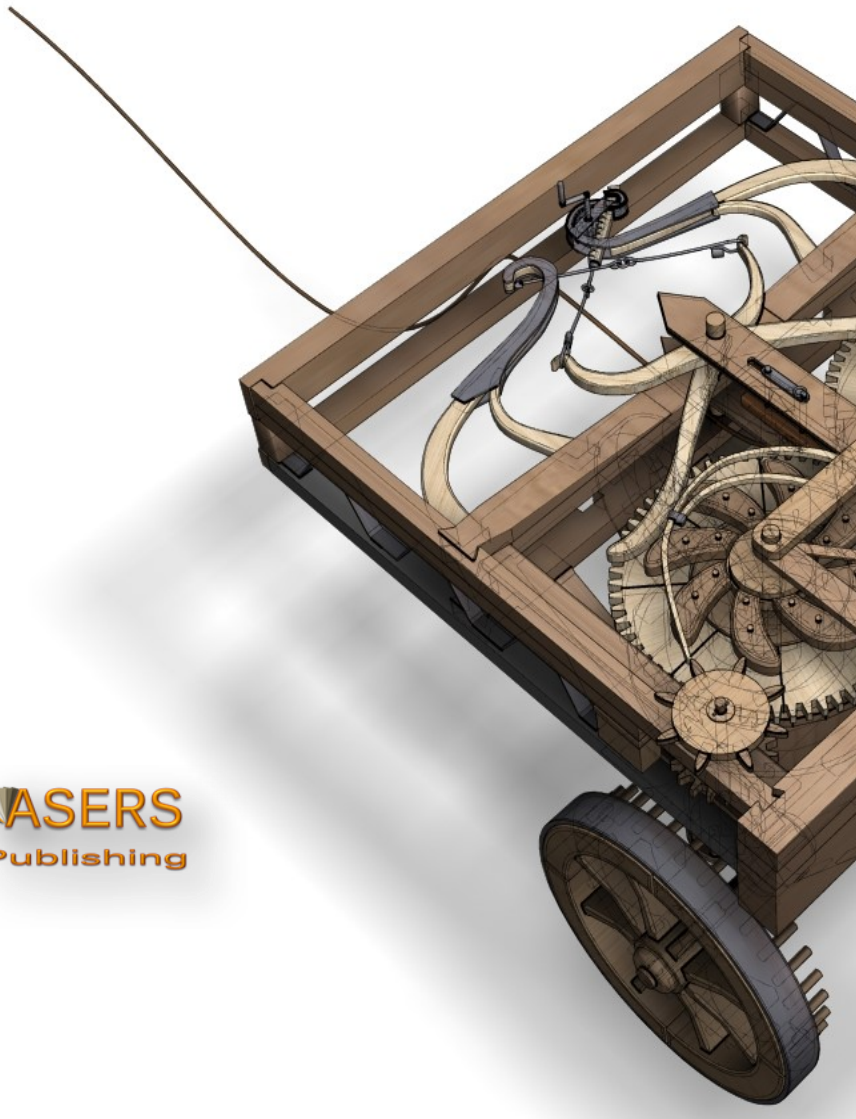
Theoretical and Practical Research in Economic Fields



Quarterly
Volume XV
Issue 1(29)
Spring 2024

ISSN 2068 – 7710
Journal DOI:
https://doi.org/10.14505/tpref

ASERS Publishing

Volume XV
Issue 1(29)
Spring 2024

ASERS Publishing
http://www.asers.eu/asers-publishing
ISSN 2068 – 7710
Journal's Issue **DOI**:
https://doi.org/10.14505/tpref.v15.1(29).00

Table of Contents

1 **Implementation of the Provisions of the Cluster Theory into the Accounting System: Genesis and Evolution** 5
Oleh VYSOCHAN, Natalia STANASIUK, Svitlana HONCHAR, Vasyl HYK, Olha VYSOCHAN

2 **Decoding Retail Realities: Traditional Retailers' Outlook on Sales Erosion to Modern Retail Economy** 17
Shikha BHAGAT, Shilpa Sarvani RAVI, Mallika SANKAR

3 **Economics of Fiscal Dominance and Ramifications for the Discharge of Effective Monetary Policy Transmission** 31
Emerson Abraham JACKSON

4 **Practical Marketing System as a Solution to Limited Labor and Post-Harvest Processing Areas for Rice** 35
Gede Mekse Korri ARISENA, Dwi Putra DARMAWAN, Ni Made Classia SUKENDAR, Ni Luh Made Indah Murdyani DEWI, Anak Agung Keswari KRISNANDIKA, Dina Lare DUNENSA

5 **Opinion about the Liquidity Preference Theory. Discussions Concerning Weight and Risk in the Townshend-Keynes Letters of November-December 1938** 45
Michael BRADY

6 **Performance Management in the Public Sector of Albania** 54
Zamira SINAJ, Olta NEXHIPI, Mjaftesa SULAJ

7 **Mapping the Country's Dependence on Indonesia's Coal Import Market** 62
Riski Nurul Hasanah MANURUNG, Havidz Ageng PRAKOSO, Ali ROZIQIN

8 **Study on the Liability Structure and Profitability of the Banking Industry in the Asia-Pacific Region** 75
Jing WANG, Aslam Izah SELAMAT, Zariyawati Mohd ASHHARI, Mohamed Hisham Dato Hj YAHYA

9 **Ecofeminism as a Movement: Choosing between Economics and Nature Protection** 91
Vellayati HAJAD, Ikhsan IKHSAN

10 **Budget Deficit, Debt, and Inflation in Ghana (1960-2022): The Fiscal Theory of Inflation Case?** 101
Abdul Majeed SEIDU, Aleksandar VASILEV

Volume XV
Issue 1(29)
Spring 2024

ASERS Publishing
http://www.asers.eu/asers-publishing
ISSN 2068 – 7710
Journal's Issue **DOI**:
https://doi.org/10.14505/tpref.v15.1(29).00

11 Green Finance Supports Sustainable Environment: Empirical Approach Towards Applicability in Tourism Sector 114
Rojalin MOHANTY, Ansuman SAMAL, Rakesh KUMAR

12 Does Remittance Inflow and Foreign Direct Investment Spur Economic Development in Developing Countries? Insights from Nigeria 127
Peter. N. MBA, Mercy I. CHIJIOKE

13 Strengthening the Nexus: Policy and Legislative Reforms for University-Industry Collaboration in Kazakhstan 136
Sholpan YESSIMOVA, Yerkesh RAKHYMZHANOV, Bagdat SPANOVA, Sulushash BAIZHANOVA, Marat SEIDAKHMETOV, Aiman YESSENOVA, Bakhyt ALTYNBASSOV

14 The Role of Emotional Intelligence in Making Successful Financial Decisions 145
Svitlana BYKOVA, Mykhailo ZHYLIN, Olena BULAVINA, Mykyta ARTEMCHUK, Safar Hasan PURHANI

Call for Papers
Volume XV, Issue 2(30), Summer 2024
Theoretical and Practical Research in Economic Fields

Many economists today are concerned by the proliferation of journals and the concomitant labyrinth of research to be conquered in order to reach the specific information they require. To combat this tendency, **Theoretical and Practical Research in Economic Fields** has been conceived and designed outside the realm of the traditional economics journal. It consists of concise communications that provide a means of rapid and efficient dissemination of new results, models, and methods in all fields of economic research.

Theoretical and Practical Research in Economic Fields publishes original articles in all branches of economics – theoretical and practical, abstract, and applied, providing wide-ranging coverage across the subject area.

Journal promotes research that aim at the unification of the theoretical-quantitative and the empirical-quantitative approach to economic problems and that are penetrated by constructive and rigorous thinking. It explores a unique range of topics from the frontier of theoretical developments in many new and important areas, to research on current and applied economic problems, to methodologically innovative, theoretical, and applied studies in economics. The interaction between practical work and economic policy is an important feature of the journal.

Theoretical and Practical Research in Economic Fields is indexed in SCOPUS, RePEC ProQuest, Cabell Directories and CEEOL databases.

The primary aim of the Journal has been and remains the provision of a forum for the dissemination of a variety of international issues, practical research, and other matters of interest to researchers and practitioners in a diversity of subject areas linked to the broad theme of economic sciences.

At the same time, the journal encourages the interdisciplinary approach within the economic sciences, this being a challenge for all researchers.

The advisory board of the journal includes distinguished scholars who have fruitfully straddled disciplinary boundaries in their academic research.

All the papers will be first considered by the Editors for general relevance, originality, and significance. If accepted for review, papers will then be subject to double blind peer review.

Deadline for submission of proposals: 20th May 2024

Expected publication date: June 2024

Website: http://journals.aserspublishing.eu/tpref

E-mail: tpref@aserspublishing.eu

To prepare your paper for submission, please see full author guidelines in the following file: TPREF_Full_Paper_Template.docx, on our site.

DOI: https://.doi.org/10.14505/tpref.v15.1(29).13

Strengthening the Nexus: Policy and Legislative Reforms for University-Industry Collaboration in Kazakhstan

Sholpan YESSIMOVA
Taraz Regional University named after M.Kh. Dulaty, Kazakhstan
ORCID: 0000-0002-7438-919X
sh.yessimova@dulaty.kz

Yerkesh RAKHYMZHANOV
University of Bristol, United Kingdom
tl21272@bristol.as.uk

Bagdat SPANOVA
Department of Economic Theory and SLG
Karaganda University of Kazpotrebsoyuz, Kazakhstan
ORCID: 0000-0002-7226-3796
bake1973@mail.ru

Sulushash BAIZHANOVA
Training and Methodological Department
Taraz Regional University named after M.Kh. Dulaty, Kazakhstan
ORCID: 0000-0001-6963-5299
sb.bajzhanova@dulaty.kz

Marat SEIDAKHMETOV
Graduate School of Management and Business
M. Auezov South Kazakhstan University, Kazakhstan
ORCID: 0000-0003-1245-327X
maratseidakhmetov@auezov.edu.kz

Aiman YESSENOVA
Department of International Tourism and Service
M. Auezov South Kazakhstan University, Kazakhstan
ORCID: 0000-0003-0994-0368
A555@auezov.edu.kz

Bakhyt ALTYNBASSOV
University of Bristol, United Kingdom
ORCID: 0000-0002-4142-4315
gr19948@bristol.ac.uk

Article Info: Received 24 January 2024; Received in revised form 5 February 2024; Accepted 4 March 2024; Published 29 March 2024.

Abstract: *The aim of this study is to examine the synergistic benefits that arise from collaborations between universities and industrial companies, examining the mutual advantages that both entities have. This research evaluates the government's efforts to cultivate such partnerships through a comprehensive documentary analysis of current policy documents and legislation. The findings indicate that a recently established ministry in Kazakhstan is actively developing proposals for legislative amendments to enhance the framework for collaboration between universities and industry. It is noteworthy that the government is providing tax preferences and incentives to industrial entities that collaborate with academic institutions, with the expectation that these measures will lead to beneficial outcomes. Despite these positive measures, the study*

revealed significant obstacles that prevent effective collaboration, such as legislative gaps and a general apprehension among industrial companies to set partnerships, due to the ineffectiveness of certain laws. The state's limited capacity to motivate participation from these corporations is what makes this reluctance a bigger challenge. This analysis highlights the necessity of strengthening political and legal frameworks to support more effective and productive collaborations between the university and industrial sectors. To bridge these gaps and improve the innovation ecosystem and drive socio-economic progress, this paper calls for a renewed approach to policymaking and legal reforms.

Keywords: university; industry; collaboration, legal and policy acts, Kazakhstan.

JEL Classification: I23; I28; K15; L30; L33; R11.

Introduction

This article explores the impact of collaboration between higher education institutions (HEIs) and industrial companies on the socio-economic development of the country, along with the challenges faced in forming these partnerships. Several official documents regarding the establishment and maintenance of this partnership have been released such as the "Concept for the Development of Higher Education and Science in the Republic of Kazakhstan for 2023-2029" endorsed by the Government's decree. This concept emphasises the importance of boosting the scientific and innovative capabilities of regional universities, transforming them into key economic and innovative centres for their respective regions by means of attraction of the funds through the collaboration with industry. Promoting such collaboration had also been indirectly referenced in programmes approved by the Government before this. Furthermore, different motivations were considered for industrial companies to support scientific research. However, it is challenging to confirm the establishment of genuine collaboration between HEIs and industry, which successfully benefits both parties. We argue that the lack of collaboration is primarily a result of insufficient legislative support and the absence of coordinated efforts among government agencies. Thus, this article explores the legal and other challenges to fostering this collaboration and assess its feasibility in the context of Kazakhstan.

1. Literature Review

HEIs have been continuously enhancing their educational programmes through collaborations with industrial companies. They are training future specialists to meet modern demands, integrating scientific innovations into production, and evolving into innovation hubs. Scholars from different fields have extensively studied the advantages, benefits, and issues hindering the development of such collaboration. Indeed, the partnership between academic institutions and businesses is advantageous for both parties. Drucker and Goldstein (2007) have argued that universities have the potential to significantly impact on the local economy through entrepreneurial endeavours, innovative practices, and the commercialization of research results. They also stated that collaboration between industry and government can impact the creation of economic policies, plans, and initiatives. Thus, these partnerships can have a positive and considerable impact on establishing university-business research and development collaborations, which can boost economic growth (Altynbassov *et al.* 2017; Cunningham and Link, 2015).

Firstly, universities greatly benefit from this collaboration, particularly during periods of financial constraints from state funding. Forging collaborations with industrial companies provides access to extra funding opportunities (OECD 2019). These companies can offer financial support for training and scientific research, as well as opportunities to apply scientists' innovations and patents in production. Universities can provide a range of services to industry employees, including short courses, retraining, and skills development (OECD 2019). Moreover, taking into account recommendations from industrial companies can result in the revision of curricula and programmes, equipping graduates with the skills demanded on the job market. University instructors, students, and postgraduates will be involved in research on real-world issues, focusing on making research more practice-oriented. Senior management participation, alumni networks, and external communication have a favourable impact on university-business collaboration, resulting in enhanced corporate engagement in curriculum design and alignment with industry needs (Plewa *et al.* 2015). External funding for the universities can increase significantly due to such collaboration (Ankrah and Omar 2015; Sjöö and Hellström 2019).

Secondly, the partnership between academic institutions and businesses is advantageous for companies in the industrial sector. This opportunity allows for the training of specialised professionals, conducting research on industrial issues, and enhancing production quality with innovative ideas and intellectual property. University-industry research partnership benefits both parties, with corporations gaining access to innovative university research and academic members receiving funds and insights (Lee 2000). The establishment of partnerships between universities and technology parks is advantageous from an economic standpoint. This interaction offers

high-quality training to experts who are dedicated to innovation in the primary areas of science, engineering, and technology development (Issabekov *et al.* 2022). Esteemed scientists and experts are able to facilitate scientific consultations, perform experiments in laboratories, and provide expert evaluations. Universities are ideal venues for hosting a wide range of meetings and business partner gatherings. Universities contribute to the worldwide expansion of the knowledge economy as well as the economic development of host cities through joint efforts on university premises (Benneworth 2007). Additionally, the partnership between universities and industry also has positive impacts on the community, specifically the local residents (Awasthy 2021; Alexander 2020). As a result, general public, in their role as consumers, could benefit from new products, high-quality goods, and services. By embracing new technologies and increasing tax contributions, industrial companies can help boost the region's economy, ultimately benefiting the local population. Such cooperation could also help tackle employment concerns. Industrial centres and local inputs can result in either steady-state growth in both regions or a core-periphery pattern in which growth is focused in one region (Englmann and Walz 1995). Thus, it is evident that collaboration between academic institutions and businesses brings significant advantages to all stakeholders involved. Undoubtedly, this subject has been extensively studied in the international scientific literature, revealing that the dynamics of partnerships between academic institutions and businesses differ based on the specific circumstances of each nation.

Universities play an essential role in innovation ecosystems by generating human capital, improving technology, and collaborating with business and local governments to drive economic development (Draghici 2015; Heaton *et al.* 2019). Modern universities go beyond traditional roles of education and research, actively engaging in turning innovative ideas into real-world applications through partnerships with industry. There are four key research streams in university entrepreneurship: entrepreneurial research, technology transfer productivity, new business development, and environmental context (Rothaermel 2007). For example, university research in the United States is founded on a close interaction between academia and economic activity, which leads to the formation of "on campus" or "spin off" firms based on research findings and knowledge (Quetglas and Grau 2002). Stanford University and the biomedical cluster in Boston, Massachusetts, represent the diversity of US innovation and its impact on HEIs (Powell *et al.* 2007). Silicon Valley is situated within the vicinity of Stanford University, where numerous large IT companies have set up offices (Adams 2005). These partnerships with universities have achieved global acclaim and financial self-sufficiency apart from government funding. Their private endowment funds surpass the yearly budget of certain nations. As an illustration, Harvard University boasts an endowment of $50.9 billion, followed by Yale University with $41.4 billion, Stanford University with $36.3 billion, and Princeton University with $35.1 billion. Entrepreneurial universities benefit the economy through teaching, research, and entrepreneurial activity, with the Russell Group of universities in the United Kingdom having the most impact (Guerrero *et al.* 2015).

It is evident that research universities, particularly knowledge-based activities such as teaching and basic research, have a significant positive impact on regional economic development (Drucker and Goldstein 2007). Fostering partnerships between academic institutions and businesses can boost the scientific and financial capabilities of universities. Industrial firms benefit from fresh concepts, resulting in cutting-edge manufacturing and improved financial effectiveness. Collaboration like this can be helpful for the local community, possibly addressing unemployment problems and offering access to new and high-quality products. However, there appears to be a shortage of research on this subject and a lack of studies assessing legislative acts. The Triple Helix model of university-industry-government relations demonstrates that economic interchange, intellectual organisation, and geographical restrictions drive innovation processes, with differentiation and performative integration allowing organisations to maintain wealth from knowledge (Leydesdorff and Meyer 2003). For example, university innovation has fostered local economic growth, with higher increases in employment, earnings, and company innovation following the Bayh-Dole Act of 1980 and federal research funding (Hausman 2020). Although the Bayh-Dole Act of 1980 considerably increased university-industry knowledge transfer and research collaboration in the United States, but implementing it in other OECD countries may have limited success due to structural disparities in higher education institutions (Mowery *et al.* 2004). Following this problematic interaction of university-industry-government in different contexts, this paper is focused on identifying and discussing gaps and contradictions in the legislation in Kazakhstan.

2. Methodology

In this study document analysis was utilized to explore the latest trends of collaboration between universities and industries in Kazakhstan. We have examined the legal and policy documents that govern these collaborations such as programmatic documents, institutional agreements, reports, and publications. Furthermore, documents

pertaining to education, intellectual property, and collaborations between sectors and academia were examined (Bowen 2009). By adopting this approach, a thorough understanding of the different elements influencing the partnership between academic institutions and businesses was achieved.

To derive valuable insights from the data, the study employed thematic analysis (Braun *et al.* 2019). The acquired data was rigorously coded to identify repeating patterns, trends, and overall themes relevant to the research issue. The study aimed to not only examine the current level of collaboration between academic institutions and enterprises, but also to identify the critical aspects, challenges, and opportunities impacting this vital partnership by organising and arranging data from numerous publications. A thematic analysis allowed for a thorough examination of the various facets of university-industry collaboration in Kazakhstan, revealing patterns, legal limits, and political shortcomings related with the collaboration.

3. Results and Discussions

Analysing political and legal acts, the following findings have been drawn. The Government of the Republic of Kazakhstan has officially endorsed the "Concept for the Development of Higher Education and Science in the Republic of Kazakhstan for 2023–2029" by decree. It envisions regional universities transforming into scientific and innovative centres for their areas, establishing a strong connection between science, innovation, and production, with the industry supporting universities.

In 2023, the government has set more ambitious goals, seeking to open an additional six internationally renowned high-status campuses. Examples include the existence of international educational institutes in various locations of Kazakhstan. Notably, Heriot-Watt University established a campus at Zhubanov Aktobe Regional University. Similarly, Seoul National University of Science and Technology has partnered with Kyzylorda Korkyt-Ata Regional University, while the German Engineering Institute has set up a campus at Yessenov University in Aktau. Furthermore, Tianjin University has opened a branch at Serikbayev East Kazakhstan Technical University. In summary, the minister stated that Kazakhstan aims to accommodate approximately twelve branch campuses of various foreign universities by 2025 (MSHE, 2023). It should be noted that these collaborations have resulted not only in international/regional attraction of academic and students into the country, but also in unprecedented movement within the country. For example, universities students from the Northern regions are receiving students from far Southern regions who are willing to relocate for dual education for the first time ever. These are the clear examples of policy in action and responses to the present challenges of enhancing research focus, establishing international partnerships, constantly growing population, inner migration, supporting regional economies. For example, the government are welcome to negotiations with the companies to subsidise building projects for student residencies construction. Indeed, opening regional branches of leading universities boosts local and regional economic vitality through generating commercially viable knowledge, competent research scientists, and bringing talent to the local economy (Bramwell and Wolfe 2008; Uyarra 2010), impact on a variety of regional economic indicators, including teaching and fundamental research (Drucker and Goldstein 2007). For example, opening new university schools in Italy resulted in a 7% increase in the number of patents submitted by regional enterprises, owing primarily to high-quality scientific research brought to the region, referring that regional innovation activity increased in five years (Cowan and Zinovyeva 2013). In the context of Kazakhstan, the establishment of international campus branches, facilitated by recent shifts in higher education policy and legislation, has had a markedly positive impact on the growth of universities and their engagement with local businesses. Specifically, scholars have documented significant benefits for the local economy, tourism, and employment from the establishment of international branches in southern Kazakhstan (Bayanbayeva *et al.* 2023; Altynbassov *et al.* 2021; Altynbassov *et al.* 2022; Yessimova *et al.* 2023). By following the Triple Helix model of university-business-government partnerships, this collaboration has emerged as mutually beneficial (Etzkowitz *et al.* 1995). It not only strengthens the local economy but also enhances the capabilities and reach of higher education institutions (HEIs). Therefore, the current course of HE policy in fostering these international partnerships offers positive prospects for all the parties involved, indicating a mutual advancement of both academic institutions and the regions they inhabit.

Although attracting industry to the higher education system might seem like a simple concept from a legal perspective, laws and related acts have to be amended and supplemented in accordance to bring these ideas to life. Minister Sayasat Nurbek has highlighted in a recent interview that the Ministry of Science and Higher Education of Kazakhstan is working on proposals for amendments to normative acts to enhance collaboration between universities and industry sectors. As per the Minister, the Government is prepared to provide tax incentives of up to 150% and loans, along with other benefits, to encourage the industry to collaborate with the higher education sector. The proposals for amendments to normative acts are anticipated to be ready by spring

this year, as mentioned by the Minister. Although these initiatives are well-timed and advantageous, given the extensive process of passing laws through Parliament, the necessity for consensus among other ministries, and their apparent lack of interest, the chances of these ideas becoming a reality appear low. Since most universities in Kazakhstan are state funded, they are depended on the allocated budget and state regulations which in turn stresses the importance of collaboration with the industry. Governments, industry partners, and private donors play crucial roles in funding and directing university research, with increasing emphasis on national and institutional research priorities, links with industrial partners, and commercialization of research inventions (Harman 2010). Higher federal support for universities results in fewer but more general patents, more high-tech entrepreneurship, and better researcher career prospects, whereas oil Use" of the Republic of Kazakhstan. As per this regulation, all companies in this industry must dedicate 1% of their investment to training and another 1% to scientific research. Nevertheless, the standards outlined in this Code are not yet fully in effect. No other law or legal act requires industrial companies to work with universities has been mentioned. While some ministries may have allocated budgets for training and scientific research, there is limited information available on whether these funds are actually reaching universities. In recent decades, state programmes have been approved by presidential decrees or government resolutions, emphasising the importance of cooperation between the industrial sector and higher education (Jumakulov *et al.* 2019). However, there has been no mention of financial support from businesses to academic institutions. Only in the last few years, there have been reports of some minor funding from industrial companies to local universities, facilitated by the enforcement of the "Code on Subsoil and Subsoil Use." This situation states the challenges in executing strategic initiatives focused on promoting collaboration between universities and industries in Kazakhstan. Despite the government's attempts to pass laws and provide incentives for collaboration, the practical implementation is hindered by bureaucratic processes and the necessity for a more united approach among different government entities and industry sectors.

Exploring the reasons behind the slow progress of collaboration between the industrial sector and higher education in Kazakhstan, as well as uncovering the obstacles to such collaboration, requires an initial analysis of the shared interests that could facilitate partnerships between these sectors. Examining global practices shows that the concept of universities and industry collaborating has emerged due to various compelling reasons, demonstrating mutual interest from both parties. For instance, publicly funded university-industry collaboration has a beneficial influence on UK firms' R&D expenditure per employee and share of R&D employment two years following project completion (Scandura 2016). Universities have demonstrated a need for partnerships due to various factors. Authorities globally have been promoting the collaboration between higher education institutions and industrial companies, resulting in innovations in education and science (OECD 2019). This partnership is expected to introduce fresh concepts to the industry, enhancing economic efficiency in industrial relations. Emphasising the social, innovation, and entrepreneurship functions of universities' third mission is crucial for the state, as highlighted by these policies (Guimón 2013). Additionally, the state's approach to enhancing universities' entrepreneurial skills is viewed as promoting the sharing of knowledge and solving real-world scientific challenges (Etzkowitz 2013). The success of industry-university collaborations is influenced by innovation, policymakers' eagerness to commercialise academic knowledge, and an innovative conceptual paradigm (Rybnicek and Königsgruber 2018). Furthermore, numerous countries have transitioned their higher education administration to a model rooted in neoliberal concepts, resulting in a gradual reduction of state support for higher education. This trend is evident in the budgets of universities in the United States (Saunders 2010), leading them to embrace a market-oriented management approach and endorse the entrepreneurial university model. With state funding on the decline, universities are turning to commercial ventures, increasing tuition fees, and forming partnerships with industrial companies to secure their financial future.

Although US academics are more open to university-industry collaboration, but many are sceptical of close commercial partnerships due to diminishing federal R&D funding and concerns about academic freedom (Lee 1996). The perceived threat to the researcher's freedom of research influences the decision to engage with industry (Tartari and Breschi 2012). Universities are more inclined to partner with industry if the company is mature and substantial, conducting exploratory internal R&D, and there are no significant intellectual property difficulties between the two parties (Cunningham and Link 2015). Whereas knowledge networks are underdeveloped in developing industries, and public funding for research initiatives is spread, making collaboration between universities and industries less feasible (Freitas *et al.* 2013). Factors influencing industry's readiness to engage with universities include industry capabilities, the incentive to build technological resources, and the intermediary's resources and procedure (Lai 2011). Similarly, in Kazakhstan, industrial companies may not be as enthusiastic about such collaborations. There are multiple factors contributing to this hesitation.

Initially, governments of many countries have been developing different normative acts and international agreements to guarantee industrial collaboration with universities. Academics from the Organisation for Economic Co-operation and Development (OECD) have suggested that OECD member countries include representatives of industrial companies in university governance bodies as external stakeholders (OECD 2019). Governments in OECD member nations supported these suggestions, diligently pursuing these goals. These nations are already economically robust, yet they consider such policies crucial at the intergovernmental level. In Kazakhstan, progress in this area has only started in the past two years. At the moment, only businesses engaged in subsoil activities must allocate 1% of their investment to training and another 1% to scientific research as per legal requirements. However, because of inconsistencies and deficiencies in the laws, progress in this area remains inadequate. In the business world, a company does not enter into a partnership through coercion; rather, it is a result of mutual interest and trust. Global practice indicates that companies typically only collaborate if it is financially beneficial or at least not detrimental. Certainly, industrial companies may have various reasons to be interested in such collaborations, which can come in different forms.

Nevertheless, there may be obstacles to establishing collaboration between universities and industries. First and foremost, the contrasting interests of the two parties can present a difficulty. Universities emphasise education and sharing knowledge, while industrial companies concentrate on competition and market dominance (Etzkowitz 2013). To address these conflicting interests, it is recommended to facilitate open discussions between the two parties, taking into account each other's interests to foster collaboration. Some experts suggest that industrial companies prioritise immediate returns on investments, while universities focus on long-term goals when collaborating (Saunders 2010). This is a legitimate concern, particularly in Kazakhstan, where equipment and tools at production sites are frequently imported, leading to challenges in incorporating local scientific products into operations due to high costs and time constraints.

Some Kazakhstani scholars believe that the industrial innovation programme aims to boost the scientific and innovative capabilities of the country's universities and necessitates international cooperation in science (Jumakulov 2019). They suggest that universities in Kazakhstan should expand their focus beyond traditional Soviet-era education and to align closely with the fields of science and industry. During the Soviet-era, science operated independently from universities and was mainly overseen by the Kazakh SSR Academy of Sciences. As a result, universities primarily concentrated on education and training. One viewpoint proposes that the lack of success in administrative reforms in Kazakhstan's higher education is partially attributed to a heavily centralised bureaucratic management system (Monobayeva and Howard 2015), characterised by widespread corruption and a deficiency in transparent and equitable governance. Consequently, centralised control hinders univesities' autonomy and their ability to achieve self-financing, which in turn complicates the establishment of collaborations between universities and industries.

Conclusion

The study has investigated the obstacles and strategic requirements involved in fostering collaboration between universities and industries in Kazakhstan. Upon examining Kazakhstan's political and legal acts, various intricate issues have been uncovered concerning collaboration between universities and industries. As an example, ambitious goals are targeted in strategic documents such as the "Concept for the Development of Higher Education and Science in the Republic of Kazakhstan for 2023-2029." Yet, in order to bring the ideas suggested in this Concept to life, it is crucial to promptly and efficiently implement alterations to the current laws. This is essential in dealing with bureaucratic challenges and the effectiveness of government departments. One of the primary obstacles to fostering collaboration between universities and industries in Kazakhstan is the gaps and deficiencies in legislation and regulatory-legal acts.

Another important problem lies in the lack of coordination among state bodies, which hampers the effective execution of collaborative work programmes. Even though state policies at a high level acknowledge the significance of fostering partnerships between academic institutions and industries and establish specific objectives for this purpose, several challenges have been identified in effectively involving universities in these collaborations.

Dealing with administrative matters and advocating for moral standards are also essential considerations. The education and science sectors in Kazakhstan are plagued by a lack of transparency, eroding trust among public institutions, private enterprises, and educational institutions. Collaboration is needed from government agencies and leaders in the education and industrial sectors.

Another obstacle is the financial challenges faced by universities. Smaller private educational institutions face challenges with insufficient funding, which affects their capacity to recruit experienced educators and

researchers. It is essential for universities to consider alternative funding approaches such as offering incentives to encourage the industrial sector to support education and research. Moreover, universities should explore alternative revenue streams such as commercialising research to enhance their financial autonomy.

It is crucial to align the objectives of universities with those of the industrial sector, as demonstrated by the study. Academic institutions are increasingly looking for external partnerships to boost innovation, address practical issues, and adapt to the decrease in state funding. This partnership is advantageous for all involved and helps advance education, economic prosperity, and societal advancement. Through this collaboration, universities transform into hubs for education and research, capable of commercialising their research discoveries, updating educational programmes to align with current needs, securing extra funding, and training sought-after specialists. Industrial companies can access state-of-the-art research, the newest technologies, and highly educated graduates; tap into fresh perspectives and creative ideas from university researchers; and gain a competitive edge through science-driven innovations, emerging technologies, and up-to-date knowledge and skills, all while boosting their corporate social responsibility. Ultimately, the partnership between universities and industries is a dynamic and multifaceted collaboration that goes beyond conventional limits.

Credit Authorship Contribution Statement

Sholpan Yessimova: Conceptualization, Investigation, Methodology, Writing – original draft, Supervision, Writing – review and editing;
Yerkesh Rakhymzhanov: Investigation, Formal analysis, Writing – original draft;
Bagdat Spanova: Investigation, Writing – original draft
Sulushash Baizhanova: Investigation, Writing – original draft, Writing – review and editing;
Marat Seidakhmetov: Investigation, Writing – original draft, Writing – review and editing;
Aiman Yessenova: Investigation, Writing – original draft, Writing – review and editing;
Bakhyt Altynbassov: Conceptualization, Investigation, Methodology, Project administration, Formal analysis, Writing – original draft, Writing – review and editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Declaration of Use of Generative AI and AI-Assisted Technologies

The authors declare that they have not used generative AI (a type of artificial intelligence technology that can produce various types of content including text, imagery, audio and synthetic data. Examples include ChatGPT, NovelAI, Jasper AI, Rytr AI, DALL-E, etc) and AI-assisted technologies in the writing process before submission, but only to improve the language and readability of their paper and with the appropriate disclosure.

References

[1] Adams, S.B. 2055. Stanford and Silicon Valley: Lessons on becoming a high-tech region. *California Management Review* 48(1): 29-51.

[2] Alexander, A., Martin, D.P., Manolchev, C., and Miller, K. 2020. University–industry collaboration: using meta-rules to overcome barriers to knowledge transfer. *Journal of Technology Transfer* 45(2): 371–392. DOI: https://doi.org/10.1007/s10961-018-9685-1

[3] Altynbassov B. *et al.* 2017. Organizational and legal aspects of fee-based education in the republic of Kazakhstan. *Journal of Advanced Research in Law and Economics*, 8.7 (29): 2072-2077.

[4] Altynbassov, B. *et al.* 2022. Academic Tourism as an Emerging Tourism Industry in Kazakhstan. Journal of Environmental Management and Tourism, 13.6: 1646-1657.

[5] Altynbassov, B. *et al.* 2021. The establishment of international university campuses as a key factor in the development of local tourism in the Turkestan region in Kazakhstan: Economic and legal aspects. *Journal of Environmental Management and Tourism*, 6 (54): 1454-1464.

[6] Ankrah, S., and Omar, A.T. 2015. Universities–industry collaboration: A systematic review. *Scandinavian Journal of Management,* 31(3): 387-408.

[7] Awasthy, R. 2021. A Framework for Evaluating and Improving University-Industry Collaboration.

[8] Bayanbayeva, A., *et al.* 2023. The Transformational Role of Entrepreneurial Universities in Fostering Tourism Sector of Kazakhstan: Legal Documentary Analysis. *Journal of Environmental Management and Tourism*, 4(68): 2046 - 2055. DOI: 10.14505/jemt.v14.4(68).16

[9] Benneworth, P., Charles, D., and Madanipour, A. 2007. Building Localized Interactions Between Universities and Cities Through University Spatial Development. *European Planning Studies* 18: 1611 - 1629. DOI:10.1080/09654313.2010.504345

[10] Bowen, G.A. 2009. Document Analysis as a Qualitative Research Method. *Qualitative Research Journal* 9(2): 27–40. DOI: 10.3316/QRJ0902027

[11] Bramwell, A., and Wolfe, D. 2008. Universities and regional economic development: The entrepreneurial University of Waterloo. *Research Policy* 37: 1175-1187. DOI: 10.1016/J.RESPOL.2008.04.016

[12] Braun, V., Clarke, V., Hayfield, N., and Terry, G. 2019. Thematic analysis. In Handbook of research methods in health social sciences.

[13] Cowan, R., and Zinovyeva, N. 2013. University effects on regional innovation. *Research Policy* 42: 788-800. DOI: 10.1016/J.RESPOL.2012.10.001

[14] Cunningham, J., and Link, A. 2015. Fostering university-industry R&D collaborations in European Union countries. *International Entrepreneurship and Management Journal* 11. DOI: 10.1007/S11365-014-0317-4

[15] Draghici, A., Baban, C.F., Gogan, M.L., and Ivascu, L.V. 2015. A knowledge management approach for the university-industry collaboration in open innovation. *Procedia Economics and Finance*, 23: 23-32.

[16] Drucker, J., and Goldstein, H. 2007. Assessing the Regional Economic Development Impacts of Universities: A Review of Current Approaches. *International Regional Science Review* 30: 20-46. DOI:10.1177/0160017606296731

[17] Englmann, F., and Walz, U. 1995. Industrial Centers and Regional Growth in the Presence of Local Inputs. *Journal of Regional Science* 35: 3-27. DOI: 10.1111/J.1467-9787.1995.TB01397.X

[18] Etzkowitz, H. 2013. Anatomy of the entrepreneurial university. *Social science information* 52(3): 486-511.

[19] Etzkowitz, H. and Leydesdorff, L. 1995. The Triple Helix--University-industry-government relations: A laboratory for knowledge based economic development. *EASST review* 14.1: 14-19.

[20] Guerrero, M., Cunningham, J., and Urbano, D. 2015. Economic Impact of Entrepreneurial Universities' Activities: An Exploratory Study of the United Kingdom. *Research Policy* 44: 748-764. DOI:10.1016/J.RESPOL.2014.10.008

[21] Guimón, J. 2013. Promoting university-industry collaboration in developing countries. *World Bank* (2013): 12-48.

[22] Harman, G. 2010. Funding of University Research. DOI: 10.1016/B978-0-08-044894-7.00878-2

[23] Hausman, N. 2020. University Innovation and Local Economic Growth. *Review of Economics and Statistics* 104: 718-735. DOI: 10.1162/rest_a_01027

[24] Heaton, S., Siegel, D., & Teece, D. Universities and innovation ecosystems: a dynamic capabilities perspective. Industrial and Corporate Change. DOI: 10.1093/ICC/DTZ038.

[25] Issabekov, Baurzhan, *et al.* 2022. University-Business Cooperation as a Key Factor in Innovative Economic Development in Kazakhstan. *Theoretical and Practical Research in Economic Fields* 13.1: 86-101.

[26] Jumakulov, Z., Ashirbekov, A., Sparks, J., and Sagintayeva, A. 2019. Internationalizing Research in Kazakhstan Higher Education: A Case Study of Kazakhstan's State Program of Industrial Innovative Development 2015 to 2019. *Journal of Studies in International Education* 23(2). DOI:10.1177/1028315318786445

[27] Lai, W. 2011. Willingness-to-engage in technology transfer in industry–university collaborations. *Journal of Business Research* 64: 1218-1223. DOI: 10.1016/j.jbusres.2011.06.026

[28] Lee, Y. 1996. 'Technology Transfer' and the Research University: A Search for the Boundaries of University-Industry Collaboration. *Research Policy* 25: 843-863. DOI: 10.1016/0048-7333(95)00857-8

[29] Lee, Y. 2000. The Sustainability of University-Industry Research Collaboration: An Empirical Assessment. *The Journal of Technology Transfer* 25: 111-133. DOI: 10.1023/A:1007895322042

[30] Leydesdorff, L., and Meyer, M. 2003. The Triple Helix of university-industry-government relations. *Scientometrics* 58: 191-203. DOI: 10.1023/A:1026276308287

[31] Monobayeva, A., and Howard, C. 2015. Are post-Soviet republics ready for the new public management? The case of educational modernization in Kazakhstan. *International Journal of Public Sector Management* 28(2): 150-164.

[32] Mowery, D., Mowery, D., Sampat, B., and Sampat, B. 2004. The Bayh-Dole Act of 1980 and University--Industry Technology Transfer: A Model for Other OECD Governments? *Journal of Technology Transfer* 30: 115-127. DOI: 10.1007/0-387-25022-0_18

[33] Plewa, C., Galán-Muros, V., and Davey, T. 2015. Engaging business in curriculum design and delivery: a higher education institution perspective. *Higher Education* 70: 35-53. DOI: 10.1007/S10734-014-9822-1

[34] Powell, W., Owen-Smith, J., and Colyvas, J. 2007. Innovaton and Emulation: Lessons from American Universities in Selling Private Rights to Public Knowledge. *Minerva* 45. DOI: 10.1007/S11024-007-9034-2

[35] Quetglas, G., and Grau, B. 2002. Aspects of University Research and Technology Transfer to Private Industry. *Journal of Business Ethics* 39: 51-58. DOI: 10.1023/A:1016375832641

[36] Rothaermel, F., Agung, S., and Jiang, L. 2007. University entrepreneurship: a taxonomy of the literature. *Industrial and Corporate Change,* 16: 691-791. DOI: 10.1093/icc/dtm023.

[37] Rybnicek, R., and Königsgruber, R. 2018. What makes industry–university collaboration succeed? A systematic review of the literature. *Journal of Business Economics* 89. DOI: 10.1007/S11573-018-0916-6

[38] Saunders, D.B. 2010. Neoliberal ideology and public higher education in the United States. *Journal for Critical Education Policy Studies* 8(1): 41-77.

[39] Scandura, A. 2016. University–industry collaboration and firms' R&D effort. *Research Policy* 45: 1907-1922. DOI: 10.1016/j.respol.2016.06.009

[40] Sjöö, K., and Hellström, T. 2019. University–industry collaboration: A literature review and synthesis. *Industry and Higher Education*, 33(4): 275-285.

[41] Tartari, V., and Breschi, S. 2012. Set Them Free: Scientists' Evaluations of the Benefits and Costs of University-Industry Research Collaboration.

[42] Uyarra, E. 2010. Conceptualizing the Regional Roles of Universities, Implications and Contradictions. *European Planning Studies*, 18: 1227-1246. DOI: 10.1080/09654311003791275

[43] Yessimova, Sh. *et al.* 2023. The influence of University-Business Cooperation in the development of local tourism in Kazakhstan: documentary analysis. *Journal of Environmental Management and Tourism*, 14.6: 2626-2640.

[44] "15 National Universities with the Biggest Endowments." Accessed from US News. https://www.usnews.com/education/best-colleges/the-short-list-college/articles/10-universities-with-the-biggest-endowments

[45] Code of the Republic of Kazakhstan dated December 27, 2017 No. 125-VI "On subsoil and subsoil use" (with amendments and additions as of July 1, 2023) / https://adilet.zan.kz/kaz/docs/K1700000125

[46] Concept of development of higher education and science in the Republic of Kazakhstan for 2023-2029. March 28, 2023 of the Government of the Republic of Kazakhstan

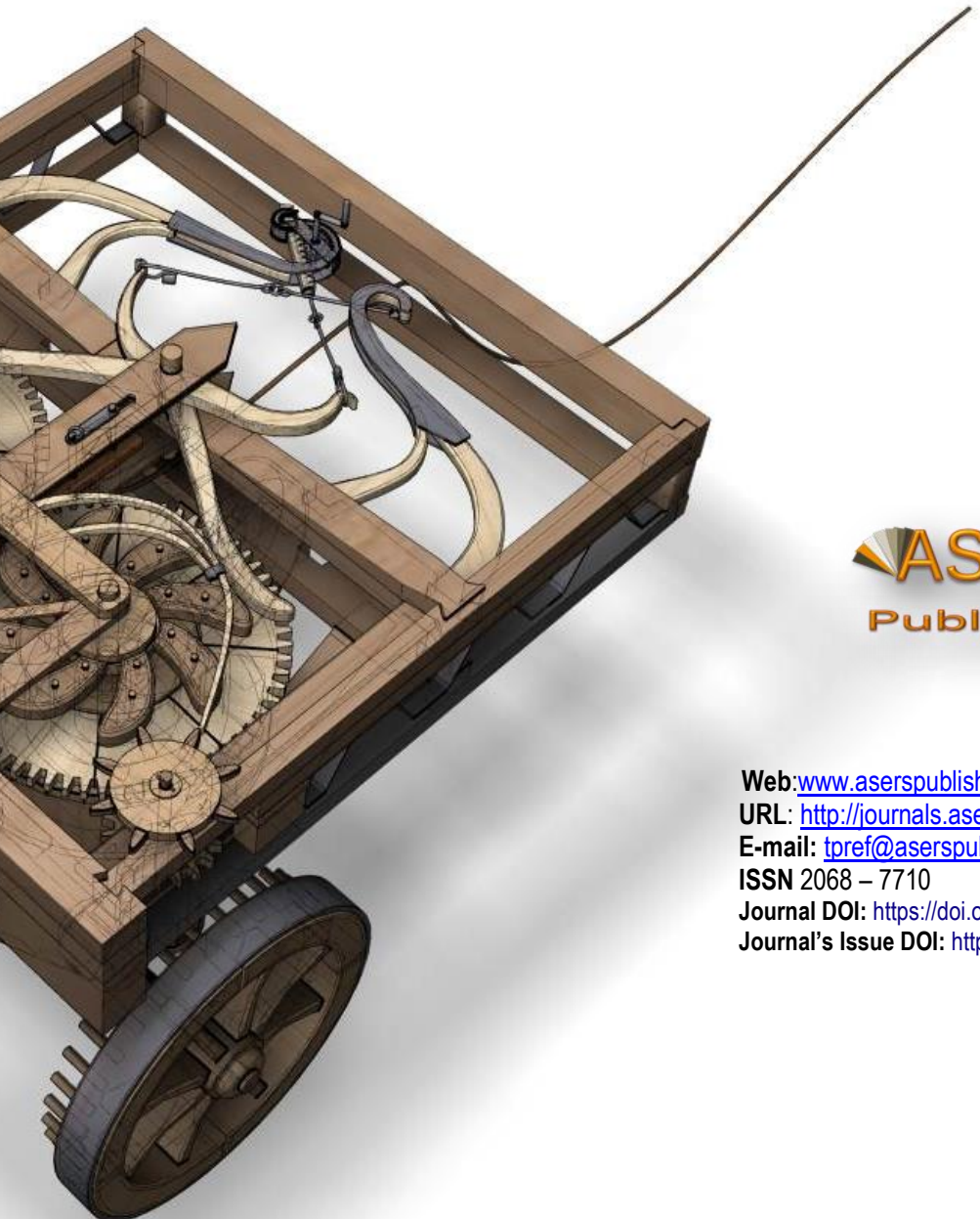
[47] OECD. Higher Education in Kazakhstan 2017, Reviews of National Policies for Education. OECD Publishing, Paris. In OECD Publishing, Paris.

[48] OECD. University-Industry Collaboration - New Evidence and Policy Options. OECD Publishing Paris, May 2019.

[49] "On the Approval of the State Program for the Development of Education and Science in the Republic of Kazakhstan for the Years 2020-2025." Decree No. 988 of the Government of the Republic of Kazakhstan, December 27, 2019.

[50] "The Concept for the Development of Higher Education and Science in the Republic of Kazakhstan for 2023 – 2029." Decree No. 248 of the Government of the Republic of Kazakhstan, March 28, 2023. Accessed via: https://adilet.zan.kz/kaz/docs/P2300000248

ASERS



ASERS Publishing

Web:www.aserspublishing.eu
URL: http://journals.aserspublishing.eu/tpref
E-mail: tpref@aserspublishing.eu
ISSN 2068 – 7710
Journal DOI: https://doi.org/10.14505/tpref
Journal's Issue DOI: https://doi.org/10.14505/tpref.v15.1(29).00