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RESOURCE-BASED CAPACITY AND TECHNOLOGICAL INFLUENCE IN THE MIDDLE EAST: STRATEGIC DEPENDENCIES AND IMPLICATIONS FOR KAZAKHSTAN

Abstract. This article examines the growing role of technological capabilities as an additional dimension of international influence in selected Middle Eastern states and assesses the implications of this development for Kazakhstan. Focusing on Saudi Arabia and the United Arab Emirates, the study investigates how resource-derived financial capacity is increasingly combined with investment in artificial intelligence, digital infrastructure, advanced computing, data ecosystems, research institutions, and international technology partnerships. The purpose of the research is to determine how these capabilities contribute to technological influence while identifying the strategic dependencies that continue to shape their development. The scientific novelty of the study lies in analyzing technological influence and external technological dependence as interconnected rather than mutually exclusive dimensions of contemporary power. Instead of interpreting technological modernization primarily through economic diversification or national AI strategies, the article examines how expanding technological capacity can coexist with reliance on external suppliers of advanced semiconductors, cloud infrastructure, frontier technologies, and specialized expertise. The research applies historical analysis, comparative case-study analysis, and qualitative document analysis. The empirical base consists of official national strategies, legislation, government and institutional documents, international reports, and recent peer-reviewed scholarship. Kazakhstan is examined as a comparative context rather than as an equivalent Gulf case. The findings indicate that technological capabilities supplement rather than replace established resource-based advantages. They can broaden international influence while simultaneously generating or reproducing strategic dependencies. For Kazakhstan, this relationship highlights the importance of combining international technological cooperation with the development of domestic infrastructure, human capital, research capacity, and institutional resilience.

Keywords: Middle East; resource-based power; technological influence; strategic technological dependence; artificial intelligence; digital infrastructure; Saudi Arabia; United Arab Emirates; Kazakhstan.

Introduction

The international influence of the hydrocarbon-exporting states of the Gulf has historically been closely connected to their position in global energy markets, the financial resources generated by oil and gas exports, and the investment capacity accumulated through resource revenues. These factors remain central to the political economy of the region. Technological development should therefore not be interpreted as evidence that energy resources have ceased to constitute an important basis of state capacity. Rather, the contemporary question concerns whether resource-derived financial advantages are increasingly being converted into additional forms of economic, technological, and international influence. Saudi Arabia's development strategy illustrates this dual logic: diversification is intended to reduce excessive dependence on oil revenues without eliminating the continuing economic significance of the energy sector, while digital infrastructure and advanced technologies

have been incorporated into the broader competitiveness agenda (Saudi Vision 2030 Annual Report, 2024: 139).

For the purposes of this study, resource-based power does not imply that the international position of Middle Eastern states can be explained solely through natural resources. The concept is used more narrowly to describe forms of state capacity and international leverage substantially supported by revenues, financial assets, and investment capabilities generated from natural-resource endowments. This distinction is important because the article does not posit a linear transition from an established resource-based model toward a technologically determined one. Instead, it examines whether technological capabilities are becoming an additional layer of influence operating alongside established energy, financial, and investment advantages.

This question has acquired greater relevance as several Gulf states have incorporated artificial intelligence, advanced computing, cloud infrastructure, digital platforms, data governance, research, and innovation into national development strategies. Comparative research on the Gulf Cooperation Council demonstrates that national AI strategies increasingly associate technological development with economic diversification, government modernization, international competitiveness, and longer-term developmental objectives (Albous, Al-Jayyousi, Stephens, 2025: 2389-2393). The prominence assigned to these areas indicates that technology is no longer treated solely as a technical component of domestic modernization. It has become connected to broader questions of investment, international partnership, economic competitiveness, and participation in emerging global technological networks.

Saudi Arabia represents one of the clearest examples of this development. The Kingdom's National Strategy for Data and AI places data, artificial intelligence, research, skills development, infrastructure, and international competitiveness within a coordinated state framework (SDAIA, 2020). Saudi Vision 2030 implementation documents similarly connect digital infrastructure, cloud technologies, artificial intelligence, and cybersecurity with the development of a more diversified and competitive economy (Saudi Vision 2030 Annual Report, 2024: 139). These policy priorities do not indicate the disappearance of resource-derived advantages. On the contrary, substantial financial and sovereign investment capacity provides an important material foundation for the acquisition of technological infrastructure and the formation of partnerships with leading international technology companies.

The United Arab Emirates has followed a related but institutionally distinct trajectory. The UAE Strategy for Artificial Intelligence, launched in 2017, connected AI with government performance, infrastructure, investment, sectoral modernization, and the longer-term development of national technological capacity (UAE Government, 2017). Subsequent policies have been accompanied by the development of research institutions, state-supported technology companies, investment mechanisms, computing infrastructure, and extensive international partnerships. At the same time, research on Gulf AI governance continues to identify constraints involving data, human capital, regulation, institutional coordination, and dependence on internationally connected technological ecosystems (Albous, Al-Jayyousi, Stephens, 2025: 2392-2396).

The emergence of such capabilities raises an analytical issue that cannot be explained adequately through economic diversification alone. A state may increase investment in digital infrastructure, host advanced computing facilities, establish specialized research institutions, attract global technology firms, or expand domestic AI applications without becoming technologically autonomous. The production and deployment of advanced semiconductors, high-performance computing systems, cloud environments, frontier AI models, specialized software, and highly qualified expertise remain embedded within transnational networks characterized by significant concentration and asymmetry.

Research on international interdependence provides a useful conceptual basis for understanding this problem. Farrell and Newman demonstrate that global economic and informational networks are not necessarily symmetrical. Where strategically important nodes are concentrated within particular jurisdictions or institutions, interdependence can create unequal relationships and provide actors

controlling those nodes with substantial leverage over access and exchange (Farrell, Newman, 2019: 42-46). Although this framework was not developed specifically to explain Gulf technology policy, its central insight is applicable to contemporary technological relations: deeper integration into global technology networks may simultaneously increase national capability and create vulnerability to external constraints.

Recent technology partnerships involving Gulf states make this duality particularly visible. The Microsoft-G42 arrangement, for example, combines Emirati investment and infrastructure with Microsoft-operated technological environments, U.S. export-control requirements, compliance mechanisms, and conditions governing access to advanced technologies (Chavez, 2025: 5-7). Saudi Arabia's technology development similarly involves extensive partnerships with external providers of cloud infrastructure, advanced computing, semiconductors, software, and technical expertise (Chavez, 2025: 8-11). Such arrangements demonstrate that technological capability and external dependency should not be understood as opposite conditions. Both can develop simultaneously.

This observation is central to the concept of technological influence used in the present study. Technological influence is not treated as synonymous with technological sovereignty, technological leadership, or national control over an entire technology stack. It refers instead to the ability of a state to use technological infrastructure, investment resources, research institutions, innovation ecosystems, and international technology partnerships to increase its relevance within cross-border economic and political relationships. A state may therefore acquire greater technological influence even when significant components of its technological ecosystem remain dependent on foreign providers.

The corresponding concept of strategic technological dependence refers to sustained reliance on external actors for technological capabilities that are strategically important and difficult to substitute domestically within a short or medium-term period. Such dependencies may involve advanced semiconductors, large-scale computing capacity, cloud infrastructure, frontier AI systems, specialized software, high-level technical expertise, and access to international research and commercial networks. Dependence becomes strategically relevant not simply because a technology originates abroad, but because alternatives are limited and continued access may be influenced by political, regulatory, or commercial decisions beyond the recipient state's control.

Existing scholarship has already examined many individual elements of this process. Contemporary research addresses national AI strategies across the GCC, technology-driven economic diversification, digital governance, semiconductor and computing infrastructure, U.S.-China technological competition, and Gulf partnerships with major global technology companies. It would therefore be inaccurate to suggest that technological modernization or external technological dependence in Saudi Arabia and the UAE remain unexplored phenomena. The research problem of the present article is narrower: technological capability, international influence, resource-derived financial capacity, and external technological dependence are frequently investigated within separate analytical frameworks, while less attention has been devoted to how they interact as components of the same process.

The regional scope of the study is deliberately limited. Saudi Arabia and the UAE are not treated as representative of the Middle East as a whole. The region contains states with substantially different political systems, innovation structures, resource endowments, and technological capacities. The two Gulf states are selected as illustrative Middle Eastern cases because they combine substantial resource-derived financial capacity with explicit state-led technology strategies and extensive international technological partnerships. The Middle East therefore provides the broader regional setting, while the empirical comparison concentrates on Saudi Arabia and the UAE.

Kazakhstan enters the research from a different analytical position. It is not treated as a third equivalent case, and the article does not assume that Gulf technological policies can be transferred directly to the Kazakhstani context. Nevertheless, Kazakhstan has progressively developed a more comprehensive technological policy framework. The Concept for the Development of Artificial

Intelligence for 2024-2029 established priorities concerning computing infrastructure, data resources, a national AI platform, human-capital development, scientific research, regulation, and the application of AI technologies across different sectors of the economy and public administration (Government of the Republic of Kazakhstan, 2024). The institutional framework subsequently moved beyond strategic planning with the adoption of the Law "On Artificial Intelligence" in November 2025, which created a dedicated legal basis for state regulation of AI and defined institutional responsibilities and basic requirements for AI systems (Law of the Republic of Kazakhstan "On Artificial Intelligence", 2025). This trajectory was extended in 2026 through the adoption of the Digital Qazaqstan Strategy until 2029, which places artificial intelligence within a wider architecture encompassing infrastructure, computing capacity, data, large language models, platforms, cybersecurity, human capital, and international technological cooperation (Digital Qazaqstan, 2026).

The sequence of the 2024 Concept, the 2025 AI Law, and the 2026 Digital Qazaqstan Strategy demonstrates that Kazakhstan's technological policy is evolving from sector-specific digitalization toward a more integrated institutional framework. Yet the existence of such strategies does not itself demonstrate technological autonomy. Kazakhstan, like the Gulf states, operates within global markets for semiconductors, cloud services, computing equipment, software, capital, research cooperation, and technological expertise.

Against this background, the article addresses the following research question: How is technological influence developing alongside strategic technological dependencies in selected Middle Eastern states, and what implications do these emerging patterns have for Kazakhstan?

The study advances the proposition that technological capabilities are becoming an additional dimension of international influence in Saudi Arabia and the UAE rather than replacing their established resource-based advantages. Resource-derived financial capacity facilitates infrastructure development, technological investment, research institutions, computing resources, and international partnerships, but the resulting technology ecosystems remain embedded in global networks characterized by unequal control over critical hardware, software, expertise, and access. The analytical relevance of the Gulf experience for Kazakhstan lies precisely in this coexistence of expanding capability and persistent dependence.

Materials and methods

This study employs a qualitative comparative research design combining historical analysis, comparative case-study analysis, and qualitative document analysis. The methodological design follows directly from the research question. Historical analysis is used to identify change and continuity in the role of technology within national development strategies; comparative analysis examines similarities and differences between Saudi Arabia and the United Arab Emirates; and document analysis provides the principal method for evaluating official strategies, legislation, institutional materials, international documents, and relevant academic research.

The principal period of analysis is 2016–2026. The starting point is analytically significant because Saudi Vision 2030, launched in 2016, marked the institutionalization of a major state-led economic diversification strategy, while the UAE Strategy for Artificial Intelligence followed in 2017. The selected period therefore captures the development of technology-oriented policies from broad diversification agendas toward increasingly explicit strategies involving AI, data governance, computing infrastructure, research, and international technology partnerships. Earlier developments are considered only when required to explain the historical foundations of resource-based capacity or long-standing patterns of technological dependence.

The comparative component follows the logic of the structured, focused comparison developed by Alexander L. George and Andrew Bennett. This approach requires the application of a common set of analytically relevant questions to each selected case and limits comparison to dimensions directly connected to the research problem (George, Bennett, 2005: 67). The method is appropriate because Saudi Arabia and the UAE share relevant structural characteristics but differ sufficiently in

institutional organization, economic scale, investment mechanisms, and international technology partnerships to make comparison analytically productive.

The two Gulf states are selected through purposive rather than statistically representative case selection. Three criteria guide this choice. First, both possess substantial financial and investment capacity historically associated with hydrocarbon revenues. Second, both have adopted explicit state strategies assigning a significant role to digital technologies, artificial intelligence, infrastructure, research, and innovation. Third, both maintain extensive partnerships with international technology companies and are therefore suitable for examining the coexistence of capability-building and external technological dependence.

Four common questions structure the comparison. First, which technological capabilities are national authorities attempting to develop, and what functions are assigned to them within broader state strategy? Second, which domestic institutions, financial mechanisms, and international partnerships support these capabilities? Third, in which strategically significant technological areas does dependence on external actors remain substantial? Fourth, how do technological capabilities contribute to international positioning when access to critical components continues to depend on global technological networks?

Kazakhstan is incorporated at a second stage of the analysis and is not treated as a third equivalent case. A direct three-country comparison would obscure substantial differences in fiscal resources, sovereign investment capacity, demographic structure, domestic market size, access to global capital, and institutional conditions. Instead, Kazakhstan functions as a comparative context through which the analytical relevance of the patterns identified in the Gulf cases can be evaluated.

Qualitative document analysis constitutes the principal method for examining the empirical material. Bowen defines document analysis as a systematic process of reviewing and interpreting documentary evidence in order to generate empirical understanding rather than simply extracting information from texts (Bowen, 2009: 27-30). The method requires attention to the origin, purpose, credibility, context, and limitations of documentary sources, particularly where governmental materials constitute a substantial part of the evidence base (Bowen, 2009: 31-33).

The documentary corpus is organized into four categories. The first consists of official national strategies, legislation, and government documents. These materials are used to identify declared objectives, institutional frameworks, stated development priorities, and intended trajectories of technological policy. The second category consists of international and institutional documents relating to AI governance, technological access, infrastructure, digital development, and international cooperation. United Nations General Assembly Resolution A/RES/78/265 is used to situate national strategies within the broader international debate on safe and trustworthy AI development, technological capacity, access, and international cooperation (United Nations General Assembly, 2024: 1-8).

The third category includes recent peer-reviewed academic literature, with priority given to publications from the previous five years. Older academic sources are retained only where they provide established theoretical or methodological foundations. The fourth category consists of independent institutional and specialized policy research. Such sources are particularly important when analyzing rapidly developing international technology agreements that have not yet been examined extensively in peer-reviewed publications.

Official documents are not treated as neutral descriptions of policy implementation. Their principal value lies in identifying declared priorities, formal institutions, regulatory arrangements, and stated objectives. Government publications may naturally emphasize achievements and intentions while providing less information about implementation difficulties, commercial limitations, or external dependency. Claims based on official material are therefore compared, where possible, with peer-reviewed scholarship, implementation reports, international documentation, and independent research.

To ensure conceptual consistency, technological influence is assessed through five observable dimensions: the capacity to develop or host advanced technological and computing infrastructure; state-supported investment in strategic technologies; the development of domestic research, innovation, and human-capital institutions; the ability to establish substantial international technology partnerships; and participation in cross-border technological, investment, research, or governance networks. These dimensions are evaluated qualitatively and are not combined into a numerical index.

Strategic technological dependence is assessed through a separate set of indicators. It refers to sustained reliance on external actors for capabilities that are strategically important and difficult to substitute domestically within a short or medium-term period. Particular attention is given to advanced semiconductors, high-performance computing, large-scale cloud infrastructure, frontier AI systems, specialized software, advanced technical expertise, and access conditions influenced by export-control or regulatory mechanisms. This interpretation is informed by Farrell and Newman's analysis of asymmetric interdependence, which shows that global networks can generate unequal relationships when strategically important nodes are concentrated and when a limited number of actors possess disproportionate influence over access, information, or flows (Farrell, Newman, 2019: 42-46).

The analysis also distinguishes systematically between policy intention, implementation, and international effect. The adoption of a national strategy demonstrates policy intention. Institutions, infrastructure, investment, research activity, and operational partnerships provide evidence of implementation. Claims concerning technological influence require additional evidence that such capacities affect cross-border partnerships, investment relationships, access to technological networks, or wider international positioning. This distinction prevents governmental ambition from being treated automatically as an established outcome.

Several limitations are acknowledged. First, technological policy and AI ecosystems are evolving rapidly, and initiatives introduced near the end of the 2016-2026 period cannot yet be assessed in terms of long-term outcomes. Second, commercially sensitive information concerning technological contracts, computing infrastructure, technology transfer, and ownership structures is not always publicly available. Third, Saudi Arabia and the UAE cannot be generalized to the Middle East as a whole. Fourth, substantial structural differences make direct policy transfer from the Gulf monarchies to Kazakhstan inappropriate. The objective of the study is therefore not to construct a universal model of technological power, but to identify how technological influence and strategic dependence interact in two significant Middle Eastern cases and to assess the analytical relevance of this relationship for Kazakhstan.

Discussion

The relationship between resource wealth and technological development constitutes the first major strand of scholarship relevant to this study. Earlier analyses of the Gulf political economy predominantly emphasized hydrocarbons, rent distribution, state-led investment, sovereign financial capacity, and economic diversification. More recent research does not necessarily reject this interpretation but increasingly examines how resource-derived capital is redirected toward technology-intensive sectors. This development is especially visible in Saudi Arabia and the UAE, where AI infrastructure, advanced computing, research institutions, technology companies, and state-backed investment vehicles have become increasingly prominent.

Recent scholarship cautions against interpreting this process as a straightforward transition from hydrocarbon-based economies to autonomous technology economies. Albous, Al-Jayyousi and Stephens show that the national AI strategies of GCC states connect AI with economic diversification, public-sector modernization, competitiveness, and regional positioning, but they also identify persistent constraints involving data, human capital, regulation, stakeholder participation, and implementation (Albous, Al-Jayyousi, Stephens, 2025: 2389-2396). Their findings are significant

because they distinguish declared strategic ambition from the institutional capacity required to sustain technological development.

Mulani and Fort reach a related conclusion from a supply-chain perspective. Their analysis of the UAE and Saudi Arabia shows that both states possess significant advantages in capital, energy availability, infrastructure financing, and state coordination, while their ability to compete at upstream layers such as leading-edge semiconductor design and frontier-model development remains much more limited (Mulani, Fort, 2026: 1-4). This shifts the analytical question away from whether Gulf states can reproduce the technological structure of the United States or China and toward where they can acquire strategic relevance within globally distributed AI ecosystems.

A second strand of scholarship examines technology as an instrument of international positioning. In this literature, infrastructure, investment, computing capacity, and partnerships are not simply components of domestic modernization; they can alter a state's bargaining position and its attractiveness as a regional platform. Mulani and Fort argue that the Gulf states may become strategically important at particular layers of the frontier-AI supply chain precisely because energy, data-center capacity, and investment capital are increasingly important inputs into model training and deployment (Mulani, Fort, 2026: 1-4). This perspective complements research focused on AI governance because it highlights the external rather than exclusively domestic effects of technological capacity.

At the same time, scholarship on great-power competition emphasizes the structural dependence embedded in many Gulf technology partnerships. Chavez's analysis of U.S.-Gulf AI agreements shows that access to advanced U.S. technology is accompanied by compliance, security, oversight, and export-control mechanisms that shape how the technology may be deployed and transferred (Chavez, 2025: 5-11). Such arrangements do not negate Gulf agency, but they demonstrate that international partnership can simultaneously expand capability and institutionalize external constraints.

The theoretical relevance of this pattern is reinforced by Farrell and Newman's work on asymmetric interdependence. Their core argument is that networked globalization can produce concentrated nodes whose controllers gain strategic leverage over actors dependent on them (Farrell, Newman, 2019: 42-46). In the technology sector, the critical issue is not whether states import technologies—international production makes this normal—but whether access to strategically important inputs is concentrated among a limited number of suppliers and subject to rules that receiving states cannot independently determine.

This distinction helps clarify why technological influence should not be equated with technological sovereignty. The capacity to host infrastructure, mobilize sovereign capital, attract firms, build research institutions, and participate in cross-border technology networks can increase a state's external relevance even when it does not control all critical layers of the technological system. Conversely, dependence on foreign semiconductors or cloud platforms does not mean that domestic technological development lacks strategic significance. The more useful analytical problem is the coexistence of growing capability and persistent dependence.

A third strand of scholarship concerns governance and domestic absorptive capacity. Albous, Al-Jayyousi and Stephens emphasize that Gulf AI strategies remain constrained by talent shortages, data challenges, and regulatory gaps (Albous, Al-Jayyousi, Stephens, 2025: 2392-2396). This is particularly important because the visibility of Gulf investment can encourage an infrastructure-centered interpretation of technological power. Data centers and computing clusters can be acquired relatively quickly; mature research ecosystems, specialized human capital, institutional learning, and the capacity to develop or adapt advanced systems evolve more slowly.

The Kazakhstan literature has developed along a different trajectory. Much recent work focuses on digital governance, legal regulation, and institutional adaptation. OECD analysis identifies substantial progress in digital government but also continuing barriers affecting connectivity, infrastructure quality, competition, investment conditions, and firms' capacity to absorb digital

technologies (OECD, 2023: 3, 10-11). More recent Kazakhstan-focused legal scholarship examines the transition from general digitalization policy to a dedicated AI regulatory framework. Nurgaliyeva, Baimakhanova, Zharkenova and Galiakbarova analyze Kazakhstan's 2025 AI legislation in comparison with the European Union's risk-based model and emphasize accountability, institutional adaptation, and the protection of rights (Nurgaliyeva, Baimakhanova, Zharkenova, Galiakbarova, 2026: 161-164).

These studies demonstrate the growing sophistication of the domestic AI-governance debate, but they do not directly address the problem at the center of the present article: how international technological cooperation can expand national capacity while generating or reproducing strategic dependence on external technological ecosystems. The research gap is therefore narrower than a claim that technology or dependency in the Gulf is unexplored. Existing work already examines AI governance, supply chains, infrastructure, and great-power competition. The contribution here is to connect resource-derived financial capacity, technological capability, technological influence, and strategic technological dependence within a single analytical sequence and then assess its relevance to Kazakhstan.

This approach also avoids a "lessons from the Gulf" framework. Saudi Arabia and the UAE possess fiscal and sovereign investment resources that Kazakhstan does not possess at comparable scale. Their institutional arrangements, market positions, and international investment profiles are different. The analytical value of the comparison lies not in direct policy transfer but in the broader structural question of how technologically ambitious states manage dependence while attempting to increase domestic capability and international relevance.

Results

The comparative analysis produces four main findings. First, resource-derived financial capacity remains an important enabling condition for technological expansion in both Saudi Arabia and the UAE. Second, technological influence is developing through infrastructure, investment, and cross-border partnerships rather than through complete domestic control of the technology stack. Third, expanding capability does not eliminate strategic dependence on foreign suppliers, especially in advanced semiconductors, cloud infrastructure, and frontier AI systems. Fourth, these patterns have direct analytical relevance for Kazakhstan, where a more integrated national AI framework is emerging under substantially different structural conditions.

The Saudi case demonstrates particularly clearly how resource-supported financial capacity is being converted into technology-oriented assets. In May 2025, the Public Investment Fund created HUMAIN as a PIF-owned company intended to operate across the AI value chain, including next-generation data centers, cloud infrastructure, advanced models, and AI applications (PIF, 2025). The significance of HUMAIN is institutional as well as financial: it consolidates several layers of AI development within a vehicle directly connected to the Kingdom's sovereign investment architecture.

Saudi policy therefore demonstrates continuity between the resource and technology sectors rather than a clean break between them. The ability to make large-scale investments in computing infrastructure and international partnerships is facilitated by pre-existing sovereign financial capacity. The October 2025 agreement for Aramco to acquire a significant minority stake in HUMAIN, while PIF retains majority ownership, further illustrates the attempt to connect the Kingdom's established energy-sector capabilities with its emerging AI ecosystem (PIF, 2025a). Technology is therefore being developed partly through institutional and financial assets accumulated within the resource-based economy.

The UAE follows a related but more networked pattern. Its technological strategy is embedded in partnerships among domestic state-supported entities and major international firms. Stargate UAE, announced in 2025, is planned as a 1 GW AI cluster in Abu Dhabi, with 200 MW expected to become operational in 2026. The project involves G42, OpenAI, Oracle, NVIDIA, Cisco, and SoftBank and forms part of a wider UAE-U.S. AI partnership (OpenAI, 2025). Because this is an announced project

rather than completed capacity, its significance lies in the structure of the partnership and the scale of intended infrastructure rather than in treating the planned figure as an accomplished outcome.

The comparison indicates that technological influence can develop through the role of host, investor, infrastructure provider, and strategic partner. Saudi Arabia and the UAE do not need to control every technological layer in order to become more important to global firms and governments. Their financial capacity, energy resources, location, and ability to build large-scale infrastructure make them attractive partners within globally distributed technological networks. Mulani and Fort's analysis supports this interpretation by showing that both states can become important at particular layers of the frontier-AI supply chain even while remaining weaker in leading-edge chip design and frontier-model development (Mulani, Fort, 2026: 1-4).

The most important result, however, is that capability expansion and strategic dependence develop simultaneously. In November 2025, the U.S. Department of Commerce authorized G42 and HUMAIN to purchase the equivalent of up to 35,000 NVIDIA Blackwell GB300 chips each, while explicitly conditioning the approvals on security and reporting requirements monitored by U.S. authorities (U.S. Department of Commerce, 2025). This case demonstrates that possession of capital and planned data-center capacity does not provide unrestricted access to the most advanced computing hardware. Access remains shaped by the regulatory and security policies of the state controlling critical parts of the semiconductor ecosystem.

The same pattern is visible in the organizational structure of large technology projects. Stargate UAE combines Emirati capital and hosting capacity with technology and operational roles supplied by foreign firms. In Saudi Arabia, HUMAIN's infrastructure ambitions similarly depend on partnerships with external providers of GPUs, cloud systems, software environments, and technical expertise. These relationships are not evidence that the Gulf states lack agency. Rather, they demonstrate that agency is exercised within a technologically interdependent system in which control over key nodes remains unequal.

The comparison also reveals institutional differences between the two Gulf cases. Saudi Arabia's approach is comparatively centralized and strongly associated with sovereign investment and nationally coordinated entities. The creation of HUMAIN under PIF reflects an attempt to consolidate infrastructure, models, cloud capability, and international partnerships within a state-backed platform. The UAE model is more visibly networked across state-supported firms, sovereign investment vehicles, research institutions, and international corporate partnerships. These differences do not amount to two completely separate models, but they suggest distinct institutional emphases in the conversion of resource-derived capacity into technological influence.

For Kazakhstan, the results are relevant at three levels. The first concerns infrastructure. The Digital Qazaqstan Strategy adopted in June 2026 envisages a sovereign AI Hub designed as a large-scale data-center ecosystem bringing together advanced computing capacity, research institutions, and technology companies; the strategy sets a planned design capacity of up to 1 GW and explicitly anticipates participation by private investors, international technology firms, development institutions, and foreign experts (Digital Qazaqstan, 2026). The planned scale should not be read as existing capacity, but it demonstrates that Kazakhstan's policy has moved toward linking AI with strategic infrastructure rather than treating it only as a software or public-service issue.

The second implication concerns the distinction between access and autonomy. Kazakhstan can expand domestic computing resources, data infrastructure, and research capacity through international partnerships, but the Gulf cases demonstrate that such partnerships do not automatically reduce dependence on external semiconductors, cloud systems, frontier models, or specialized expertise. The relevant question is therefore not whether Kazakhstan can eliminate technological interdependence, but whether critical dependencies can be identified, diversified, and managed.

The third implication concerns domestic absorptive capacity. OECD analysis shows that Kazakhstan's digital development continues to be affected by differences in infrastructure quality, investment conditions, competition, and the ability of firms to adopt digital technologies (OECD,

2023: 3, 10-11). This means that large-scale infrastructure projects should be evaluated together with research capacity, human capital, institutional coordination, regulatory quality, and the ability of domestic firms and public institutions to use advanced technologies effectively.

The empirical relationship identified by the study can therefore be summarized as follows: resource-derived capacity can facilitate technological investment and infrastructure; these investments can increase technological capability and international relevance; but increased capability can coexist with, and sometimes deepen, integration into externally controlled technological networks. This relationship is not unique to the Gulf, but the Saudi and Emirati cases make it particularly visible because of the scale of their investment and the strategic significance of their international partnerships.

Conclusion

This article has examined the relationship between resource-based capacity, technological influence, and strategic technological dependence in Saudi Arabia and the United Arab Emirates and assessed the implications of this relationship for Kazakhstan. The analysis demonstrates that the growing technological ambitions of the two Gulf states should not be interpreted as evidence of a transition from resource-based power to a post-resource model. Technological capabilities are emerging as an additional dimension of state capacity whose development continues to depend substantially on financial and investment resources generated within resource-based political economies.

The first major finding is that resource-derived financial capacity remains an important enabling condition for technological expansion. Saudi Arabia and the UAE are able to mobilize substantial public and state-linked investment for computing infrastructure, AI development, research institutions, data ecosystems, and international technology partnerships. The relationship identified is therefore one of accumulation rather than substitution: established energy and financial capacities are increasingly supplemented by technological infrastructure and innovation-oriented investment.

The second finding concerns the nature of technological influence. The comparative analysis indicates that technological influence does not require complete domestic control over every layer of a technological system. States may increase their international relevance by hosting advanced infrastructure, financing large-scale computing projects, attracting major technology companies, developing research institutions, and participating in cross-border technology networks. Saudi Arabia and the UAE illustrate different institutional pathways toward this objective.

The third and most significant finding is that greater technological capability does not eliminate strategic technological dependence. The selected Gulf states continue to rely on external actors for advanced semiconductors, cloud technologies, frontier AI systems, specialized software, and technical expertise. In several cases, access to these technologies is shaped not only by commercial relationships but also by export-control regimes, security requirements, and regulatory decisions taken outside the recipient states. Technological development can therefore simultaneously increase national capability and deepen integration into networks whose most critical nodes remain externally controlled.

This coexistence of capability and dependency constitutes the central analytical contribution of the article. Rather than treating technological influence and technological dependence as mutually exclusive conditions, the study demonstrates that they can develop simultaneously. The more useful distinction is therefore not between technological dependence and independence, but between different forms, degrees, and manageability of dependence.

The implications for Kazakhstan follow from this relationship rather than from any assumption that Gulf policies can be directly transferred to the Kazakhstani context. Kazakhstan's technological policy has become progressively more institutionalized through the Concept for the Development of Artificial Intelligence for 2024-2029, the 2025 Law "On Artificial Intelligence," and the 2026 Digital Qazaqstan Strategy. These developments indicate an effort to strengthen domestic computing

infrastructure, data resources, AI platforms, regulation, research capacity, human capital, and international technological cooperation.

For Kazakhstan, the strategic issue is therefore not whether external technological dependence can be eliminated entirely. Complete technological self-sufficiency would be unrealistic for most states in a highly integrated global technological economy. The more relevant question is whether critical dependencies can be identified, diversified, and managed while domestic capability increases in areas where local development is economically and institutionally feasible.

The scientific novelty of the study lies in linking three elements that are frequently examined separately: resource-derived capacity, technological influence, and strategic technological dependence. The analysis demonstrates that technological influence in the Gulf is not developing independently of resource-based power and does not necessarily produce technological sovereignty. Instead, resource-derived capital can support the expansion of technologically relevant capabilities while those capabilities remain embedded in asymmetric structures of global interdependence.

The broader conclusion is that technological influence should be understood as an additional, rather than substitutive, form of contemporary state power. In the Middle Eastern cases examined here, resource-based advantages continue to provide an important financial foundation for technological expansion, while international technological networks create both new opportunities for influence and new forms of strategic dependence. For Kazakhstan, recognizing this duality is essential for assessing the long-term significance of its technological modernization and its position within an increasingly competitive global technological environment.

References:

Albous, Al-Jayyousi, Stephens, 2025 – *Albous M.R., Al-Jayyousi O.R., Stephens M.* AI Governance in the GCC States: A Comparative Analysis of National AI Strategies // Journal of Artificial Intelligence Research. 2025. Vol. 82. P. 2389–2422.

Bowen, 2009 – *Bowen G.A.* Document Analysis as a Qualitative Research Method // Qualitative Research Journal. 2009. Vol. 9. No. 2. P. 27–40.

Chavez, 2025 – *Chavez P*. U.S. AI Statecraft: From Gulf Deals to an International Framework. Washington, DC: Center for Security and Emerging Technology, Georgetown University, 2025. https://doi.org/10.51593/20250019.

Digital Qazaqstan, 2026 – Ob utverzhdenii Obshchenatsional'noy strategii masshtabnoy tsifrovizatsii i total'nogo vnedreniya tekhnologiy iskusstvennogo intellekta ‘Digital Qazaqstan’ do 2029 goda [On Approval of the National Strategy for Large-Scale Digitalization and Total Implementation of Artificial Intelligence Technologies ‘Digital Qazaqstan’ through 2029]. Ukaz Prezidenta Respubliki Kazakhstan ot 9 iyunya 2026 goda № 1311 [Electronic resource]. URL: https://adilet.zan.kz/rus/docs/U2600001311 (accessed: 12.07.2026) (in Rus).

Farrell, Newman, 2019 – *Farrell H., Newman A.L.* Weaponized Interdependence: How Global Economic Networks Shape State Coercion // International Security. 2019. Vol. 44. No. 1. P. 42-79.

George, Bennett, 2005 - *George A.L., Bennett A.* Case Studies and Theory Development in the Social Sciences. Cambridge, MA: MIT Press, 2005. 331 p.

Government of the Republic of Kazakhstan, 2024 - Ob utverzhdenii Kontseptsii razvitiya iskusstvennogo intellekta na 2024-2029 gody [On Approval of the Concept for the Development of Artificial Intelligence for 2024-2029]. Postanovlenie Pravitel'stva Respubliki Kazakhstan ot 24 iyulya 2024 goda № 592 [Electronic resource]. URL: https://adilet.zan.kz/rus/docs/P2400000592 (accessed: 28.06.2026) (in Rus).

Law of the Republic of Kazakhstan ‘On Artificial Intelligence’, 2025 - Law of the Republic of Kazakhstan dated November 17, 2025, No. 230-VIII [Electronic resource]. URL: https://www.adilet.zan.kz/eng/docs/Z2500000230 (accessed: 11.05.2026).

Mulani, Fort, 2026 – *Mulani N., Fort K.* AI Oases: Leveraging Gulf AI Ambitions for U.S. Strategic Objectives // Cambridge Forum on Technology and Global Affairs. 2026. Vol. 1. Article e2. P. 1-20.

Nurgaliyeva, Baimakhanova, Zharkenova, Galiakbarova, 2026 – *Nurgaliyeva Y., Baimakhanova A., Zharkenova S., Galiakbarova G.* Bridging the Gap: Accountability and Risk-Based Regulation in Kazakhstan's Artificial Intelligence Legislation // Access to Justice in Eastern Europe. 2026. Vol. 9. No. 2. P. 161-186. DOI: 10.33327/AJEE-18-9.2-a000187.

OECD, 2023 – OECD. Improving Framework Conditions for the Digital Transformation of Businesses in Kazakhstan. Paris: OECD Publishing, 2023. 75 p. DOI: 10.1787/368d4d01-en.

OpenAI, 2025 – Introducing Stargate UAE [Electronic resource]. 22 May 2025. URL: https://openai.com/index/introducing-stargate-uae/ (accessed: 07.05.2026).

PIF, 2025 – Public Investment Fund. HRH Crown Prince Launches HUMAIN as Global AI Powerhouse [Electronic resource]. 12 May 2025. URL: https://www.pif.gov.sa/en/news-and-insights/press-releases/2025/hrh-crown-prince-launches-humain-as-global-ai-powerhouse/ (accessed: 19.06.2026).

PIF, 2025a – Public Investment Fund. PIF and Aramco Agree for Aramco to Acquire a Significant Minority Stake in HUMAIN, with PIF Retaining Majority Ownership [Electronic resource]. 28 October 2025. URL: https://www.pif.gov.sa/en/news-and-insights/press-releases/2025/pif-and-aramco-agree-for-aramco-to-acquire-a-significant-minority-stake-in-humain-with-pif-retaining-majority-ownership/ (accessed: 05.06.2026).

Saudi Vision 2030 Annual Report, 2024 – Saudi Vision 2030 Annual Report 2024. Riyadh: Kingdom of Saudi Arabia, 2024.

SDAIA, 2020 – Saudi Data and Artificial Intelligence Authority. National Strategy for Data & AI. Strategy Narrative. Riyadh, 2020 [Electronic resource]. URL: https://sdaia.gov.sa/en/SDAIA/SdaiaStrategies/Pages/NationalStrategyForDataAndAI.aspx (accessed: 08.06.2026).

UAE Government, 2017 – UAE Government. UAE Strategy for Artificial Intelligence [Electronic resource]. October 2017. URL: https://u.ae/en/about-the-uae/strategies-initiatives-and-awards/strategies-plans-and-visions/government-services-and-digital-transformation/uae-strategy-for-artificial-intelligence (accessed: 14.06.2026).

United Nations General Assembly, 2024 – United Nations General Assembly. Seizing the Opportunities of Safe, Secure and Trustworthy Artificial Intelligence Systems for Sustainable Development. Resolution A/RES/78/265. New York: United Nations, 2024. 8 p.

U.S. Department of Commerce, 2025 – U.S. Department of Commerce. Statement on UAE and Saudi Chip Exports [Electronic resource]. 19 November 2025. URL: https://www.commerce.gov/news/press-releases/2025/11/statement-uae-and-saudi-chip-exports (accessed: 28.06.2026).

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ТАЯУ ШЫҒЫС МЕМЛЕКЕТТЕРІНДЕГІ РЕСУРСТЫҚ ӘЛЕУЕТ ПЕН ТЕХНОЛОГИЯЛЫҚ ЫҚПАЛ: СТРАТЕГИЯЛЫҚ ТӘУЕЛДІЛІКТЕР ЖӘНЕ ҚАЗАҚСТАН ҮШІН МАҢЫЗЫ

Аңдатпа. Мақалада Таяу Шығыстың жекелеген мемлекеттеріндегі технологиялық дамудың халықаралық ықпалға әсері қарастырылып, бұл үдерістердің Қазақстан үшін маңызы

бағаланады. Зерттеудің негізгі нысаны – Сауд Арабиясы мен Біріккен Араб Әмірліктері. Бұл елдерде көмірсутек секторынан қалыптасқан қаржылық және инвестициялық мүмкіндіктер жасанды интеллектіні, цифрлық инфрақұрылымды, жоғары өнімді есептеу жүйелерін, ғылыми-зерттеу әлеуетін және халықаралық технологиялық ынтымақтастықты дамытуға барған сайын белсенді бағытталуда. Зерттеудің мақсаты - технологиялық әлеуеттің ұлғаюы аталған мемлекеттердің халықаралық ұстанымдарына қалай ықпал ететінін және технологиялық мүмкіндіктер кеңейген жағдайда стратегиялық тәуелділіктің қандай түрлері сақталатынын анықтау. Зерттеудің ғылыми жаңалығы технологиялық ықпал мен стратегиялық технологиялық тәуелділікті өзара байланысты құбылыстар ретінде қарастырудан тұрады. Цифрлық трансформация мен жасанды интеллектіні дамыту үдерістерін негізінен экономиканы әртараптандыру тұрғысынан талдайтын зерттеулерден айырмашылығы, бұл мақалада технологиялық әлеуеттің артуы алдыңғы қатарлы жартылай өткізгіштерге, есептеу қуатына, бұлттық инфрақұрылымға, бағдарламалық шешімдерге және жоғары білікті мамандарға сыртқы тәуелділіктің сақталуымен қатар жүруі мүмкін екеніне назар аударылады. Зерттеудің әдіснамалық негізін тарихи талдау, салыстырмалы кейс-талдау және құжаттарды сапалық талдау әдістері құрайды. Дереккөздер қатарын ұлттық стратегиялар, заңнамалық және үкіметтік құжаттар, халықаралық ұйымдардың материалдары және қазіргі рецензияланған ғылыми еңбектер құрайды. Қазақстан Парсы шығанағы мемлекеттерімен тікелей теңестірілмейді, керісінше дербес салыстырмалы контекст ретінде қарастырылады. Зерттеу нәтижелері технологиялық дамудың ресурстық артықшылықтарды ығыстырмай, оларды толықтыратынын, сонымен бірге халықаралық ықпал мүмкіндіктерін кеңейтіп, стратегиялық тәуелділіктің жекелеген түрлерін сақтайтынын көрсетеді. Қазақстан үшін бұл халықаралық технологиялық ынтымақтастықты ұлттық инфрақұрылымды, ғылыми-зерттеу әлеуетін, адами капиталды және институционалдық мүмкіндіктерді жүйелі түрде нығайтумен ұштастыру қажеттігін білдіреді.

Кілт сөздер: Таяу Шығыс; ресурстық әлеует; технологиялық ықпал; стратегиялық тәуелділіктер; жасанды интеллект; цифрлық инфрақұрылым; Сауд Арабиясы; Біріккен Араб Әмірліктері; Қазақстан.

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РЕСУРСНЫЙ ПОТЕНЦИАЛ И ТЕХНОЛОГИЧЕСКОЕ ВЛИЯНИЕ НА БЛИЖНЕМ ВОСТОКЕ: СТРАТЕГИЧЕСКИЕ ЗАВИСИМОСТИ И ЗНАЧЕНИЕ ДЛЯ КАЗАХСТАНА

Аннотация. В статье рассматривается усиление роли технологического развития в международном позиционировании отдельных государств Ближнего Востока и оценивается значение этих процессов для Казахстана. Основное внимание уделяется Саудовской Аравии и Объединённым Арабским Эмиратам, где финансовые и инвестиционные возможности, сформированные за счёт углеводородного сектора, всё активнее направляются на развитие искусственного интеллекта, цифровой инфраструктуры, высокопроизводительных вычислений, научно-исследовательской базы и международного технологического сотрудничества. Цель исследования состоит в выявлении того, каким образом наращивание технологического потенциала влияет на международные позиции этих государств и какие виды стратегической зависимости сохраняются по мере расширения их технологических возможностей. Научная новизна исследования заключается в рассмотрении технологического

влияния и стратегической технологической зависимости как взаимосвязанных проявлений одного процесса. В отличие от работ, в которых цифровая трансформация и развитие искусственного интеллекта преимущественно анализируются в контексте экономической диверсификации, в статье внимание сосредоточено на сочетании растущего технологического потенциала с сохраняющейся зависимостью от внешнего доступа к передовым полупроводникам, вычислительным мощностям, облачной инфраструктуре, программным решениям и специализированным знаниям. Методологическую основу исследования составляют исторический анализ, сравнительный анализ кейсов и качественный анализ документов. Источниковая база включает национальные стратегии, законодательные и правительственные документы, материалы международных организаций и современные рецензируемые исследования. Казахстан рассматривается не как прямой аналог государств Персидского залива, а как самостоятельный сравнительный контекст. Результаты исследования показывают, что технологическое развитие не вытесняет ресурсные преимущества, а дополняет их, расширяя возможности международного влияния и одновременно сохраняя отдельные формы стратегической зависимости. Для Казахстана это указывает на необходимость сочетать международное технологическое сотрудничество с последовательным развитием собственной инфраструктуры, научно-исследовательского потенциала, человеческого капитала и институциональных возможностей.

Ключевые слова: Ближний Восток; ресурсный потенциал; технологическое влияние; стратегические зависимости; искусственный интеллект; цифровая инфраструктура; Саудовская Аравия; Объединённые Арабские Эмираты; Казахстан.

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