

Knowledge Economy in Higher Education Institutions: Developing an Educational Administrative Manual

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KEYWORDS Economy. Educational Administrative Manual. Higher Education Institutions. Knowledge

ABSTRACT The study aimed to identify the reality of applying principles of the knowledge economy in Umm Al-Qura University, and to examine the differences in mean scores of the reality of the application of the principles of the knowledge economy in Umm Al Qura University according to the variables of gender and occupational degree. Additionally, to present a proposed educational administrative manual for applying the principles of knowledge economy in Umm Al-Qura University, KSA. The study sample was chosen by the simple random method, and the researcher surveyed the opinions of the study sample, and distributed the questionnaire to the members of the study. 300 faculty members participated. They were 210 males (70 %) and 90 females (30%). It is evident from the results shown in Table 2 that all domains had a medium degree of evaluation. The results of the study indicated that there were statistically significant differences between the response averages of the study sample members about the reality of the application of the principles of knowledge economy, according to gender, in favour of males, on the areas of information and communication technology and good governance.

INTRODUCTION

The increasing use of information, communication and information technologies in all activities has become a feature that distinguishes the world today (Gokdas and Aynur 2014; Uysal and Kerim 2019). From this point of view, humanity is on the threshold of a new era in which procedures for injecting inventions into the economy and creativity in technological fields play a major role in increasing the speed of knowledge spread and pumping it to all, and then economic growth. In this context, the concepts of the digital economy and e-commerce emerged, in which knowledge is the core and the main driving force, as it depends on the availability of information and communication technologies and the use of innovation and digitisation (Demirdag 2016; Alpaslan et al. 2021; Uluçinar 2021). In contrast to a production-based economy in which capital is the strategic resource and where knowledge plays a lesser role, growth is driven by traditional factors of production, while qualified, highly skilled human resources or human capital are the most valuable assets in the new knowledge-based economy, where information constitutes the basic resource, but rather it is the new strategic resource in economic life that complements natural resources. In the knowledge-based economy, the relative contribution of knowl-

edge-based or enabling industries is high, and they are mostly represented in medium and high-tech industries, where the knowledge economy is coupled with smart products (Zeb 2022).

Knowledge economy operates through an open global economy, thanks to the tremendous technological developments on global economic integration, in which the need for its knowledge products is escalating to the point of emphasising the impossibility of an activity without knowledge. In addition to relying on a skilled workforce with high productivity and a high level of education who possess the skills of capturing information and converting it into usable knowledge in addition to adapting and rapid learning, mastery of dealing with information technology and its applications in the field of work, the ability to manage work, whether in traditional or virtual work environments, and close connection with global knowledge sources, where information and communication technology is the main tool for its activities (Zapp 2022).

Contemporary organisations face a set of challenges and social, cultural, economic and political changes, and as a result of technological progress and the tremendous openness of knowledge in the means of technological communication, which made it imperative for these organisations to take care of knowledge and manage it to confront these

challenges, keep pace with and benefit from it, by employing it in the same framework in order to maintain its sustainability and survival in the local and global arenas (Boiral et al. 2021).

Educational organisations of all kinds and educational levels are among those contemporary organisations that have the responsibility to search for the best ways to manage them in a more effective manner in order to encourage the creation of knowledge exchange, dissemination and application processes to be more responsive to the requirements and desires of their society (Zeb 2022).

Knowledge is the basis for the success of universities, by their transformation into the global economy known as the knowledge economy, and emphasises the intellectual capital that is available in the minds of individuals, and depends on their abilities, experiences and skills more than the traditional elements (land, money and work). Likewise, universities must be transformed into knowledge societies that adapt to the rapid change in the environment, with the aim of enabling universities to redefine their goals and policies (Zapp 2022), and to engineer their operations, in an effort to increase recognition of knowledge as an intangible, but tangible, existence that poses challenges to universities to search in the best ways to administer them in a more orderly and efficient manner in order to encourage the processes of knowledge creation, exchange, dissemination and application (Zapp et al. 2018), which positively affects productivity, innovation, efficiency, and better relations between employees (Valero et al. 2019).

Higher education institutions are a major focus in meeting the needs of society and meeting the requirements of sustainable development in light of the successive global changes, which have led to the openness of the world's societies to each other. This openness has led to higher education institutions seeking to improve their outcomes to compete and excel (Filho et al. 2018), as the university became multifunctional and multi-tasking due to the transformations that took place in the twentieth century, it became at the top of its missions and objectives for scientific research, knowledge production and development, and the opportunity for university education for the masses to meet their renewed cultural and professional needs (Cifuentes-Faura 2022).

One of the main purposes of university education is that it is responsible for preparing manpower,

and intellectual, scientific, literary and professional leaders at various levels and for all sectors and institutions of society (Chankseliani and McCowan 2021).

The importance of the knowledge economy is highlighted by the role played by the contents and data of the knowledge economy, and the advanced technologies it produces in various fields. It is that the scientific and practical knowledge it contains is the important basis for generating, increasing and accumulating wealth. It also highlights its importance in contributing to improving performance and raising productivity through the use of advanced technical means and methods included in the knowledge economy (Sachs et al. 2019).

In economic terms, knowledge is characterised by characteristics that have become the intellectual framework for the knowledge economy, including interest in scientific research, creativity, and innovation in a way that helps generate useful knowledge in various fields, and work to spread knowledge through education and training in order to build a person who has the knowledge, skills and abilities that enable them to work (Ordóñez de Pablos 2022).

Objectives

The study aimed to identify the reality of applying principles of the knowledge economy in Umm Al Qura University, and to examine the differences in mean scores of the reality of the application of the principles of the knowledge economy in Umm Al Qura University according to the variables of gender and occupational degree. Additionally, to present a proposed educational administrative manual for applying the principles of knowledge economy in Umm Al Qura University.

Study Questions

1. What is the reality of applying principles of the knowledge economy in Umm Al Qura University as perceived by faculty members?
2. Are there statistically significant differences between mean scores of the reality of applying the principles of knowledge economy in Umm Al Qura University according to the gender variable?
3. How appropriate is the proposed educational administrative manual for applying the prin-

principles of knowledge economy Umm Al Qura University as perceived by the experts and specialists?

METHODOLOGY

The current study adopted the descriptive survey development approach, which includes a desk survey, referring to the references to build the theoretical framework for the study, and a field survey to collect data using the study tool, leading to the construction of the proposed educational administrative manual.

Sample and Procedure

The study sample was chosen by the simple random method, and the researcher surveyed the opinions of the study sample, and distributed the questionnaire to the members of the study. A structured self-administered questionnaire was used to collect data. The researchers received a total of 300 questionnaire responses comprising 210 males (70 %) and 90 females (30%).

The Manual

The researcher built this guide according to the results of the survey field study, which aimed to build a proposed administrative and educational guide for applying the principles of the knowledge economy in higher education institutions. Faculty members can use this guide to change, improve and develop their levels, raise their competencies, to adapt to local needs, and increase their competitive capabilities in accordance with the principles of the knowledge economy.

The Manual Significance

The benefit of this guide is that it is a way for faculty members to practice change, development, and improvement. This requires the presence of qualified individuals with special characteristics (such as creativity, productivity, and speed of adaptation to global changes), to use the best new possibilities for the distribution and dissemination of knowledge, and the integration of modern technology in work and in the educational process so that the Ministry of Higher Education can achieve its mission in the best way, to advance the profes-

sion of education and the quality of its people, which leads to supporting economic activity and stimulating projects to produce high added values.

Objectives of the Manual

An educational administrative guide was presented in light of the principles of the knowledge economy for the educational sector, with the aim of enhancing the confidence of the local community in the work of educational institutions, increasing respect and appreciation for their role in building and upgrading it in the best possible way, and providing a set of procedures and guidelines that faculty members can apply to change, improve and develop their roles and their practices within a set of sources and indicators of success.

Areas Covered by the Manual

The areas covered by the manual include innovation, education and training, information and communication technology and good governance (see Table 1).

Instrument

A 40-item survey instrument was developed particularly for this research study. The first part concerns with the demographic information, while the second part concerns with scale items for the four variables of innovation, education and training, information and communication technology, good governance. Each item was rated on a three-point Likert scale ranging from 3 (agree) to 1 (disagree).

Instrument Reliability and Validity

Reliability analysis using Cronbach's Alpha showed that all of the four variables used in this research were reliable as shown in Table 2.

The content validity of the scale was examined by a group of 6 experts. They assessed the relevance of each item using a four-point Likert scale (where 1 represents "irrelevant" and 4 represents "highly relevant"). They provided suggestions and comments. The 40 items were judged to be quite or highly relevant. A content validity index was calculated at the item level (I-CVI = 0.90).

Table 1: Description of the manual

<i>Domain</i>	<i>Procedure</i>	<i>Indicators of success</i>	<i>Sources</i>
<i>Innovation</i>	Providing sufficient information on development and improvement. Involving employees in developing the development plan, know their performance, and promote creative ideas. Involving workers in establishing research programs to achieve sustainable development. Developing a joint strategic plan for development and improvement. Encouraging employees to provide research and community consultations.	Developing a time plan for development and improvement. Practicing values that support development and improvement. Formation of work teams. 1. Creating new specialisations. Periodic and permanent development of curricula. Adopting innovative businesses.	A strategic plan
<i>Education and Training</i>	Self-development, cognitively and professionally. Setting practical requirements for education and training. Cooperation with technical and technical education in the field of training. Employing information and communication technology in the education and training processes.	Expansion of vocational training programs aimed at rehabilitating manpower to improve them mentally and cognitively. Regular program development.	Meetings and seminars
<i>Information and Communication Technology</i>	Providing the necessary training on information and communication technology within the university. Using of technology in research and education.	Developing a practical plan for dealing with technology.	Development plan
<i>Good Governance</i>	Distributing of tasks and roles according to their qualifications and inclinations and the delegation of powers. Teamwork development. Holding periodic meetings. Determining the key points for decision-making.	Practicing of democratic management. Defining their tasks in light of the principles of the knowledge economy. Implementing the accountability system at the individual and collective level.	Development plan

Table 2: Reliability analysis

<i>Variable</i>	<i>Cronbach's Alpha based on standardised items</i>	<i>Remarks</i>
Innovation	0.834	Reliable
Education and training	0.861	Reliable
Information and communication technology	0.891	Reliable
Good governance	0.876	Reliable

RESULTS

The first questions stated, "What is the reality of applying principles of the knowledge economy in Umm AlQura University as perceived by faculty members?"

To answer this question, mean scores and standard deviations were used. As shown in Table 3, it is evident from the results shown in Table 2 that all domains had a medium degree of evaluation.

Table 3: Mean scores and standard deviations of reality of applying principles of the KE

<i>No.</i>	<i>Factor</i>	<i>M</i>	<i>SD</i>	<i>Rank</i>	<i>Degree</i>
3	Innovation	2.81	0.82	1	Medium
4	Education and training	2.66	0.68	2	Medium
2	Information and communication technology	2.66	1.10	2	Medium
1	Good governance	2.63	1.07	4	Medium
	Total	2.69	0.67		Medium

The second research question stated, “Are there statistically significant differences between mean scores of the reality of applying the principles of knowledge economy in Umm Al Qura University according to the gender variable?” To answer this question, means, standard deviation and t-test values were used. The results of the study shown in Table 4 indicated that there were statistically significant differences between the response averages of the study sample members about the reality of the application of the principles of knowledge economy, according to gender, in favour of males, on the areas of information and communication technology and good governance.

The third research question stated, “How appropriate is the proposed educational administrative manual for applying the principles of knowledge economy Umm Al Qura University as perceived by the experts and specialists?” This manual was arbitrated by a group of experts and specialists in Umm Al Qura University, to express their opinions on its goals, objectives, foundations and premises. They had observations that contributed to the improvement of this guide, if it was applied in Umm Al Qura University. The results of the experts’ survey indicated that the evidence was characterised by realism and flexibility, with the possibility of benefiting from it in Umm Al Qura University if it is applied in the form of successive stages of time. Thus, the manual is suitable for use, with the possibility of its application on the ground.

DISCUSSION

As shown in Table 3 it is evident from the results that all domains had a medium degree of evaluation. This means that this reality did not reach the required level. This may be attributed to the fact that the faculty members are satisfied with these skills, and the weakness in the use of these areas because faculty members lack sufficient emerging knowledge about the importance of these areas to achieve the principles of the knowledge economy.

The researchers note that the goals of higher education in Saudi Arabia are the same as the traditional goals of the university, that is, teaching, scientific research, and community service. However, these goals are empty of their knowledge content. That is, teaching, scientific research, or community service did not turn to the creative and productive side in the field of knowledge. Rather, they were satisfied, in general, by merely providing the minimum level of knowledge that qualifies the graduate to obtain a certificate and a job. This makes the university a mediator between the centres of knowledge production and society (Al-Sayegh 2013).

That is, simply mastering the benefit of knowledge, and its good use and employment. This in turn led to the backwardness of the universities from other universities in the world that took new roles with the major transformations in human civilisation. This does not make one underestimate the achievements so far.

The role of the Saudi university is still low in terms of quality, and education in it is lower than what was achieved by higher education, for example, in South Korea, Singapore, Malaysia and the rest of the East Asian countries (Al-Sayegh 2013).

One of the most important economic and educational returns from the university system is to activate the investment of its own resources by searching for new sources of funding, thus reducing its heavy dependence on the promising state budget. The openness to a variety of sources of income that increases the real national income by human investment in the inputs of the educational process with outputs commensurate with the needs of reality and the hope is what is meant by the educational return.

The results of the study shown in Table 4 indicated that there were statistically significant differences between the response averages of the study sample members about the reality of the application of the principles of knowledge economy, according to gender, in favour of males, on the areas of information and communication technology and

Table 4: t-test results

<i>Factor</i>	<i>Gender</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>DOF</i>	<i>Sig.</i>
Innovation	MF	2.592.67	1.31.4	-0.605	288	0.54
Education and training	MF	2.612.71	2.112.21	-0.734	288	0.46
Information and communication technology	MF	2.922.64	1.231.38	2.674	288	0.00
Good governance	MF	2.752.51	1.401.39	2.269	288	0.02
Total	MF	2.722.63	1.61.9	0.968	288	0.33

good governance. This is due to the fact that males have more time to be on the full knowledge and clear knowledge of the behaviours and practices that activate the principles of the knowledge economy, in addition to the fact that they are the most people who do field work and devote themselves to it, and that most of the work is entrusted and delegated to them.

CONCLUSION

To conclude, the Arab Human Development Report indicates that the most important challenge in the field of education lies in the problem of the deterioration of the quality of available education, so that education loses its developmental and humanitarian goal in order to improve the quality of life and develop human creative abilities. It is logical that the lack of resources allocated to education leads to a deterioration in its quality, but there are other elements that have a vital impact in determining the quality of education, the most important of which are education policies, teachers' status, curricula and teaching methods.

RECOMMENDATIONS

Some recommendations are presented below. There is a need to hold continuous and appropriate training courses and institutions of higher education related to everything new in the field of knowledge economy, in order to raise the level of higher education institutions. There is a need to keep pace with everything new to develop institutional performance in light of the principles of the knowledge economy, and to carry out other similar studies aimed at developing the principles of the knowledge economy. Also, inviting Saudi higher education institutions to adopt the proposed guide that the study has reached, and work to implement and develop it through feedback. This is in addition to re-conducting this study by other researchers to verify the efficacy of the proposed evidence.

REFERENCES

- Alpaslan M, Ozgur U, Ridvan A 2021. Adaptation of Technological Pedagogical Content Knowledge Scale into Turkish Culture Within the Scope of 21st Century Skills. *Psycho-Educational Research Reviews*, 10(1): 7-91. From <<https://www.journals.lapub.co.uk/index.php/perr/article/view/1631>> (Retrieved on 10 April 2022).
- Al-Sayegh M 2013. The Role of The Knowledge Economy in the Development of Saudi Universities and Obstacles Activate it From the Point of View of the Heads of Departments. *The International Specialized Educational Journal*, 9(2): 841-860. From <<http://www.ijoe.org>> (Retrieved on 10 April 2022).
- Boiral O, Brotherton M-C, Rivaud L, Guillaumie L 2021. Organizations' management of the COVID-19 pandemic: A scoping review of business articles. *Sustainability*, 13: 3993. <https://doi.org/10.3390/su13073993>
- Chankseliani M, McCowan T 2021. Higher education and the sustainable development goals. *High Educ*, 81: 1-8. <https://doi.org/10.1007/s10734-020-00652-w>
- Cifuentes-Faura J 2022. Sustainability in higher education during the COVID-19 pandemic: A systematic review. *Sustainability*, 14: 1879. <https://doi.org/10.3390/su14031879>
- Demirdag S 2016. Examining the Computer Attitudes and Internet Attitudes of Substitute Teachers: Self-Confidence Towards ICT. *Psycho-Educational Research Reviews*, 5 (2): 89. From <<https://www.journals.lapub.co.uk/index.php/perr/article/view/141>> (Retrieved on 10 April 2022).
- Filho WL, Pallant E, Enete A, Richter B, Brandli LL 2018. Planning and implementing sustainability in higher education institutions: An overview of the difficulties and potentials. *Int J Sustain Dev World Ecol*, 25: 713-721.
- Gokdas I, Aynur K 2014. Barriers in Information and Communication Technology (ICT) Use in Educational Environments Scale. *Psycho-Educational Research Reviews*, 3(3): 34-45. From <<https://www.journals.lapub.co.uk/index.php/perr/article/view/108>> (Retrieved on 10 April 2022).
- Ordóñez de Pablos P 2022. Editorial: Knowledge management and intellectual capital in the digital economy. *Int J Learning and Intellectual Capital*, 19(1): 1-4.
- Sachs JD, Schmidt-Traub G, Mazzucato M, Messner D, Nakicenovic N, Rockström J 2019. Six transformations to achieve the sustainable development goals. *Nature Sustainability*. <https://doi.org/10.1038/s41893-019-0352-9>
- Uluçinar U 2021. The Associations Between Learning - Teaching Conceptions and Technological Pedagogical Content Knowledge: A Structural Equation Modeling Study. *Psycho-Educational Research Reviews*, 10(2): 58-76. From <<https://www.journals.lapub.co.uk/index.php/perr/article/view/1740>> (Retrieved on 10 April 2022).
- Uysal S, Kerim G 2019. Predictors of Self-Regulated Learning Skills of Computer Education and Instructional Technology (Ceit) Students. *Psycho-Educational Research Reviews*, 8 (3): 29-40. From <<https://www.journals.lapub.co.uk/index.php/perr/article/view/1233>> (Retrieved on 10 April 2022).
- Valero A, Van Reenen J 2019. The economic impact of universities: Evidence from across the globe. *Economics of Education Review*, 68: 53-67.
- Zapp M 2022. Revisiting the global knowledge economy: The worldwide expansion of research and development personnel, 1980-2015. *Minerva*. <https://doi.org/10.1007/s11024-021-09455-4>
- Zapp M, Helgetun J, Powell J 2018. (Re)shaping educational research through 'Programification': Institutional expansion, change, and translation in Norway. *European Journal of Education*. <https://doi.org/10.1111/ejed.12267>.
- Zeb S 2022. The role of knowledge economy in Asian business. *Zeb Future Business Journal*, 8(1): 1-13. <https://doi.org/10.1186/s43093-021-00112-6>

Paper received for publication in March, 2022
Paper accepted for publication in April, 2022