

# KUWAIT'S READINESS FOR THE KNOWLEDGE-BASED ECONOMY

## AN EXPLORATORY STUDY

**Bibi M. Alajmi**



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# Kuwait's Readiness for the Knowledge-Based Economy: An Exploratory Study

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## About the Authors

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## Abstract

The small city-state of Kuwait has undergone marked change over the last century. However, despite the significant transformations within its political economy, Kuwait's socioeconomic needs require attention. This is essential, considering Kuwait's current attempt to transform into a knowledge-based economy (KBE), a central component of Kuwait's Vision 2035 and at the top of the country's policy agenda. Kuwait's attempt to diversify its resources requires significant reform in KBE's four main pillars: effective investment in education, constructing robust and innovative tertiary sector capabilities, modernising the information technology infrastructure, and having an economic environment that is conducive to maximum development. And while Kuwait increasingly invests in ICT infrastructure and a welcoming economic environment, education and innovation seem to lag. This research aims to address the increased demand for academically based explorations of Kuwait's attempts to transfer to a knowledge-based economy and present a comprehensive analysis of Kuwait's Vision 2035, with emphasis on how the country aims to develop its education and innovation pillars to aid diversification efforts. By involving the relevant participants (e.g., government ministries and higher education institutions), this research seeks to inform policy debates by proposing actionable policies targeting education and innovation and, thus, defines concrete steps to strengthen the KBE in Kuwait.



## Policy Recommendations

While many recommendations will be discussed throughout the paper, in this section, we attempt to highlight suggestions for policy makers and officials with the authority to lead change. The recommendation is based on extensive interviews with key stakeholders in the education field in Kuwait.

- A restructuring of Ministry of Education is required. The planning unit is currently buried under the weight of several sectors, making its role ambiguous. There should be a planning division at the very pinnacle of the Ministry of Education's organisational chart. This department should develop a strategic plan for education that includes setting goals, establishing benchmarks, and enforcing evaluation criteria.
- Attention ought to be given to the Arabic language. Education will stagnate until Arabic language classes are given higher priority. Language serves as a symbol of cultural norms, morals, and specialised knowledge. The ability to express oneself in written form is essential for the development of original ideas.
- Creating a Constitution for Education with the goals of teaching knowledge, skills, and ethics as its cornerstones. Educational policymaking essential to improving the educational system should be prioritised in the Constitution.
- A chasm exists between theory and practise, according to the study. The quality of the research conducted does not translate into effective responses to societal problems. Although many Kuwaiti institutions give substantial financing for academic studies, the results of these studies are rarely shared with the public and are instead added as a publication to the authors' CVs, from which they profit indirectly. The country has not figured out how to incorporate intellectual and scientific findings into policymaking.
- The number of innovations being registered by Kuwait's research institutes is on the rise, but the country's institutions have yet to develop effective methods for promoting their discoveries to the public. To encourage innovation in the market and, by extension, variety in the economy, new policies are needed.
- Change management needs to be impeded in education reform initiatives, where ideas are put into actions, and where qualified and competent individuals lead the way. Without qualifications and action plans, we will continue to struggle for implementation.

## Research Background: Context and Objectives

In the past two decades, the Kuwaiti government has demonstrated a strong interest in knowledge as a valuable commodity and a prerequisite for fostering profitability, sustainability, and competitiveness. Knowledge is replacing natural resources as the primary economic resource. An operational environment is required to support investment in all knowledge management practises to transform countries and organisations from traditional to innovative. Consequently, the knowledge-based economy (KBE) has been brought to the attention of policymakers worldwide. Many countries worldwide have declared themselves knowledge-based economies, and Gulf countries, including Kuwait, have adopted this model as their primary economic diversification strategy.

According to Chen and Dahlman (2005),<sup>1</sup> a knowledge-based economy is where the acquisition, creation, and dissemination of knowledge are the primary mechanisms for economic development. However, for a successful transition to KBE, four elements are essential: effective investment in education, constructing a robust and innovative capability, modernising the information technology infrastructure, and having an economic environment that is conducive to maximum development benefits. The World Bank has termed these elements as the four pillars of KBE, and together they constitute the KBE framework. The core practices of these pillars are the sustained creation, adoption, adaptation, and utilisation of knowledge which aims to produce higher-value goods and services. Improvement in domestic economic production would increase the probability of economic success and hence economic development in the current highly competitive and globalised world economy.

Arab states, while adopting the model as their diversification strategy, continue to operate outside the framework. Instead, they function under traditional economies to manage their activities and combat economic phenomena such as unemployment and inflation. Furthermore, exploiting the region's vast natural resources, such as oil and gas, has led to the weak performance of other sectors, including manufacturing industries, which constitute the cornerstone of the KBE. These industries rely on knowledge, innovation and intensive use of technology. As a result, Arab countries are facing real challenges in undertaking contemporary economic development based on the optimal use of knowledge.

Gulf economies are relatively more advanced in developing the KBE than other Arab countries, yet remain far below their regional counterparts and even further from developed countries. Nevertheless, their enormous financial and natural resources should enable them to move gradually towards the knowledge-based economy model. This socio-economic transition requires an efficient strategy that responds to global economic changes, and for governments to adopt a development agenda that seeks to create an enabling environment conducive to KBE activities. Despite the progress of many Gulf countries, including Saudi Arabia, Qatar, and the UAE, in supporting education and scientific research activities and adopting innovation and creativity, they continue to operate at the

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<sup>1</sup> Derek H.C. Chen and Carl J. Dahlman, 'The Knowledge Economy, the KAM Methodology, and World Bank Operations', *World Bank Institute Working Paper* 37256 (2005).

theoretical, rather than practical, level. While the various development visions throughout the region declare that these countries will transition from being oil-dependent into knowledge-based economies, the practical implementation of this development model continues to be a major challenge and ambition.

The Kuwaiti government developed an interest in KBE in 2009 with the inception of the institutional, yet informal and unregulated, Kuwait Foundation for Advanced Sciences (KFAS) in 2009 and the Excellent Centre at Kuwait University in 2011. Both projects were created in the absence of visible or practical steps from the government to support KBE activities. In the first development plan of the State of Kuwait there was no support for KBE activities. The second development plan dealt with the axes related to the concept of KBE by including scientific research policies, therefore, it evolved into a prominent feature and ambition for the country's post-oil-dependent political economy.

At the beginning of 2017, when Kuwait unveiled its blueprint for the future by re-launching Vision 2035, the government declared that the 'New Kuwait' would be built upon a sustainable KBE model and spearheaded by a robust private sector. To achieve this vision, the Kuwaiti government, represented by the General Secretariat of the Supreme Council for Planning and Development (GS-SCPD), has initiated projects with the purpose of putting Kuwait on the knowledge-based economy map. These initiatives include:

- The Knowledge Economy Forum<sup>2</sup> – launched in March 2016, it takes place annually with the purpose of raising awareness among public institutions on the importance of knowledge management practices as a promising new source of economic growth and building bridges of cooperation with the international knowledge network.
- The establishment of the National Knowledge Economy Centre as part of the GS-SCPD, to support strategic planning toward achieving Kuwait's Vision 2035 by developing the knowledge economy strategic plan and contributing to public policies.
- Launching the first Knowledge Economy Index for the Public Sector<sup>3</sup> (KIPS) (2022) in partnership with the World Bank. The KIPS aims to identify knowledge management (KM) gaps and barriers challenging the transition to KBE. The main objective of the index is to identify existing knowledge management practices that could be utilised as a benchmark for the public sector to benefit from.
- Establishing the Kuwait Chair for Knowledge Scholarship<sup>4</sup> that aims to invest in human capital and empower Kuwait's workforce with knowledge and skills to lead the knowledge-based economy.

In addition to GS-SCPD's efforts to plan and promote KBE among public institutions, Vision 2035 identifies Kuwait's universities and their research output as a critical success factor in developing and diversifying the national economy.<sup>5</sup> Kuwait aspires to be a world leader

<sup>2</sup> For more information on the Keforum see: 'Forum Objectives', *Knowledge Economy Forum*. Available at: <https://keforum.redsoft.org/en/info.aspx?tp=4> (accessed 11 October 2023).

<sup>3</sup> 'Kuwait Chair of Knowledge Scholarship', *National Knowledge Economy Center*. Available at: <https://kcc.scpd.gov.kw/en-gb/default.aspx> (accessed 11 October 2023).

<sup>4</sup> Ibid.

<sup>5</sup> 'New Kuwait', *NewKuwait*. Available at: <https://www.newkuwait.gov.kw/> (accessed 11 October 2023).



in scientific and technological research by 2035, distributing annually three internationally renowned research projects and hosting seminars on innovative technological patents. Kuwait University plans to establish a research park to market Kuwait as a world-leading KBE and facilitate the knowledge transfer process with regional and international entities. Moreover, linking innovative research and technological advancement with the private sector should increase entrepreneurialism among the populace, as they will be able to obtain an education in these scientific and technical fields and be encouraged to establish a private business after completing their studies. Vision 2035 seeks to reform the national education system to prepare Kuwait's youth to be competitive, productive, and innovative workforce members.

For Kuwait to compete in the global economy, they need to ensure that their higher education system supports the creation of a skilled workforce that can continuously adapt to the changing needs of the new KBE. Higher education plays an essential role in countries transitioning between different stages of growth. Although Kuwait has made impressive strides towards becoming a KBE, some crucial areas, such as education and innovation, need to be improved to further strengthen the knowledge activities in the country.<sup>6</sup> The Innovation pillar, comprising royalty and license fee payments and receipts, patent applications granted, and scientific and technical journal articles, also scored low. Therefore, as previous research has asserted, the current schooling and teaching methods reflect the features of an industrial society, and if society has changed, then so should the education and schooling system.<sup>7</sup>

## Significance of the Study

Kuwait has undergone marked change over the last century. However, despite the significant transformations made to its political economy, it remains vastly under-researched; particularly their current attempt to transform into a KBE, a central component of Kuwait's Vision 2035. A limited amount of innovative research has been conducted in recent years on Kuwait's transforming political economy providing much-needed evidence-based analysis. While there is an increased demand for academic explorations of the issues raised in this project, there still needs to be empirical studies, official statistics, and policy documents that contribute to a sound and comprehensive analysis of the investigated area. Therefore, this study aims to contribute an original, empirically based narrative.

This research will also help provide an evidence-based understanding of Kuwait's Vision 2035, emphasising how the country seeks to develop its education and innovation pillars to aid the diversification efforts. By involving the relevant participants (e.g., Government Ministries and Higher Education institutions), this research seeks to inform policy debates by proposing actionable policies targeting education and innovation and define concrete steps to strengthening the KBE in Kuwait.

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<sup>6</sup> 'Measuring Knowledge in the World's Economies: Knowledge Assessment Methodology and Knowledge Economy Index', *World Bank Institute*. Available at: [https://web.worldbank.org/archive/website01030/WEB/IMAGES/KAM\\_V4.PDF](https://web.worldbank.org/archive/website01030/WEB/IMAGES/KAM_V4.PDF) (accessed 11 October 2023).

<sup>7</sup> David E. Lynch, 'Education in A Knowledge Economy', *Education* 25/10 (2013).

## Methodological Approach

### Research Approach

This research follows a qualitative approach that draws upon observation, interviews, and other sources of descriptive data. It adopts a two-step qualitative data collection method. First, a descriptive-analytical research approach in which the researcher utilised available data to evaluate the research problem critically. Data was collected from government reports and previous literature to support the argument. In the second section, a review will be conducted to measure innovation performance along global indices, including the Global Competitiveness Index (GCI), which the World Economic Forum developed, and the Global Innovation Index (GII) published by the World Intellectual Property Organisation (WIPO), a UN agency.

Interviews were also conducted to collect data from stakeholders regarding their perception of the current and future status of Kuwait's transition to KBE and education's role in embracing and ensuring a better transition. To access these relevant stakeholders, the researcher drew upon her network that have assisted in her research to date, alongside contacting the relevant organisations and stakeholders.

### Participants

	Job Title	Nationality	Affiliation	Years of Experience
1.	Consultant	UK	International knowledge and innovation management consulting	More than 25
2.	Consultant	UK	KM Consultancy	More than 25
3.	Board Member	Kuwait	Abdullah Alsalem University	More than 25
4.	Consultant	Kuwait	Prime Minister's Office-State of Kuwait	More than 15
5.	Professor	Kuwait	College of Law-Kuwait University	5
6.	Principal	Kuwait	Public School-Kuwait Ministry of Education	More than 20
7.	Principal	Kuwait	Public School-Kuwait Ministry of Education	More than 20
8.	Principal Assistant	Kuwait	Public School-Kuwait Ministry of Education	More than 10
9.	Principal	Kuwait	Public School-Kuwait Ministry of Education	More than 20
10.	Acting Supervisor	Kuwait	Department for Qualitative Evaluation and Measurement-Sector for Evaluation and Quality Control-Kuwait Ministry of Education	More than 25

## Kuwait Readiness for Transition to KBE: Review of the Education Pillar

In the State of Kuwait, institutionalised education is a relatively recent phenomenon. The first Board of Education was officially constituted in 1936. In that academic year, nearly 600 male pupils were registered. Currently, the number of registered male and female students reached 425,501.<sup>8</sup> The State of Kuwait began sending its students to higher education institutions well before 1966, when the first university was founded. Since 1939 or earlier, Baghdad and Cairo have sponsored scholarships for higher education, one in Baghdad and the other in Cairo. In 1955, 126 students were studying abroad, 76 of them were enrolled in various programmes of higher education in Egypt. According to UNESCO,<sup>9</sup> more than 24,390 Kuwaiti scholarship students are currently enrolled in various top education programmes in the United Kingdom (UK), the United States of America (USA), Canada, Australia, Europe, Asia, the Middle and Far East.

1966 marked the establishment of Kuwait University, the only public university in the country so far. It has 17 colleges with 76 undergraduate and 71 graduate programmes. It now houses over 42,000 students in various programmes, such as engineering, medical sciences, humanities, and social sciences. Around 8,000 of the approximately 24,000 students who graduate from secondary school in Kuwait annually enrol at Kuwait University. According to the most recent bulletin of education statistics, an additional 12,000 enrol in vocational and training programmes at the Public Authority for Applied Education and Training (PAAET), around 2,000 enrol in local private universities, and a similar number pursue higher education abroad.<sup>10</sup>

PAAET was established in 1982 to consolidate the vocational education and training that began in the 1950s and was institutionalised with the establishment of the Institute of Telecommunications in 1966 and the Civil Aviation Training Institute in 1968. PAAET's main objective is to develop and upgrade the labour force capacities to meet the challenge of a shortfall in skilled technical staff created by the rapid industrial and economic development of the State of Kuwait. PAAET comprises four leading colleges offering specialisations in primary education, business studies, health services, and technological studies. Besides the four colleges, there are several training Institutes.

Private higher education in Kuwait is also comparatively new, officially sanctioned in 2000, the first provider began operations in 2003. In 2022/2023, 18 private institutions offer diplomas and bachelor's and master's degrees. These institutions offer various courses vital to the Kuwaiti economy and labour market.

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<sup>8</sup> 'Annual Bulletin of Education Statistics 2021/2022', *Central Statistics Bureau*. Available at: <https://www.csb.gov.kw/Pages/Statistics?ID=58&ParentCatID=70> (accessed 11 October 2023).

<sup>9</sup> 'Kuwait Education and Training Services Industry Snapshot', *UNESCO*. Available at: <https://www.trade.gov/country-commercial-guides/kuwait-education-and-training-services-industry-snapshot#> (accessed 11 October 2023).

<sup>10</sup> 'Annual Bulletin of Education Statistics 2021/2022', *Central Statistics Bureau*.

For Kuwait to compete in the global economy, they need to ensure that the higher education system supports the creation of a skilled workforce that can continuously adapt to the changing needs of the new KBE. Moreover, higher education plays an essential role in countries transitioning between different stages of growth. Indeed, although Kuwait has made impressive strides towards becoming a KBE, some crucial areas, namely education and innovation, need to be improved to further strengthen the knowledge activities in the country.<sup>11</sup>

### Issues with Kuwait's Education System

As measured by KBE performance scores of Kuwait, the education pillar showed somewhat strong performance in areas of Adult Literacy (97%), Gross Secondary Enrolment Rate (171.3%), and Gross Tertiary Enrolment (61.13).<sup>12</sup> However, a qualitative investigation of the quality of education provided showed some issues that warrant investigation. Previous research has asserted that the current schooling and teaching reflect the features of industrial society, and if society has changed, then so should the education and schooling system.<sup>13</sup> This section lists the main points discussed below, guided by the interviews conducted for this research.

### Kuwaiti Government Perception of the Education System

Kuwait's education system has been an ideal system for many years, providing consultancy in schooling, curriculum, and management for Gulf Countries.<sup>14</sup> The education system needs to sustain its level and provide quality education. However, Kuwait's government perceives education as a service sector focusing on outputs rather than outcomes.<sup>15</sup>

### Education Reform Initiatives

Over the past two decades, Kuwait has endeavoured to reform its education system to transform its economy into a knowledge-based one by enhancing its human capital's skill sets. However, these initiatives were unsuccessful.<sup>16</sup> Continuously, initiatives for education reform have faced obstacles relevant to the political system, economic factors, and cultural and social barriers.<sup>17</sup> The education system, including the curriculum, teachers' training, teaching methods, school management, and training, does not provide knowledge, skills, and training that build students' capacities.<sup>18</sup> Among the issues where the

<sup>11</sup> 'Kuwait and the Nnowledge Economy', *The London School of Economics and Political Science*. Available at: <https://core.ac.uk/download/pdf/19578387.pdf> (accessed 11 October 2023).

<sup>12</sup> All data were derived from: Central Statistical Bureau, *New Kuwait*. Available at: <https://www.csb.gov.kw/> (accessed 13 October 2023).

<sup>13</sup> Lynch, 'Education in A Knowledge Economy'.

<sup>14</sup> Natasha Ridge, *Education and the Reverse Gender Divide in the Gulf States: Embracing the Global, Ignoring the Local* (New York: Teacher College Press, 2014).

<sup>15</sup> Interviewee 6 – Principal – Public School – Kuwait Ministry of Education.

<sup>16</sup> Fatimah Alhashem and Ibrahim Alhouti, 'Endless Education Reform: The Case of Kuwait', *Annual Review of Comparative and International Education* 40 (2020), pp. 345–67.

<sup>17</sup> Mohamed Alaa Abdel-Moneim, *A Political Economy of Arab Education: Policies and Comparative Perspectives* (Routledge, 2015); Leigh Nolan, *Liberalizing Monarchies? How Gulf Monarchies Manage Education Reform* (Doha: Brookings Doha Center, 2012).

<sup>18</sup> Fatimah Alhashem and Ali Alkandari, 'What Did Kuwait Learn from its Participation in TIMSS Study? An Exploratory Case Study from Senior Supervisors' Perspectives', *Asian Social Science* 11/27 (2015), pp.

education system needs help is strategic planning; while strategies are written, they still need to be implemented and consulted.<sup>19</sup>

Preservice teaching programs also have their challenges, including ease of access, large annual intakes, and failure to attract high-calibre students<sup>20</sup> as well as issues related to the qualification and readiness of foreign teachers in the education system.<sup>21</sup>

## Continuous Professional Development

Professional development is a key success factor in any education process. Darling-Hammond, Hylar, and Gardner (2017)<sup>22</sup> define effective professional development as ‘structured professional learning that results in changes to teacher knowledge and practices, and improvements in student learning outcomes.’ Kuwait needs more coordination across professional development programs and between providers.<sup>23</sup> Educators and providers need better understanding of the value of these professional developments.<sup>24</sup> There needs to be a clear awareness of the return on investment in enhancing teachers’ professional skills and the impact on improving education and teaching outcomes.

## Literacy Vs. Competencies

The education system in Kuwait is predicated on literacy.<sup>25</sup> Literacy rate refers to the proportion of people aged 15 and older who can read and write, and Kuwait scores highly in this regard (97%). Nonetheless, the literacy rate alone is not indicative of an educated population. Education can be defined as the capacity of an individual to employ the knowledge, skills, values, morals, and beliefs acquired through formal literacy programmes. And while individuals may be considered literate if they can read, write, and locate beneficial information, they should only be considered educated if they can put their knowledge into action. To shift to a KBE, we need an education system that goes beyond literacy, emphasises knowledge productivity, and enhances an individual’s ability to put knowledge into action.<sup>26</sup>

298–310.

<sup>19</sup> Fatimah Alhashem and Ibrahim Alhouti, ‘Endless Education Reform: The Case of Kuwait’, *Annual Review of Comparative and International Education* 40 (2021), pp. 345–67.

<sup>20</sup> Ebrahim G. Alenezi, *An Investigation of Teachers’ Beliefs and Attitudes Regarding Using Tablet Computers as a Pedagogical Tool in Teaching Practical Studies (Electricity and Electronics) in Kuwait Intermediate Schools* (Unpublished doctoral dissertation: The University of Southampton, 2018).

<sup>21</sup> Ibrahim Alhouti, ‘Teacher Professional Development in Kuwait and Singapore: Learning from Others’, *World Voices Nexus* 2/3 (2018); Alyah Alqahtani, *Teacher Perceptions of Professional Development in Kuwait Compared to Professional Learning Standards* (PhD Dissertation: Saint Louis University, 2018).

<sup>22</sup> ‘Effective Teacher Professional Development’, *Learning Policy Institute*. Available at: [https://learningpolicyinstitute.org/sites/default/files/product-files/Effective\\_Teacher\\_Professional\\_Development\\_REPORT.pdf](https://learningpolicyinstitute.org/sites/default/files/product-files/Effective_Teacher_Professional_Development_REPORT.pdf) (accessed 23 October 2023).

<sup>23</sup> Fatimah Alhashem, ‘The Need for National Professional Development to Support Sustainability Among Teachers in Kuwait’, in Myint S. Khine (eds) *Handbook of Research on Teacher Education* (Springer: Singapore, 2022).

<sup>24</sup> Interviewee 3 – Board Member – Public University.

<sup>25</sup> Interviewee 4 – Consultant – Prime Minister’s Office-State of Kuwait.

<sup>26</sup> Interviewee 4 – Consultant – Prime Minister’s Office-State of Kuwait.



A competent and skilful workforce is the foundation of a prosperous KBE, which is marked by increasing labour market demand for highly skilled workers.<sup>27</sup> Therefore, a paradigm shift is required where job seekers become entrepreneurs.<sup>28</sup> Entrepreneurship education 'aims at fostering entrepreneurship values and encouraging the spirit of self-reliance and entrepreneurial culture among graduates, in which students will be trained to explore opportunities and become creative and innovative. Hence they will understand related aspects of business, risk, and competition.'<sup>29</sup> Graduates need to be able to acquire and create new knowledge as a source of entrepreneurial opportunities. They need skills to match opportunities and resources to create value.<sup>30</sup> Thus, there is a need to revise Kuwait's education curriculum in formal or higher education institutions to provide entrepreneurship education.

Additional skills that the current education system needs to deliver are communication, problem-solving, and ICT skills.<sup>31</sup> Scientific literacy is also essential for students to ensure their competitiveness. Scientific literacy is individuals' knowledge and understanding of scientific concepts and processes required for personal decision-making, participation in civic and cultural affairs, and economic productivity.<sup>32</sup>

### Motivation to Learn

Educators, as well as students, need motivation to learn.<sup>33</sup> The government secures and guarantees jobs regardless of how much they learn. Yet, previous surveys proved that motivation and attitude to learning are the two most significant competencies required to transform an economy.<sup>34</sup> While it is hard to identify sources of motivation – intrinsic or extrinsic – that could drive educators and students, one interviewee<sup>35</sup> discussed the idea of creating communities of practice, where individuals come together in groups to exchange knowledge and learn, leading to new knowledge that improves individual performance. Communities of practice are one important method in knowledge management that proved significant in improving performance.<sup>36</sup>

<sup>27</sup> Amzad Hossain, 'Evolution of Mutual Knowledge-based Economy in Regional Integration: Aan Experience from the Cooperation Council of Arab States of the Gulf', *Journal of the Knowledge Economy* 6 (2015), pp. 790–817.

<sup>28</sup> Interviewee 4 – Consultant – Prime Minister's Office-State of Kuwait.

<sup>29</sup> Hasniyati Hamzahet al., 'Impact of Entrepreneurship Education Programme (EEP) on Entrepreneurial Intention of Real Estate Graduates', *Pacific Rim Property Research Journal* 22/1 (2016), pp. 17–29.

<sup>30</sup> Simplice A. Asongu and Vanessa S. Tchamyou, 'The Impact of Entrepreneurship on Knowledge Economy in Africa', *Journal of Entrepreneurship in Emerging Economies* 8/1 (2016), pp. 101–31; Irfan Hameet al., 'Science, Technology and Innovation Through Entrepreneurship Education in the United Arab Emirates (UAE)', *Sustainability* 8/12 (2016), p. 1280.

<sup>31</sup> Beatriz Pont, 'Competencies for the Knowledge Economy', in *Centre for Educational Research and Innovation* (Paris: OECD, 2021), pp. 99–118.

<sup>32</sup> Punia Turimanet al., 'Fostering the 21st Century Skills through Scientific Literacy and Science Process Skills', *Procedia-Social and Behavioral Sciences* 59 (2012), pp. 110–6.

<sup>33</sup> Interviewee 5 – Professor – Public University; Interviewee 8 – Assistant Principal – Public School – Kuwait Ministry of Education.

<sup>34</sup> Snezhanka Ovcharova and Hristo Krachunov, 'Motivation in Knowledge Economy', *6th International Congress Knowledge Economy & Management* 1308/3937 (2007), pp. 26–8.

<sup>35</sup> Interviewee 3 – Board Member – Public University.

<sup>36</sup> Etienne Wenger, *Communities of Practice: Learning, Meaning, and Identity* (Cambridge: Cambridge

## Cultural and Contextual Challenges

Another problem mentioned in interviews was related to the cultural and contextual challenges of aligning society's expectations, traditions, and norms with the institutionalised expectations of the knowledge-based economy.

## Kuwait Readiness for Transition to KBE: Review of the Innovation Pillar

According to Reyad and Madbouly (2021) 'Innovation is equated with the adoption and application of new knowledge and practices, including the ability of an organisation to adopt or create new ideas and implement these ideas in developing new and improved products, services, and work processes and procedures' (p. 473).<sup>37</sup> In this section, Kuwait's innovation capabilities will be reviewed along global innovation indices, including the Global Competitiveness Index (GCI), which the World Economic Forum developed, and the Global Innovation Index (GII) published by the World Intellectual Property Organisation (WIPO), a specialised agency of the United Nations. Moreover, although Kuwait has scored high in many of the Knowledge Economy Indicators (KEI), as well as in GII measures, The country continues to struggle in the field of innovation. These findings confirm that the Kuwaiti government must take serious steps and make significant efforts to foster innovation to assist in diversifying the economy and shifting into a KBE.

## The Global Competitiveness Index (GCI)

The World Economic Forum (WEF) has developed and released the GCI report series since 1979 to broaden the perspective of decision-makers, enterprises, and the public on going beyond growth alone to improving economic productivity and resilience. The 144 economies' competitiveness landscapes are evaluated in the GCI report. The GCI report offers details on the factors that influence economies' productivity and prosperity and is the world's most comprehensive assessment of national competitiveness. It is an annual yardstick for policymakers to evaluate their progress in relation to the variables that affect productivity rather than focusing on short-term and reactive measures. The GCI is measured based on 12 pillars: institutions, infrastructure, information, and communication technologies (ICT) adoption, macroeconomic stability, health, skills, product market, labour market, financial system, market size, business dynamism, and innovation capability.

As documented in the Global Competitive Report (WEF, 2019),<sup>38</sup> Kuwait came 94th in business dynamism, compared to UAE (31st), and Qatar (39th). The region has caught up significantly on ICT adoption and boasts a well-developed infrastructure. However, business dynamism could be limited by administrative requirements and a need for

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University Press, 1999).

<sup>37</sup> Sameh Reyad and Araby M. A. Hussain, 'How the Innovation Performance in GCC HEIs is Affected by Knowledge Management in the Era of Knowledge Economy', in *The International Conference on Global Economic Revolutions* (Cham: Springer, 2021), pp. 469–79.

<sup>38</sup> 'World Economic Report', *The Global Competitiveness Report 2019*. Available at: [https://www3.weforum.org/docs/WEF\\_TheGlobalCompetitivenessReport2019.pdf](https://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf) (accessed 25 June 2022).

entrepreneurial culture. Also, boosting human capital would lay the foundation for a sound innovation ecosystem and make Kuwait one of the most competitive countries in the world. Kuwait has also witnessed a decline in research and development indices (85<sup>th</sup>) and commercialisation of trademark indices (132<sup>nd</sup>).

### Global Innovation Index (GII)

The GII ranks world economies according to their innovation capabilities. Consisting of roughly 80 indicators grouped into innovation inputs and outputs, the GII aims to capture the multidimensional facets of innovation. Therefore, the overall GII ranking is based on two equally important subindices in presenting a complete picture of innovation: the innovation input subindex and the innovation output subindex.<sup>39</sup>

Based on the GII report 2021, Kuwait performed below the high-income group average in all GII pillars. However, Kuwait performed above the regional average in infrastructure, knowledge, and technology outputs. Kuwait performed equally in innovation input and innovation output. In 2021, Kuwait ranked 73<sup>rd</sup> in innovation inputs, similar to 2020 but higher than 2019. As for innovation output, Kuwait ranked 73<sup>rd</sup>. Considering its GDP, Kuwait's performance is below expectations for its level of development. Kuwait performs best in infrastructure, its weakest performance is in business sophistication (score 18.7, rank 100<sup>th</sup>), specifically in knowledge workers (score 17.4, rank 105<sup>th</sup>) and knowledge absorption (intellectual property payment, high-tech imports, and ICT services imports; score 13.7, rank 124<sup>th</sup>) (See Table 1).

Table 1: Global Innovation Index for GCC

	2019			2020			2021			RHIE N=51	RENAWA N=19
	IU	IO	GII	IU	IO	GII	IU	IO	GII		
<b>Kuwait</b>	75	56	60	73	79	78	73	73	72	46	10
<b>Oman</b>	57	101	80	68	109	84	67	90	76	47	11
<b>Saudi Arabia</b>	49	85	68	50	77	66	59	72	66	44	6
<b>Qatar</b>	43	70	65	64	72	70	64	70	68	45	7
<b>Bahrain</b>	69	87	78	63	89	79	63	99	78	48	13
<b>UAE</b>	24	58	36	22	55	34	23	47	33	32	3

Source: The Global Innovation Index (GII) 2021. For reference: Innovation Input (IU), Innovation Output (IO), Global Innovation Index (GII), Rank among High-Income Economies (RHIE) and Rank among Economies in Northern Africa & Western Asia (RENAWA).

According to Table 1, GCC countries, besides the UAE, need to improve their innovation ranking. This is mainly because of low performance in innovation outputs related to knowledge, technology, creative outputs, and business sophistication. The data suggests that GCC countries need to be more invested in developing local innovation. GCC countries are considered mainly consumers of imported innovation. Individuals buy rather

<sup>39</sup> 'Global Innovation Index 2021: Tracking Innovation through the COVID-19 Crisis', WIPO. Available at: [https://www.wipo.int/wipo\\_magazine/en/2021/03/article\\_0002.html](https://www.wipo.int/wipo_magazine/en/2021/03/article_0002.html) (accessed 23 October 2023).

than create innovative products. Therefore, individuals lack the knowledge and skills that enable locally developed innovation for income generation.<sup>40</sup> In addition, more regulations and tools are needed for entrepreneurs to initiate high-level innovation that could support GCC economies.<sup>41</sup> Further obstacles that hinder the efforts of GCC countries to develop their innovation capabilities include low investment in R&D, low number of high-tech exports, and low proportion of workers employed in knowledge-intensive activities.<sup>42</sup>

## Discussion

The recent health situation caused by COVID-19 has significantly impacted Kuwait's plans for digital transformation. However, during the pandemic, Kuwait demonstrated considerable digital resilience.<sup>43</sup> The pandemic and the subsequent lockdown and social distancing have accelerated the ongoing plans for digitisation and new innovative technological solutions. Although the ICT infrastructure continues to grow in the country, education, in contrast, needs to catch up. Kuwait's government must develop an education reform strategy where business development and risk-taking are the key components of the curriculum. The education reform should assist more students in creating entrepreneurial projects and engaging in creating innovation outputs to directly influence the economic status of the GCC, diversifying it. The education system should be geared toward producing 'knowledge workers'.<sup>44</sup>

Kuwait's government must develop an entrepreneurship culture among faculty and students in schools and universities to promote innovation outputs. Previous experiences from Western countries highlight the concept of academic entrepreneurship, showing the various ways academics commercialise the knowledge they produce.<sup>45</sup> However, Kuwait must understand their national culture and their strengths and weakness, and act to develop strategies and policies that encourage and support access to funding, new markets, and networks to promote new and established start-ups. Research has found that national culture strongly impacts nations' readiness for the knowledge economy.<sup>46</sup> Cultural characteristics, including uncertainty avoidance, future orientation, institutional collectivism, and performance-oriented planning, directly affect innovation dimensions within KEI.<sup>47</sup>

<sup>40</sup> Syahrul N. Abdul Rahman and Wan Adibah Wan Ismail, 'The Knowledge-based Economic Drivers in Arabic Gulf Countries', *International Journal of Academic Research in Economics and Management and Sciences* 10/3 (2021), pp. 375–82.

<sup>41</sup> Tarek Ben Hassen, 'Transformative State In the Wake of COVID-19: What is Needed to Enable Innovation, Entrepreneurship, and Education in Qatar?', *Sustainability* 14/13 (2022).

<sup>42</sup> Adnan Al-Jawareen, 'Innovation in the GCC Countries: An Economic Analysis', *Journal of Economics* 5/4 (2017), pp. 51–62.

<sup>43</sup> 'COVID-19 and the digital landscape in the Gulf', *Middle East Institute*. Available from: <https://www.mei.edu/publications/covid-19-and-digital-landscape-gulf> (accessed 30 June 2022).

<sup>44</sup> 'The Arab Gulf States and the Knowledge Economy: Challenges and Opportunities', *The Arab Gulf States Institute in Washington*. Available at: [https://agsi.org/wp-content/uploads/2015/07/Tadros\\_Knowledge-Economy\\_Rev1.pdf](https://agsi.org/wp-content/uploads/2015/07/Tadros_Knowledge-Economy_Rev1.pdf) (accessed 30 June 2022).

<sup>45</sup> Merle Jacob, Mats Lundqvist and Hans Hellsmark, 'Entrepreneurial transformations in the Swedish University System: The Case of Chalmers University of Technology', *Research Policy* 32/9 (2003), pp. 1555–68.

<sup>46</sup> Omar Khalil and Laila Marouf, 'A Cultural Interpretation of Nations' Readiness for Knowledge Economy', *Journal of the Knowledge Economy* 8/1 (2017), pp. 97–126.

<sup>47</sup> Ibid.

At the innovation level, Kuwait's government needs to modify its strategies and policies to prioritise investment in human capital. This is because human capital has proven to be not only a factor of production and a determinant of productivity but also the main influence in all components of development and the main measure of the wealth of nations.<sup>48</sup> In a KBE, facilitating culture to promote knowledge exchange will assist in developing human capital, which will impact innovation capabilities.<sup>49</sup> Promoting knowledge management processes and techniques has proven to influence innovation capability, especially in higher education institutions. Knowledge management is a 'collaborative and integrated approach adopted at various levels to ensure that organization's knowledge assets are best utilized to increase organizational performance.'<sup>50</sup> Reyad and Madbouly (2021)<sup>51</sup> found that knowledge management practices are among the most significant determinants for the overall performance of higher education institutions in GCC countries, especially their innovation performance. Specifically, practices of knowledge sharing have proved to significantly impact faculty innovative job performance.<sup>52</sup> Academics believe that the quality of knowledge sharing in an academic social network affects their ability to innovate through developing new ideas and engaging in new projects.<sup>53</sup>

In addition, the R&D sector must shift its focus from merely developing research to implementing research findings to benefit society,<sup>54</sup> and investigating and measuring the outcomes of these investment.<sup>55</sup> To prosper in a competitive environment, the R&D sector must build a mechanism that offers knowledge and insights that contribute to the improvement of existing processes and measures and communicates future development.

<sup>48</sup> Marwan M. Abdeldayem, Saeed Aldulaimi and Radwan Kharabsheh, 'Development of Human Capital Resources to Increasing Economic Growth and Innovation in the GCC Countries', *International Journal of Green Management and Business Studies* 1/1 (2021), pp. 62–79.

<sup>49</sup> Sahar Hayaean, Reza Hesarzadeh and Mohammad R. Abbaszadeh, 'The Impact of Knowledge Management Strategies on the Relationship Between Intellectual Capital and Innovation: Evidence from SMEs', *Journal of Intellectual Capital* 23/4 (2022), pp. 765–98.

<sup>50</sup> Naresh K. Agarwal and Laila Marouf, 'Initiating Knowledge Management in Colleges and Universities: A Template', *International Journal of Knowledge Content Development & Technology* 4/2 (2014) pp. 67–95.

<sup>51</sup> Sameh Reyad and Araby M. A. Hussain, 'How the Innovation Performance in GCC HEIs is Affected by the Knowledge Management in the Era of Knowledge Economy', in *The International Conference on Global Economic Revolutions* (Cham: Springer, 2021), pp. 469–79.

<sup>52</sup> Bibi M. Alajmi and Sherifa O. Alasousi, 'Cultivating Knowledge Sharing Among Academics: the Role of Social Media and the Impact of Social Capital', *Journal of Electronic Resources Librarianship* 35/1 (2023), pp. 28–46.

<sup>53</sup> Rifa Kamasak and Fusun Bulutlar, 'The Influence of Knowledge Sharing on Innovation', *European Business Review* 22/3 (2010), pp. 306–17; Norrini Muhammad, Wan Zuhaila and A. Rahman, 'Knowledge Management Practices (KMP) and Academic Performance in Universiti Teknologi Mara (UITM) Terengganu, Malaysia', *World Applied Sciences Journal* 12/12 (2011), pp. 21–6.

<sup>54</sup> Christopher M. Durugbo, Odeh R. Al-Jayyousi and Soud M. Almahamid, 'Wisdom from Arabian Creatives: Systematic Review of Innovation Management Literature for the Gulf Cooperation Council (GCC) Region', *International Journal of Innovation and Technology Management* 17/6 (2020), pp. 1–48; Raheem Sarwar et al., 'A Bibliometric Perspective on Technology-driven Innovation in the Gulf Cooperation Council (GCC) Countries in Relation to its Transformative Impact on International Business', in *Technology-Driven Innovation in Gulf Cooperation Council (GCC) Countries: Emerging Research and Opportunities* (IGI Global, 2019), pp. 49–66.

<sup>55</sup> Mahshid Sazegar et al., 'The Innovation-based Competitive Advantage in Oman's Transition to a Knowledge-based Economy: Dynamics of Innovation for Promotion of Entrepreneurship', in *Entrepreneurship Ecosystem in the Middle East and North Africa (MENA)* (Cham: Springer, 2018), pp. 491–518.



## Concluding Remarks

Our recommendations have been previously documented in numerous reports produced by the Government of Kuwait in collaboration with local, regional, and international organisations (only a few of these reports are cited in this paper). Therefore, it is extremely challenging to condense it into a few paragraphs. However, to implement these reports' recommendations, we require stability.

The justification for the repeated failures is inextricably linked to political instability. Education system stability is significantly impacted by political instability. To date, numerous positions within the Ministry of Education and Ministry of Higher Education remain vacant. This has been the case for many years now. Between 2019 and 2023, all holders of Kuwait University positions, including Presidents, Vice Presidents, Assistant Vice Presidents, Deans, Assistant Deans, and Department Chairs, have served in an acting capacity for an average of three to six months. The transitory nature of work significantly impacts the ability to plan and implement visions.

As we all might know, the selection of positions in Kuwait is governed by numerous rules that are primarily political. And despite the fact that bylaws may present some obstacles to the appointment, failure to appoint is primarily related to the effectiveness of implementation.<sup>56</sup>

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<sup>56</sup> Interviewee 4 – Board Member – Public University.



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