Shaping Kuwait's Knowledge-Based Economy: A Strategic Framework for Higher Education Institutions

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Abstract:

In its Kuwait 2035 strategy, Kuwait declared its vision to transition into a knowledge-based economy (KBE). The core of this vision involves diversifying the country's resources to avoid relying solely on oil as its main natural resource. The proposed diversification of resources requires significant reform within KBE's four main pillars, which include 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. However, while Kuwait is increasingly investing in information and communication technology infrastructure and a welcoming economic environment, progress in education and innovation continues to lag. This research adopts a qualitative approach aiming to address the increased demand for academically based explorations of Kuwait's attempts to adopt a KBE. Focusing on the education pillar, the study presents a framework for the development of a higher education system able to support the diversification process. In particular, this research seeks to inform policy debates by proposing actionable policies targeting education; thus, it defines concrete steps to strengthen the KBE in Kuwait.

Keywords: Knowledge-Based Economy - Higher Education – Digital Literacy – Governance - Knowledge Management.

Research Background

In the past two decades, 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, 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 have adopted this model as their primary economic diversification strategy, including Kuwait.

According to Chen and Dahlman (2005), 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 utilization 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.

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 its 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 is still a need for 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 contribute to an evidence-based understanding of Kuwait's Vision 2035, highlighting how the country aims to strengthen its educational pillars to support its 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 defining concrete steps to strengthen the KBE in Kuwait.

Methodological Approach

Research Approach

This research follows a qualitative approach that draws upon interviews. Interviews were conducted to collect data from key stakeholders regarding their perception of the current and future status of Kuwait's transition to KBE and the education's role in embracing and ensuring a better transition. Sixteen key personnels have been interviewed. The interview tool 45-90 minutes in many cases.

Interview focused on questions related to the role higher education institution’s role in the transition to the KBE. Key terms were emphasized during interviews probing for more specific and fundamental suggestions on how to improve the status of higher education system.

Table 1: Participants Profile

No.	Job Title	Nationality	Affiliation	Years of Experience
1	Ex Minister of Education	Kuwait	Ministry of Education	More than 25 years of experience
2	Board Member	Kuwait	Abdullah Al-Salem University	More than 25 Years of Experience
3	Consultant	UK	International knowledge and innovation management consulting	More than 25 Years of Experience
4	Consultant	UK	KM Consultancy	More than 25 Years of Experience
5	Consultant	Kuwait	Prime Minister's Office-State of Kuwait	More than 15 Years of Experience
6	Assistant Professor	Kuwait	Kuwait University-College of Law	Less than 10 years of experience
7	Principal	Kuwait	Public School-Kuwait Ministry of Education	More than 20 Years of Experience
8	Principal	Kuwait	Public School-Kuwait Ministry of Education	More than 20 Years of Experience
9	Principal Assistant	Kuwait	Public School-Kuwait Ministry of Education	More than ten years of Experience
10	Principal	Kuwait	Public School-Kuwait Ministry of Education	More than 20 Years of Experience
11	Acting Supervisor	Kuwait	Department for Qualitative Evaluation and Measurement-Sector for Evaluation and Quality Control-Kuwait Ministry of Education	More than 25 Years of Experience
12	Professor	Kuwait	Kuwait University-College of Education	More than 25 Years of Experience
13	Associate Professor	Kuwait	Kuwait University-College of Education	More than 25 Years of Experience
14	Professor	Kuwait	Kuwait University-College of Education	More than 15 Years of Experience
15	Professor	Kuwait	Kuwait University-College of Education	More than 25 Years of Experience
16	Professor	Kuwait	Kuwait University-College of Business Administration	More than 25 Years of Experience

Findings and Discussion

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) (statistical Bureau, 2022). 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 (Lynch, 2013). This section focuses on how we can improve higher education system and suggest key component for a better system need for the transition to a KBE based society. The following results and discussion are based on the interview conducted for this research and supported by previous literature.

Based on discussions with interviewees, three primary components are required for enhancing the higher education system. The components comprise: Governance and policy, skill development and competency building, and research and innovation.

Governance & Policy

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 fruitless (Alhashem & Alhouti, 2021). Continuously, initiatives for education reform have faced obstacles relevant to the political system, economic factors, and cultural and social barriers (Abdel-Moneim, 2015; Nolan, 2012). 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 (Alhashem & Alkandari, 2015). Among the issues where the education system needs help is strategic planning; while strategies are written, they still need to be implemented and consulted (Alhashem & Alhouti, 2021). Preservice teaching programs also have their challenges, including ease of access, large annual intakes, and failure to attract high-calibre students (Alenezi, 2018) as well as issues related to the qualification and readiness of

foreign teachers in the education system (Alhouti, 2018).

Effective governance structure in higher education institutions ensure that resources are allocated efficiently, academic programs are aligned with the major requirement and needs for the knowledge-based economy. With an effective governance structure, higher education institutions maintain high academic standards that foster innovation and encourage collaboration locally and globally. A strong governance structure maintains these efforts regardless of the changing political or social circumstances surrounding the education environment. Education system must be protected and maintained.

Given the current state of the education system, it is inadequate for facilitating the transition to the Knowledge-Based Economy (KBE); therefore, new reforms must be implemented, including institutional autonomy and strategic policy alignment.

Institutional Autonomy

One key interviewee started with the demanding the development of an "education constitution"—a precise and unambiguous framework for education administration— (*Interviewee #1 Ex Minister of Education*). A comprehensive "education constitution" that describes the policies, procedures, and frameworks that direct the administration and operation of institutions of higher education, guaranteeing uniformity, transparency, and accountability. The essential component of an improved educational system is the "education constitution." The constitution of the education was drafted in opposition to governmental and economic instability. safeguarded by its policies and procedures and in line with objectives and initiatives.

Strategic Policy Alignment

While higher education institutions are clear about their vision, mission and objectives, operations are far from implementing it. In the current situation, higher education institutions' goals, key operations, resources, and activities are far from being aligned to the broader vision of the institutions. It seemed that every part of the institutions is working individuals and not toward the organizational vision (*Interviewee #6 Assistant Professor Kuwait University-College of Law and #13 Associate Professor Kuwait University-College of Education*).

This could be due to lack of communication among the different level of administration, political and managerial instability could also be a cause of this issue. And while there are strong and significant achievement within higher education institutions, this achievement is merely individuals' efforts and institutional.

Skill Development and Competencies Building

The education system in Kuwait is predicated on literacy (*Interviewee #5 – Consultant – Prime Minister's Office-State of Kuwait*). Literacy rate refers to the proportion of people aged 15 and older who can read and write. Kuwait scored high in Literacy rate (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, emphasizes knowledge productivity, and enhances an individual's ability to put knowledge into action (*Interviewee #5 - Consultant – Prime Minister's Office-State of Kuwait*).

Digital Literacy

Adapting and mastering digital technology has become unavoidable, fundamental, and essential in the knowledge-based economy era (Interviewee *#13 Associate Professor Kuwait University-College of Education and* Interviewee *#14 Professor Kuwait University-College of Education)*. The ability to create, adapt, and adopt digital technologies is required and must be mastered to meet information demands, access services, and pursue opportunities (Husna, Wiratmo, Ishak, Pradhana, Farah, & Chaerunnissa, 2022).

Entrepreneurship Skills

A competent and skilful workforce is the foundation of a prosperous knowledge-based economy. KBE is marked by increasing labour market demand for highly skilled workers (Hossain, 2015) Therefore, a paradigm shift is required where job seekers become

entrepreneurs (*Interviewee 5 – Consultant – Prime Minister's Office-State of Kuwait*). 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 (Hamzah, Yahya, Sarip, & Mohd Adnan, 2016). 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 (Asongu & Tchamyou, 2016; Hameed, Khan, Shahab, Hameed, & Qadeer, 2016). Thus, there is a need to revise Kuwait's education curriculum in formal or higher education institutions to provide entrepreneurship education.

Scientific literacy is also essential for students to ensure their competitiveness (*Interviewee #1 Ex Minister of Education*). 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 (Turiman, Omar, Daud, & Osman, 2012).

Soft Skills

As noted by the interviewees (*Interviewee #3 Consultant International knowledge and innovation management consulting and Interviewee #4 Consultant KM Consultancy*), soft skills such as teamwork, empathy, tolerance, patience, flexibility, creativity, and communication skills. It is these types of skills that foster collaboration, respect, and understanding. It is the emotional intelligence in technological environment where face-to-face interactions is limited. Nurturing these soft necessary skills through education programs can build compassionate leaders and responsible citizens.

Critical Thinking and Problem Solving

Knowledge-based economy relies on increasing individual cognitive capacity and applying in various economic aspects. Additional skills that the current education system needs to deliver are

problem-solving and critical thinking (Pont & Werquin, 2001).

Research & Innovation

According to Reyad and Madbouly (2021) "Innovation is equated with the adoption and application of new knowledge and practices, including the ability of an organization to adopt or create new ideas and implement these ideas in developing new and improved products, services, and work processes and procedures" (p. 473). Previous study (Alajmi, 2023) investigated Kuwait's innovation capabilities based on the Global Competitiveness Index (GCI) which the World Economic Forum developed, and the Global Innovation Index (GII) published by the World Intellectual Property Organization (WIPO) and found that while Kuwait score high in many of the Knowledge economy Indicators (KEI), as well as in GII measures, however, the country continue to struggle in the field of innovation. This put a lot of pressure and responsibility on higher education institutions to promote innovation.

Promotion of Research Excellent

Higher education institutions in Kuwait aspire to be leaders of innovation globally. For example, 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. In order to be leaders of innovation, research has to be to core function of higher education institutions. One importance aspect of research excellence is to focus on research impact. At Kuwait University, national priority topics are given serious attention, encouraging researching to focus on topics addressing societal challenges.

University-Industry Collaboration

Moreover, linking innovative research and technological advancement with the industry 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. In addition, the collaborative relationship between university and industry suggests an effective pathway to market when advancing and commercializing innovations (Draghici, Baban, Gogan, & Ivascu, 2015). It is through this

pathways knowledge, expertise, and innovative ideas are turn in products and services by supporting it with innovative capabilities available at the industry. In supporting this collaboration, university should function as knowledge repository of innovative ideas such as patent, networks, and alumni in providing the industry with the knowledge they need to improve the economy.

Entrepreneurship Support

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 commercialize the knowledge they produce (Jacob, Lundqvist, & Hellsmark, (2003). 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 (Khalil & Marouf, 2017). Cultural characteristics, including uncertainty avoidance, future orientation, institutional collectivism, and performance-oriented planning, directly affect innovation dimensions within KEI (Khalil & Marouf, 2017).

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 (Soliman, 2020). The pandemic and the subsequent lockdown and social distancing have accelerated the ongoing plans for digitization 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 a higher education reform strategy where business development and risk-taking are the key components of the curriculum. The higher 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." (Tadros, 2015).

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At the innovation level, Kuwait's government needs to modify its strategies and policies to prioritize 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 (Abdeldayem, Aldulaimi & Kharabsheh, 2021). In a KBE, facilitating culture to promote knowledge exchange will assist in developing human capital, which will impact innovation capabilities (Hayaeian, Hesarzadeh, & Abbaszadeh, 2021). 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 (Agarwal & Marouf, 2014). Reyad & Madbouly, 2021) (Reyad & Madbouly, 2021) 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 (Alajmi & Alasousi, 2023). 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 (Kamaşak, & Bulutlar, 2010; Muhammad, Rahman, Abd Rahman, Idris, Sabri, & Jusoff, 2011).

In addition, the R&D sector must shift its focus from merely developing research to implementing research findings to benefit society, and (Durugbo, Al-Jayyousi, & Almahamid, 2020); Sarwar, Soroya, Muazzam, Sabah, Iqbal, & Hassan, 2019) investigating and measuring the outcomes of these investment (Sazegar, Forouharfar, Hill, & Faghih, 2018). 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.

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