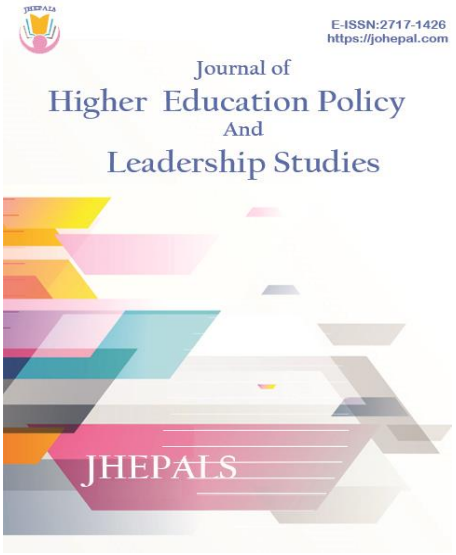
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# Future Requirements and Challenges of Universities and Higher Education Institutions in the Knowledge-Based Economy: Literature Reviews




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# Future Requirements and Challenges of Universities and Higher Education Institutions in the Knowledge-Based Economy: Literature Reviews

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## Highlights

- This research provides a general review to identify the requirements and challenges that universities and higher education institutions face in adopting a knowledge-based economy approach.
- The mission of universities and higher education institutions has undergone a fundamental change in order to respond to the economic needs of societies and now moving towards the paradigm of a knowledge-based economy.
- The future requirements and challenges of universities in the knowledge-based economy approach can be categorized into four major axes: transformation in human capital, revision of missions, modification and change of infrastructures, and responding to challenges.
- As key players in the knowledge-based economy, universities have undergone significant changes in their missions, strategies, and infrastructures.

**Keywords:** Knowledge-Based Economy; Knowledge Economy; University; Higher Education; Future Studies

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## Introduction

Governments and international economic organizations are formulating strategies and frameworks aimed at establishing a knowledge-based economy. In such an economy, wealth and income are derived from the capacity for knowledge and innovation. In the 1990s, influenced by the Organization for Economic Co-operation and Development and other international agencies, many governments embraced the concept of the "knowledge economy." They believed that this approach would provide solutions to various issues (Broström et al.,2021).

In pursuit of this objective, policymakers revisited the mandates and missions assigned to higher education institutions and universities. Their aim was to transform these institutions into engines of knowledge production and skill enhancement, driving the achievement of a knowledge-based economy (Wright et al., 2022) This shift involves a transition from a traditional, resource-based economy to an emerging knowledge-based economy, where creativity, knowledge, and the efficiency of intellectual labor replace reliance on natural resources and physical labor (Horváth & Berbegal-Mirabent, 2022)

Based on this foundation, the knowledge-based economy can be understood as the outcome of governments moving away from a resource-based economy and embracing efficiency and effectiveness as the ultimate stage of global economic reconstruction (Hadidi & Kirby, 2016) Consequently, the global interest in the knowledge-based economy has become a necessity, with knowledge having transformed into a valuable asset and the primary component of the modern economic system. Universities and the creative force they cultivate play pivotal roles as two pillars of this emerging economy, which is known as the knowledge-based economy (Jawhar et al., 2022).

The significance of this emerging economy is evident in various conferences, reports, and research projects. For instance, a joint report by the European Union Office for Coordination in the Internal Market (OHIM) and the European Patent Office (EPO) in September 2013 revealed that 26% of employment and 39% of the European Union's gross domestic product were attributed to the knowledge economy (Răulea et al., 2016). Accepting the notion that the knowledge-based economy is the future economy brings forth new demands for university systems (Wright, Shore and editors, 2022 & OECD,1998). While previous studies have overlooked the future requirements and challenges that universities face in the knowledge-based economy, it is crucial to have a comprehensive understanding of these factors.

## Research Methodology

To gather data, relevant keywords were selected based on library sources and related texts. These keywords included various terms related to the knowledge-based economy (knowledge-based economy, Knowledge Economy, economy of knowledge, knowledge intensive, economy of knowledge, knowledge based society, knowledge economies, knowledge-based economies, knowledge-based economy, knowledge-driven economy, knowledge-based economy, knowledge-intensive capitalism, knowledge capitalism, learning economy, new economy, information economy, creative economy , weightless economy, Goldilocks Economy.), as well as terms pertaining to universities and higher education institutions (e.g., university, academic, college, higher education institutions).

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Searches were conducted using "and" and "or" operators across multiple databases, including PubMed, Web of Science, Google, and Google Scholar.

During the search process, separate and combined searches were conducted in domestic Persian language databases due to search limitations.

The review covered studies published between 2014 and 2023, spanning a ten-year period. Initially, 809 studies were retrieved, and after applying screening and inclusion criteria, 48 relevant studies were identified. Inclusion criteria encompassed articles in Persian and English related to the research topic, while exclusion criteria included letters to the editor, notes, and articles with inaccessible full texts. After selecting the pertinent studies, the concepts and findings of each article were summarized. The future requirements and challenges faced by universities were extracted from the selected articles and categorized accordingly, aligning with the study's objectives. The results of the database search and screening process is presented in Figure 1.

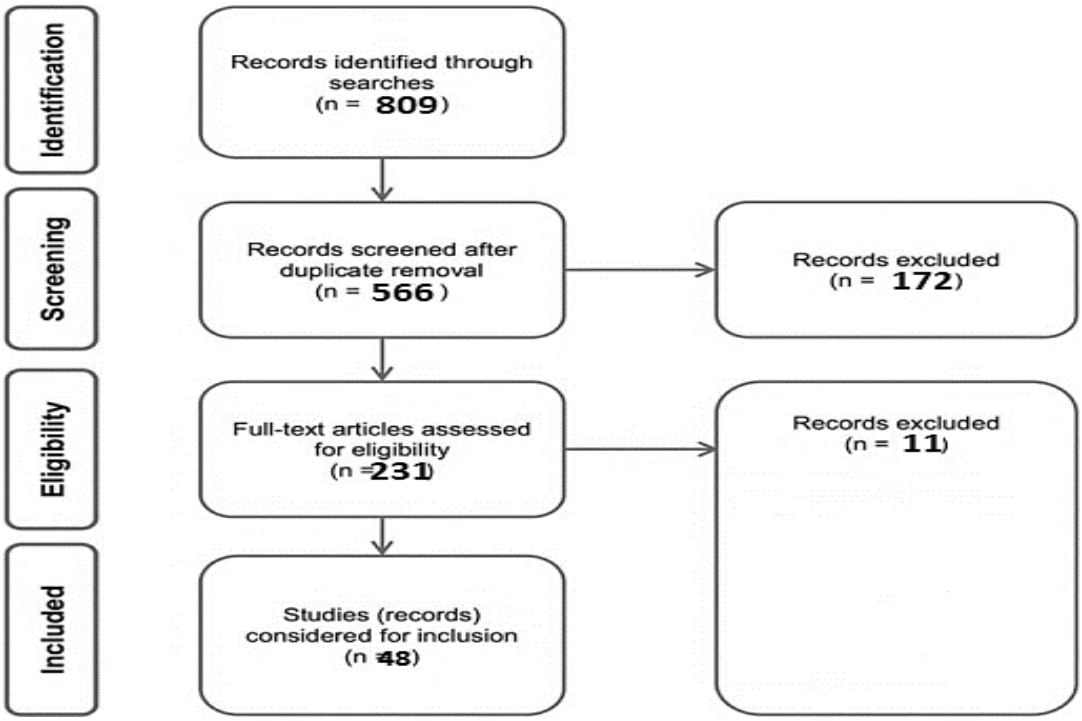



Figure 1. Selection procedure of research articles

## Results

An overview of these research articles as well as the codes/ categories is available as Online Supplement. A thorough review of data analyses was conducted. After analyzing data, the researchers ended up with four main themes and several sub-themes (see Table 2.)

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Table 2.
Emerged Themes and Subs-Codes and Categories extracted from these studies.

| Themes | Sub Themes |
|---|---|
| Capital and human resources | Training human resources<br>Revamping curriculum to enhance cognitive skills.<br>Lifelong learning.<br>Teaching intellectual property rights.<br>university-government-private sector collaboration to develop workforce training programs.<br>Convincing the workforce through facilitating the rapid adoption of new technological.<br>Training in economic skills. |
| Background factors and infrastructures | Infrastructure for strengthening industry-university relations and collaboration.<br>intellectual, institutional, and structural transformation.<br>Knowledge management infrastructure<br>Research and development infrastructure.<br>Establishing science and technology parks.<br>ensuring access to necessary information.<br>Infrastructure for transforming universities into "entrepreneurial" or "stakeholder".<br>Legal and regulatory systeminfrastructure. |
| Redefining missions and visions | Mapping a mission to transform universities into learning and entrepreneurial organizations.<br>Entrepreneurial and commercialization mission for research<br>Holistic approach to the education-research-innovation triangle.<br>Professional management and creativity in practice.<br>Mission of adaptability and compatibility. |
| Challenges ahead | Lack of universal access to up-to-date education.<br>Lack of public awareness of the importance of intellectual property.<br>Inadequate entrepreneurial capacity.<br>Neglecting the commercialization of knowledge.<br>Lack of management competencies and insufficient infrastructure development.<br>Inappropriate mission statements for entrepreneurship and innovation.<br>Instability in planning and implementation.<br>Insufficient skills in the workforce. |

## Discussion

According to the study results, one of the future necessities for universities in the knowledge economy lies in the realm of human resources, a requirement that has been evaluated in several studies. Research literature indicates that knowledge is the driving force of the 21st century economy (Gyimah-Brempong et al., 2006; Keun et al., 2009; Krueger & Lindahl, 2001). In this regard, several studies have shown that human capital is one of the most important factors in the process of economic growth. Further studies also confirm the effect of human capital on economic growth and indicate that human capital has a positive effect

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on economic growth (Waheed, 2014; Kuloglu, 2012; Edrees Panel, 2016; Duderstadt, 2002). In order to transition towards a knowledge-based economy, a well-equipped workforce is essential for the creation, dissemination, and utilization of knowledge within the economy (Park, 2018; Comunian, 2015; Durazzi, 2019; Wright et al., 2022; Răulea, 2016).

According to research findings, one of the future requirements for universities in a knowledge economy is to address infrastructures and underlying factors necessary for a knowledge economy approach. Various studies have examined this requirement. The research findings indicate that due to globalization, emerging trends, and technological advancements in the dynamic economic landscape, there has been a gradual shift towards prioritizing the knowledge economy.

Universities, as key players in education, research, and higher education, play a vital role in this transition. Traditional infrastructures are inadequate to meet the demands of an emerging knowledge-based economy. It is crucial to establish suitable infrastructures in three dimensions: software, hardware, and skill enhancement. These dimensions encompass policies related to science, technology, and industry, fostering innovation, lifelong learning, and entrepreneurship, as well as enhancing workforce skills. This holistic approach aims to maximize benefits and maintain a competitive advantage. Investing in the four foundational pillars of the knowledge economy, which are education, innovation, information and communication technology, and a favorable economic environment, is crucial for the sustainable growth of a knowledge economy. So, universities play a vital role here by formulating coherent policies that prioritize knowledge at the heart of their development strategies (Mburu, 2012; Anochiwa, 2014; Edrees Panel, 2016; Suciu, 2011; Finegold, 2006; Salem, 2014; Ramady, 2010). Additionally, institutions and secondary infrastructures are needed to provide a foundation for cultivating practical skills for startups and fostering cooperation between universities and industries (Gorji & Alipourian, 2011).

The findings also indicate that another requirement for future universities in the knowledge economy is the redefinition of their missions and visions. This requirement has been evaluated in some studies. In general, the development and change of universities' visions and missions to align with knowledge-based economies is essential in order to direct knowledge inputs in universities towards appropriate opportunities that can transform them into "entrepreneurial" or "stakeholder" universities.

In line with the findings of current research, studies have also referred to the need for a shift in the vision and mission of universities in the era of a knowledge-based economy. The new mission requires attention to a trained workforce for acquisition, utilization, creation, and effective dissemination of knowledge and relevant skills, leading to increased productivity and economic growth (Gorji & Alipourian, 2011; Brown, 2008; Lešer, 2018; Ibraheem, 2018).

Based on the reviewed literature, one of the other issues that universities face in the knowledge economy is the future challenges of universities. This necessity has been assessed in some studies. The literature review related to the challenges ahead of universities has shown that with the transformation of information and communication systems and changes in the economic approach, the role of educational institutions has also changed and requires a new and appropriate approach. This transformation poses new challenges to the higher education system and universities. According to the findings,

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universities face challenges in the knowledge economy due to a lack of managerial competencies, insufficient infrastructure development in entrepreneurial and innovative missions, inability to convert knowledge from publications into patents and technology, distance from industry and market, unskilled workforce, inappropriate knowledge economy infrastructure, and lack of appropriate human skills. The conducted studies have also shown that the efficient utilization of unskilled labor presents challenges for a knowledge-based economy in the 21st century (Gorji & Alipourian, 2011; Zieba, 2011; Răulea, 2016; Oriji, 2023).

## Conclusion

The 21st century has been accompanied by significant social and economic changes, giving rise to the knowledge economy era, resulting in a change in the nature and expectations of universities due to the increasing importance of knowledge. The traditional approach in higher education was unable to meet the needs of the knowledge economy and lacked the necessary conditions. Therefore, attention must be paid to new approaches in the roles, missions, and infrastructures of universities. In general, for universities to transition from a traditional system to a new system that responds to the knowledge economy, they need four fundamental dimensions: technological changes and innovation in their missions, responsive and relevant human resource development, and efficient infrastructure required for the shift from a traditional economy to a knowledge-based one, and addressing the forthcoming challenges.

The findings of this research demonstrate that knowledge creation is the main engine of knowledge-based economic growth, and for universities to achieve this, they need structural reforms in workforce transformation, redefining missions and visions, and changing infrastructure while considering the challenges ahead for the transition from a traditional approach to a knowledge-based approach. Technological transfer, new methods and tools for learning, increased focus on practical classes and marketable skills, lifelong learning, teamwork, change in university strategies, creating appropriate infrastructures for commercialization, workforce transformation, promoting entrepreneurial paradigms, intellectual property rights promotion, moving towards skill-based education, creating knowledge management capabilities, and considering new missions along with addressing the challenges hindering the transition towards a knowledge-based economy are essential requirements. In general, it can be concluded that universities, by becoming key players in the knowledge economy, have undergone fundamental transformations in all dimensions beyond their traditional duties, resulting in new and serious challenges in the emerging economic paradigm. Their response to the challenges arising from these transformations will determine their future role in the knowledge economy.

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## Declaration of Conflicting Interests

The authors declare that there is no conflict of interest.

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## Human Participants

This is a review and does not involve human participants; however, required research ethics are observed in alignment with the journal's policies as well as researchers' affiliated universities.

## Originality Note

The author s confirm that the manuscript is their original work, and if others' works are used, they are properly cited/quoted.

## References

Abbasi, H., Nasiri, B., Sourani Yancheshmeh, R., & Mosleh, M. (2018). Toward the third generation of medical universities, a strategy for knowledge-based economics [In Persian]. *Ṭibb va Tazkiyyah, 27*(3), 179-189. https://www.tebvatazkiye.ir/article_80282.html

Alamdar Yazdi, M., Ghourchian, N. G., & Jafari, P. (2021). Providing a model for university and industry interaction based on knowledge-based economy and investing research and development. *Journal of Investment Knowledge, 10*(38), 539-569. https://jik.srbiau.ac.ir/article_17539.html?lang=en

Anochiwa, L. (2021). A contribution to the human capital investment debate vis-à-vis economic growth: The case for Nigeria. *Annals of Human Resource Management Research, 1*(1), 15-28. https://doi.org/10.35912/ahrmr.v1i1.364

Ashrafi, F. R., & Taghvaee Yazdi, M. (2020). Identifying and investigating the effect of effective factors in knowledge-based economy on the establishment of knowledge-based universities. *Jundishapur Education Development Journal*, *11*(3), 531-542. https://edj.ajums.ac.ir/article_119634.html?lang=en

Bajenova, T. (2016). Think tanks and universities in the knowledge-based economy: Crossing, blurring and shifting boundaries. *New Zealand journal of research on Europe*, *10*(1), 78-132. https://www.auckland.ac.nz/assets/europe/EI%20Journals/NZJRE_UNIKE_2016_Bajenova.pdf

Bano, S., & Taylor, J. (2015). Universities and the knowledge-based economy: Perceptions from a developing country. *Higher Education Research & Development*, *34*(2), 242-255. https://doi.org/10.1080/07294360.2014.956696

Barrett, B. (2017). The dual roles of higher education institutions in the knowledge economy. In *Globalization and change in higher education: The political economy of policy reform in Europe* (pp. 57-73). Palgrave Macmillan. https://doi.org/10.1007/978-3-319-52368-2_4

Broström, A., Buenstorf, G., & McKelvey, M. (2021). The knowledge economy, innovation and the new challenges to universities: Introduction to the special issue. *Innovation*, *23*(2), 145-162. https://doi.org/10.1080/14479338.2020.1825090

Brown, P., Lauder, H., Ashton, D., Yingje, W., & Vincent-Lancrin, S. (2008). Education, globalisation and the future of the knowledge economy. *European Educational Research Journal*, *7*(2), 131-156. https://doi.org/10.2304/eerj.2008.7.2.131

[ Downloaded from www.johepal.com on 2026-11-08 ]

[ DOI: 10.61186/johepal.5.3.180 ]

Chatterji, N., & Kiran, R. (2017). Role of human and relational capital of universities as underpinnings of a knowledge economy: A structural modelling perspective from north Indian universities. *International Journal of Educational Development, 56*, 52-61. https://doi.org/10.1016/j.ijedudev.2017.06.004

Chirodea, F. (2015). The role of universities from the North-Western Romania in the development of regional knowledge-based economies. *Transylvanian Review, Suppl. 2*. https://nbn-resolving.org/urn:nbn:de:0168-ssoar-424306

Cockshut, L., Brown, A., & Hardey, M. (2020). Social innovation and the university: The impact of intervention for the micro creative economy in North East England. *Social Enterprise Journal*, *16*(2), 203-220. https://doi.org/10.1108/SEJ-03-2019-0017

Comunian, R., Gilmore, A., & Jacobi, S. (2015). Higher education and the creative economy: Creative graduates, knowledge transfer and regional impact debates. *Geography Compass*, *9*(7), 371-383. https://doi.org/10.1111/gec3.12220

Darvish, S. (2014). The role of universities in developing small and medium enterprises (SMEs): Future challenges for Bahrain. *International Business and Management, 8*(2), 70-77. http://www.cscanada.net/index.php/ibm/article/view/4776

Duderstadt, J. J. (2002). The future of higher education in the knowledge-driven, global economy of the 21st century. https://deepblue.lib.umich.edu/bitstream/handle/2027.42/88246/2002_Toronto_red1.pdf

Durazzi, N. (2019). The political economy of high skills: Higher education in knowledge-based labour markets. *Journal of European public policy, 26*(12), 1799-1817. https://doi.org/10.1080/13501763.2018.1551415

Edrees, A. (2016). Human capital, infrastructure and economic growth in Arab world: A panel granger causality analysis. *Business and Economics Journal, 7*(1), 201. https://www.hilarispublisher.com/open-access/human-capital-infrastructure-and-economic-growth-in-arab-world-apanel-granger-causality-analysis-2151-6219-1000201.pdf

Finegold, D. (2006). The roles of higher education in a knowledge economy. *Seminar Series on Mass Higher Education in UK and International Contexts. Seminar One – Higher Education, the Economy, Labour Markets* (November 09-10). UK: Surrey.

Gangi, Y. A. (2017). The role of entrepreneurship education and training on creation of the knowledge economy: Qatar leap to the future. *World Journal of Entrepreneurship, Management and Sustainable Development, 13*(4), 375-388. https://doi.org/10.1108/WJEMSD-06-2017-0032

Gao, Q., & Wang, Q. (2023). A study on the spatial–temporal evolution of innovation efficiency in Chinese universities in the context of the digital economy. *Sustainability*, *15*(1), 39. https://doi.org/10.3390/su15010039

Gibson, C. (2015). Negotiating regional creative economies: Academics as expert intermediaries advocating progressive alternatives. *Regional Studies*, *49*(3), 476-479. https://doi.org/10.1080/00343404.2014.945249

Gorji, E., & Alipourian, M. (2011). The knowledge economy and the knowledge assessment methodology. *Iranian Economic Review*, *15*(29), 43-72. https://doi.org/10.22059/ier.2011.32722

Grebski, W., & Grebski, M. (2018). Keeping higher education aligned with the requirements and expectations of the knowledge-based economy. *Production Engineering Archives*, *21*(21), 3-7. https://doi.org/10.30657/pea.2018.21.01

Gyimah-Brempong, K., Paddison, O., & Mitiku, W. (2006). Higher education and economic growth in Africa. *The Journal of Development Studies*, *42*(3), 509-529. https://doi.org/10.1080/00220380600576490

[ Downloaded from www.johepal.com on 2026-11-08 ]

[ DOI: 10.61186/johepal.5.3.180 ]

Hadidi, H. E., & Kirby, D. A. (2016). Universities and innovation in a factor-driven economy: The performance of universities in Egypt. *Industry and Higher Education*, *30*(2), 140-148. https://doi.org/10.5367/ihe.2016.0302

Hancock, S. (2023). Knowledge or science-based economy? The employment of UK PhD graduates in research roles beyond academia. *Studies in Higher Education*, *48*(10), 1523-1537. https://doi.org/10.1080/03075079.2023.2249023

Harte, D., Long, P., & Naudin, A. (2019). The university as intermediary for the creative economy: Pedagogues, policy-makers and creative workers in the curriculum. *Arts and Humanities in Higher Education*, *18*(2-3), 120-139. https://doi.org/10.1177/1474022218824562

Horváth, K., & Berbegal-Mirabent, J. (2022). The role of universities on the consolidation of knowledge-based sectors: A spatial econometric analysis of KIBS formation rates in Spanish regions. *Socio-Economic Planning Sciences*, *81*, 100900. https://doi.org/10.1016/j.seps.2020.100900

Ibraheem, H. A., Elawady, S., & Hmiedan, F. (2018). Knowledge economy vision 2030. The impact of university education on the dissemination of the knowledge economy. *The Business and Management Review*, *9*(3), 114-120. https://cberuk.org/cdn/conference_proceedings/2019-07-14-09-47-25-AM.pdf

Ilnytskyy, D. (2015). Universities in the global knowledge economy: The eclectic paradigm. *International Economic Policy, 1*(122), 121-154. http://iepjournal.com/journals_eng/22/2015_6_Ilnitskii.pdf

Jawhar, S. S., Alhawsawi, S., Jawhar, A. S., Ahmed, M. E., & Almehdar, K. (2022). Conceptualizing Saudi women's participation in the knowledge economy: The role of education. *Heliyon*, *8*(8), e10256. https://doi.org/10.1016/j.heliyon.2022.e10256

Johnston, A. (2019). The roles of universities in knowledge-based urban development: A critical review. *International journal of knowledge-Based development*, *10*(3), 213-231. https://doi.org/10.1504/IJKBD.2019.103205

Krueger, A. B., & Lindahl, M. (2001). Education for growth: Why and for whom?. *Journal of Economic Literature*, *39*(4), 1101-1136. https://doi.org/10.1257/jel.39.4.1101

Kuloglu, A., Lobont, O. R., & Topcu, M. (2012). A question of causality between political corruption, economic freedom and economic growth in Europe. Published in *Crisis Aftermath: Economic policy changes in the EU and its Member States, Conference Proceedings* (pp. 412-425), Szeged, University of Szeged. https://eco.u-szeged.hu/english/research/scientific-publications/crisis-aftermath-conference-proceedings/ayhan-kuloglu-oana-ramona-lobont-mert-topcu

Lazovic, V., Rondovic, B., Lazovic, D., & Djurickovic, T. (2021). Is economic theory, presented in basic academic textbooks, applicable to the digital economy?. *Sustainability*, *13*(22), 12705. https://doi.org/10.3390/su132212705

Lazzaro, E. (2021). Linking the creative economy with universities' entrepreneurship: A spillover approach. *Sustainability*, *13*(3), 1078. https://doi.org/10.3390/su13031078

Lee, K., & Kim, B. Y. (2009). Both institutions and policies matter but differently for different income groups of countries: Determinants of long-run economic growth revisited. *World development*, *37*(3), 533-549. https://doi.org/10.1016/j.worlddev.2008.07.004

Lešer, V. J., Širca, N. T., Dermol, V., & Trunk, A. (2018). Career opportunities for PhD graduates in the knowledge-based economy: Case of Slovenia. *Procedia-Social and Behavioral Sciences*, *238*, 104-113. https://doi.org/10.1016/j.sbspro.2018.03.013

Liyanage, S. I. H., & Netswera, F. G. (2022). Greening universities with mode 3 and quintuple helix model of innovation–Production of knowledge and innovation in knowledge-based economy, Botswana. *Journal of the Knowledge Economy, 13*(2), 1126-1156. https://doi.org/10.1007/s13132-021-00769-y

[ Downloaded from www.johepal.com on 2026-11-08 ]

[ DOI: 10.61186/johepal.5.3.180 ]

Margaret, E., & Kavitha, N. V. (2014). Higher education and economic development - Perspective and prospects. *Literacy Information and Computer Education Journal (LICEJ)*, *5*(1), 1455-1459. https://www.academia.edu/download/110629185/licej.2040.2589.2014.pdf

Mburu, J. M. (2013). *The relationship between government investment in infrastructure and economic growth in Keny*a [Doctoral dissertation, University of Nairobi]. UoN Digital Repository. http://erepository.uonbi.ac.ke/handle/11295/59491

Moreton, S. (2018). Contributing to the creative economy imaginary: universities and the creative sector. *Cultural Trends*, *27*(5), 327-338. https://doi.org/10.1080/09548963.2018.1534575

Nguyen, T. H. (2024). Cooperation between universities and businesses in developing human resources to participate in the digital economy. *Journal of the Knowledge Economy*, *15*(2), 5230-5249. https://doi.org/10.1007/s13132-023-01357-y

O'Sullivan, K. (2016). Education quality in the UAE - Factors in creating a knowledge-based economy. *International Journal of Research and Development, 2*(1), 98-104. https://dx.doi.org/10.2139/ssrn.3194377

OECD. (1998). Redefining Tertiary Education. https://doi.org/10.1787/9789264163102-en

Ogundeinde, A., & Ejohwomu, O. (2016). Knowledge Economy: A panacea for sustainable development in Nigeria. *Procedia Engineering*, *145*, 790-795. https://doi.org/10.1016/j.proeng.2016.04.103

Oriji, A., & Nnadieze, G. C. (2023). Teachers' current technological challenges and expectations for futuristic learning in a knowledge-based economy. *Global Academic Journal of Humanities and Social Sciences, 5*(2), 96-111. https://doi.org/10.36348/gajhss.2023.v05i02.009

Park, S., LiPuma, J. A., & Prange, C. (2015). Venture capitalist and entrepreneur knowledge of new venture internationalization: A review of knowledge components. *International Small Business Journal*, *33*(8), 901-928. https://doi.org/10.1177/0266242614526609

Pinheiro, R., & Pillay, P. (2016). Higher education and economic development in the OECD: Policy lessons for other countries and regions. *Journal of Higher Education Policy and Management, 38*(2), 150-166. https://doi.org/10.1080/1360080X.2016.1150237

Qadri, F. S., & Waheed, A. (2014). Human capital and economic growth: A macroeconomic model for Pakistan. *Economic Modelling*, *42*, 66-76. https://doi.org/10.1016/j.econmod.2014.05.021

Ramady, M. A. (2010). *The Saudi Arabian economy: Policies, achievements, and challenges*. Springer.

Rámháp, S., Nagy, D., Országh, Á., Rechnitzer, J., & Filep, B. (2017). Career choice motivation of high school students in context of changing higher education in knowledge economy. *Poslovna Izvrsnost*, *11*(2), 23-38. https://doi.org/10.22598/pi-be/2017.11.2.23

Răulea, A. S., Oprean, C., & Ţîţu, M. A. (2016). The role of universities in the knowledge based society. *International Conference Knowledge-Based Organization, 22*(1), 227-232. https://doi.org/10.1515/kbo-2016-0040

Rehman, W. U., Jalil, F., Saltik, O., Degirmen, S., & Bekmezci, M. (2024). Leveraging strategic innovation and process capabilities for intellectual capital initiative performance of higher education Institutes (HEIs): A knowledge-based perspective. *Journal of the Knowledge Economy*, *15*(1), 4161-4202. https://doi.org/10.1007/s13132-023-01336-3

Salem, M. I. (2014). The role of universities in building a knowledge-based economy in Saudi Arabia. *International Business & Economics Research Journal (IBER)*, *13*(5), 1047-1056. https://doi.org/10.19030/iber.v13i5.8771

Samadi, H., & Samadi, H. (2018). Entrepreneurial university, a necessity for knowledge-based economy; Evaluation and explanation of entrepreneurial capacity of University of Mazandaran. *Iranian Sociological Review*, *8*(3), 53-66. https://sanad.iau.ir/Journal/ijss/Article/805020

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[ DOI: 10.61186/johepal.5.3.180 ]

Snellman, C. L. (2015). University in knowledge society: Role and challenges. *Journal of System and Management Sciences*, *5*(4), 84-113. https://www.aasmr.org/jsms/Vol5/No.4/JSMS-VOL5-NO4-5.pdf

Snyder, H. (2019) Literature review as a research methodology: An overview and guidelines. *Journal of Business Research, 104*, 333-339. https://doi.org/10.1016/j.jbusres.2019.07.039

Suciu, M. C., Drăgulănescu, I. V., Ghiţiu-Brătescu, A., Picioruş, L., & Imbrişcă, C. (2011). Universities' role in knowledge-based economy and society. Implications for Romanian economics higher education. *Amfiteatru Economic Journal*, *13*(30), 420-436.

Summad, E., Al-Kindi, M., Shamsuzzoha, A., Piya, S., & Ibrahim, M. K. (2018). A framework to assess a knowledge-based economy: Special focus to higher educational institutions. *Proceedings of the International Conference on Industrial Engineering and Operations Management,* 2899-2907. http://www.ieomsociety.org/paris2018/papers/539.pdf

Thalgi, M. J. (2020). The university's role in developing the skills of the knowledge economy from the perspective of students of Yarmouk University's faculty of Shari'a and Islamic studies. *Journal of the Knowledge Economy*, *11*(4), 1529-1537. https://doi.org/10.1007/s13132-019-00620-5

Trauth, E. M., DiRaimo Jr, M., Hoover Jr, M. R., & Hallacher, P. (2015). Leveraging a research university for new economy capacity building in a rural industrial region. *Economic Development Quarterly*, *29*(3), 229-244. https://doi.org/10.1177/0891242415581053

Vorley, T., & Smith, H. L. (2007). Universities and the knowledge-based economy (Guest editorial). *Environment and Planning C: Government and Policy, 25*(6),775-778. https://doi.org/10.1068/c2506ed

Williams, D., & Kluev, A. (2014). The Entrepreneurial university: Evidence of the changing role of universities in modern Russia. *Industry and Higher Education*, *28*(4), 271-280. https://doi.org/10.5367/ihe.2014.0212

Wright, S., & Shore, C. (Eds.). (2022). *Death of the public university? Uncertain futures for higher education in the knowledge economy*. Berghahn Books.

Zhang, X., Yodpet, W., Reindl, S., Tian, H., Gou, M., Li, Z., Lin, S., Song, R., Wang, W., Jandrić, P., & Jackson, L. (2023). Higher education and creative economy in East Asia: Co(labor)ation and knowledge socialism in the creative university. *Educational Philosophy and Theory*, *55*(4), 418-431. https://doi.org/10.1080/00131857.2022.2106849

Zięba, M. (2011). Challenges for universities in the face of knowledge-based economy - Directions for higher education institutions in the Baltic Sea Region. In P. Jarke (Ed.), *Bildungspolitische Strategien heute und Morgen Rund um das Mare Balticum* (pp. 349-367). Baltic Sea Academy e.V.

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