ISSN: 2059-6596 (Online)

Figure (3) The overlap between education and human capital development



Source : Iraqi Journal of Economic Sciences / College of Administration and Economics, Al-Mustansiriya University / Aqeel Hamid Jaber Al-Helou "Investment in the human resource and its relationship to employment and unemployment in developing countries (Case Study of Iraq, 2009-p. 12)

The status of education as a primary investment in human capital has declined after studies and research in education and economics have shown its significant impact on various aspects of life. Despite Iraq's significant efforts to improve and develop education, adopt policies to enhance teaching methods, and increase spending on education as a percentage of GDP, the educational process continues to face ongoing challenges and issues that require institutional and societal interventions.

One of the challenges is mitigating the consequences of these issues, including the high unemployment rates among graduates from primary and higher education, as well as the mismatch between the labor market needs and the lack of infrastructure (Ministry of Planning, Department of Economic and Financial Policies, Iraq Economic Report 2016).

Therefore, the investment expenditures allocated for acquiring knowledge in the field of education require additional spending, as it serves as an important indicator of the state's commitment to education and its development. Education represents the fundamental basis for building human capital according to the needs and requirements of the labor market, in order to achieve economic and social returns.

1.4 Evaluation of the effectiveness and feasibility of investing in human capital development in Iraq

Iraqi universities have remained limited in their use of digital technology, primarily utilizing it for administrative tasks or specific academic requirements, and have generally not fully embraced the digital revolution in teaching fundamental computer principles. This has led to the emergence of a digital divide, which had a significant impact on the experience of e-learning adopted by our universities for the first time in the academic year 2019-2020, amid the circumstances of the COVID-19 pandemic.

This experience provided students with an understanding of the digital capabilities of our universities and the actual level of electronic skills possessed by our professors. It highlighted the need to enhance these skills in a way that enables university teaching to reshape the cognitive image for students, with electronic skills being one of the essential criteria measured after this experience.

The e-learning experience revealed a digital knowledge gap in universities, which manifested in the electronic readiness of digital content, such as educational platforms, and the level of digital skills possessed by professors,

in comparison to the students' own digital skills. This comparison exposed the risks of this gap, which is measured against regional and international universities.

The process of developing digital educational content in Arab countries, including Iraq, has faced various challenges, with the digital divide being the most prominent one. Information technology has provided the technical means, requiring a form of social innovation. However, the problem in the past was the lack of information. In Iraq, the issue of the digital divide primarily relates to the functional aspect of technology usage. One of the major problems faced by Iraqi universities is the scarcity of information (Mustafa, 2020, p.9).

1. Digital usage and trends are still largely inclined towards entertainment and news, with limited cases focused on knowledge and restricted to specific circumstances, including crises.
2. The lack of a comprehensive and credible vision regarding digital media posts.
3. There is no interaction between digital development institutions that can work on enhancing digital skills in Iraq and enable users to benefit positively from the cognitive functions of the Internet. Efforts of educational institutions are limited to technical aspects in curricula and specialized scientific fields related to electronic technologies.
4. Individuals' limited interest in various digital technologies due to the conditions Iraq has experienced, including traditional practices that hindered overall knowledge, placing Iraq at a lower global ranking.
5. The absence of legislation, mechanisms, and secure curricula for online shopping, including financial transactions and delivery of purchased electronic goods according to required specifications.
6. Low levels of digital content indicators in the knowledge economy in Iraq.
7. Absence of creativity and cultural awareness.
8. Knowledge illiteracy, which is a significant characteristic of our society due to its isolation during the period of economic sanctions and security instability, missing out on important developments in information and communication technology and the global digital economy.
9. Insufficient funding for the technological and knowledge sectors of the knowledge economy, contributing to the significant absence of the information and communication technology sector and the inability to support research, development, and innovation (Hamza, 2020, pp. 7-9).

Conclusions and recommendations

First : Conclusions

1. Education is considered one of the most important sources for enhancing international competitiveness, especially in the information society, as it is the key to enter the knowledge era and develop society by truly developing human capital, the axis of the educational process.
2. The knowledge society and economy are linked to the concept of an education society that provides opportunities for individuals.
3. The importance of educational outputs and their alignment with human development standards is highlighted, as they represent activities and achievements related to the quality of life that individuals live, their ability to acquire knowledge to achieve social and economic goals, and to face economic challenges.
4. The characteristics and/or problems of the Iraqi labor market and the challenges it faces, especially the low demand for labor compared to supply, have contributed to the emergence and exacerbation of unemployment, which is a waste of human capital investment, in addition to its negative economic and social effects. These factors have deepened the problem due to high population growth and low economic growth rates.
5. The development of the public sector has been accompanied by an increase in the use of work intensification methods, while there has not been a similar development in terms of workforce strength, quality, training, and requalification of employees, including the adoption of efficiency and economic growth standards through improving productivity levels.
6. Due to the conditions experienced by Iraq, including the performance of successive governments and their economic policies, which have hindered the performance of government institutions and the enhancement of their competitive capacities, the Iraqi economy has faced a number of challenges. These challenges

coincide with the global trend towards the knowledge economy and the spread of information technology, which has reduced the need for labor, and Iraq lags behind neighboring countries in this regard.

7. While the importance of research and development is increasing in the global economy, scientific research in Iraq faces many obstacles, including low spending on research, which does not exceed about 0.2% of the GDP. In addition, there are many problems that hinder the freedom of research centers and the optimal use of these allocations despite their scarcity.
8. It is difficult to develop an effective strategy for developing human capital to meet the demands of the labor market unless decision-makers have the will to develop graduates of the Iraqi Ministry of Higher Education through the implementation of an economic policy aimed at activating strategic planning to develop human capital and meet the requirements of the labor market. It is also necessary to coordinate economic policies and achieve the required harmony between them, in addition to the need to effectively utilize public spending by the government.

Second : Recommendations

1. Planning to support innovation within an effective system of business links with academic institutions and other organizations that can keep up with the growing knowledge revolution and adapt it to local needs.
2. Promoting an innovative culture that plays a fundamental role in enhancing a company's ability to innovate. It influences the way the company operates and the relationships between its employees. Innovation requires a mindset characterized by initiative, creativity, dynamic organizational capabilities, and an open mind to new ideas and cultures. Enhancing a learning environment is also crucial.
3. Encouraging research and development funding: Investments in research and development have not reached the optimal level, as they do not fully reap the rewards of their efforts in this field.
4. Encouraging and supporting technology acquisition and capacity building: Technology acquisition can take various forms, ranging from direct purchase, financing of intellectual property rights, and obtaining licenses and strategic alliances. Technical and commercial support structures such as research and development centers, technology transfer centers, quality control facilities, etc., can play a major role in disseminating information, identifying suitable technologies, ensuring effective and beneficial technology transfer, and adaptation.
5. Planning to support innovative capacity-building projects: Given the new competitive conditions, the government should formulate policies that promote innovation and encourage projects to build innovative capacities. These projects should be provided with currently unavailable services, such as industrial clusters, training, applied research, technical assistance and information dissemination, databases, quality control, and technology transfer.

Reference

Al-Rubaie, Saeed Bin Mohammed. "Higher Education in the Knowledge Age: Changes, Challenges, and Future Prospects." Dar Al-Shorouk, 2007.

Al-Turki et al. Research Deanship, King Abdulaziz University, 2020.

Bentour, Mustafa. "Methodologies for Building and Calculating Human Capital Indicators with Reference to the Situation of Arab Countries." Arab Monetary Fund, 2020. http://www.amf.org.ae

Hamza, Karim Mohammed. "Education in Iraq: Discussion Paper." Beit Al-Hikma, Baghdad, 2010.

Human Development Report 2003.

Iraqi Journal of Economic Sciences, College of Administration and Economics, Mustansiriya University, Aqeel Hameed Jaber Al-Hilo. "Investing in Human Resources and Its Relationship to Employment and Unemployment in Developing Countries (Case Study: Iraq, 2009)."

Kazem, Dr. Kamil Alawi. "Human Security in Iraq." Research presented at the Scientific Symposium "Human Development in Iraq: Reality and Requirements" held by the College of Administration and Economics, University of Kufa, May 2006.

Mahfouz, Ahmed Gouda. "Total Quality Management: Concepts and Applications." 4th ed., Dar Al-Awael, Amman, Jordan, 2009, p. 19.

Ministry of Planning, Central Statistical Organization, data from the World Bank for various years.

Ministry of Planning, Department of Economic and Financial Policies, 2010.
Ministry of Planning, Department of Economic and Financial Policies, Iraq Economic Report 2016.
Nahoor, Ilham Khuzai. "Evaluation of Economic Indicators for the Performance of the Labor Market in Iraq." Gulf Economic Journal, Issue 33, 2017, p. 140.