
Knowledge Economy Vision 2030. The impact of university education on the dissemination of the knowledge economy

Hoda Ahmed Ibraheem

Sally Elawady

Fatma Hmiedan

Qassim University CBE, Kingdom of Saudi Arabia

Keywords

Knowledge Economy - Saudi Universities - Knowledge Society - Comprehensive Rehabilitation - Knowledge Development

Abstract

Knowledge is a major pillar of progress and the rise of nations. Thus, it is considered a source of progress, prosperity, development of the society, and a catalyst for intellectual and social mobility (Age of knowledge). The mission of improving education and learning is a priority for many countries, whether it was developing or advancing, in the view of the prevailing belief which contributes significantly to the development and the realization of their objectives and future hopes. The future vision of the educational systems requires basic skills, such as adaptation, flexibility, accommodate the rapid change in the surrounding environment (local and global), and the ability to convey ideas as accurately as possible. And the work to develop the abilities of both the teacher and the learner in the educational process of learning, and assimilation of modern technological means. The knowledge economy has become a central tool in measuring the ability of countries acquire the causes of progress and to have the necessary foundations for the success of their plans and programs for overall economic development.

Therefore, the problem of studying the challenges facing Saudi Arabia Universities in meeting the needs of society in the process of the growing knowledge development

The study aims to identify the concept of the knowledge economy as well as shed light on the importance of the role of universities in spreading the concept of the knowledge economy. Also, identify the difference between the concept of the economy based on knowledge and the concept of the knowledge economy.

The study utilized descriptive analysis in collecting data from the sample size, It consists of 355 electronic questionnaires from various faculties in Al-Qassim University in Saudi Arabia, The questionnaire was analyzed by a SPSS program, Use the Alpha-Cronbach Reliability Test for questionnaire questions.

The resulting analysis agrees with the hypothesis, there are positive impacts of university education on the dissemination of the knowledge economy, there are positive impacts of the faculty member role in spreading the concept of the knowledge economy. But, there is a negative impact on the university in supporting, encouraging innovation and supporting student projects.

Introduction

A knowledge economy is a central tool in measuring the ability of countries to progress and possess the necessary ingredients for the success of their planned and programs for a comprehensive development (Arab Knowledge Report 2009). It involves the investment of technological capabilities, industries, jobs, and new businesses which it requires qualified human resources with many special skills like the creativity and the adaptation to developments. The World Bank (2013) reported, in the collaboration with the Islamic Educational, Scientific and Cultural Organization (ISESCO), Entitling Transforming Arab economies: moving forward on the path of knowledge and innovation: The increasing of investment in the knowledge economy model will be an important requirement to meet the challenge facing all the Arab countries. Here starts the role of universities education, which it is

the considered key to enter the era of knowledge and development of societies through the development of human capital. Therefore is the focus of the educational process.

The Research Problem

The economic challenge is the most serious and most important challenge because it is a factor in preserving the country's independence, preserving its respect and achieving its ambition for progress and growth. Where the principal component of value creation, productivity, and economic growth is knowledge." Hence the following questions:

1. What is the concept of the knowledge economy and what are its components and characteristics?
2. What is the difference between "knowledge economy" and "knowledge-based economy"?
3. What is the role of university education in spreading the knowledge economy?
4. What is the role of higher education in the knowledge economy according "Knowledge Economy Vision2030"?
5. What is impact a Knowledge Economy in the Gulf Cooperation Council GCC Countries

Objectives of the study

The objective of the study is to identify the concept of the knowledge economy as well as shedding light on the importance of the role of universities in spreading the concept of the knowledge economy. Also identifying the difference between the concept of knowledge-based economy and the concept of the knowledge economy.

Research Hypotheses

The hypotheses of this research are based on the positive impact of university education on the dissemination of the knowledge economy as follows:

First, the faculty member plays a positive role in spreading the concept of knowledge economy. Second, University infrastructure contributes to the promotion and dissemination of the knowledge economy concept. Third, Universities play a positive role in supporting and encouraging innovative students and supporting student projects.

The methodology of the study

The study adopted the method of descriptive analysis in the collection of the required data from the sample size consisting of 355 questionnaires from different faculties in Al-Qassim University in Saudi Arabia. Data collection was based on an electronic survey for two main reasons: the importance of electronic communication as one of the most important means of communication with society in our contemporary age because of multiple benefits such as capacity, rapid deployment, and accessibility, storage capacity and low cost. The second reason relates to the nature of the study as a survey of a large number of colleges in different regions requires the adoption of means capable of covering the spread of these colleges on a large scale, especially with the difficulty of any alternative means of collecting the required data, The questionnaire was analyzed by a SPSS program, use the Alpha-Cronbach Reliability Test for questionnaire questions.

For the purpose of collecting the necessary data, a checklist was designed which included 19 items related to different aspects of the role of the educational system in the knowledge economy, these items according: the extent to which the student is aware of the economy of knowledge, the importance of the role of universities in spreading the knowledge economy (the role of a faculty member, university infrastructure and the suitability of university courses). The data was collected by the research team. The website was reviewed for 21 days. Then an average is calculated for each data. For the purpose of verifying the accuracy of the coding and recording of data by team members.

Theoretical framework

The difference between "knowledge economy" and "knowledge-based economy", The Knowledge Economy is a shift to a postindustrial economy (Kelly, 2006). A knowledge economy is one where the key asset is knowledge (Houghton, 2000). "In an agricultural economy, land agricultural is a key resource. In an industrial economy, the natural resource is a key resource, such as coal, iron ore, and labor is the main resources. So, we can say that knowledge economy is the era of big data used to drive innovation and competitive advantage.

The knowledge economy, it is the production of knowledge, research, and development, both in terms costs of the knowledge process for example : research cost, development or business management, consultation or the preparation, training of experts on the one hand, and the returns or revenue generated by this process as an economic process. (Farouk, 2005, p. 26- 34).

Knowledge Economy: economy the building mainly on the production, dissemination, use of knowledge and information. (Al Hashemi, 2007, p. 25)

While the "knowledge-based economy" refers to an advanced stage of the knowledge economy, it depends on the application of a knowledge economy in various economic and social activities

Knowledge Economy in the Gulf Cooperation Council GCC Countries

Ismail, 2004, and The World Bank Institute (WBI), 2013 identifies four key pillars of a knowledge economy index, as follows:

1- Economic Incentive

Economic Incentive based on strong economic fundamentals, it can provide all legal and political frameworks aimed at increasing productivity and growth. These policies, aim at information and communications technology (ICT) more accessible and convenient, which lead to reducing tariffs on technology products and increasing the competitiveness of SMEs.

2- Education

It is one of the basic needs of productivity and economic competitiveness. Governments need to provide skilled and creative labor for human capital qualified to integrate modern technologies at work, the growing need for ICT integration, as well as creating the skills curricula and learning programs.

3-Innovation

An effective system of economic linkages with academic institutions and other organizations that can cope with the growing knowledge revolution and adapt it to national needs in the light of global environmental changes.

4- Information and Communication Technology

It facilitates the dissemination and processing of information and knowledge, adapting it to local needs to support economic activity and motivating enterprises to produce high added values.

The World Bank's Knowledge Economy Index represents a simple arithmetic mean of four sub-indices representing the four components of the knowledge economy, embodied in economic incentives, institutional system, innovation, adoption of technology, education, training, and a modern ICT infrastructure.

The role of higher education in the knowledge economy according "Knowledge Economy Vision 2030". It's one of the most important consequences of the intensive production of knowledge is the increasing social demand for institutions of higher education, so must accelerating the change in the professional path of the individual requires higher education and university institutions to provide non-traditional education in means, methods, places and content of the educational process (Al-Badri, 2009, pp. 32-33). According to *Knowledge Economy Vision2030* agree with Khatib (2003) to use new methods and technology in education to keep an abreast of the global development of education while diversifying the levels of graduates of engineering and technical programs to ensure the provision of competencies.

This required to continue investing in education and training so that our young men and women are equipped for the jobs of the future. We want Saudi children, wherever they live, to enjoy higher quality, multi-faceted education. Also investing particularly in developing early childhood education, refining our national curriculum and training our teachers and educational leaders. Must be a focus on innovation in advanced technologies and entrepreneurship.

Literature Review

The Arab Knowledge Index (2016) presented knowledge in six key areas in the Arab region:

Pre-university education, higher education,
Technical education, professional training,
Information and communication technology,
Research and development,
Innovation,
Knowledge economy.

The results showed that the performance of Arab countries in the field of research, development, and innovation still below the level expected to qualify to compete with global levels. We must not lose sight of the successes that have begun to be achieved in the region, especially in the Gulf countries, which are now competing with the rest of the world on the top ranks.

World Bank Report (2015) highlighted the relationship between knowledge and development in the "Knowledge for Development" initiative has proved in his report that the real gap lies in the ability to acquire knowledge, not income; that the difference between rich and poor states or social groups is not only in the weakness of financial resources, but also in their weak capacity to produce, share, or use knowledge to meet the daily challenges they face. Bakri (2014), highlighted the role of universities is a dynamic system through which activities and environmental considerations related to the mechanisms of interaction between society and the university are identified.

Abdul Rahman (2012) emphasized the relationship between the outputs of university education and their compatibility with the knowledge economies. The obstacles to applying knowledge economics to the theoretical colleges outweigh their theory of the practical faculties due to the lack of specializations and courses that are related to the requirements of the labor market. Changes. Guruz (2011), said that higher education institutions will have more urgency and control of change in the direction of expanding access to higher education and that scientific research should produce business activities suited to the transition to the knowledge economy.

The Ninth Development Plan (2010, 2014) adopted a strategy to move towards the knowledge economy by focusing on education that disseminates knowledge, establishing capacities to transfer and accumulate knowledge, and then generate and invest in various economic and social sectors. Ministry of Saudi Arabia Economy and Planning (2010) addressed the initial steps of planning towards transforming from an oil-based economy to a knowledge-based economy from the beginning of the Eighth Development Plan (2005, 2009). The Higher Education System in the Kingdom of Saudi Arabia has been keen to activate its role in achieving national development and responding to the requirements of comprehensive development by the expansion of the establishment of higher education institutions and the diversification of disciplines offered by the Ministry of Higher Education.

Results of previous studies:

- Previous studies have confirmed the importance of the role of university education in the dissemination of the knowledge economy .
- The planners of higher education policies should be interested in developing the university role in different fields of knowledge, to achieve ambitious goals in community development.
- There is a relationship between the outcomes of university education and its compatibility with the knowledge economy.

- The knowledge economy which promoted by universities is still poorly understood by many students.

The Descriptive Discussion

The data in Table (1) indicate that the average knowledge of the student in the knowledge economy reached 1.91. According to the tripartite Likert scale, most students are neutral in their knowledge of the knowledge economy. This reflects to a certain extent the gap between reality and what is expected of the university colleges Qassim according to Vision and Strategy 2030. For the purpose of achieving the suitability of these items, we applied the Alfa test, which used to validate the questionnaire, which gave a score of more than 70% that gives reassurance about the suitability of the form to analyze the appropriateness of the role of the education system in the knowledge economy. The average of The importance of the role of universities in spreading the knowledge economy (The role of a member of faculty member) reached 1.81, (Infrastructure for universities) reached 1.77, (The appropriateness of academic courses) reached 2.09, According to the tripartite Likert scale, most students are neutral in the main topics of the study, which shows the newness of the concept of knowledge-based economy in universities

Table No. 1: Study Sample

Sample	355			
Countries of these colleges	Saudi Arabia			
Variables	Frequents	lower	Upper	Average
Type of the College:				
Scientific	101	--	--	--
Literary	254	--	--	--
the extent knowledge of student about knowledge economy	--	1.72	2.25	1.91
The importance of the role of universities in spreading the knowledge economy				
- The role of a member of faculty member	--	1.70	1.95	1.81
- Infrastructure for universities	--	1.61	2.09	1.77
- The appropriateness of academic courses	--	1.94	2.25	2.09

The data in Table (2) indicate the emergence of a new trend towards the knowledge economy between the faculties of the Qassim University to confirm the important role and direction towards the society based on the knowledge economy, still a weak.

The study opinion that the contribution of the faculty member and his encouragement and contribution to the dissemination of the concept of knowledge economy was good, as well as the contribution of a member of the Faculty Member in the application of tools to economize knowledge and raise the awareness of the community tools knowledge economy was good indicating the desire of the study to increase the role played by a Faculty Member in the system of a knowledge economy. So focus on the role of the faculty member in spreading the knowledge economy is the most important role among colleges.

On the other hand, the university infrastructure plays an important role in spreading the knowledge economy. The study saw poor support for innovative students in the scientific projects including knowledge economy, and in consolidating the disseminate knowledge economy. Not to mention that the University cooperative training is weak and only in the male section. The provision of modern technological infrastructure at the university, and support the central library and provide the information needed by students was good.

There is an urgent need to develop, the vision and mission of colleges in the processing of students for knowledge economies.

Table (2) the role of the educational system in the knowledge economy

First: the extent knowledge of student about knowledge economy	Lower	upper	Ave.	Sta. Dev.
Is the concept of knowledge economy sufficiently clear to the student?			1.77	0.74
Is the concept of knowledge-based economy sufficiently clear to the student?			1.71	0.76
Do you find that there is a difference between the concept of knowledge economy and the concept of knowledge based economy			2.25	0.75
<i>Average</i>	0.000	0.617	1.91	0.52
Second: The importance of the role of universities in spreading the knowledge economy				
1. the role of faculty member :				
The contribution of the faculty member in spreading the concept of knowledge economy			1.95	0.75
The extent to which a faculty member is encouraged to support the concept of the student's knowledge economy.			1.85	0.81
The extent of the contribution of the faculty member in spreading the concept of knowledge economy			1.78	0.78
The contribution of the faculty member in applying knowledge economy tools			1.70	0.76
The contribution of the faculty member in raising the awareness of the community tools knowledge economy.			1.78	0.75
<i>Average</i>	0.000	0.936	1.81	0.59
2. university infrastructure:				
Extent of University Technology Use			2.06	0.77
Extent of university support for innovative students			1.62	0.72
The availability of modern technological infrastructure for the university			1.67	0.70
Extent of university support for scientific projects provided by students to support the knowledge economy			1.61	0.74
The role of the university in the installation and dissemination of knowledge economy			1.61	0.67
Providing technology to university faculties.			1.98	0.78
The role of the central library in supporting and providing information for students.			2.09	0.77
The extent of benefiting from the community partnership between university and industrial institutions in society			1.64	0.69
The extent to which the university provides a training unit for students			1.61	0.70
<i>Average</i>	0.000	0.822	1.77	0.45
3. the suitability of university courses				
Is there a part of a course on the knowledge economy?			1.94	0.79
How to benefit from the services provided by the Central Library of the University			2.25	0.81
<i>Average</i>	0.000	0.857	2.09	0.58

Results

The positive contribution of the faculty member, his encouragement, and contribution to the dissemination of the concept of the knowledge economy, also his contribution in the application of tools economics knowledge and raise the awareness of the community was good.

The infrastructure of universities has an important role in spreading the knowledge economy, where the use of technology, the provision of a modern technological infrastructure at the university, the support of the central library and the provision of information needed by students play a good role. The weakness of the role played by the university in supporting innovative students, and its weak support for scientific projects provided by students to support the knowledge economy, as well as weak utilization of the community partnership between students and industrial institutions in society.

Recommendations

1. It is necessary to increase the role played by the Faculty Member in the system of a knowledge economy.
2. Increase the interest and support of innovative students, increase the support of scientific projects provided by students to support the knowledge economy.
3. It is necessary to provide a unit to train students in the university and try to benefit from the social partnership between students and industrial institutions in the community.
4. It is necessary to develop courses, vision, mission of colleges and diligence in the processing of students to meet the new communities of knowledge-based economies.

Reference

- Al Hashimi, A & Faizah A, 2007, Curriculum and Knowledge Economy, Dar Al-Masirah for Publishing and Distribution, Amman, First Edition, p. 25- 26.
- Arab Knowledge Report 2009, Towards Knowledge Literacy, United Nations Development Program, Dar Al Ghurair Printing & Publishing, Dubai, United Arab Emirates, 2009, p. 234.
- Farouk, A, 2005, Knowledge Economy in Egypt Problems and the effects of its development, Cairo: Dar Al Ahram Publishing and Distribution, p. 26 - 34.
- Kęstutis, T & Rasa D, 2006, The Assessment Models of Knowledge-Based Economy Penetration, engineering economics, publications of the Arab Institute for Training and Statistical Research, Lebanon, 2006, V. 50, No 5.
- International Conference on Applied Economics – ICOAE 2011
- Bakri, M, & Haj, S., 2014, Universities in the Knowledge Economy System - Looking to the Future - Paper presented to the Conference on "The Knowledge Economy and its Role in National Development", Ministry of Foreign Affairs, King Faisal Conference Hall, Riyadh, p. 23-33.
- Abdul, R & Asmaa M, 2012, Development of university education through the use of knowledge economics, unpublished PhD thesis, Faculty of Education, Sohag University, Egypt, p. 167 - 171.
- Kassem, M, 2010 Role of Knowledge Economy Strategy and Nanotechnology in Achieving Sustainable Development of Arab Knowledge Industries, Arab Academy for Science, Technology and Maritime Transport / Alexandria, League of Arab States.
- Ministry of Economy and Planning, p. 13-14.
- Guruz, K. 2011, Higher Education and international Student Mobility in the Global Knowledge Economy, State Unit of New York, P. 198, Available at <http://www.sunypress.edu/pdf/62192.pdf>
- Houghton, J. & Sheehan, P. (2000). A Primer on the Knowledge Economy, Centre for Strategic Economic Studies Victoria University. Available at <http://www.cfses.com/documents/knowledgeeconprimer.pdf>
- www.Worldbank.org/kam
- <http://www.knowledge4all.com/admin/uploads/files/AKI2016/References.pdf>
- <http://www.ajocconnor.com/sites/default/files/images/WorkplaceoftheFuture-10ForcesShaping.pdf>