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Chinese Electric Vehicles (EVs) in Kazakhstan:

Public Perceptions and Economic Implications

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Abstract

This paper aims to explore the integration of Chinese electric vehicles (EVs) into Kazakhstan and analyze the public perceptions of Kazakhstani people about these EVs and their import. The study applies a mixed-method approach: primary data is an online survey among Kazakhstani EV drivers, whereas theoretical and conceptual literature, legal, and government documents served as secondary data.

Survey results illustrate a largely positive perception of Chinese EVs in Kazakhstan, highlighting their affordability, technological features, and environmental benefits. Meanwhile, the survey indicates several key challenges, i.e., underdeveloped infrastructure for EV adoption, insufficient government support, and a lack of public awareness about policy incentives.

Furthermore, the paper emphasizes the dual nature of Chinese EV integration into Kazakhstan and researches its main implication: is it a new path to economic growth, strengthening Sino-Kazakhstani relations, or a broader reliance on China—currently dominating the global EV market—which may raise its regional power in Central Asia?

Beyond the Kazakhstani-focused analysis of the paper, it also discusses broadly the Sino-Kazakhstani strategic economic partnership under the bilateral cooperation and the Belt and Road Initiative (BRI). Additionally, the paper investigates how the BRI infrastructure may facilitate global Chinese EV trade, given Kazakhstan's role as a transition hub within the initiative. Moreover, it evaluates the contribution of Chinese EV integration together with Kazakhstan's green transition to the BRI's goal of sustainable development and, at large, China's economic leadership.

Finally, the study presents insights into Kazakhstan's efforts to reduce oil and gas dependency through economic diversification and green economy advancement. It also examines key potential opportunities and obstacles of Chinese EV integration for the country and provides policy recommendations related to EV adoption for domestic economic reinforcement.

Key words: Chinese electric vehicles (EVs), economic cooperation, public perceptions, Sino-Kazakhstani Relations, Belt and Road Initiative (BRI).

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1. Introduction

Today, China exports its electric vehicles (hereafter referred to as EVs) to Kazakhstan, demonstrating its growing economic presence in the region. Besides a general world tendency towards green policy and sustainability, which dictates the shift to eco-friendly driving, the EV sector more specifically has the potential to become one of the instruments of China's foreign policy, making Kazakhstan an EV importer and diversifying the bilateral relations through the high-tech industry. Meanwhile, for Kazakhstan, the phenomenon of Chinese EV adoption is an unprecedented development in the car industry, illustrating a new path in its economic cooperation with China, but its long-term economic implications remain unclear: what can it bring for the country, particularly from a long-term economic perspective?

Within the economic and societal contexts, the paper aims to explore the implications of Chinese EVs for Kazakhstan, a country that emphasizes its potential in the energy sector with substantial oil and gas reserves and therefore aims to diversify its economic sector. The research paper examines the impact of Chinese EVs on Kazakhstan's economic development, with a specific focus on the public perceptions of Kazakhstani drivers about these vehicles obtained through an online questionnaire. Additionally, the paper analyzes the potential contribution of the vehicles to Kazakhstan's environmental goals by addressing the country's current ecological challenges. Finally, the paper assesses the nature of Chinese EV presence in Kazakhstan: whether it is a short-term trend that will not significantly influence the economic development of the country or if it will support the economic and environmental objectives of Kazakhstan, evolving into China's long-term strategy for economic integration.

Therefore, the main content of the research focuses on two central topics: an analysis of the economic implications of Chinese EV integration and the public perception of Kazakhstani drivers. The section *Evolution of Sino-Kazakhstani Economic Relations* introduces the key concepts related to bilateral partnership, providing empirical and contextual insights, and identifying the gap in the existing research — a lack of studies on Chinese EV integration into the Kazakhstani car industry. Moreover, the section *Market Presence and Strategic Significance of Chinese EVs in Kazakhstan* presents a general overview of several types of Chinese EVs, highlighting the significance of their presence in a developing Kazakhstani market that lacks domestic EV production. The section *Survey Results* and its subsections illustrate the findings on the public perceptions of Kazakhstani citizens toward the growing Chinese EV distribution in the domestic market, whereas the section *Analysis and Strategic Implications* with its subsections are designed to explore deeply key results of the survey, showing the correlation between these perceptions and Kazakhstan's broader economic

strategies and environmental goals. Additionally, the section *BRI's Infrastructure for EV Trade* provides a new approach to the development of specific infrastructure projects under the Belt and Road Initiative (hereafter referred to as BRI), contributing to the distribution of Chinese EVs and enhancing Kazakhstan's role within the initiative.

My objectives for the research are:

- Explore the tendency of Chinese EV entry into Kazakhstan.
- Analyze the economic implications of the Chinese EVs to Kazakhstan.
- Investigate public perceptions of Chinese EVs in Kazakhstan.

To reach the goals of this research, the following research questions were formed:

- 1) How does the Chinese EV integration into Kazakhstan influence the economic development of Kazakhstan?
- 2) What are the public perceptions of Chinese EVs in Kazakhstan?
- 3) What are the potential economic and environmental consequences of this integration?

Today, due to the novelty of the Chinese EV presence in Kazakhstan, the research area is under-researched, and there is a limited number of studies dedicated to this topic. However, the research on the Chinese EV integration into Kazakhstan is important for deep exploration since the share of Chinese EVs in the Kazakhstani car market is growing, leading to new trends in the car industry and providing a potential tool for the economic diversification that Kazakhstan aims to achieve. In addition, this integration complies with Kazakhstan's shift towards a green economy, supporting its environmental policies and strategies. Moreover, it enlarges the view on China-Kazakhstan bilateral economic relations, particularly in the field of car manufacturing, which is one of the actively developing industries in China. Therefore, the relevance of the study emphasizes the comprehensive character of the topic, which covers several fields of development in two countries: for China, it will give an understanding of how well their EVs are adopting into Kazakhstan, more specifically, how well it matches with the preferences of local buyers, addressing their needs, do the EVs have a potential to become a strong economic tool under the Chinese government, and what aspects to enhance for broader integration in the future, considering the national needs of importer, whereas for Kazakhstan, it contributes to the investigation of both the economic and ecological implications, recognizing the potential opportunities and obstacles of the adoption.

2. Evolution of Sino-Kazakhstani Economic Relations and Kazakhstan's Role in China's Central Asia Strategy

The introduction of Sino-Kazakhstani historical ties is crucial for the discussion on the economic development of both sides, since it demonstrates the evolution of bilateral partnership, the formation of the current joint economic strategies, highlighting the relevance for economic diversification, and the integration of Chinese EVs in Kazakhstan's domestic car market.

The establishment of diplomatic ties between China and Kazakhstan started in 1992 after Kazakhstan was the last of the Soviet Union republics to declare its independence in 1991. Within only a decade, Kazakhstan has become China's second biggest partner in the post-Soviet space after Russia. Moreover, the term "strategic" is very accurate in describing Sino-Kazakhstani bilateral relations over the long period of time, constantly considering mutual benefits with complementary objectives, economic needs, and geographic proximity (Peyrouse 2008, 34-35).

Godbole (2015, 301) has discussed that China's strategic interests in Kazakhstan are framed by the concept known as China's 'Central Asian Pivot', the relevance of which is based on China's fundamental political strategies of engaging in multilateral cooperation with Central Asian states, in particular with Kazakhstan. In this sense, Kazakhstan's geographical location, having shared borders with China, Russia, and almost all Central Asian countries (except Tajikistan), makes it an appealing and strategically significant partner. Moreover, the historical background of Kazakhstan, as a post-Soviet country with strong Russian influence, enhances its value to China in the framework of Sino-Russian relations, contributing to geopolitical stability and providing more opportunities for trilateral partnership.

Meanwhile, as Melet (1998, 225) has shown, the relations between China and Kazakhstan are rooted in their geographical location as two neighboring states and shared historical background, particularly the collapse of the USSR. The gain of independence of Kazakhstan in 1991 as a result of the dissolution of the Soviet Union was a starting point for the development of China-Kazakhstan relations in economic and political terms. In addition, Kazakhstan's main regional policy peculiarity is its high cooperativeness with the neighboring countries, i.e., post-Soviet countries and China. Therefore, the author indicates that the national independence, along with Kazakhstan's regional strategies at the end of the 20th century in Kazakhstan's historical background, greatly contributed to the current Sino-Kazakhstani political and economic collaboration.

During the post-Soviet era, with the Sino-Soviet conflict retrospectively, the Kazakhstani government presented balanced policies towards cooperation with both post-Soviet countries and China. However, these policies were not identical, since the relations of Kazakhstan with other post-Soviet states are based on a solid historical background, and although the Soviet Union collapsed, Russia still was interested in maintaining influence on former members of the USSR, increasing its regional presence, and preserving close ties with them. For instance, from 1991 to the present time, Russian-Kazakhstan bilateral cooperation is still multidimensional, covering a variety of fields of development. Furthermore, the establishment of organizations such as the Commonwealth of Independent States (CIS) in 1991, the Collective Security Treaty Organization (CSTO) in 1992, the Eurasian Economic Community (EurAsEC) in 2001-2014, which was later replaced by the Eurasian Economic Union (EAEU) in 2014, aiming to regulate the relations of the former Soviet states in the political, economic, military and other fields, underscores the idea of unity reminiscent of the Soviet Union. Meanwhile, these states realized that without such initiatives of regional integration, there was little chance of achieving economic rise separately due to a lack of tools for development, and as a result, partly compromised their economic sovereignty by reducing a capacity to independently handle domestic policies and foreign affairs, adopting supranational regulations set by organizations. (Yesdauletova and Yesdauletov 2014, 11-15).

In contrast, for Kazakhstan, a young country with a post-Soviet background, China presented a potential opportunity for economic development, which was highly required to withstand the economic crisis after the dissolution of the USSR. It was the first time when Kazakhstan introduced China as a neighboring country, as previously, against the backdrop of the Sino-Soviet conflict, the two countries had no opportunity to cooperate and build relationships independently. The Chinese authorities decided to open up the Xinjiang region, bordering Kazakhstan and other Central Asian countries, enhancing the integration into trade with them under its national program “Great West”, whereas Kazakhstan tried to benefit from China’s economic course, engaging itself in the Asia-Pacific prosperity zone. Subsequently, the amount of trade between China and Kazakhstan achieved the highest rate (approximately 70%) among the whole Central Asian region, which represented more than two-thirds of all China-Central Asia trade (Peyrouse 2008, 34-41).

In addition to the growing trade flow within the bilateral economic cooperation, another equally significant field is energy cooperation. By the end of the 20th century, China had become one of the greatest consumers of hydrocarbons globally, and expected that in 2020, there would be a lack of petroleum in the country. Thus, Beijing decided to have negotiations

with Astana in 1997 for access to Kazakhstani fossil fuel (oil and natural gas) supplies. As a result of these negotiations, in 1997, the China National Petroleum Corporation (CNPC) began the process of oil and gas purchases along with the construction of a pipeline in Kazakhstan to transport oil and gas to China. In the aftermath, these negotiations resulted in a bilateral agreement, consisting of pipeline construction, investments in industry development, and acquiring a stake in major production fields. To elaborate, with the construction of the Atasu-Alashakou pipeline in 2003, leading to the entry of other Chinese gas and oil companies into Kazakhstan's industry, China finally maintained its position as a Kazakhstani primary partner in the energy field (Peyrouse 2008, 41-43).

Apart from the bilateral agreements, Movkebaeva (2013, 86) has highlighted that it is crucial to consider the strategies of both sides under the Shanghai Cooperation Organization (hereafter referred to as SCO) given energy cooperation. The network of pipelines is a foundation for regional energy interdependence, particularly between China, Kazakhstan, and Russia (see *Map 1*). The execution of the SCO's energy strategy might significantly contribute to the ongoing development of the economies of SCO member states and have a favorable impact on the global economy at large in light of economic instability. The SCO, therefore, offers Kazakhstan and China a positive diplomatic backdrop for their future energy cooperation. Nonetheless, for the SCO to reach its full potential, all member nations must have the political will to work together for mutual benefit.



Map 1. Pipeline Network Linking China, Kazakhstan, and Russia. Adapted from “Oil and gas pipelines in Central Asia,” Eurasia Project on the Environment, Harvard University,

<https://eurasia.omeka.fas.harvard.edu/items/show/963>.

As one of the comprehensive frameworks for Sino-Kazakhstani relations, the SCO is not limited to the energy strategy; it implements a variety of joint and multilateral initiatives, particularly in the political field among member states. As Yuan (2010, 856) has suggested, the SCO is an essential component of maintaining friendly relations, and regional security, particularly border stability, and counter-terrorism efforts. Beyond security concerns, the SCO is also aiming to achieve other goals within regional economic integration and infrastructure development. Moreover, currently, it serves as one of the main platforms that unifies China, Central Asian countries (Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan), and Russia, providing high-level dialogue between their heads of state.

However, McDermott (2012, 60) has argued that while the SCO plays a crucial role in economic and energy cooperation, its effectiveness in political concerns remains debatable, particularly in regional security matters. The organization constantly emphasizes a significant need to ensure regional security in the regions of state members, but it faces many obstacles in resolving the critical situations, leading to ongoing crises in Central Asian countries.

Once Kazakhstan became independent, China has presented its economic interests in Kazakhstan, taking into consideration the geographic proximity with shared borders and the economic potential in the energy sector of the country. Since Kazakhstan has many natural resources, such as oil, gas, and a variety of minerals, China can benefit from their mining and manufacturing by investing, increasing the number of trade agreements, and designing infrastructure projects (Masood *et al.* 2022, 73). The potential of Kazakhstan in the energy sector has a great influence on the bilateral collaboration between the two parties, because there are shared economic interests between China and Kazakhstan, particularly in the oil and gas production fields. Nonetheless, as one of the fossil fuel-dependent countries, today Kazakhstan is highly interested in diversifying its economy, pursuing a shift to other economic fields of development, and in the long run achieving domestic economic sustainability by being able to withstand crises without a devaluation of the national currency (Kalyuzhnova and Lee 2014, 206).

Beyond the cooperation in the oil and gas industry, the development of bilateral trade relations between China and Kazakhstan is another key economic sector, bringing mutual benefits. Sino-Kazakhstani trade involves several initiatives, such as infrastructure development, investments in road and railways, reduction of trade barriers, changing government policies, and promotion of business networks, resulting in a comprehensive long-term strategic partnership. However, geographical boundaries, political and security problems,

inconsistent tariff policy, and poor investment climate have been the key obstacles preventing the further improvement of these trade relations of China with Kazakhstan (Raballand and Agnès 2007, 235).

Furthermore, China's current economic policy with Kazakhstan aims at promoting the perception of China as a regional leader with soft power rather than aggressive dominance, and thus it brings the further enhancement of Sino-Kazakhstani economic cooperation, mostly under the BRI. The BRI is a critically important Chinese-led initiative, which the Chinese President Xi Jinping first announced during his visit to Astana in September 2013, reflecting China's foreign economic strategy, aiming to establish economic sustainability along its borders. Given that 43% of fuel consumption in the Asia-Pacific region is annually imported, the BRI also contributes to the demand for Kazakhstan's natural resources among strategy members, particularly China. At the same time, the Ministry of Ecology and Environment of the People's Republic of China proposed an effort to "green" the BRI (the so-called "Green Belt and Road"), which, along with China's participation in the Paris Agreement¹ of 2016, is aimed at fostering the country's green transition, complementing Kazakhstan's own goal of green economy development (Manish and Behera 2024, 147; Wang *et al.* 2019).

Moreover, the BRI is a key concept in China's engagement with the region because its infrastructural achievements boost the accessibility and distribution of Chinese EVs throughout Central Asia. It provides a huge opportunity for China to strengthen its economic presence in Kazakhstan, which has a strategic location and serves as a transition corridor for China. The framework of the BRI plays a crucial role in the study of the several economic implications within the Chinese EV distribution, because it greatly influences the current economic bilateral relations, along with integrating the environmental goals of both Kazakhstan and China, providing a comprehensive perspective on Sino-Kazakhstani relations and underlining the upcoming tendency of the Chinese EV integration (Manish and Behera 2024, 148).

However, as Xuanli Liao (2021, 520) has discussed, although China's geopolitical importance in Central Asia has increased with the presence of the BRI, it has also drawn criticism for several reasons, including so-called debt traps and problems with governance in the region. The author argues that China should take on more responsibility for ensuring peace

¹ The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at the UN Climate Change Conference in Paris, France, on 12 December 2015. *The Paris Agreement*. United Nations Framework Convention on Climate Change, 2015, <https://unfccc.int/process-and-meetings/the-paris-agreement>.

and security in Central Asia with other nations, given its higher power potential, as it is in the best interests of BRI and the broader global community.

Thus, in line with China's goal of maintaining a positive international image, it is open to cooperating in a friendly way with neighboring countries, following its national strategy to create a special area that will unite other countries on the principle of shared interests and mutual benefits. In these terms, Kazakhstan and China are very suitable partners mostly due to economic, political, and security matters. In the economic front particularly, according to this bilateral integration, China has the opportunity to provide Kazakhstan with free trade, promoting its economic model of development to other neighboring countries in Central Asia. Meanwhile, Kazakhstan serves as a significant transit zone through its territory for the high-volume projects and trade of China with European countries. In the security matters, in case of any regional and geopolitical threat to Kazakhstan, China is likely to be ready to help and resist any threats to the sovereignty and territory of Kazakhstan. However, the Chinese political development model, with its highly centralized political power focusing on one person, negatively influences the political model of Kazakhstan since it enhances the further consolidation of an authoritarian regime in the Republic of Kazakhstan (Kembayev 2020, 204).

Meanwhile, the presence of EVs in the Central Asian country with an emerging economy contributes to the national development in a comprehensive way. To elaborate, Kazakhstan has a goal of economic diversification along with a reduction of the reliance on fossil fuel extraction, which is one of the sectors causing environmental issues, e.g., carbon emissions, air pollution, water pollution, and resource depletion, soil degradation, climate change acceleration, and others.

Moreover, the EV entry into Kazakhstan can advance the country's potential to become a leader in high-tech innovation and global sustainability. Technological innovation is also one of the incentives for the establishment of Chinese EVs in Kazakhstan, as it is a milestone for upcoming Kazakhstan economic affairs. To be more specific, the advancement of EV devices, such as lithium-ion batteries and thermal management systems, ensures opportunities for Kazakhstan to be involved in innovative economic practices globally (Serikkaliyeva 2019, 441). Subsequently, a potential technological advancement of Kazakhstan in view of EV entry can attract more foreign investments to the domestic car industry, resulting in the development of local car manufacturing and market. In addition, the export of EVs can create new workplaces for local people, which also stimulates economic growth. As a result, EV integration provides plenty of economic opportunities not only in the car industry but also in the environmental and technology fields (Sarsembayev *et al.* 2023, 324).

However, as Kurmanov and Idrisova (2023, 101-102.) have explored that making EV integration highly beneficial for Kazakhstan's aims to diversify the economy and develop environmental sustainability requires specific measures from the government authorities. These measures include support for the adoption of electric buses, education and training of staff in the electric transport field, cooperation with other countries and international organizations access to innovative technologies and valuable expertise, subsidies to stimulate EV production and distribution, encouragement of enterprises for EV battery recycling, and others.

Additionally, despite the relevance and potential opportunities of Chinese EV integration into Kazakhstan, Sarsembayev *et al.* (2023, 330) have also claimed that there are several legal barriers in the export of these vehicles, particularly in electronic signature laws, intellectual property protection for EV technology, cybersecurity and data privacy regulations, and compliance with national trade agreements. Since EVs are a part of an innovative approach toward the achievement of sustainable and eco-friendly transportation, the level of national digitalization plays a crucial role in the presence of technological novelty, hindering the development and adoption of the EV industry. Therefore, the government of Kazakhstan should provide a complex legal framework that will control the EV industry and ensure a huge amount of its import, following a demand for appropriate regulations and protection of rights. Other obstacles in the EV integration that were also identified in the online questionnaire, such as underdeveloped infrastructure, a lack of qualified staff, and insufficient government support for the development of infrastructure and the EV market will be further discussed in the subsection *Opportunities and Obstacles for Kazakhstan*.

To sum up, based on the literature review, although Kazakhstan is a comparatively young nation, the Sino-Kazakhstani political and economic bilateral cooperation has been well-researched today and has often been examined together due to close interrelation, particularly in the view of the BRI and SCO. While the establishment of China-Kazakhstan economic ties has lasted merely for 34 years, the bilateral partnership has greatly progressed every year, primarily covering trade, energy sector, and infrastructure development with manufacturing projects of the BRI. However, there is still a limited amount of research on the case of Chinese EVs and public perceptions about it, highlighting the importance of addressing these gaps and contributing to future studies through the expansion of academic sources and fieldwork.

I suppose that Kazakhstan might focus on the EV field as one of the potential paths for further diversification and enhancement of bilateral relations, considering the high relevance of these vehicles in the present time. Therefore, this integration will continue to grow, and the

cooperation between the two countries will obtain a new form, particularly in the economic sector. Nevertheless, I also consider that Kazakhstan, as a developing country with poor infrastructure, has not completely adopted yet to import of a huge amount of EVs, shifting rapidly from gasoline cars to Chinese EVs. Therefore, the country will possibly produce and advance special components for EVs, resulting in a rising level of local modernization. Meanwhile, besides the economic implications, the political collaboration will strengthen as well under the existing bilateral and multilateral partnerships, particularly within the membership of the SCO and BRI.

3. Theoretical Framework

According to the compiled research questions and objectives, this thesis aims to deeply analyze the China-Kazakhstan economic partnership and the role of Chinese EVs in it, considering Kazakhstani public perceptions and economic potential. In this section, I will present the theories that I will apply to do research on the Chinese EV integration into Kazakhstan within economic fields, employing economic dependencies and technological diffusion as key theoretical perspectives.

The Dependency Theory is a theory by Raúl Prebisch and Hans Singer, which emerged in the 1950s in the field of related social sciences, and later was also explored by Andre Gunder Frank and Fernando Henrique Cardoso, and other authors. The theory is relevant for research on Sino-Kazakhstani economic relations, as it helps to explain Kazakhstan's course on integration into regional collaborations with foreign economic forces, leading Kazakhstan to remain a developing nation and “periphery” in the framework of the Dependency Theory. To be more specific, the theory underlines Kazakhstan’s increasing reliance on China, the regional leader, for industrial imports and on domestic reserves of oil and gas, which China imports. As a result, China gets access to strategically important resources through the energy industry, enlarging its national power as a “core”, whereas Kazakhstan cannot successfully fulfill economic diversification under the national strategy “Kazakhstan 2030: Prosperity, Security and Ever-Growing Welfare of All the Kazakhstanis.” (Bohnenberger-Rich 2015, 150; Dossan 2020, 130)

Therefore, today the integration of the Chinese EVs into the developing economy of Kazakhstan is ambiguous, which is possibly leading to both positive and negative consequences, bringing potential opportunities as well as threats in the near future. On the one hand, the presence of Chinese EVs, given their technological features and impact on the environment, implies an innovative breakthrough for the country, where there is a lack of full-scale domestic car production and issues related to the localization of automobile components (Serikkaliyeva *et al.* 2024, 6). This integration can become a sample case for Kazakhstan, showing how car manufacturing can contribute to economic development without reliance on import substitution or the extraction of fossil fuels, as the state currently does. Moreover, EVs, compared to petrol vehicles, do not emit greenhouse gases, or toxic air pollutants gasses, e.g., NO_x - nitrogen oxides, CO - carbon monoxide, SO₂ - sulfur dioxide, VOC - volatile organic compound and solid particles, contributing to the solution of country’s environmental issues, in particular the problem of air pollution in oil-producing regions and large cities. Thus, all these implications can lead to the reduction of Kazakhstani source dependence within the gas

and oil industry in the future, which today remains the biggest sector of the economic field, raising huge concerns regarding long-term economic stability and prevention of economic diversification (Yu *et al.* 2018, 418; Liu *et al.* 2018, 3365).

On the other hand, the adoption of EVs in foreign countries is not limited only to the growth of the Chinese car market or the general economic prosperity of the country, it has the potential to become a tool to enlarge China's power in the region, going beyond the economic field and obtaining possible benefits from neighboring countries, including Kazakhstan. Moreover, Engvall (2023, 266) states that due to the regional instabilities because of the Russian-Ukraine war, where Russia is mostly focused on this situation than reinforcing the relations with Central Asian countries at present time, China actively makes attempts to build a solid partnership with Central Asian countries and increase stability in the region. In this sense, promoting the rise of broad reliance on China by using a comprehensive approach is a very appropriate way to enhance Chinese foreign relations and international affairs. For instance, the supply of essential industrial and consumer goods for Kazakhstan, increasing trade flows, and building more partnerships in various fields, e.g., energy, infrastructure, manufacturing, technology, and finance, make China one of the country's largest importers. However, the case of Chinese EV entry into Kazakhstan, along with other joint initiatives, contributes to the higher level of dependency on China and its imports, hindering the development of local production. Thus, since currently Kazakhstan is unable to produce local cars, relying on imported vehicles causes more doubts about the entire potential benefits and opportunities of this adoption (Aitzhanova *et al.* 2015, 179).

Overall, the relevance of the dependency theory is explained by two types of Kazakhstani dependency: one is from China as an exporter country, providing EVs and enhancing its regional power by cooperating with Central Asian countries, while other is further dependency on the huge reserves of oil and gas in Kazakhstan, which will bring many economic damages once they will be exhausted.

Another theory I will apply to investigate the Chinese EV integration in the region is the Theory of Innovation Diffusion. This theory by Everett Rogers (1962) aims to explore how new ideas or technologies spread throughout a variety of cultures. The author states that "diffusion is a process by which innovation, e.g., new ideas, processes, or technologies, is transmitted through specific channels among members of social systems over a certain period." According to the theory, there are five factors influencing the process of adoption: relative advantage, compatibility, complexity, trialability, and observability. In this study, I will apply three out of five factors of the diffusion of innovations theory, such as relative advantage,

compatibility, and complexity, because they are the most relevant for the research. To elaborate, using the online questionnaire, I will identify what are the main benefits of the Chinese EVs in comparison to petrol cars. Meanwhile, referring to the economic and environmental policies of Kazakhstan, I will examine how well the EVs are compatible with the country's strategies in both economic and environmental fields. Finally, in terms of the complexity, I will analyze to what extent Kazakhstan is ready for the growing Chinese EV integration, referring to the potential challenges of the country related to this entry. Meanwhile, the reason for the exclusion of trialability is the high cost and restrictive infrastructure for testing, whereas observability is also excluded due to the novelty of the EV adoption, which is still in the early stage. Additionally, the theory highlights that some factors are highly likely to appear and affect the technology adoption, considering them barriers to further "diffusion". Therefore, the potential obstacles that will be identified in the survey results (refer to Appendix: Online Survey Questionnaire) on public perceptions will serve as the influencing factors, hindering EV adoption through the Kazakhstani society and market (Xia *et al.* 2022, 6293).

Apart from the survey results, there are other societal factors influencing the spread and amount of any Chinese integration into the region. For instance, due to obstacles such as the large Uyghur diaspora in the Xinjiang region and the mainly Muslim population of Kazakhstan, China should apply a variety of new economic strategies to avoid these tensions, complementing the national cooperative projects in this field (Xie *et al.* 2021, 120).

To conclude, by applying the Dependency Theory and Theory of Innovation Diffusion in the research, I will provide a comprehensive analysis of economic implications for Kazakhstan, investigating both Kazakhstani current source dependence and growing dependence from China given the dominance of Chinese EVs in the region, as well as a broad study on a societal attitude, referring to the three key factors of the innovation diffusion theory in the context of Chinese EVs adoption.

4. Market Presence and Strategic Significance of Chinese EVs in Kazakhstan

To begin, it is crucial to present a brief overview of Chinese EVs, given the novelty of this phenomenon both globally and particularly in Kazakhstan. According to the “Energy-Saving and New Energy Vehicle Industry Development Plan (2012-2020)” of the State Council of China published in September 2012, EVs or so-called New Electric Vehicles (NEVs) is a broad term that includes all sorts of vehicles using new energy sources. Today in the framework of environmental concerns and the sharp technological development of China, the biggest EV exporter, where the rise of EVs sales grew about 838 times between 2011 and 2022, as shown in *Table 1*. causing a huge decline in demand for traditional fuel vehicles (TFVs), particularly in developed countries. Subsequently, such a tendency leads to the increased production of various types of EVs that can be fully electric or partly with the hybrid usage of a petrol engine (Zheng 2024, 108-114).

Table 1: Sales of NEV in China, 2011-2022 (unit: ten thousand).

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019
Sales	0.82	1.28	1.8	7.5	33.1	50.7	77.7	125.6	120.6

Sources: China Association of Automobile Manufacturers

Source: Zheng, Yifan, “*The Positive Reinforcement of New Energy Vehicles on the Overall Automobile Market,*” p. 109.

One of the most widespread EVs is battery electric vehicles (hereafter referred to as BEVs), which are pure electric, using only batteries to store energy. These EVs consume electrical energy from the batteries to power electric motors, and as a result, have zero emissions along with minimal noise pollution. In addition, the BEVs have reduced running costs and show high energy conversion efficiency. Nevertheless, there are some disadvantages, such as high battery replacement expenses and limited battery capacity, that must be considered. Today, popular EV brands such as BYD Auto, NIO, XPeng Motors, Zeekr, and Leapmotor offer a range of BEV models in the market, e.g., BYD Han, BYD Dolphin, BYD Tang, NIO ET5, NIO ET7, XPeng P7, XPeng G3i, Zeekr 001, Leapmotor T03, and Leapmotor C10 (Zheng 2024; BYD; EVgo; NIO; XPeng; Zeekr; Leapmotor).

Meanwhile, plug-in hybrid electric vehicles (hereafter referred to as PHEVs) are a type of hybrid vehicle that uses both an electric battery and a gasoline engine. These EVs have three modes: electric-only mode, gasoline mode, and hybrid mode. Thus, initially, the battery is used as in BEVs, but when the battery is nearly depleted, the vehicle shifts to hybrid mode, relying

on an internal combustion engine. To shift back to the pure electric mode, the battery must be fully recharged by plugging in the vehicle. At first glance, PHEVs may seem similar to conventional hybrid cars that combine gasoline and electric powertrains, but indeed, the PHEVs have drivetrain and driving characteristics close to BEVs during the electric mode. The key advantage of PHEVs is a large battery capacity that ensures short-distance driving is fully electric, reducing the release of emissions. Nonetheless, since these vehicles have a dual powertrain, their costs are higher in comparison to other types of EVs, and the alternative use of gasoline leads to seldom charging, causing more emissions. BYD Auto, Li Auto, and Geely Auto offer several models of PHEVs, such as BYD Tang, BYD Song, Li L9, and Geely Emgrand (Zheng 2024; Deng 2024, 2-6; BYD; Li Auto; Geely).

Additionally, fuel cell electric vehicles (hereafter referred to as FCEVs) are another type of EVs that use hydrogen, hydrocarbon fuel, and oxygen from the atmosphere to generate electricity. The Chinese FCEVs are less popular than other EVs, focusing on commercial use and producing buses and trucks. For example, models like SAIC MAXUS EUNIQ 7 of SAIC Motor, BAIC Foton of Foton Motor Group, and Yutong Fuel Cell Buses of Yutong Bus Co. all belong to the FCEVs (Zheng 2024; Fuel Cells Works 2020; Yeung 2023; Yutong).

Although Kazakhstan is not one of the developed countries where EVs can replace swiftly a big share of imported gasoline cars, the relevance of EV integration remains significant. To elaborate, the phenomenon of EVs is considered to be one of the potential solutions to the problems in the ecological sector within current Kazakhstani green policy strategies, and simultaneously maintains the incentives of Kazakhstan for sustainable development and economic diversification. For instance, in terms of environmental issues, Kazakhstan, as well as China, signed the Paris Accord in 2016 and are currently aiming to reduce carbon emissions. Also, the political course called Transition to Green Economy, under which in 2013 Kazakhstan provided the Emission Trading System (KazETS), aiming to the reduction of greenhouse gases emissions by 15% in 2030, and International Exposition EXPO 2017 Astana “Future Energy” dedicated to the topics, such as renewable energy and reduction of CO₂ (Inyutin 2018).

Moreover, Kazakhstan’s legislation on domestic environmental issues strongly correlates with these initiatives, further reinforcing national obligations. According to Article 29, Chapter 2, Paragraph 4 “Environmental protection activities financed from budgetary funds” of the Environmental Code of the Republic of Kazakhstan from January 2, 2021, environmental protection activities include the measures aimed at reducing greenhouse gas emissions and (or) increasing greenhouse gas removals, ensuring safe management of

hazardous chemicals, including persistent organic pollutants, reducing the level of chemical, biological and physical impacts on the environment, both anthropogenic and natural, increasing the efficiency of industrial environmental control, improving methods and technologies aimed at environmental protection, sustainable use of natural resources and implementation of international standards of environmental management (art. 29, ch. 2, par. 4).

In this context, EVs contribute to the reduction of carbon emissions in Kazakhstan, following its commitment to environmental improvement and long-term strategies. To specify, the growing usage of Chinese EVs powered by coal-generated electricity may lead to improved air quality in the biggest city and the economic center of Kazakhstan, Almaty, and oil-producing regions, Aktau and Atyrau regions, as has been observed in several Chinese cities, e.g., Beijing, Shanghai, and Shenzhen (Huo *et al.* 2010, 4857; Hsieh *et al.* 2022, 6838).

In the broader sense, the market growth and infrastructure advancement of the Chinese EVs are capable of raising regional influence, building optimal political strategies, and expanding the trade policies of both states. Beyond that, diversification is not only Kazakhstan's national goal in the economic field, but China also supports this pivot due to its reliance on the export of oil and gas. However, the type of diversification and the driving incentives are different for each side. Kazakhstan is aiming to achieve sustainable economic development, reducing its reliance on the energy industry and export of raw materials. Meanwhile, China is interested in both perspectives: the provision of stable energy supplies to ensure ongoing energy security and the diversification of its energy sources to reduce the reliance on foreign fossil fuels in the long run (Kurmanov and Idrisova 2023, 96; Duisen *et al.* 2024, 103).

Thus, China realizes that currently and in the near future Kazakhstan's energy field remains its key role in the national economy, but at the same time is highly involved in the economic diversification of both states through the renewable energy infrastructure projects, establishment of new trade corridors within the BRI, investing in solar and wind energy, and promotion of electronic vehicles. To specify, as of 2020, China has invested in approximately 36 renewable energy projects in the BRI countries, resulting in about 48.69 MtCO₂ emission reduction, which is equivalent to 0.6% of the carbon emissions of the 36 BRI countries hosting Chinese investments in the renewable energy sector. Meanwhile, according to the statistics of the International Energy Agency and Global Environmental Institute, Kazakhstan, being one of the host countries, is the richest renewable energy BRI country, achieving 67% of the installed potential of solar energy and 18% of wind energy (Gu and Zhou, 2020).

Moreover, Chinese car brands continue to demonstrate strong growth, and in 2024, their share in the Kazakhstani market reached around 39%. To specify, according to the data provided by the Kazakhstan Automobile Union, Chery increased sales by 21.7% (14.8 thousand cars), Jac - by 56.7% (11.8 thousand), Haval - by 45.3% (10.9 thousand), whereas Geely and Jetour demonstrate rapid growth - 126.5% and 141.9% respectively. These car companies focus on the production of both petrol cars and different types of EVs. Regarding the data on EVs, the most popular EVs were Zeekr, selling 809 cars by official dealers in 2024 (*Auto Market of The Republic of Kazakhstan: Totals 2024*).

Nevertheless, according to Gerstl and Wallenböck (2021, 89), China, along with Kazakhstan, may face some challenges such as infrastructure gaps, intellectual property concerns, and issues based on the differences in regulatory frameworks and policies. Furthermore, Wang *et al.* (2017, 488) assert that obstacles such as local protectionism and the irrationality of subsidies can occur when it comes to the EV market's growth abroad.

Overall, the presence of Chinese EVs in Kazakhstan aligns significantly with the country's economic and environmental goals, offering further development in both fields, addressing the country's richness in oil and gas reserves, and high potential in renewable energy. China also obtains many advantages, discovering a new import zone for its EVs, diversifying its energy sector, and in general, enhancing its regional power and strategic relations with neighboring Kazakhstan. Therefore, both countries benefit from this cooperation, opening new horizons for the bilateral cooperation that highly corresponds to the current global shift to environmental protection through emission reductions.

5. BRI's Infrastructure for EV trade

The creation of the BRI by the Chinese government and Kazakhstan's membership in it have significantly contributed to the growing number of infrastructure projects between the two countries. In 2015, the Chinese leader Xi Jinping and the former President of Kazakhstan, Nursultan Nazarbayev, announced a joint plan to link the Silk Road Economic Belt and Kazakhstan's Bright Path economic policy. This economic policy implies the advancement of local infrastructure, prioritizing logistics, energy, and social and institutional development. Under the joint plan, the two parties identified three key prior sectors: transportation infrastructure, trade, and the manufacturing industry. The first sector stresses Kazakhstan's role as a transition corridor under the BRI, allowing China to link with Western European and Asian countries. The second one focuses on trade optimization, the rise of the proportion of high-tech products, and integration of certification policies, and the last priority addresses the joint ventures formation in Kazakhstan's special economic zones, such as the Khorgos–Eastern Gate and the National Industrial Petrochemical Technopark. Thus, it highlights the importance of the BRI as a key initiative in the Sino-Kazakhstani partnership, offering a new perspective, and making it broader and going beyond the confines of a bilateral collaboration (Kassenova 2017, 111-112).

Shifting to the BRI infrastructure projects, as of January 2025, there are two completed infrastructure projects (Central Asia–China Gas Pipeline, Khorgos Gateway) and three others (Astana Light Rail Project, Kazakhstan KB National Highway Reconstruction, Dostyk-Moiynty Railway Expansion) are in progress with the participation of Kazakhstan. Beyond the energy sector with pipeline constructions, these projects also encompass the development of highways and railways, linking China with Kazakhstan and around 150 other BRI member states worldwide (Kassenova 2017; Chubarov 2019; “Largest Railway Project Started in Kazakhstan” 2022). Moreover, as Kassenova (2017, 114) has found, there is an additional project with Kazakhstan's engagement as a transit area, which is retrospectively considered under the BRI framework: the West Europe–West China Highway. In this section, I will focus on three projects mentioned above, where two are completed, while one is in progress, and discuss their high relevance to the Chinese EV transport in Kazakhstan. These projects are the Khorgos Gateway, West Europe–West China Highway, and Dostyk-Moiynty Railway Expansion.

The Khorgos Gateway, established in 2015 under the BRI, is a dry port that originated in China, currently starting to engage in the export and import of EVs and EV components. The dry port mostly exports and imports electronics and cosmetics, transported from China to

Europe through the territory of Kazakhstan, as shown in *Map 2*. However, the multimodal and intermodal capabilities with logistical services of the port as a strategic hub make it a potentially relevant tool for the distribution of the EVs and their assemblies as high-value products, and thus, it has a capacity to change from a transit hub to a valuable distribution hub (Moldabekova and Beifert, 2020, 142). Furthermore, Kassenova (2017, 115) has indicated that Kazakhstan's participation in the Khorgos Gateway, which links China and Europe through Kazakhstan's territory, turns the country into a huge logistics center on the New Silk Road. The Gateway consists of several zones within Kazakhstani territories: Khorgos-Eastern Gate Special Economic Zone (SEZ), also known as “Khorgos-Eastern Gate,” and the Altynkol Railway Station, both located in the Almaty region, as well as the Khorgos International Center for Boundary Cooperation (ICBC), located in the bilateral free zone (Kassenova 2017; Moldabekova *et al.* 2019).



Map 2. The Khorgos Gateway Route on the China-Kazakhstan Border. Adapted from *SCMP Multimedia*, <http://multimedia.scmp.com/>.

Another additional project with Kazakhstan's engagement as a transit area began in 2008, but currently considered under the BRI framework is the West Europe–West China Highway. This highway includes one of Kazakhstan's transit zones under the Khorgos Gateway, Khorgos-Eastern Gate in the Almaty region, stretching from the Lianyungang port on the Yellow Sea in China to St. Petersburg, Russia on the Baltic Sea (see *Map 3*). In 2014, Beijing and Astana signed an agreement on building a joint logistics terminal at Lianyungang

port, providing Kazakhstan with access to the sea (Kassenova 2017, 111). In my opinion, the project is suitable for the delivery of Chinese EV components, in particular charging devices, lithium-ion batteries, electric motors, and powertrain systems, because the highway is characterized by just-in-time supply chains, long-distance routes, and freight traffic. Moreover, it links several major cities in South and Western Kazakhstan, making it an appropriate corridor to provide big commerce and installment for Chinese EV owners (Kassenova 2017; Bodaubayeva and Turkeeva 2023; Naumov *et al.* 2022; Barman *et al.* 2023).



Map 3. West Europe–West China Highway Route. Adapted from CGTN, news.cgtn.com.

Dostyk-Moiynty Railway is another BRI project, which is expected to facilitate high-volume trade and logistics from 2025, designed for the high-volume shipments and widespread trade flow between China and European countries, doubling the railway capacity through the Moyynty-Dostyk corridor in Karaganda region, Central Kazakhstan (see Map 4). As well as the Khorgos Gateway, this railway enhances Kazakhstan's role as a transition zone, linking two different parts of the world. The transpiration products are usually bulk goods: grains, minerals, ores, and industrial raw products. Moreover, the volume of carrying is suitable for the assembled Chinese EVs and their components exported to other countries, including Kazakhstan, aligning with the demand for a green technology shift, as Dostyk-Moiynty railways relate to the eco-friendly land transport.



Map 4. Dostyk-Moiynty Railway route and related rail links. Adapted from News Silk Road Discovery, <http://www.newsilkroaddiscovery.com/>.

In my opinion, despite the potential usage of the BRI infrastructure projects, Kazakhstan seeks to implement a balancing approach, addressing not only the current benefits from participation in these initiatives but also the long-term results of its role as a transition hub, as there is a risk that the country could remain dependent on growing Chinese EVs imports, postponing the development of local EV manufacturing. Therefore, Kazakhstan should increase its potential and capacity within the BRI, concentrating more on the domestic EV market, referring to China's case with EVs, and use all opportunities provided by the projects. Finally, it may bring the transformation of Kazakhstan's role from a transition point to an exporter along the BRI routes.

To conclude, although initially these infrastructure projects under the BRI with Kazakhstan's involvement follow purposes such as goods transportation in mining, agriculture, and manufacturing fields, as well as boosting trade and connectivity, they can indirectly facilitate Chinese EV integration into Kazakhstan, given their high capacity, cost-effectivity, and comparatively swift transit time for EV and their equipment distribution. From my point of view, the current functions of Kazakhstan's gates within these three projects are restrictive, serving only as a transit zone in the framework of the BRI. However, considering their capacity and multifunctional features, they have the potential to diversify the transported products, including EVs and their components, making Kazakhstan a more meaningful state member and possibly one more EV manufacturer among the BRI members, excepting China. This new potential approach can strengthen China's EV adoption strategy in Kazakhstan, resulting in

China's economic prosperity in the future and achievements in the environmental policy goals of Kazakhstan.

6. Methodology and Data

To research how the entry of Chinese EVs into the Kazakhstani market influences Sino-Kazakhstani economic relations, a secondary qualitative method was used. To be more specific, theoretical and conceptual works about applied theories, legal and government documents (Kazakhstan's Environmental Code, Eurasian Economic Commission technical regulations, and Customs Code of the Republic of Kazakhstan), statistical data sources (the Bureau of National Statistics of Kazakhstan and Kazakhstan Automobile Union), academic literature on Sino-Kazakhstani economic and political relations, BRI infrastructure projects with Kazakhstan's participation, economic, political, and environmental strategies of Kazakhstan, including market analysis and industry reports, have served as secondary data for the research.

In addition, following a mixed-method approach (both quantitative and qualitative), I have conducted a survey to explore the public perception of EV owners in Kazakhstan about the increasing growth of vehicles in the car market industry. To address this question, an online questionnaire, as primary data, was conducted, and the owners of Chinese EVs from Kazakhstan were encouraged to participate in this survey via WhatsApp Messenger. To elaborate, applying the quantitative method, I have discussed the statistical representations, such as numbers, percentages, and rating scales, and created figures for visualization and readability. Meanwhile, I have used the qualitative method within the survey for the interpretation of the participants' responses and, thus, for a deeper analysis of Chinese EVs' broader impact on the region. Therefore, since there is a lack of relevant literature specifically on this topic, the data collected through the mixed method examines the Chinese EV owners' perceptions in Kazakhstan about these vehicles and their impact on Sino-Kazakhstani economic and political relations. However, given the limitations of the survey, literature concerning EV consumer behavior, innovation adoption, and evaluations of EVs' influence on the environment, in combination with corporate websites of EV companies, i.e., BYD, Zeekr, Li Auto, and others, were also explored.

The online survey is the most appropriate method for this research aspect because it can gather short but still necessary information and the attitude of the survey participants towards EVs through variety of question formats such as closed questions with multiple choice, grade scales, open-ended questions, and others to provide participants with the opportunity to present their personal views. Moreover, the speed of data collection is high, and it is more practical to connect with participants online since these EV owners are based in Kazakhstan or temporarily might be in other countries, resulting in a lack of opportunity to meet these people in real life and collect the needed information for the research face-to-face.

Despite the suitability and convenience, before the distribution of the online questionnaire, it is theoretically assumed that the main obstacle in referring to the online survey method is that some owners of Chinese EVs may not have specific knowledge about Sino-Kazakhstani political and economic cooperation or environmental policy of Kazakhstan, and as a result, they could face some difficulties in replying to the specific questions in the survey. Therefore, taking into consideration this limitation, the design of the survey emphasizes the participants' perceptions and views rather than their awareness and knowledge in these fields.

The relevance of this survey is very high because this research field is new and, up to this time, not well-researched. Rezvani *et al.* (2015, 122) have indicated that the study on societal perception is important in the context of EV integration as well as any other domestic or foreign car adoption, because ordinary people are the consumers, who drive market requests, impact on a car sales volume, and as a result, and determine the level of demand for the particular vehicles. Additionally, the results of the conducted survey present whether a majority of the target group is satisfied with China's presence in the car industry, maintaining the focus on domestic car manufacturing for Kazakhstani policymakers, and stressing the transformative potential of EVs to become one of the economic diversification tools under the Kazakhstani government.

Beyond that, there is a limited amount of literature focusing on the Chinese EVs in Kazakhstan, and in particular, on the impact of this innovative integration on the relations between China and Kazakhstan. Additionally, as it was discussed before, Kazakhstan is quite a young country, which only in 1991 became independent after the collapse of the Soviet Union. Thus, the number of studies about comparatively young Central Asian countries, which are all post-Soviet countries, is very small, and only in these last decades have researchers been able to study this region. However, currently, there are still plenty of aspects that have not been explored yet, and that is why I hope that these attempts at providing the survey within the research will contribute to the bigger research from future perspectives.

The target population of my research is the owners of the Chinese EVs in Kazakhstan, whereas the intended sampling frame is the Chinese EV owners from Astana, who have a certain perception of these vehicles. Since Astana is the capital city of Kazakhstan, where the level of innovative integration, particularly EV adoption, is high compared to other cities. The distribution of the questionnaire started from the people who currently own Chinese EVs, and whom I know personally. Based on their suggestion and assistance, the link of the questionnaire was sent to the WhatsApp group, which was created for people from Astana who drive Chinese EVs for better communication, asking questions, recommendations, etc. However, after the

distribution via WhatsApp group and disclosure of the survey results, some respondents indicated that at the time of participation in the questionnaire, they had EV cars, but not Chinese brands. Despite that, they did not face any challenges in providing their responses and showed their willingness to participate in the survey. I suggest that these people previously have owned Chinese EVs, and they have a certain perception about it based on their personal experiences, since they were able to answer the following questions regarding the specific details of Chinese EVs. Moreover, I decided to include their responses in the survey analysis in order to make my research more comprehensive and to potentially identify differences in their perceptions. As a result, the citizens of Astana who are Chinese EV drivers currently or in the past have become the de facto sampling frame for the questionnaire distribution. Along with this, taking into consideration the sampling frame selection, it cannot be excluded that there were potential biases in the responses, since part of the participants are not particularly Chinese EV owners at present, and thus, during taking part in the questionnaire, they were able to compare Chinese EVs with their another current EVs. Therefore, their perception and assessment possibly depend on whether the Chinese EVs are better or not than EVs from other countries that they currently drive. In addition, these respondents might not be aware of some changes related to the Chinese EV field, e.g., current trends in their entry, the amount of imports, or improvements provided for drivers, as they were informed earlier when they owned the Chinese EVs.

To design the online questionnaire, I chose the online survey software called “SurveyMonkey”. The purpose of this online questionnaire was to gather information about the perception of Kazakhstani society towards the integration of Chinese EVs into their region and their potential consequences, addressing one of my research questions. Besides the academic sources and researchers’ views regarding the entry of Chinese EVs into foreign countries, it was interesting to investigate what the opinions of ordinary people, i.e., the Kazakhstani citizens, are about such a new and innovative presence of China in their country. As of January 2025, 34 people participated in the online questionnaire, starting from November 20, 2024. This mode of data collection on the “SurveyMonkey” platform assisted in gathering information as much as possible, using a variety of question formats such as multiple choice, checkboxes, star rating (as a grading scale), comment boxes, and others.

Regarding the academic preparation for a questionnaire, at first, I read some research related to EV manufacturing in order to expand my knowledge in this industry and better understand the details. After that, I browsed the research papers about Chinese EVs, including a survey method, in order to better organize my questionnaire. Additionally, I tried to seek research that investigates a correlation between the car industry and the economic relations of

countries (Dzienis 2024; Ichijo and Kohlbacher 2008). For instance, I analyzed the case of Toyota's integration into the Chinese car market, especially how they design hybrid cars and EVs in order to meet the preferences of Chinese customers and form joint ventures with local Chinese automakers. It was useful for my preparation for a questionnaire because it provided insight into how car manufacturers enter foreign markets and what the potential consequences of such integration are in the economic field. As a result, it was tremendously insightful to analyze this case as an example, and it assisted me in framing questions to investigate how Chinese EV companies might use similar or different strategies in Kazakhstan.

Shifting to a practical preparation, I conducted the questions in two languages, Russian and English. The main reason why it was initially in Russian is to expand the coverage of the participants taking part in the survey. Since the target group is the citizens of Kazakhstan, while Kazakhstan has many cultural minorities who are Russian-speaking participants, and not only ethnically Kazakh people who speak Kazakh language could participate in this research. Furthermore, the Russian language is officially recognized as a language of international communication in the Republic of Kazakhstan, and by 2024, nearly 85% of Kazakhstani citizens speak Russian fluently (Komarov *et al.* 2023, 254).

Meanwhile, I think that the translation into the English language is crucial for several reasons. Firstly, it is needed in order to save the accuracy of the research, avoiding misinterpretation during the translation of both questions and outcomes in the research. Secondly, it is basically more practical for the researcher and research readers to refer to the original version of questions in English and ensure that the collected responses align with the primary language of the research. Finally, it creates opportunities to broaden the possible sampling frame in the future, since my research topic covers not exclusively the entry of the Chinese EVs in Kazakhstan but also in other countries of Central Asia. Regardless of the historical background that all Central Asian countries were members of the Soviet Union, where the only official language was Russian, it is currently unclear what proportion of these countries' population speaks Russian in fact, especially among a new generation that was born already in the independent states and the post-Soviet era. As a result, taking all these factors into account, conducting the questionnaire in both languages was considered the most appropriate approach.

Finally, moving to the question that was designed for the questionnaire, I included general questions related to personal information, e.g., age, gender, occupation of the informant as well as the date of purchase, make, and model of the car. After that, all other questions were mostly focused on the respondents' perceptions and points of view, covering a variety of aspects in

the EV field. For instance, what do respondents think about the number of imports, the contribution of the Chinese EVs to Sino-Kazakhstani relations, and Kazakhstani environmental issues? In my opinion, these questions highlight that the opinions of EV buyers, who are the citizens of Kazakhstan, are important for the research, because they show that they are able to make a contribution to the country's economic policies in general and green transition, strengthening the link between the government and citizens of Kazakhstan.

Moreover, apart from the implications in the economic and environmental sectors, I conducted the questions, asking to what extent these people are satisfied with a particular characteristic of the vehicles, such as price, design, quality, after-sales service, and others. It was crucial to ask as well because these questions provide feedback for the Chinese EV companies that are highly interested in matching the buyers' preferences. However, I suppose that for Kazakhstan, the country that is interested in car manufacturing, it is also essential to explore, since it highlights both the demand of the Kazakhstani drivers and the gaps in the car industry.

In the pilot stage of the questionnaire, the first respondents faced difficulties answering the questions as mentioned before, where making assumptions about the possible opportunities and restrictions was required. One of the limitations of this fieldwork was to consider all possible answer choices to these kinds of questions. In order to provide the most accurate of them, I analyzed other research papers about Chinese EVs in China itself and overseas (Gomulina and Gorshkov 2024; Zhuge *et al.* 2019; Yang *et al.* 2013), but still, it was mandatory to take into consideration many differences with other research works in the demographic specifications, policies, and infrastructure development.

Another limitation, as was theoretically assumed earlier, is that I could not ask some specific questions related to the bilateral economic issues and delve into their impacts since the respondents are owners from Kazakhstan who shared their perception about the EVs, but their knowledge about the Sino-Kazakhstani economic and political relationships is limited. Thus, general questions such as "What impact do you think Chinese EVs have on Sino-Kazakhstani economic relations?" were asked without delving into what these impacts particularly are. Thus, to overcome these deficiencies, I referred to the secondary research on the economic relations of China and Kazakhstan in order to provide a more comprehensive view of this aspect in this paper.

Additionally, after I have collected all the responses, I came to the conclusion that it would be relatable for the research to ask if the perception of Kazakhstani citizens changed about China when they bought the Chinese EVs. I think, it would be a good example of public

perception questions in the framework of bilateral partnership and that do not demand any specific knowledge among participants as other designed questions.

7. Survey Results

The section provides the results of the online questionnaire using illustrative figures. It analyzes the main trends and findings from the survey, i.e., main characteristics of the target group, reasons for purchasing Chinese EVs, level of their satisfaction with particular EV features, perception of Chinese EV integration into Kazakhstan, and opinions about potential opportunities and obstacles for Kazakhstan along with a potential contribution to Kazakhstan's environmental goals under this integration.

7.1. Demographic Profile of Respondents and Purchase Motivations

To begin, after conducting the questions for the survey, I divided them into four parts and put them in a certain logical order. First, I started to ask some general questions related to the personal information of the participants, such as their age, gender, and occupation. These demographic variables are important in order to provide a segmentation of the audience and then enhance the accuracy of results. By addressing these questions, I figured out what groups of people usually purchase Chinese EVs and have a better understanding of who shows the most interest and faces challenges in this field. According to the survey data, 29.4% of respondents are males aged 35–44, who are working professionals, revealing the largest share of the Chinese EV buyers in Kazakhstan (see *Figures 4, 5, and 6*).

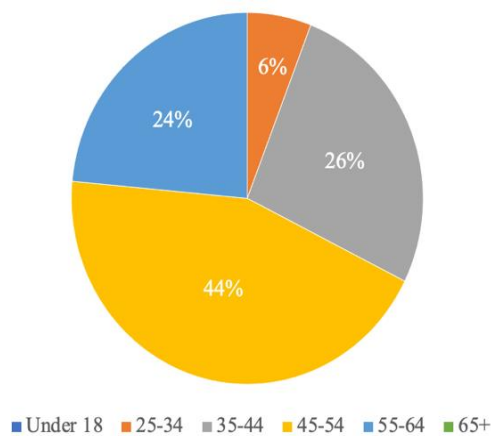


Figure 4. Age Distribution of Survey Respondents (n = 34).

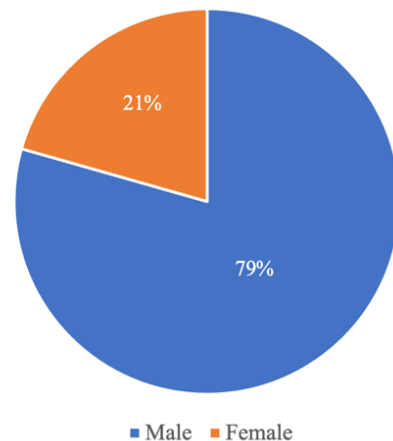


Figure 5. Gender Distribution of Survey Respondents (n = 34).

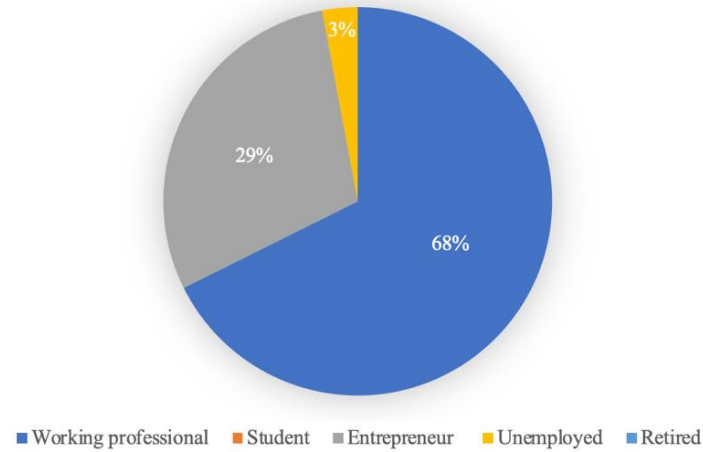


Figure 6. Occupation Distribution of Survey Respondents (n = 34).

After that, I designed the questions about the personal experience by asking about their car models, date of purchase, and what were the reasons for choosing exactly the Chinese EVs among other cars. The EV brands such as BYD, Zeekr (each holding a 23% share), and Li Auto (20%) were the most popular among EV-owning respondents, while the dates of purchase ranged from 2022 to 2024. In terms of the questions regarding the reasons, I used multiple-choice and grading scale questions because they offer a convenient format for both participants and the researcher. As shown in *Figure 7*, the price (82%), car quality (64%), and design and style (61%) are the most significant reasons to buy the Chinese EV among the Kazakhstani owners. Therefore, although EVs are associated with their environmentally friendly nature, which distinguishes them from gasoline cars, the basic criteria of price, quality, and design remain the most important factors when purchasing an EV.

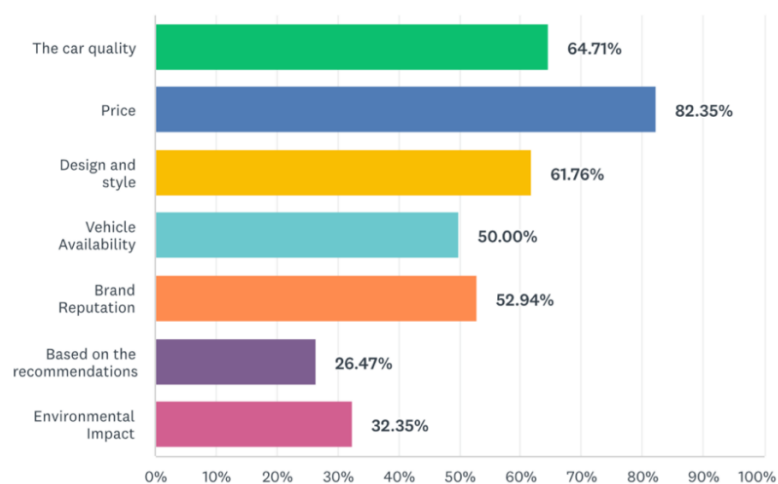


Figure 7. Reasons for Choosing Chinese EVs (n = 34).

7.2. Satisfaction Level and Perceptions of Chinese EVs

Moreover, I included the question about how did the participants first become familiar with the EVs. The survey analysis indicates that social media (47%) and personal experience (23%) are the most widespread primary sources among the owners. Moreover, the level of satisfaction with a 5-star rating, where 5 is fully satisfied, and 1 – is fully dissatisfied, is another key aspect that was included in the survey to investigate more about the perception of the frame group. The results present that 4.6 out of 5 is the average rating of satisfactory with the Chinese EV purchase, where 23 respondents (about 69%) chose the highest rating of 5, and only 1 respondent stayed totally dissatisfied, giving a rating of 1 out of 5. To elaborate, I asked if the participants stayed satisfied or dissatisfied with the particular Chinese EV features by using matrix questions. I have selected a variety of features for this type of survey question, since they are the most relevant for potential consumers who usually refer to them when deciding which car to choose, especially those who intend to purchase an EV, taking into consideration their characteristics and differences from petrol cars. These features are price, quality, availability, design and style, technology features, environmental impact, availability and accessibility of charging stations, and after-sales service (Gyulbudaghyan *et al.* 2014, 75; Degirmenci and Breitner 2017; Ma *et al.* 2019; Tu and Yang 2019; Zhao *et al.* 2024).

For the surveyed group, the matrix question format allowed for quick responses and minimized ambiguity, whereas for me as the researcher, it simplified the process of analyzing and organizing the responses. According to *Figure 8*, the most noticeable trend is that the environmental impact of the Chinese EVs reaches the highest level of satisfaction (around 84%), while in contrast, after-sales service is a feature that illustrates the highest dissatisfaction level (approximately 15%) among all provided categories. It indicates that, beyond the most common reasons, such as price and quality, the environmental performance of EVs is a crucial factor, in determining the owners' perception of the car. Meanwhile, the dissatisfaction with the after-sales service mostly aligns with the limited amount of official service centers, raised by the still ongoing process of EV integration in the Kazakhstani car market (Degirmenci and Breitner 2017; Zhou 2024; Perzadayeva 2024).

Additionally, the accessibility of charging stations is the only feature, representing mixed opinions among EV owners: the “very satisfied” and “mostly dissatisfied” answer options are identical at 27.27%, but the highest peak achieves the level “mostly satisfied” (roughly 39%). Besides diversity in types of batteries and charging stations, it might be explained by the differences in the expectations among owners about the provision of charging stations; some of them might be satisfied with the access to the stations, considering it sufficient, whereas

others might face difficulties, possessing it as one of the EV related challenges in Kazakhstan because the integration is still in progress. Additionally, despite the progress in the infrastructure development, the problem of its inconsistency is conceivably reflected in the responses. Moreover, I suggest that bans on installing chargers in residential areas are another reason why the results are remarkably ambiguous. One of the survey participants wrote his/her own comment, supporting this assumption, that the location of charging stations causes hindrance (Perzadayeva 2024).

Furthermore, the price, quality, design, and style are almost equally satisfactory elements, sharing a portion in a range of 63-69% of very satisfied, and from 27 to 30% of mostly satisfied respondents. In comparison, the technological features of EVs reach higher positions in public satisfaction level than most others, reporting almost 74% full satisfaction, and nearly 20% partial satisfaction, resulting in the top 2nd place in the overall ranking, just behind the environmental impact. Since the EV is characterized with by its innovative approach, the technological attributes did not go unnoticed by the Kazakhstani buyers. For example, the frequently mentioned car brands in the survey—BYD, Zeekr, Li Auto—have numerous innovations such as high energy efficiency and range, battery technologies, Advanced Driver Assistance Systems (ADAS), Intelligent Cockpit solutions, and others (Silva *et al.* 2021; Yu *et al.* 2-4, 2022; Abro *et al.* 2023). These features will be further explored in the subsection *BYD, Zeekr, and Li Auto EV brands*.

To summarize, the overall trend mainly represents a high satisfaction level among the EV-owning respondents in Kazakhstan with an emphasis on five features (price, quality, design and style, technology features, and environmental impact), forming generally positive contentment. However, the question results showcase that there are certain issues regarding the provision of the after-sales service along with the availability and accessibility of charging stations. Therefore, by addressing these challenges, both the Kazakhstani and Chinese governments can improve Chinese EV adoption, encouraging more potential buyers to choose these cars, and better meet the needs of current EV owners in Kazakhstan.

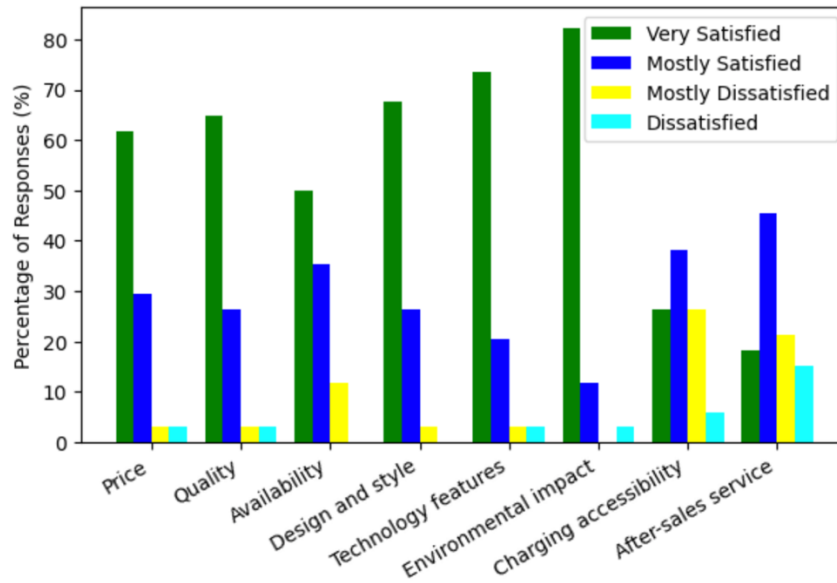


Figure 8. Satisfaction Levels by EV Features (n = 34).

Then I shifted to the investigation of the Chinese EVs' influence on Kazakhstan and Sino-Kazakhstani relations, concentrating on the political, economic, and environmental fields. *Figure 9* below illustrates a prominent observation in the survey results: 30 out of 34 participants, which share around 88%, believe that the adoption of Chinese EVs positively influences Sino-Kazakhstani economic relations, while only 4 respondents, representing 11%, state that the EVs have a neutral impact on a bilateral partnership. It means that none of the respondents have a view that the EVs can have a negative impact on collaboration between two countries. However, as shown in *Figure 10*, the results of the public perception of the influence on political relations were not as generally positive as the economic influence. To be more specific, 22 individuals (merely 64%), consider that it has a positive effect on political relations as well, whereas one person (about 2%) has a negative view about it. In addition, 8 individuals (23.53%) perceive a neutral influence, and the other 3 people (nearly 8%) claim that they are not sure, finding it difficult to answer this question. Since the car industry strongly correlates with the economic segment, the survey participants recognize the direct connection between the import of EVs and the positive effects on the China-Kazakhstan economic relationship. Thus, although Sino-Kazakhstani economic and political cooperation have strong ties within a multilateral partnership, the results of the survey demonstrate that for ordinary EV owners, the political implications of the Chinese EV integration into Kazakhstan are less apparent.

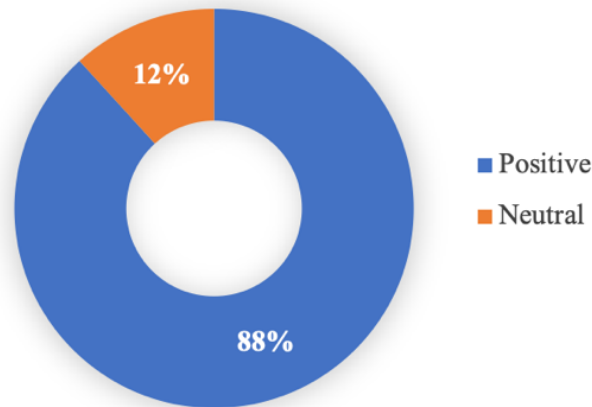


Figure 9. Public Perception of the Economic Influence of Chinese EVs in Kazakhstan
(n = 34).

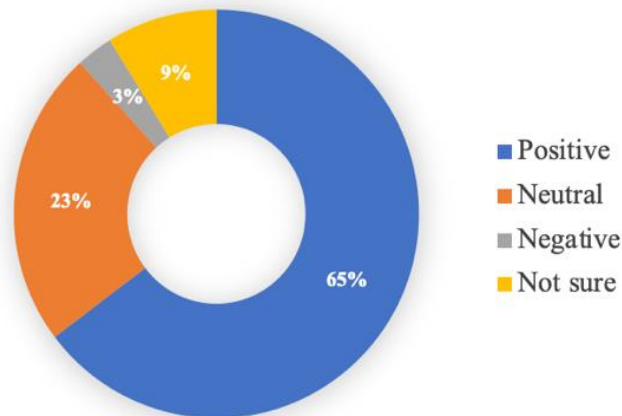


Figure 10. Public Perception of the Political Influence of Chinese EVs in Kazakhstan
(n = 34).

Apart from the outcomes related to the Chinese EVs' impact on Sino-Kazakhstani political and economic relations, the survey also examined the environmental impact of the Chinese EVs in Kazakhstan due to the widespread view that the EVs are an eco-friendly type of transport. In particular it was found that there is a huge concern in Kazakhstani society about the environmental issues and green economy in the framework of the increasing number of Chinese EVs. Initially, it was expected that the respondents would mostly focus on the economic matters, as they are frequently prioritized and raised by the society of a developing Kazakhstan, providing their view mainly about the economic and political affairs. Nonetheless, approximately 82% of respondents estimated that the development of the green economy is one of the opportunities for Kazakhstan within the bilateral cooperation in the EV field.

Meanwhile, as *Figure 8* illustrates above, approximately 84% of the participants are satisfied with the EVs' ecological impact, stressing the importance of environmental sustainability in car purchases.

Moreover, the average rating of EV importance in solving the problem of air pollution in Kazakhstan is 4.3 out of 5. The air pollution problem is particularly critical in the largest financial center of Kazakhstan – Almaty city and Almaty region, which are also the country's largest city and region in terms of population and number of registered vehicles. To be more specific, as of December 1, 2024, Almaty ranks first in the number of registered vehicles (6,351 units), while the Almaty region ranks fourth (2,869 units), after the capital city, Astana, and Shymkent (*the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan*, “Statistics of the regions of the Republic of Kazakhstan”; “168.3 Thousand Units of Motor Vehicles Were Registered in November”). Additionally, *Figure 11* represents that about 91% of the respondents (50% totally agree and 41% partly agree) indicated that the entry of the Chinese EVs into Kazakhstan can help to achieve national environmental goals. Therefore, in the framework of this study, beyond the economic implication, it is also important to emphasize the growing green policy of Kazakhstan as one of the strategic perspectives within the expanding EV distribution.

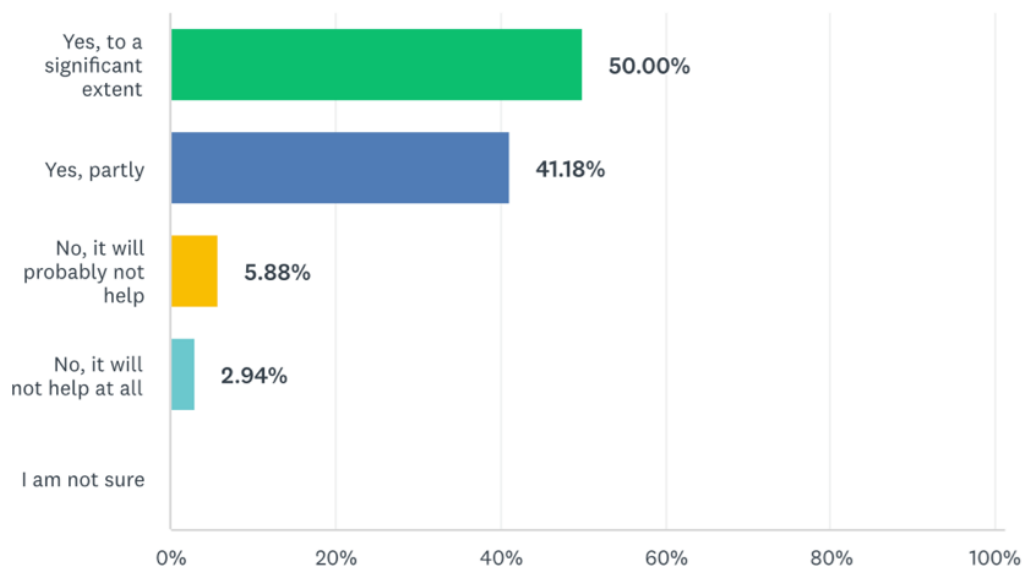


Figure 11. Perceived Impact of China-Kazakhstan EV Cooperation on Environmental Goals (n = 34).

7.3. Awareness of Policy and Potential Implications

The next questions in the survey were dedicated to the awareness of the participants about the governmental support related to the Chinese EV distribution, and what are their opinions about the initiatives offered by the Kazakhstani authorities. To elaborate, at first, I asked if the participants were aware of any governmental initiatives that support the distribution of the Chinese EVs. According to *Figure 12*, it is noteworthy that, although 30% of respondents totally agree and 33% partly agree that governmental initiatives can greatly contribute to the spread of Chinese EVs, in contrast, *Figure 13* demonstrates that only 12.12% of them are aware of several government initiatives. These initiatives are 0% import duty on EVs, provision of free parking spaces, and exemption from transportation tax and utilization fees. After such a huge contrast between societal awareness and agreement on the contribution of these initiatives, this paper seeks to examine these supportive initiatives of Kazakhstan, aiming to anticipate and analyze the potential outcomes for both sides. Therefore, the initiatives will be explored in detail in the subsection *Governmental Initiatives Supporting the Chinese EV Integration*.

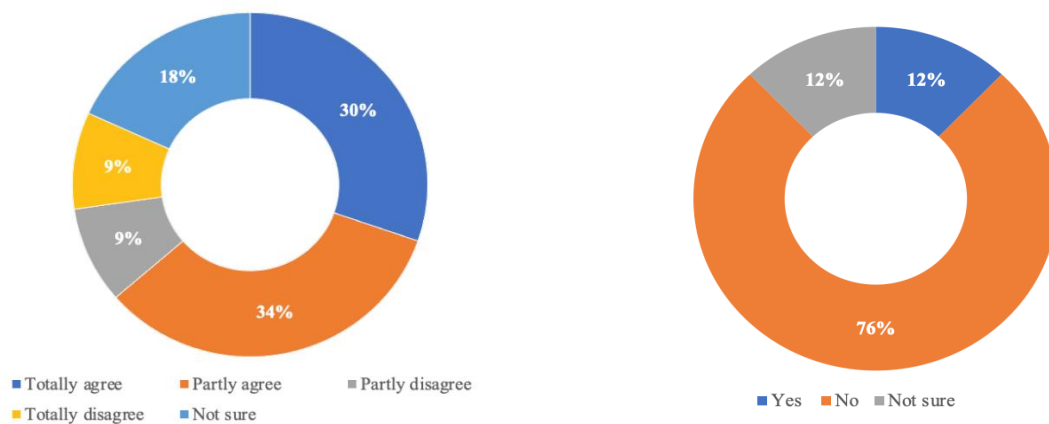


Figure 12. Perceived Impact of Governmental Programs on the Spread of Chinese EVs (n = 34). *Figure 13.* Public Awareness of Governmental Programs Supporting Chinese EVs (n = 34).

Finally, when it comes to the last part of the questionnaire about the possible opportunities and challenges of the Chinese EV integration into Kazakhstan's car market, I tried to encourage EV-owning respondents to think hypothetically and provide them with an opportunity to express their personal opinion by using comment boxes. Some attitudinal questions, such as "What do you think?" and "In your opinion?" were used, but before sharing the questionnaire with the target group, I applied the testing approach and first asked 2-3 people to participate in

this questionnaire and provide their feedback. They gave positive feedback in general but suggested changing the comment box format to multiple-choice questions about the possible opportunities and obstacles of Kazakhstan in cooperation with China in the EV field because they faced some difficulties in answering these questions without any selecting answers.

Moreover, these participants highlighted that even though they have some understanding and awareness about the Chinese EVs, their knowledge about the impact and consequences of the Chinese EVs' integration into the Kazakhstani market is quite restrictive. Thus, it was slightly challenging to reply to such broader open-ended questions, where leaving personal comments was required. Therefore, I made a decision to change the format of these questions as they suggested and make it more feasible for the participants. As a result, based on the responses about the opportunities for Kazakhstan in cooperation with China in the EV field, the questionnaire participants consider that the development of the green policy (82.35%) and domestic car market (67.65%), together with the reduction of the dependence on oil resources (52.94%), are the most remarkable ones for Kazakhstan (*Figure 14*).

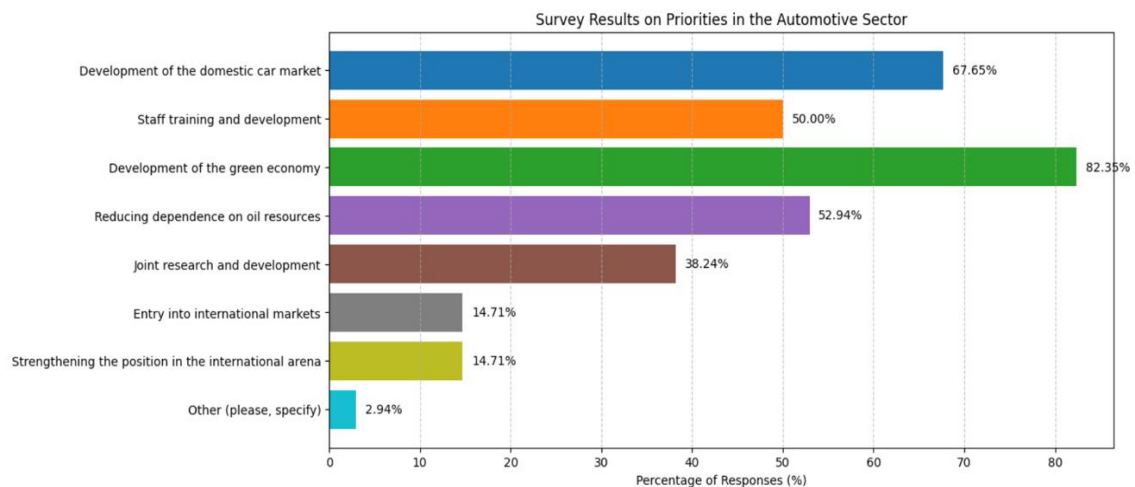


Figure 14. Opportunities for Kazakhstan in cooperation with China in the EV field (n = 34).

Regarding the obstacles, as shown in *Figure 15*, participants identified that underdeveloped infrastructure for production, a lack of qualified staff (both cited by 67.65% of respondents), and insufficient government support for the development of infrastructure and the EV market (55.88%) are the key challenges for Kazakhstan in its bilateral collaboration with China. Both the potential opportunities and obstacles for Kazakhstan in cooperation with China in the EV sector will be investigate comprehensively in the subsection *Opportunities and Obstacles for Kazakhstan*.

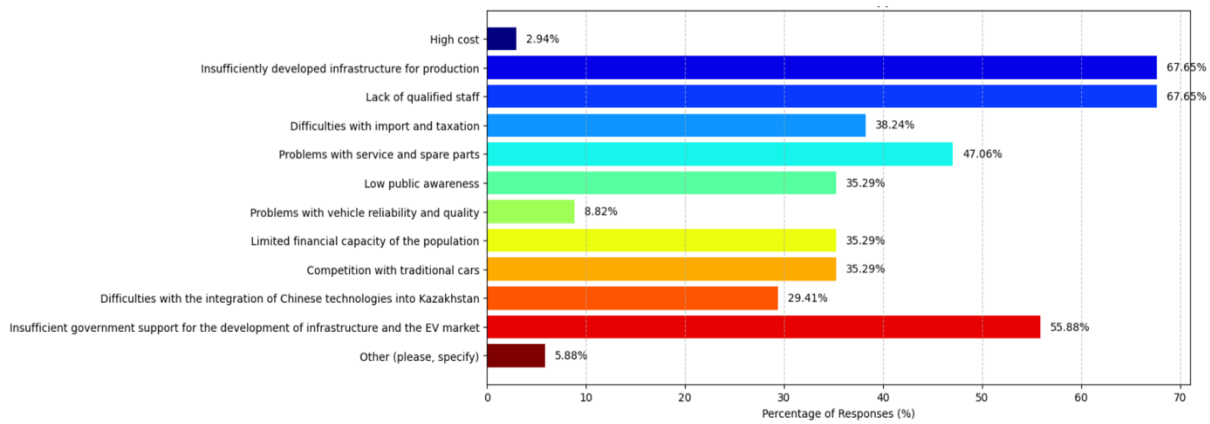


Figure 15. Obstacles for Kazakhstan in cooperation with China in the EV field (n = 34).

To conclude, according to the case of Chinese EV integration into Kazakhstan, the EV industry is becoming a part of cross-border trade, framing by the Sino-Kazakhstani economic partnership together with the current global trend of environmental policy and development of green technologies.

The survey analyzed public perceptions about the two parties' bilateral collaboration, its potential consequences, and environmental concerns, illustrating the high relevance of delving into the implications of Kazakhstani ecological strategies and Sino-Kazakhstani economic relations within the framework of Chinese EV distribution. In addition to the relevance, the survey results also stress the problem of low public awareness about current governmental policy implementation and thus emphasize the demand to align societal attitude with strategic development that can increase the scope of this integration, resulting in strengthening the bilateral relations of China and Kazakhstan. Additionally, based on the societal attitude of Kazakhstani EV owners, the survey findings demonstrate both the opportunities and obstacles of Chinese EV integration in Kazakhstan.

Although currently, the integration of the Chinese EVs into the Kazakhstani market is a relatively new trend, it extends beyond the car industry and trade relations. The survey results support the view that the Chinese EV entry has the potential to significantly influence Sino-Kazakhstani bilateral cooperation, particularly in economic affairs. Today the bilateral relations between the two countries are comprehensive across economic fields, and the strategy of Kazakhstan to provide a transition from oil and gas extraction to alternative ways of economic development, opens yet more opportunities for further Chinese EV integration. This shift has the potential to forge a new path for a broader strategic partnership between China and Kazakhstan, presenting both new opportunities and obstacles in the future.

8. Analysis and Strategic Implications

The section is dedicated to the main findings of the survey on the public perception of Kazakhstani drivers about Chinese EV integration into Kazakhstan. It identifies the most popular Chinese EV brands purchased by the survey participants. It also outlines Kazakhstani governmental initiatives aimed at promoting EV integration into the country, as the survey participants have emphasized their significant contribution to EV adoption. Moreover, the section analyzes what strategic implications the Chinese EVs in Kazakhstan could bring, addressing the potential opportunities and challenges for Kazakhstan.

8.1. BYD, Zeekr, and Li Auto EV brands

According to the results of the survey, BYD, Zeekr, and Li Auto are the most popular Chinese EV brands among Kazakhstani respondents from the capital city of Kazakhstan, Astana. Therefore, in this section, I will analyze these three car brands, discussing their relevant features along with the comparison with other popular cars in Kazakhstan. Under the framework of these three brands' relevance, I will refer to social and driving concerns in Kazakhstan that influence the choice of car buyers in the country.

To start, all three car brands have similar EV development approaches, including equipment with advanced battery technology, smart and AI-driven features, advanced driver assistance systems (ADAS), and emphasis on long-range performance. However, there are several specific characteristics in each EV brand that target drivers from Kazakhstan.

BYD, which stands for "Build Your Dreams," is one of the popular Chinese EV brands, particularly in Kazakhstan, that was founded in February 1995. The government of the PRC shows great support for the development of the brand, resulting in the massive export of cars abroad and entry into the international arena. In particular, the Ministry of Finance of China provides the BYD with government subsidies annually, and the budget increases every year. To specify, the amount of the subsidy for BYD in 2011 was about 301,221,000 yuan, while in 2016 it reached approximately 710,939,000 yuan, which is more than double the amount of the subsidies in 2011. Additionally, from May 2017, in the framework of China's new energy vehicle (NEV) sector development, the company remains on the list of companies that continue to receive Chinese new government subsidies (Jin 2019, 3; BYD).

Since the sampling frame of the survey research is drivers from Astana, the battery capacity remains a key EV component that needs to be considered due to the cold weather conditions in the city. Located in the north-central part of the country, Astana's climate is sharply

continental, usually characterized by strong winds and cold winters: the average temperature varies between -9°C and -12°C , but feels much colder because of the frequent winds (“Winter Weather in Astana”). Therefore, driving cars in regions where there is cold climates and strong winds leads to increased energy consumption, making vehicles’ motors work harder.

One of the most distinguished features, that most BYD BEVs and some of its PHEVs have, is the usage of a high-capacity blade battery, also known as a lithium iron phosphate battery. Although not all BYD vehicles are equipped with blade batteries at present, the company makes an effort to ensure a smooth transition towards the provision of these batteries for all vehicles. This type of battery is more expensive than other vehicles’ batteries, i.e., lead-acid, nickel-metal hydride or lithium-ion batteries, but its contribution to the resolution of air pollution issues is more significant, reducing the risk of a spontaneous combustion problem, which can emerge during the usage of these batteries because of the low battery temperature control. Thus, BYD cars with a blade battery demonstrate sufficient mileage and excellent energy consumption control, leading to the high performance and good reputation of the brand. For example, the BYD Han EV model with a blade battery system has a range of nearly 605 kilometers, presenting a higher mileage compared to other EVs, which raises doubts about the reliance on EVs on long-distance roads (Yu, 2022, 1-4).

Zeekr, which is a division of the Zhejiang Geely Holding Group, mostly referred to as premium class EVs, produces crossovers (CUVs) and minivans (MPVs) with luxury interiors, panoramic displays, and advanced multimedia, but with affordable prices for cars in this segment (Zeekr). In comparison to well-known American Tesla, which mostly offers similar premium segment EVs, the price of Zeekr vehicles in Astana ranges from 12,200,000 to 37,070,000 tenge, while the price of Tesla models varies between 13,250,000 and 150,000,000 tenge, according to the well-known automotive marketplace in Kazakhstan, *Kolesa.kz* (“Tesla Cars in Astana”; “Zeekr Cars in Astana”).

In addition, the Kazakhstan Automobile Union has analyzed trade flows in the car market and found that Zeekr was the best-selling EV in 2024, and particularly sales of the Zeekr X are almost double those of all other EVs combined, with around 290 units sold. It is explained by a well-developed local official dealer network in the two major cities of Kazakhstan, Astana and Almaty, where the brand is strongly promoted (*Auto Market of the Republic of Kazakhstan: Totals 2024*; Sukhorukov 2024). Moreover, in 2023, the brand introduced a partnership with the local company Orbis Auto, the country's leading automotive retailer, which plays a crucial role in the brand adoption among Kazakhstani buyers (Orbis Auto).

Furthermore, Grebtsov et al. (2024, 2) have investigated that Zeekr cars have effective thermal control that contribute to the high performance of EVs in the harsh conditions, which is relevant in the framework of Kazakhstani concerns about occasional extreme weather in the northern part of the country and poor road conditions in urban areas and on intercity highways.

Li Auto, which is also known as Lixiang in the Chinese market, is a car manufacturing company, founded in 2015, which is oriented on the production of crossovers and minivans like Zeekr, but accommodating around 5-7 seats with spacious family-oriented interiors (Li Auto). Most Lixiang cars are BEVs and Electric Range Extended Vehicles (hereafter referred to as EREVs) – a subtype of PHEVs, where only electric motors drive the wheels, whereas an internal combustion engine is only used to extend range by electricity generation. Thus, although the vehicles have dual energy power, Lixiang’s range extender platforms only serve as a generator without being the primary power source, making the company’s cars convenient for long-distance trips. Moreover, addressing the issue of EV infrastructure in Kazakhstan, which was indicated in the survey, Lixiang vehicles have an ultra-fast charging solution: the company states that in 12 minutes the cars charge 500 km of range (Krawczyk *et al.*, 2022; “Li Auto Inc. Launches Li L6”; Li Auto’s REEV Platform; Li Fast Charging Solution).

Apart from the innovative features, the popularity of Li Auto vehicles in Kazakhstan can be explained by the country’s growing demography, where family-oriented cars are especially in demand. According to the data provided by the Bureau of National Statistics, from 2020, when the EV integration process began in Kazakhstan, by 2025, the population increased to approximately 7%, which is estimated as a fast rate of growth. Moreover, from 2019, with the start of the COVID-19 pandemic, the annual live births gradually grew, resulting in a so-called “baby boom” in Kazakhstan by 2021, reaching a peak of around 446,000 live births (Bureau of National Statistics Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, *Population of the Republic of Kazakhstan by gender and type of locality (at the beginning of 2025)*; *Demographic development of Kazakhstan*; *Quality Report Population of the Republic of Kazakhstan for 2020*).

Shifting to the comparison with other popular cars in Kazakhstan, petrol cars still share the biggest amount of the car market. According to the statistics of the Kazakhstan Automobile Union, as of January-February 2025, Hyundai, Chevrolet, and Kia were the most popular manufactured brands in Kazakhstan, including exports. Meanwhile, following the South Korean and American brands, the 4th and 5th places in the top took Chinese companies, such as Jetour and Jac. These Chinese companies produce petrol vehicles as well as BEVs, PHEVs, and EREVs. To elaborate, Chevrolet Cobalt, Hyundai Tucson, Hyundai Mufasa,

Hyundai Santa Fe, Kia Sportage, and Jetour X50 were best-selling models in Kazakhstan (*Automobile Production in February 2025*). The brands' long-standing high brand reputations, strong price-quality ratio, adaptation to local conditions, i.e., extreme climates and road conditions, and well-developed dealer networks contribute to their popularity in Kazakhstan and globally (Rakita *et al.* 2017, 140-141; Lee *et al.* 2021, 12-13). Nonetheless, one of the most significant factors shaping the demand for these brands is that they are assembled in Kazakhstan, and both the Kazakhstani government and citizens show support for local manufacturing (Serikkaliyeva *et al.* 2024, 18-28). In contrast, Chinese brands, especially those focused on EVs, are comparatively new and have not yet achieved a high reputation, but their main distinguished features, such as affordable price, innovative technologies, eco-friendly approach, and governmental support for EVs, i.e., exemption from taxes and different fees, are considered strengths that allow them to compete with other foreign companies in Kazakhstan's automotive market.

Overall, I think that the popularity of BYD, Zeekr, and Li Auto among Kazakhstani drivers can be explained by several factors, such as a high level of safety and capacity in severe weather conditions, excellent mileage performance, along with green development and environmental impact, which car owners take into consideration when purchasing EVs, as indicated in the survey results (refer to Appendix: Online Survey Questionnaire). Moreover, I suppose that the relevance of these brands in Kazakhstan and other importing countries might increase in the future, since all three car companies constantly work on numerous advancements to enhance EV functions, showing a strong willingness to remain competitive in the Chinese and global EV market. As for China, a massive automobile country, the government will continue to support the EV industry, as a potential area of development, by making investments and providing subsidies to further enlarge the country's share in the international car market.

8.2. Governmental Initiatives Supporting the EV Integration

As survey results have shown, the support of the government in the Chinese EV integration into Kazakhstan is tremendously important, but few participants are familiar with such governmental initiatives that contribute to the promotion of these EVs. In this section, I will focus on the discussion of three Kazakhstani governmental initiatives aimed at supporting the distribution of EVs, which the respondents indicated in the online questionnaire.

At first, it is important to mention that the promotion of EVs through different initiatives by the Kazakhstani government is not limited to Chinese EVs only. However, given the Chinese dominance in the EV market globally, including neighboring Kazakhstan, the current governmental support contributes to the Chinese EV adoption in particular.

To begin, there are two main ways of EV distribution in Kazakhstan such as direct import from China and with the assistance of official or nonofficial dealers. On the one hand, some people claim that direct import is comparatively cheaper because there are no additional individuals or companies involved in the purchase, functioning as dealers, who receive their margin as the markup on profit and service. Nevertheless, relying on this method of EV transportation means there are no guarantees on whether the car will be transported appropriately without any damages or unforeseen expenses. Therefore, it seems to be risky for buyers, although a cheaper option.

On the other hand, there are official distribution companies of EVs in Kazakhstan, one of the most well-known official distributors, Astana Motors, is responsible for the whole process of EV transportation in Kazakhstan, in particular BYD models, through a signed agreement for the promotion. Their services cover all obligations, ensuring the safety of transportation and the payment of all taxes and fees included in the price, and thus, some people consider that it is more affordable to seek their services than direct import from China, since Astana Motors optimizes the costs through bulk delivery (Astana Motors). However, regardless of the direct import from China or the dealership network, the Kazakhstani government strictly controls the car adoption process. From December 1, 2024, according to the new amendments introduced by the State Revenue Committee of the Ministry of Finance of the Republic of Kazakhstan, several changes for vehicle import came into force in the Republic of Kazakhstan to avoid the grey import. According to the regulations of the Ministry, legal entities may import vehicles only if they receive vehicle type approval (VTA). The use of the VTA is allowed only if the declarant is the person specified in this approval document. Meanwhile, for individuals, the import of one car per year is allowed for personal use, but it is obligatory to have a Certificate

of Vehicle Safety Compliance (CVSC) and pay the necessary customs duties and taxes (*On Amendments to the Procedure 2024*).

Furthermore, at the legislative level, Article 388, Chapter 31, Paragraph 1.3 of the Environmental Code of the Republic of Kazakhstan states:

Areas of activity of the operator of extended obligations of producers (importers) are obliged to direct the money to the stimulation of the production of environmentally friendly motor vehicles in the Republic of Kazakhstan, complying with the environmental class established by the technical regulations of the Eurasian Economic Union, to finance their producers by the maintenance of workplaces, the utilization of energy resources, the implementation of research and development, the performance of tests related to the release of products, supporting of warranty obligations.

In addition, according to Paragraph 2 of same Article 388, “the authorized body approves the rules stimulating the manufacturing of eco-friendly transports and their components, complying with the environmental class established by the technical regulations of the Eurasian Economic Union.”

In practice, the Kazakhstani government actively supports the import of EVs, providing a variety of initiatives. For instance, the survey respondents listed the government-established initiatives such as 0% import duty on EVs, provision of free parking spaces, and exemption from transportation tax and utilization fee. To elaborate on the financial advantages of EV purchase, I will examine the fees for the gasoline car import that Kazakhstani people usually have to pay and juxtapose them with the fees for EV imports.

According to the Code of the Republic of Kazakhstan “On Customs Regulation in the Republic of Kazakhstan”, a customs declaration for all types of imported vehicles must be provided at the country’s border. However, after the declaration, the owners of gasoline cars are mandatory to the several payments, such as customs duty (15% of the customs value), a fixed customs processing fee of 20,000 tenge, the VAT (12% of the total customs value), transportation tax, Compulsory Motor Third-Party Liability Insurance (CMTPL) utilization fee along with initial registration fee, the amounts of which vary, depending on the characteristics of a particular car. In contrast, according to the decision of the Council of the Eurasian Economic Commission (hereafter referred to as CEEC), where Kazakhstan is one of the member states, until December 31, 2025, the owners of EVs are exempt from the payments of VAT and customs duties. Additionally, in Kazakhstan, the EV owners are also exempt from the utilization fee and transportation tax until December 31, 2025. It should be noted that these exemptions are considered if one EV per year for personal use is imported within a

governmental quota. However, there is no lack of these quotas for the Kazakhstani people, since the EV adoption is still growing, and most of the people drive gasoline cars. According to the State Revenue Committee of the Ministry of Finance of the Republic of Kazakhstan, the annual quota for Kazakhstan in 2023, established by the CEEC, was 15,000 EVs, and within 10 months, about 8,477 were imported, which means the quota was only partly fulfilled. For 2025, the number of quotas increased twice and was set at 30,000 EVs for Kazakhstan. Therefore, despite the restriction on the number of vehicles, purchasing an EV still significantly contributes to the car owners' budget economy in Kazakhstan, making EVs a financially preferable option for potential buyers (*Customs Code of the Republic of Kazakhstan 2017; On Amendments to the Procedure for the Import of Vehicles by Legal Entities 2024; Sarsembayev et al. 2023; Perzadayeva 2024; Eurasian Economic Commission, Decision on EV Imports 2025; Eurasian Economic Commission, On the Safety 2025*).

Another benefit provided by the Kazakhstani authorities for the Kazakhstani EV owners is the provision of free parking zones. According to the amendments to the Traffic Law of the Republic of Kazakhstan, from September 18, 2024, the owners of EVs are exempt from parking fees in communal paid parking lots ("On the Road Traffic" 194, sec. 42-1).

In conclusion, as the survey participants have noticed in the online questionnaire, due to Kazakhstan's governmental initiatives, the process of EV import in Kazakhstan is less expensive in comparison with the import of gasoline cars. However, even though current initiatives provide a boost for Chinese EV distribution and greatly assist in the increasing relevance of Chinese EVs in the Kazakhstani car market, the low awareness of society about these initiatives is the main obstacle to further EV integration into the country. Therefore, it is recommended that Kazakhstani policymakers should pay attention to this problem and encourage potential buyers to become familiar with the provided initiatives.

8.3. Potential Opportunities and Obstacles for Kazakhstan

As the survey results have shown, there are several potential opportunities for Kazakhstan that the respondents highlight as the most remarkable, e.g., the development of both the green policy and domestic car market, along with the reduction of oil dependency. In terms of the potential obstacles, according to the survey participants' views, underdeveloped infrastructure for production, a lack of qualified staff, and insufficient government support for the development of the infrastructure and the whole EV market, in general, are the most critical ones for the country. Therefore, in this section, I will discuss these main opportunities and obstacles that possibly emerge for Kazakhstan in the EV industry.

Today, Sino-Kazakhstani energy cooperation based on oil and gas production and transportation currently remains fruitful, greatly contributing to the economic growth of both countries and fostering partnership, with China being one of the biggest importers of Kazakhstan's oil. Despite this, both Beijing and Astana have recognized the need to make a green transition shift, addressing their environmental concerns and sustainable development goals. This transition is critically relevant for Kazakhstan in particular, mostly due to two key reasons. Firstly, it is explained by the economic landscape that Kazakhstan is an oil and gas-dependent country, reaching 12th place in oil reserves and being top 30 countries in gas reserves in the world (Aitzhanova *et al.* 2015; Nabiyeva 2019; Imangozhina 2021). However, within the last 10-15 years, starting from the downfall of global oil prices in 2024, it has led to economic instability with a rapid devaluation of the national currency, the tenge (₸), in the country. Therefore, in the long run, it will probably cause an economic drop with a lower GDP once the reserves of fossil fuels are exhausted unless the national economy will not diversify and shift to alternative sectors of sustainable economic development. To elaborate, according to the statistics provided by economists and scholars from the National Analytical Center in Astana, it is estimated that Kazakhstan's oil production will reach the highest peak at 3.5 million barrels per day by 2035, but after 2035 it will drop sharply mostly because of the resource depletion, technological challenges due to the reduction of investments, which in combination will bring an economic crisis in the country (Aitzhanova *et al.* 2015, 179-183; Sagynayev *et al.* 2024, 16).

Secondly, the oil and gas production process results in domestic environmental issues such as air and water pollution, soil contamination, and greenhouse gas emissions. In particular, Kazakhstan's energy sector accounted for the air pollution problem in Atyrau City, West Kazakhstan, due to the high concentration of solid particles, sulfur dioxide, carbon monoxide, nitrogen oxides, and hydrocarbons along with around 77% of the whole country's greenhouse

gas emissions, which is equivalent to approximately 235 million tons of CO₂ from 2009 to 2019. Meanwhile, in terms of soil and contamination and water pollution due to the toxic emissions, these issues address the extraction of oil and gas fields, such as Tengiz and Karachaganak, in the Western part of Kazakhstan (Yessenamanova *et al.* 2020; Sultanova *et al.* 2020). As a result, these consequences of the industrial sector provoked public discontent among ecological activists and Kazakhstani citizens at large, Kazakhstani authorities began to demonstrate support for green-tech projects and focus on renewable energy sources. To elaborate, Kazakhstan has launched the Green Economy Concept, under which has initiated the Green Fiscal Policy in 2013, aiming for the alignment of energy and natural resource prices, achieving zero carbon emissions, and accelerating the transition to renewable energy sources. These initiatives reduce environmental damage, provide a supportive policy environment for EV integration, supporting the development of green transport infrastructure (Suiyeubaeva *et al.* 2022, 92; Mazina 2022, 491).

From my point of view, although the presentation of EVs is usually associated with alternative energy source usage, bringing the possible solution to many environmental issues, it also contributes to tackling economic problems, which are more critical for Kazakhstan, as one of the developing countries. Therefore, currently, the transition to alternative energy sources is not the paramount potential opportunity for Kazakhstan in the context of EV integration, but I do not deny that it has the potential to become so in the future, when the consequences of Kazakhstan's ecological issues will be more critical, and the government will have to focus more on this sector.

Moreover, to my mind, the main issue within the green transition is that despite the Kazakhstani government's interest in evolving environmental policy with an emphasis on green technology and renewable energy sources, it still cannot become the foundation for Kazakhstan's economic growth, and as a result, the overwhelming major part of the economic sector remains centralized on the energy field dominated by the oil and gas extraction. The concept named "Resource Dependency" or otherwise "Resource Curse" is suitable to describe the economic course of Kazakhstan since the state's independence, driven by the massive reliance on ongoing and dynamic fossil fuels production (Nabiyeva 2019, 7).

At present, Chinese EVs not only sharpen and diversify the car market industry in Kazakhstan, it clearly demonstrate that car production can contribute to the resolution of several economic issues in Kazakhstan, e.g., economic instability and frequent inflation due to the reliance on natural resources and an uncompetitive domestic car market. Kazakhstan has several centers that include key stages in the industry, such as manufacturing of individual

components (e.g., Bektrans LTD, KAMAZ-Engineering - a joint venture with Russia), assembly plants (e.g., Allur Group, SaryarkaAutoprom LLP, Hyundai Trans Auto, etc.), distribution (e.g., Astana Motors, Asia Auto Group), but there is no almost or fully end-to-end car production with local branding and manufacturing as it appears in China. Therefore, I believe that there is a huge chance for local companies to learn more about EV construction from other countries, particularly from China as the biggest EV producer, and further boost local car manufacturing, resulting in taking measures to produce local vehicles that can become as popular and competitive as other foreign cars among Kazakhstani people. Such an approach can contribute to the increased demand for local products, resulting in economic growth, which is the main objective of the country (Asia Auto Group; “Automobile assembly plants in Kazakhstan 2021”; Bektrans; “Enterprises of transport machine building”; “Hyundai Trans Kazakhstan”).

Despite the potential opportunities for Kazakhstan, which might significantly contribute to the country’s economic development, the potential challenges identified within the survey can hinder economic growth. Moreover, it should be emphasized that the challenge of a lack of governmental support is a policy issue, which was discussed in detail in the subsection *Governmental Initiatives Supporting the Chinese EV Integration*, while the other two challenges — underdeveloped infrastructure and a lack of qualified staff — are related to the domestic economic issues, estimated by the survey respondents as the most critical. Therefore, it seems to be a vicious circle: the domestic economic problems of Kazakhstan itself cause potential obstacles, and there are no external factors that could prevent Kazakhstan from gaining as many benefits as it can from the Chinese EV adoption. It means that the country should focus on the internal domestic issues, i.e., enhance full-scale local automotive industry, open end-to-end production of cars, particularly EVs, fill workplaces with highly qualified employees by inviting expatriates to boost the car industry sector, and provide training for the staff who work with EVs.

Additionally, given the underdeveloped infrastructure level for current EV production and adoption, the infrastructure of charging stations should be particularly improved, ensuring a sufficient number of public and private chargers with different speeds and becoming more affordable and convenient for use. Based on the EV charging station map of Astana City, all 293 stations constructed by March 2025 are based in the commercial zones, making the distribution around the city imbalanced and causing inconvenience for some owners. Thus, charging network management platforms and software systems should be improved for the

users to track all charging features, station locations, and keep updated on the availability of these stations (Perzadayeva 2024; “EDrive Charging Station Map”).

Moreover, the deputies of the Majilis of the Republic of Kazakhstan, together with the Association of Kazakhstan Automobile Business, claim that the new amendments introduced by the Ministry of Finance of the Republic of Kazakhstan regarding the import of one car per year for personal use (discussed in the subsection *Governmental Initiatives Supporting the Chinese EV Integration*) have caused a 36% decline in the number of primary registrations in 2024 compared to 2023, due to the slow development of charging infrastructure, which cannot cope with the growing load. Thus, if Kazakhstani policymakers tackle these specific issues, they could contribute to a rapid transition from gasoline cars to EVs, changing the tendency in car preferences among local drivers (Musapirova 2025).

To sum up, the introduction of Chinese EVs in the Kazakhstani car market is a crucial step, opening new horizons for potential economic prosperity, the main interest for the development of the state, which has heavily based its economy on natural resources for a long period. Today, Kazakhstan aims to ensure a transition from the so-called “resource curse” to alternative ways of economic growth, but the potential emergence of obstacles for Kazakhstan in cooperation with Chinese EVs might prevent it from obtaining potential opportunities. Thus, the country should focus on the development of EV infrastructure and implement suitable policies and regulations at the governmental level to support EV integration in the country.

As long as there is a chance to make a smooth transition, the country should apply the strategy for the achievement, taking into consideration that both sectors, gas and oil, and EV integration, are gradually succeeding now. Based on the research, Chinese EV entry in Kazakhstan holds the potential to become not just a temporary trend, but also a big opportunity to learn more about the production of domestic EVs. Nevertheless, whether it will transfer into a beneficial innovative industry for Kazakhstan or a passing trend is predominantly reliant on governmental strategies. If the Kazakhstani authorities take a risk to increase the volume of the economic shift from fossil fuels to an alternative approach based on the Chinese EV presence, Kazakhstan could avoid the current economic fluctuations, being vulnerable to the external price shocks with the potential rapid drop in the future, when the oil and gas reserves will be depleted.

8.4. Strategic Implications of Chinese EV Integration for Kazakhstan

Strategic implications for Kazakhstan in the framework of Chinese EV integration are not limited to the direct economic and environmental consequences, which were discussed in the subsection *Potential Opportunities and Obstacles for Kazakhstan*, but also refer to the strategic position of Kazakhstan in regional affairs in the long-term run and its capacity to reach industrial autonomy.

One of the key strategic concerns is long-term technological vulnerability, given the high import volume and increasing reliance on foreign innovation. As the survey results have shown (refer to Appendix: Online Survey Questionnaire), price affordability, quality, and design and style are the main criteria contributing to the growing demand for Chinese EVs. However, this demand for imported cars restricts the Kazakhstani market from local car manufacturing that could become competitive over time and contribute to Kazakhstan's domestic economy. Moreover, this vulnerability is not limited to Chinese EVs, it includes any other foreign car presence that becomes competitive and popular among Kazakhstani people. Nevertheless, due to the geographic proximity of China and Kazakhstan, plenty of joint infrastructure projects under the BRI, China's keen interest in Kazakhstan under its Central Asian Pivot, make China's presence highly influential.

According to the Dependency Theory, presented in the section *Theoretical Framework*, the current presence of Chinese EVs in Kazakhstan can be considered a new direction of innovative and industrial dependence. Seeking economic diversification and technological innovation, Kazakhstan may come to overreliance on imported resources from "core" countries, such as China, in the economic and technology fields. It means that, based on the "core-periphery" model, such a form of cooperation causes developing countries to become consumers rather than producers, limits their autonomy to develop separately, and places them in the role of a "periphery". Thus, Kazakhstan should revise its domestic policy and implement new strategic goals, which would preserve the balance between exports and imports and manage the share of foreign goods in the country. Otherwise, Kazakhstan risks enhancing its "peripheral" position, maintaining or even increasing its oil and gas dependence, which makes the country very appealing to cooperate mainly in the energy field and neglects the potential for partnership in other economic sectors (Bohnenberger-Rich 2015, 150).

Another strategic concern is that Kazakhstan may remain locked in its current role of a transition corridor, which can facilitate Chinese EV trade under the BRI infrastructure projects, or assembly plants for foreign car brands. Thus, there is a risk that the country will not recognize its potential to become a full-fledged car producer, which would increase demand

for local cars among Kazakhstani citizens. Moreover, it could prevent Kazakhstan from implementing its long-term priorities targeting comprehensive development under the national strategies “Kazakhstan 2030: Prosperity, Security and Ever-Growing Welfare of All the Kazakhstanis” and “Kazakhstan 2050: A New Political Course of the Established State” (“Strategies and programs”). To avoid locking in these roles, Kazakhstan should address potential obstacles within Chinese EV integration, including those the survey respondents identified in the questionnaire as the most remarkable (refer to Appendix: Online Survey Questionnaire). Attracting investments in technological innovations, local infrastructure development, end-to-end car production, qualified staff in the EV industry, establishment of joint ventures, and policy support are all necessary to make this EV integration beneficial and cooperative rather than threatening.

Additionally, Kazakhstan’s geographical location—sharing borders with Russia, China, and other Central Asian countries—highlights the importance of considering geopolitical factors and maintaining a balance in cooperation with neighboring regions. This position has led Kazakhstan to provide a multivectoral foreign policy and diplomacy, where, although the country enhances its strategic partnerships, it tries to avoid overdependence on any of its strategic partners. In the framework of such a geopolitical situation and balancing approach, if Chinese EV integration increases without joining strategies with local manufacturing, it could aggravate the situation in the geopolitical arena, where the emphasis will be on Sino-Kazakhstani relations. In response, for Russia, which is trying to maintain regional dominance over post-Soviet countries like Kazakhstan, China’s growing presence in the Kazakhstani car industry may be perceived as a strategic threat to its interests in Central Asia. Consequently, this could strain Russian-Kazakhstani relations, which in turn could cause geopolitical tensions (Baisalbek *et al.* 2024).

Meanwhile, besides adverse strategic implications, there are still several strategic opportunities for Kazakhstan that Chinese EV integration may bring. It could become a case for learning how to develop the domestic EV industry based on China’s successful experience. It could also offer a new path for further partnership through the formation of joint strategies that would better meet local customers’ needs, taking into consideration the social concerns of Kazakhstani drivers, which were discussed in the subsection *BYD, Zeekr, and Li Auto brands*, and boost the domestic expertise of the Kazakhstani car industry. It is mainly through joint ventures that Kazakhstan can develop the domestic market and avoid overreliance on the foreign car market. In this sense, there is also a correlation with the broader strategic goals of

Kazakhstan to achieve economic diversification through the reduction of oil and gas dependency (Kozhirova, Nechaeva, and Shukyzhanova 2024).

To conclude, the potential strategic implications of Chinese EV integration into Kazakhstan simultaneously present both the opportunity to boost the car industry and economic growth in a broader sense and the risk of increasing the overreliance on imports. However, which of these implications will appear mostly depends on the decisions of the Kazakhstani government, which needs to design appropriate strategies and policies that would avoid the potential strategic threats within the cooperation in various economic sectors, including the automotive industry. Kazakhstani policymakers should settle the import regulations to move forward in the direction of equal partnership, given the critical situation in the oil and gas industry. Unless it would not increase the domestic production and local market, the partnership that Kazakhstan builds with other countries, particularly with developed countries like China, remains unequal, seeking geopolitical maneuverability to harmonize the interests of neighboring states, and leading to a severe economic crisis in the future.

9. Discussion

Considering that the entry of the Chinese EVs into Kazakhstan is a new innovative tendency, it was quite challenging to forecast what other specific outcomes it will bring in the survey. Sagynayev *et al.* (2024, 14) have discussed that from 2010 to 2019, the number of imported passenger cars declined to 30% (in particular, from 89% to 59%), stressing that Kazakhstani people became more interested in purchasing cars assembled in Kazakhstan. Moreover, Aitzhanova *et al.* (2015, 183) state that the governmental policy of Kazakhstan should stimulate more conservative import growth to maintain a positive trade balance until 2050, which simultaneously limits the sharp growth of imports. To be more specific, the scholars have suggested decreasing the share of imports from 28% in 2012 to approximately 20% in 2050, which would correspond to the country's export potential. Subsequently, a long-term strategy of import substitution is required, which correlates with the government's objective to diversify the economy and to join the ranks of the top 30 most developed countries by 2050 under the national strategy "Kazakhstan 2050: A New Political Course of the Established State".

However, in view of the rising popularity of Chinese EVs in the Kazakhstani market, the expected results of the research were that the integration of these EVs will continue to grow, and the cooperation between the two sides will obtain a new vector in the economic sector. Since Kazakhstan, as one of the developing countries in the Central Asian region, have not yet fully adopted to import a lot of EVs and shift rapidly from conventional vehicles to Chinese EVs, they will advance and import the EV tools and components, e.g., electric motors, lithium-ion batteries, thermal management for batteries, to start developing domestic EV manufacturing.

Regarding the public perception in Kazakhstan about Chinese EVs and their effect on Sino-Kazakhstani political and economic collaboration, initially, I propose the hypothesis that it might be ambiguous. A significant portion of owners of Chinese EVs may prefer these vehicles and, as a result, support the decision of the Kazakhstani government to align with China more in economic and political sectors in view of China's rapid economic growth. Nevertheless, another segment of Chinese EV owners may be dissatisfied with these cars because of Kazakhstan's lack of capability to provide EV owners with special equipment and instruments.

Moreover, these individuals may have a skeptical attitude towards Kazakhstan's close partnership with China based on EV adoption, because China, in their view, can pose a threat to Kazakhstan by making the country the world's top ten recipients of Chinese non-concessional finance. China's growing presence in Kazakhstan over the last years perceived as

a foreign influence from outside, and Kazakhstani society, as a postcolonial mindset after the experience with the Soviet Union, may react negatively to it. On top of that, this cliché is reinforced by the USSR's historical background, presenting China as an enemy, because the latter doubt the country's sovereignty over the several lands in the southeastern part of Kazakhstan such as Jetisu region and the Lake Balkhash, which are not fully unresolved the cross-border issues between two countries at present. To further elaborate, other water sources, such as Irtysh and Ili rivers, flowing through the China-Kazakhstan borders, are threateningly drying up, as China enlarges the water withdrawal for agricultural and industrial sectors, fostering social discontent among Kazakhstani citizens about their neighboring China (Nabiyeva, 2019, 2-3).

In addition, there are several demographic and cultural differences between the two states, and they are specifically influential when it comes to the societal attitude. For instance, as Natalie Koch (2013, 127) has explored, although majority of Kazakhstani people are not entirely supportive about cooperation with China, demonstrating caution about forward enhancement of bilateral ties, Kazakhstan's government does not account for them in its policymaking due to the lack of state–society relations, high level of perceived corruption, de-facto resulting in low level of trust in government among people. Nonetheless, the survey results demonstrate that public perception about this integration is generally positive, but emphasize that Kazakhstani society perceives the necessity to develop the domestic market, citing the Chinese EV case, and prefer to avoid the market dependence with the possible increasing import of the foreign vehicles.

From China's perspective, the positive public perception of Kazakhstani people about the Chinese EV integration indicated within survey results aligns with its national strategic goals of domestic car production development and expansion of economic integration in the framework of the BRI, which supports the green transition of Kazakhstan (Janshanlo *et al.* 2022). However, despite this alignment, the green transition of Kazakhstan only partially maintains China's broader economic and regional strategies under the BRI for several reasons.

First, the survey respondents, who are Kazakhstani citizens and the Kazakhstani government under the Green Economy Concept, emphasize domestic environmental concerns (refer to Appendix: Online Survey Questionnaire). However, in the present time, the country faces several challenges, i.e., economic centralization in the energy field, underdeveloped infrastructure, and a lack of governmental support, which hinder the provision of a significant green transition that would support China's aims at fostering the green development under the "Green Belt and Road." Therefore, despite the growing market demands for Chinese EVs in

Kazakhstan, China should also address Kazakhstan's policy and infrastructure gaps, which would resolve the obstacles to Chinese EV promotion, and foster long-term bilateral economic development. I suppose that if China, for example, could provide joint strategies or ventures within the EV integration, where Kazakhstan would be able to advance local car production, not only limited to Chinese EV import, it could stimulate the policy support of Kazakhstan along with the achievement of sufficient infrastructure level that aftermath would lead to the greater Chinese EV adoption in Kazakhstan.

Secondly, although the BRI's transition to sustainable development given China's domestic carbon consumption issues and global demands for the green transition, currently the initiative remains concentrated on traditional infrastructure projects rather than on new sustainable approaches and strategies, as was proposed in the section *BRI's Infrastructure for EV trade*, where is the discussion on Kazakhstan's role as a transition hub within the BRI to assist the Chinese EV adoption overseas took place (Dusekina *et al.* 2021). Thus, the BRI's current projects, along with Kazakhstan's participation, contribute to China's new economic development and interregional cooperation with other BRI member states but particularly the Chinese EV integration into Kazakhstan demonstrates that the BRI is still underdeveloped in its environmental dimension and overlooks its environmental legitimacy (Razumovskaya *et al.* 2020).

Additionally, despite the partial contribution of Kazakhstan's green transition to China's goals under the BRI, the positive sentiments among Kazakhstani drivers about Chinese EVs show that China is able to enhance a positive country image in Kazakhstan, particularly in the car market. Therefore, it illustrates that Chinese EV integration, being a part of a growing economic presence in neighboring Kazakhstan under China's Central Asian Pivot, can contribute to the diplomatic narratives of China, going beyond the car industry. To my mind, China does not only adopt its EVs — it adopts a development model that correlates with its strategies of sustainable development. I also think that for China, it is particularly important to export this new model of development in view of the country's ambitions in the Central Asian region which overlaps with the country's economic strategies. Addressing the Sino-Kazakhstani long-term strategic partnership, it becomes apparent every year that unless China provides different economic collaboration with Kazakhstan under which the latter's economy is growing, Kazakhstan will demonstrate openness and readiness to further advance the Sino-Kazakhstani relations, which China could take into the consideration within its Central Asian Pivot (Rezaeinejad *et al.* 2023). Therefore, I suggest that the current Chinese EV integration

into Kazakhstan is a huge opportunity for China to implement its strategies in the Central Asia countries under this regional pivot.

10. Conclusion

Today, the entry of EVs in Kazakhstan is a milestone, the importance of which increases gradually in the context of China-Kazakhstan strategic economic partnership, and Kazakhstan's domestic environmental issues, together with oil and gas dependency. Meanwhile, for China, this integration with the support of the Kazakhstani government contributes to the country's image, strengthening economic ties with neighboring Kazakhstan, expanding cooperation in the car industry, and providing a new platform for Chinese EV imports.

Currently, the nature of Chinese EV presence in Kazakhstan is considered one of the potential tools of Chinese economic influence in the country, as well as infrastructure projects, the energy sector and digital technology investments, online commerce, and others. However, this technological presence has great potential to evolve into Kazakhstan's long-term economic development, providing a new path for fostering bilateral economic collaboration between the two countries, rather than remaining a short-term trend that might be replaced later by another phenomenon for several reasons. Firstly, it correlates with Kazakhstan's current economic strategy that focuses on renewable energy, since the country is willing to reduce dependence on oil and gas and diversify its economy. Secondly, regarding environmental implications, Chinese EV integration contributes to the reduction of different emissions, leading to air and water pollution in Kazakhstan and provoking social concerns about these issues. It supports Kazakhstan's transition to a green economy within the framework of its national environmental policy and international sustainable development agenda. Thirdly, Kazakhstan actively maintains global innovative approaches, providing a platform where different advanced technologies can be introduced in many fields of development. In this sense, China, with its EVs, being a regional leader and neighboring country, seems to be tremendously attractive for developing Kazakhstan, which demands huge investments and joint ventures for infrastructure development to produce local EVs and create a domestic car market that will contribute to the economic development.

Nevertheless, unless there are several potential obstacles that the survey participants emphasized as the most critical, e.g., underdeveloped infrastructure, a lack of governmental support, and qualified staff in the EV industry, Kazakhstan's economic cooperation with China will not be as fruitful as it could be. If Kazakhstan tackles these challenges, addressing the gaps in the domestic economic sector and enhancing the governmental initiatives, aimed at encouraging local buyers to choose these vehicles, the country could gain more benefits, being

in the position to produce its local EVs, reduce the dependence on Chinese growing power, particularly in the car industry, and accelerate its green energy transition.

Additionally, this paper highlights that Chinese EV integration into Kazakhstan aligns with China's economic strategy under the BRI, particularly the initiative's target to promote a green development model, and the political course of China under China's Central Asian Pivot. However, it also stresses the current gaps of the BRI in increasing its environmental legitimacy.

Meanwhile, the positive perception of Chinese EVs among Kazakhstani drivers contributes to the reinforcement of China's country image in the region, and if China addresses Kazakhstan's domestic issues in Chinese EV promotion, i.e., underdeveloped infrastructure and lack of policy support and offers joint initiatives, where Kazakhstan could develop its local car market, China could become more integrated into the Central Asian region and obtain a regional power under the Central Asian Pivot.

Still the Chinese EV integration is a comparatively new trend in Kazakhstan, and it takes time to explore this aspect further: over time it will illustrate more in detail what are the implications of this integration to Kazakhstani innovation development, how it influences Sino-Kazakhstani relations in the economic field, and how it contributes to the resolution of Kazakhstani ecological issues. Thus, it should be emphasized that scholars need to continue conducting further research, as the topic remains under-researched, although the relevance of the research area is significant in the framework of Sino-Kazakhstani economic cooperation along with the implementation of the Kazakhstani environmental policy. In particular, I suggest that the infrastructure of EV charging stations, a lack of domestic EV production in Kazakhstan, and the facilitation of the BRI's infrastructure projects can be further explored to elaborate more on the solutions to these key aspects.

Meanwhile, Kazakhstani policymakers can refer to the concerns and challenges related to Chinese EV integration into Kazakhstan that were indicated in the survey to hinder them or minimize their consequences by providing appropriate policy regulations that will contribute to gaining as many benefits and opportunities as it is possible within this bilateral cooperation. As a result, addressing the results of this research, particularly the survey responses on public perception of Kazakhstani drivers, the government of Kazakhstan can analyze if they should increase the presence of Chinese EVs or restrict it, given the potential issues.

Use of AI

I used AI while writing this paper to improve its readability and coherence, and to brainstorm on relevant points and ideas. To be more specific, I used AI tools, such as ChatGPT, to generate ideas, provide comprehensive research, and refine the paper. I utilized it in the abstract, introduction, and several sentences throughout the content of the paper under sections. Taking into account the novelty of my topic and the lack of literature on it, it was challenging to discuss the potential implications and to know some relevant details, just by making a literature review. Thus, ChatGPT helped me in finding relevant academic sources that support or refute several information that I found from open sources. Also, I used ChatGPT to generate the template of the abstract, introduction, conclusion, and some other sections of the thesis, just to guide me on how to write a particular section. After its guide, it was easier to identify what exactly I would write on my own and how I should present the research. Also, Grammarly was used to check the spelling, grammar, and punctuation to preserve the academic English writing style.

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Appendix: Online Survey Questionnaire

This appendix represents the questions and results of the online questionnaire among Chinese EV and other EV drivers in Astana in the framework research on their public perceptions of Chinese EV integration. All research questions are provided in screenshots since some of them consist of complex and visual formats.

Regarding the results, some of them are also provided in screenshots as presented on the online platform SurveyMonkey, while due to the length and open-ended answers, other results are presented in a manual table for readability and better visualization. To preserve research accuracy, the results are provided in both languages (English and Russian) as it was initially designed. For a discussion of the key findings of the survey, refer to the section *Survey Analysis*.

Survey questions of the online questionnaire:

1. Ваш возраст/Your age:

- Under 18/До 18 лет
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65+

2. Ваш пол/Your gender:

- Мужчина/Male
- Женщина/Female
- Другое/Other

3. Ваша профессия/Your occupation:

- Работающий специалист/Working professional
- Студент/Student
- Предприниматель/Entrepreneur
- Безработный/Unemployed
- На пенсии/Retired
- Другое (пожалуйста, уточните)/Other (please, specify)

4. Насколько Вы знакомы с импортом китайских электромобилей в Центральную Азию, в частности в Казахстан?/How familiar are you with the import of Chinese electric vehicles (EVs) in Central Asia, particularly in Kazakhstan?

- Хорошо знаком(а)/Very familiar
- Немного знаком(а)/Somewhat familiar
- Плохо знаком(а)/Not so familiar
- Совершенно не знаком(а)/Not at all familiar

5. Как Вы впервые узнали о китайском импорте электромобилей в Казахстан?/ How did you first become familiar with Chinese EV imports to Kazakhstan?

- Новостные источники/News
- Социальные сети/Social Media
- Личный опыт/Personal Experience
- От знакомых/Word of mouth
- Реклама/Advertisements
- Автосалоны/Dealerships
- Автомобильные выставки или мероприятия/Automotive shows or events
- Другое (пожалуйста, уточните)/Other (please, specify)

6. Какая у Вас модель и марка машины? /What is the make and model of your car?

7. В каком году Вы приобрели электромашину?/What year did you purchase your EV?

Дата/Date

Date

8. Почему Вы выбрали китайский электромобиль? (Выберите все подходящие варианты)/Why did you choose a Chinese EV? (Select all that apply.)

- Качество машины/The car quality
- Цена/Price
- Дизайн и стиль/Design and style
- Доступность автомобиля/Vehicle Availability
- Репутация бренда/Brand Reputation
- По рекомендациям/Based on the recommendations
- Воздействие на окружающую среду/Environmental Impact

9. Насколько Вы удовлетворены покупкой электромобилья? (1 — совершенно неудовлетворен(а), 5 — полностью удовлетворен(а))/To what extent are you satisfied with your purchase of the EV? (1 — unsatisfied at all, 5 — fully satisfied)

★ ★ ★ ★ ★

10. Насколько Вы (не)удовлетворены следующими характеристиками китайских электромобилей?/How (dis)satisfied are you with the following aspects of Chinese EVs?

	Очень удовлетворён(а)/ Very satisfied	Частично удовлетворён(а)/ Mostly satisfied	Скорее неудовлетворён(а)/ Mostly dissatisfied	Совсем неудовлетворен(а)/ Dissatisfied at all	Нейтрально/ Neutral
Цена/Price	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Качество/Quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Доступность/Availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Дизайн и стиль/Design and style	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Технологические особенности/Technology features	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Влияние на окружающую среду/Environmental impact	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Наличие и доступность зарядных станций/Availability and accessibility of charging stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Обслуживание после продажи/After-sales service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Как Вы думаете, как китайские электромобили влияют на экономические отношения Китая и Казахстана?/What impact do you think Chinese EVs have on Sino-Kazakhstani economic relations?

- Положительное/Positive
- Отрицательное/Negative
- Нейтральное/Neutral
- Затрудняюсь ответить/I am not sure

12. Как Вы думаете, как китайские электромобили влияют на политические отношения Китая и Казахстана?/What impact do you think Chinese EVs have on Sino-Kazakhstani political relations?

- Положительное/Positive
- Отрицательное/Negative
- Нейтральное/Neutral
- Затрудняюсь ответить/I am not sure

13. Считаете ли Вы, что текущий уровень импорта достаточен для удовлетворения местного спроса?/Do you think the current level of import is sufficient to meet local demand?

- Да, полностью достаточен/Yes, fully sufficient
- Скорее достаточен/Mostly sufficient
- Скорее недостаточен/Mostly insufficient
- Нет, совершенно недостаточен/No, completely insufficient
- Затрудняюсь ответить/I am not sure

14. Каковы, на Ваш взгляд, основные причины увеличения числа китайских электромобилей в Казахстане? (Выберите все подходящие варианты)/What do you think are the key reasons of the growing number of Chinese EVs in Kazakhstan? (Select all that apply)

- Доступная цена/Affordable price
- Качество и надежность/Quality and reliability
- Технологические инновации/Technological innovation
- Популярность китайских брендов/Popularity of Chinese brands
- Легкость в обслуживании и ремонте/Easy to maintain and repair
- Доступность и ассортимент моделей/Availability and range of models
- Политические и/или экономические причины/Political and/or economic reasons
- Другое (пожалуйста, уточните)/Other (please, specify)

15. Как Вы думаете, может ли сотрудничество с Китаем в области электромобилей помочь Казахстану достичь своих экологических целей?/Do you think cooperation with China on electric vehicles can help Kazakhstan achieve its environmental goals?

- Да, в значительной степени/Yes, to a significant extent
- Да, частично/Yes, partly
- Нет, скорее не поможет/No, it will probably not help
- Нет, совсем не поможет/No, it will not help at all
- Затрудняюсь ответить/I am not sure

16. Как Вы думаете, насколько важен импорт китайских электромобилей в снижении уровня загрязнения воздуха в Казахстане? (1 — совершенно неважен, 5 — очень важен)/How important do you think the development of electric vehicles is for reducing air pollution in Kazakhstan? (1 —not important at all, 5 — very important)



17. На Ваш взгляд, каковы возможности для Казахстана в сотрудничестве с Китаем в области электромобилей? (Выберите все подходящие варианты.)/In your opinion, what are the opportunities for Kazakhstan in cooperation with China in the field of EVs? (Select all that apply.)

- Развитие внутреннего рынка автомобилей/Development of the domestic car market
- Обучение и развитие кадров/Staff training and development
- Развитие «зеленой» экономики/Developing a green economy
- Снижение зависимости от нефтяных ресурсов/Reducing dependence on oil resources
- Совместные исследования и разработки/Joint research and development
- Выход на международные рынки/Entry into international markets
- Укрепление позиции на международной арене/Strengthening the position in the international arena
- Другое (пожалуйста, уточните)/Other (please, specify)

18. Какие из этих возможностей Вы считаете наиболее значимыми и почему?/Which of these opportunities do you think is the most significant, and why?

19. Каковы, на Ваш взгляд, препятствия для Казахстана в сотрудничестве с Китаем в области электромобилей? (Вы можете выбрать несколько вариантов ответа.)/In your opinion, what are the obstacles for Kazakhstan in cooperation with China in the field of EVs? (You may select multiple answers.)

- Высокая стоимость/High cost
- Недостаточная развитая инфраструктура для производства/Insufficiently developed infrastructure for production
- Отсутствие квалифицированных кадров/Lack of qualified staff
- Сложности с импортом и налогообложением/Difficulties with import and taxation
- Проблемы с обслуживанием и запчастями/Problems with service and spare parts
- Низкая осведомленность населения/Low public awareness
- Проблемы с надежностью и качеством машин/Problems with vehicle reliability and quality
- Ограниченные финансовые возможности населения/Limited financial capacity of the population
- Конкуренция с традиционными автомобилями/Competition with traditional cars
- Сложности с интеграцией китайских технологий в Казахстан/Difficulties with the integration of Chinese technologies into Kazakhstan
- Недостаточная государственная поддержка развития инфраструктуры и рынка электромобилей/Insufficient government support for the development of infrastructure and the EV market
- Другое (пожалуйста, уточните)/Other (please, specify)

20. Какое препятствие, по Вашему мнению, является наиболее критичным и как его можно устранить?/Which obstacle do you think is the most critical and how can it be addressed?

21. Знаете ли Вы о какой-либо государственной программе в Казахстане, направленной на поддержку внедрения китайских электромобилей?/Do you know of any governmental programs in Kazakhstan to support Chinese EVs?

- Да/Yes
- Нет/No
- Затрудняюсь ответить/I am not sure

22. Если да, то пожалуйста, уточните программу. Если на предыдущий вопрос Вы ответили "нет" или "затрудняюсь ответить", пропустите этот вопрос./ If yes, please specify the program. If you answered "no" or "I am not sure" to the previous question, skip this question.

23. Согласны ли Вы, что такие государственные программы значительно способствуют распространению китайских электромобилей в Казахстане?/Do you agree that such governmental programs greatly contribute to the spread of Chinese EVs in Kazakhstan?

- Полностью соглашусь/Totally agree
- Частично соглашусь/Partly agree
- Частично не соглашусь/Partly disagree
- Полностью не соглашусь/Totally disagree
- Затрудняюсь ответить/I am not sure



24. Есть ли у Вас замечания или наблюдения, которыми Вы хотели бы поделиться о китайских электромобилях в Казахстане и их влиянии на отношения между Китаем и Казахстаном? Например, Вы можете прокомментировать экономические, политические или экологические последствия./Do you have any remarks or observations about Chinese EVs in Kazakhstan and their influence on China-Kazakhstan relations? For example, you may comment on economic, political, or environmental impacts.

The results of the online questionnaire:

1. Respondents' age distribution

Survey Question: Ваш возраст / Your age:

Q1

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Ваш возраст/Your age:


Answered: 34 Skipped: 0

ANSWER CHOICES	RESPONSES
▼ Under 18/До 18 лет	0.00% 0
▼ 18-24	5.88% 2
▼ 25-34	26.47% 9
▼ 35-44	44.12% 15
▼ 45-54	23.53% 8
▼ 55-64	0.00% 0
▼ 65+	0.00% 0
Total Respondents: 34	

2. Respondents' gender distribution

Survey Question: Ваш пол / Your gender:

Q2

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Ваш пол/Your gender:


Answered: 34 Skipped: 0

ANSWER CHOICES	RESPONSES	
Мужчина/Male	79.41%	27
Женщина/Female	20.59%	7
Другое/Other	0.00%	0
Total Respondents: 34		

3. Respondents' occupation distribution

Survey Question: Ваша профессия / Your occupation:

Q3

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Ваша профессия/Your occupation:


Answered: 34 Skipped: 0

ANSWER CHOICES	RESPONSES	
Работающий специалист/Working professional	67.65%	23
Студент/Student	0.00%	0
Предприниматель/Entrepreneur	29.41%	10
Безработный/Unemployed	2.94%	1
На пенсии/Retired	0.00%	0
Другое (пожалуйста, уточните)/Other (please, specify)	Responses 0.00%	0
TOTAL		34

4. Assessment of respondents' awareness of Chinese EV import in Central Asia, particularly in Kazakhstan

Survey Question: Насколько Вы знакомы с импортом китайских электромобилей в Центральную Азию, в частности в Казахстан? / How familiar are you with the import of Chinese electric vehicles (EVs) in Central Asia, particularly in Kazakhstan?

Q4

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Насколько Вы знакомы с импортом китайских электромобилей в Центральную Азию, в частности в Казахстан?/How familiar are you with the import of Chinese electric vehicles (EVs) in Central Asia, particularly in Kazakhstan?

Answered: 34 Skipped: 0

ANSWER CHOICES	RESPONSES	
Хорошо знаком(а)/Very familiar	61.76%	21
Немного знаком(а)/Somewhat familiar	35.29%	12
Плохо знаком(а)/Not so familiar	2.94%	1
Совершенно не знаком(а)/Not at all familiar	0.00%	0
TOTAL		34

5. Respondents' first source of familiarity with Chinese EV imports to Kazakhstan

Survey Question: Как Вы впервые узнали о китайском импорте электромобилей в Казахстан? / How did you first become familiar with Chinese EV imports to Kazakhstan?

Q5



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Как Вы впервые узнали о китайском импорте электромобилей в Казахстан? / How did you first become familiar with Chinese EV imports to Kazakhstan?

Answered: 34 Skipped: 0

ANSWER CHOICES	RESPONSES
Новостные источники/News	5.88% 2
Социальные сети/Social Media	47.06% 16
Личный опыт/Personal Experience	23.53% 8
От знакомых/Word of mouth	17.65% 6
Реклама/Advertisements	2.94% 1
Автосалоны/Dealerships	2.94% 1
Автомобильные выставки или мероприятия/Automotive shows or events	0.00% 0
Другое (пожалуйста, уточните)/Other (please, specify)	Responses 0.00% 0
TOTAL	34

6. The make and model of respondents' cars (manual table)

Survey Question: Какая у Вас модель и марка машины? / What is the make and model of your car?

Car Brand (Chinese EVs)	Amount
Lixiang	7
BYD	8
Zeekr	8
Leapmotor	1
Voyah	1

Car Brand (Other EVs)	Amount
Tesla	3
Volkswagen	3
Honda	3

7. The date of car purchase (manual table)

Survey Question: В каком году Вы приобрели электромашину? / What year did you purchase your EV?

Year of Purchase	Amount
2022	4
2023	16
2024	14

8. The reasons for the Chinese EV purchase

Survey Question: Почему Вы выбрали китайский электромобиль? (Выберите все подходящие варианты) / Why did you choose a Chinese EV? (Select all that apply.)

Q8

Почему Вы выбрали китайский электромобиль? (Выберите все подходящие варианты)/Why did you choose a Chinese EV? (Select all that apply.)

Answered: 34 Skipped: 0

ANSWER CHOICES	RESPONSES
Качество машины/The car quality	64.71% 22
Цена/Price	82.35% 28
Дизайн и стиль/Design and style	61.76% 21
Доступность автомобиля/Vehicle Availability	50.00% 17
Репутация бренда/Brand Reputation	52.94% 18
По рекомендациям/Based on the recommendations	26.47% 9
Воздействие на окружающую среду/Environmental Impact	32.35% 11
Total Respondents: 34	

9. The level of satisfaction with Chinese EV purchase

Survey Question: Насколько Вы удовлетворены покупкой электромобиля? (1 — совершенно неудовлетворен(а), 5 — полностью удовлетворен(а)) / To what extent are you satisfied with your purchase of the EV? (1 — unsatisfied at all, 5 — fully satisfied)

Q9

Насколько Вы удовлетворены покупкой электромобиля? (1 — совершенно неудовлетворен(а), 5 — полностью удовлетворен(а))/To what extent are you satisfied with your purchase of the EV? (1 — unsatisfied at all, 5 — fully satisfied)

Answered: 33 Skipped: 1

4.6★
average rating



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
★	3.03%	0.00%	6.06%	21.21%	69.70%	33	4.55
	1	0	2	7	23		

10. The level of satisfaction with the specific aspects of the Chinese EVs (manual table)

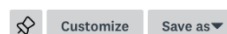
Survey Question: Насколько Вы (не)удовлетворены следующими характеристиками китайских электромобилей? / How (dis)satisfied are you with the following aspects of Chinese EVs?

	Very Satisfied	Mostly Satisfied	Mostly Dissatisfied	Very Dissatisfied	Neutral
Price	21	10	1	1	1
Quality	22	9	1	1	1
Availability	17	12	4	0	1
Design and Style	23	9	1	0	1
Technology Features	25	7	1	1	0
Environmental Impact	28	4	0	1	1
Availability and Accessibility of Charging Stations	9	13	9	2	1
After-Sales Service	6	15	7	5	0

11. Respondents' opinions on the impact of Chinese EVs on Sino-Kazakhstani economic relations

Survey Question: Как Вы думаете, как китайские электромобили влияют на экономические отношения Китая и Казахстана? / What impact do you think Chinese EVs have on Sino-Kazakhstani economic relations?

Q11



Как Вы думаете, как китайские электромобили влияют на экономические отношения Китая и Казахстана?/What impact do you think Chinese EVs have on Sino-Kazakhstani economic relations?



Answered: 34 Skipped: 0

ANSWER CHOICES	RESPONSES	
▼ Положительное/Positive	88.24%	30
▼ Отрицательное/Negative	0.00%	0
▼ Нейтральное/Neutral	11.76%	4
▼ Затрудняюсь ответить/I am not sure	0.00%	0
TOTAL		34

12. Respondents' opinions about Chinese EVs impact on Sino-Kazakhstani political relations

Survey Question: Как Вы думаете, как китайские электромобили влияют на политические отношения Китая и Казахстана? / What impact do you think Chinese EVs have on Sino-Kazakhstani political relations?

Q12

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Как Вы думаете, как китайские электромобили влияют на политические отношения Китая и Казахстана?/What impact do you think Chinese EVs have on Sino-Kazakhstani political relations?



Answered: 34 Skipped: 0

ANSWER CHOICES	RESPONSES	
▼ Положительное/Positive	64.71%	22
▼ Отрицательное/Negative	2.94%	1
▼ Нейтральное/Neutral	23.53%	8
▼ Затрудняюсь ответить/I am not sure	8.82%	3
TOTAL		34

13. Respondents' perceptions about if the current level of Chinese EV import is sufficient to meet local demands

Survey Question: Считаете ли Вы, что текущий уровень импорта достаточен для удовлетворения местного спроса? / Do you think the current level of import is sufficient to meet local demand?

Q13

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Считаете ли Вы, что текущий уровень импорта достаточен для удовлетворения местного спроса?/Do you think the current level of import is sufficient to meet local demand?


Answered: 34 Skipped: 0

ANSWER CHOICES	RESPONSES	
▼ Да, полностью достаточен/Yes, fully sufficient	20.59%	7
▼ Скорее достаточен/Mostly sufficient	32.35%	11
▼ Скорее недостаточен/Mostly insufficient	35.29%	12
▼ Нет, совершенно недостаточен/No, completely insufficient	5.88%	2
▼ Затрудняюсь ответить/I am not sure	5.88%	2
TOTAL		34

14. Respondents' views on the key reasons of Chinese EVs growing tendency

Survey Question: Каковы, на Ваш взгляд, основные причины увеличения числа китайских электромобилей в Казахстане? (Выберите все подходящие варианты) / What do you think are the key reasons of the growing number of Chinese EVs in Kazakhstan? (Select all that apply)

Q14

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Каковы, на Ваш взгляд, основные причины увеличения числа китайских электромобилей в Казахстане? (Выберите все подходящие варианты)/What do you think are the key reasons of the growing number of Chinese EVs in Kazakhstan? (Select all that apply)


Answered: 34 Skipped: 0

ANSWER CHOICES	RESPONSES
▼ Доступная цена/Affordable price	100.00% 34
▼ Качество и надежность/Quality and reliability	26.47% 9
▼ Технологические инновации/Technological innovation	64.71% 22
▼ Популярность китайских брендов/Popularity of Chinese brands	32.35% 11
▼ Легкость в обслуживании и ремонте/Easy to maintain and repair	8.82% 3
▼ Доступность и ассортимент моделей/Availability and range of models	23.53% 8
▼ Политические и/или экономические причины/Political and/or economic reasons	17.65% 6
▼ Другое (пожалуйста, уточните)/Other (please, specify)	Responses 0.00% 0
Total Respondents: 34	

15. Respondents' views on the potential contribution of Chinese EVs to Kazakhstani environmental goals

Survey Question: Как Вы думаете, может ли сотрудничество с Китаем в области электромобилей помочь Казахстану достичь своих экологических целей? / Do you think cooperation with China on electric vehicles can help Kazakhstan achieve its environmental goals?

Q15

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Как Вы думаете, может ли сотрудничество с Китаем в области электромобилей помочь Казахстану достичь своих экологических целей?/Do you think cooperation with China on electric vehicles can help Kazakhstan achieve its environmental goals?

Answered: 34 Skipped: 0

ANSWER CHOICES	RESPONSES
▼ Да, в значительной степени/Yes, to a significant extent	50.00% 17
▼ Да, частично/Yes, partly	41.18% 14
▼ Нет, скорее не поможет/No, it will probably not help	5.88% 2
▼ Нет, совсем не поможет/No, it will not help at all	2.94% 1
▼ Затрудняюсь ответить/I am not sure	0.00% 0
TOTAL	34

16. The assessment of the Chinese EVs' importance in addressing air pollution issues of Kazakhstan

Survey Question: Как Вы думаете, насколько важен импорт китайских электромобилей в снижении уровня загрязнения воздуха в Казахстане? (1 — совершенно неважен, 5 —


очень важен) / How important do you think the development of electric vehicles is for reducing air pollution in Kazakhstan? (1 —not important at all, 5 — very important)

Q16




Как Вы думаете, насколько важен импорт китайских электромобилей в снижении уровня загрязнения воздуха в Казахстане? (1 — совершенно неважен, 5 — очень важен)/How important do you think the development of electric vehicles is for reducing air pollution in Kazakhstan? (1 —not important at all, 5 — very important)

Answered: 34 Skipped: 0

4.3 
average rating





	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
	5.88%	0.00%	5.88%	38.24%	50.00%	34	4.26
	2	0	2	13	17		

17. Respondents' opinions on potential opportunities for Kazakhstan

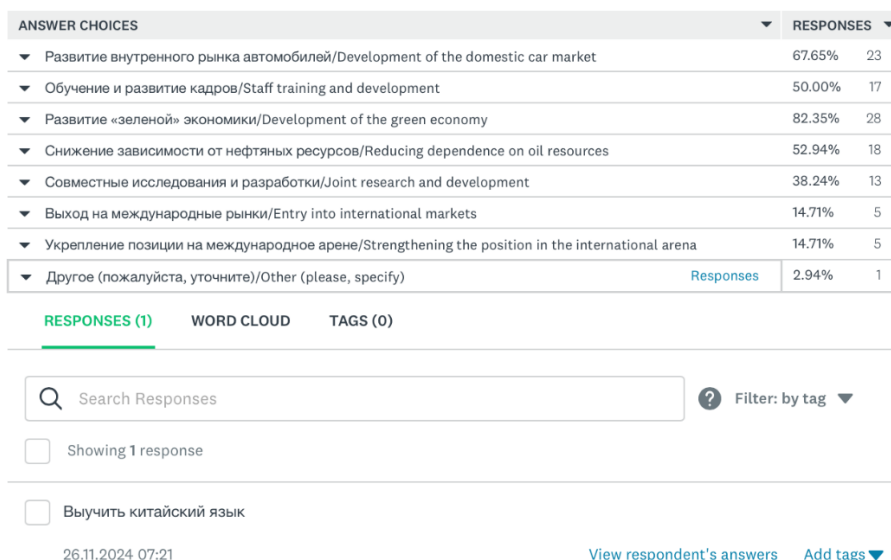
Survey Question: На Ваш взгляд, каковы возможности для Казахстана в сотрудничестве с Китаем в области электромобилей? (Выберите все подходящие варианты.) / In your opinion, what are the opportunities for Kazakhstan in cooperation with China in the field of EVs? (Select all that apply.)

Q17

 Customize  Save as

На Ваш взгляд, каковы возможности для Казахстана в сотрудничестве с Китаем в области электромобилей? (Выберите все подходящие варианты.)/In your opinion, what are the opportunities for Kazakhstan in cooperation with China in the field of EVs? (Select all that apply.)

Answered: 34 Skipped: 0



The translation of one specified answer which refers to the answer choice “Other (please, specify)”: “Learning of the Chinese language.”

18. Respondents’ open responses on the most significant opportunities of Chinese EV integration in Kazakhstan (manual table)



Survey Question: Какие из этих возможностей Вы считаете наиболее значимыми и почему? / Which of these opportunities do you think is the most significant, and why?

Opportunities	Amount
Staff Training and Development	1
Development of the Domestic Car Market	4
Development of the Green Economy	8
Joint Research and Development	2
Entry into International Markets	2
Reducing Dependence on Oil Resources	3

19. Respondents’ opinions on potential obstacles for Kazakhstan

Survey Question: Каковы, на Ваш взгляд, препятствия для Казахстана в сотрудничестве с Китаем в области электромобилей? (Вы можете выбрать несколько вариантов ответа.) / In your opinion, what are the obstacles for Kazakhstan in cooperation with China in the field of EVs? (You may select multiple answers.)

Q19

 Customize  Save as

Каковы, на Ваш взгляд, препятствия для Казахстана в сотрудничестве с Китаем в области электромобилей? (Вы можете выбрать несколько вариантов ответа.)/In your opinion, what are the obstacles for Kazakhstan in cooperation with China in the field of EVs? (You may select multiple answers.)

Answered: 34 Skipped: 0

ANSWER CHOICES	RESPONSES
▼ Высокая стоимость/High cost	2.94% 1
▼ Недостаточная развитая инфраструктура для производства/Insufficiently developed infrastructure for production	67.65% 23
▼ Отсутствие квалифицированных кадров/Lack of qualified staff	67.65% 23
▼ Сложности с импортом и налогообложением/Difficulties with import and taxation	38.24% 13
▼ Проблемы с обслуживанием и запчастями/Problems with service and spare parts	47.06% 16
▼ Низкая осведомленность населения/Low public awareness	35.29% 12
▼ Проблемы с надежностью и качеством машин/Problems with vehicle reliability and quality	8.82% 3
▼ Ограниченные финансовые возможности населения/Limited financial capacity of the population	35.29% 12
▼ Конкуренция с традиционными автомобилями/Competition with traditional cars	35.29% 12
▼ Сложности с интеграцией китайских технологий в Казахстан/Difficulties with the integration of Chinese technologies into Kazakhstan	29.41% 10
▼ Недостаточная государственная поддержка развития инфраструктуры и рынка электромобилей/Insufficient government support for the development of infrastructure and the EV market	55.88% 19
▼ Другое (пожалуйста, уточните)/Other (please, specify) Responses	5.88% 2

RESPONSES (2) WORD CLOUD TAGS (0)

Filter: by tag ▼

Showing 2 responses

Низкая плотность населения, отсутствие квалифицированных кадров, полное отсутствие поддержки со стороны государства, бюрократия, коррупция и низкий уровень экономики
 26.11.2024 07:21 [View respondent's answers](#) [Add tags ▼](#)

Взять хотя бы недавний закон о запрете ввоза физлицами авто моложе 3х лет, можно посмотреть в выпуске Санжара Бокаева. Также беспрепятственный закон об электроэнергетике, где создают препятствия к установке бытовых зарядных станций в паркингах. Есть и проблемы инфраструктуры, так как развитие электротранспорта поднимут нагрузку на электросети и генерацию.
 25.11.2024 09:47 [View respondent's answers](#) [Add tags ▼](#)

The translation of two specified answers which refers to the answer choice “Other (please, specify)”:

- “Low population density, lack of qualified personnel, complete lack of support from the state, bureaucracy, corruption and low level of the economy”;
- “Take for example the recent law banning the importation of cars under 3 years old by individuals, which can be seen in Sanzhar Bokayev's issue. Also the law on electric power industry, which creates obstacles to the installation of household charging stations in parking lots, is ineffective. There are also infrastructure problems, as the

development of electric transportation will increase the load on the power grid and generation.”

20. Respondents’ open responses on the most significant opportunities of Chinese EV integration in Kazakhstan (manual table)

Survey Question: Какое препятствие, по Вашему мнению, является наиболее критичным и как его можно устранить? / Which obstacle do you think is the most critical and how can it be addressed?

Obstacles	Amount
Lack of Qualified Staff	3
Insufficiently Developed Infrastructure for Production	7
Problems with Vehicle Reliability and Quality	1
Insufficient Government Support for the Development of Infrastructure and the EV Market	1
Problems with Service and Spare Parts	2
Bad Government	1
Need of Legitimization	2

21. Respondents’ awareness on Kazakhstani governmental initiatives to support Chinese EVs

Survey Question: Знаете ли Вы о какой-либо государственной программе в Казахстане, направленной на поддержку внедрения китайских электромобилей? / Do you know of any governmental programs in Kazakhstan to support Chinese EVs?

Q21 Customize Save as

Знаете ли Вы о какой-либо государственной программе в Казахстане, направленной на поддержку внедрения китайских электромобилей?/Do you know of any governmental programs in Kazakhstan to support Chinese EVs?

Answered: 33 Skipped: 1

ANSWER CHOICES	RESPONSES
Да/Yes	12.12% 4
Нет/No	75.76% 25
Затрудняюсь ответить/I am not sure	12.12% 4
TOTAL	33

22. The specific governmental initiatives that respondents are aware of

Survey Question: Если да, то пожалуйста, уточните программу. Если на предыдущий вопрос Вы ответили “нет” или “затрудняюсь ответить”, пропустите этот вопрос. / If yes, please specify the program. If you answered “no” or “I am not sure” to the previous question, skip this question.

Translation of the open responses:

- “No”;
- “0 duties for import of electric vehicles until 2025”;
- “exemption from taxes and recycling fees, exemption from municipal parking fees”;
- “duty free import”.

Q22 Save as ▼

Если да, то пожалуйста, уточните программу. Если на предыдущий вопрос Вы ответили "нет" или "затрудняюсь ответить", пропустите этот вопрос./ If yes, please specify the program. If you answered “no” or “I am not sure” to the previous question, skip this question.

Answered: 4 Skipped: 30

RESPONSES (4) WORD CLOUD TAGS (0)

Search Responses Filter: by tag ▼

Showing 4 responses

Нет
25.11.2024 14:16 [View respondent's answers](#) [Add tags ▼](#)

0 пошлин для ввоза электромобилей до 2025г
25.11.2024 11:04 [View respondent's answers](#) [Add tags ▼](#)



освобождение от налогов и утильсбора, освобождение от оплаты муниципальных парковок
25.11.2024 09:51 [View respondent's answers](#) [Add tags ▼](#)

беспошлинный ввоз
25.11.2024 09:50 [View respondent's answers](#) [Add tags ▼](#)

23. Respondents’ extent of agreement that the governmental programs greatly contribute to the Chinese EV integration

Survey Question: Согласны ли Вы, что такие государственные программы значительно способствуют распространению китайских электромобилей в Казахстане?
/ Do you agree that such governmental programs greatly contribute to the spread of Chinese EVs in Kazakhstan?

Q23

 Customize  Save as

Согласны ли Вы, что такие государственные программы значительно способствуют распространению китайских электромобилей в Казахстане?/Do you agree that such governmental programs greatly contribute to the spread of Chinese EVs in Kazakhstan?

Answered: 33 Skipped: 1

ANSWER CHOICES	RESPONSES	
▼ Полностью соглашусь/Totally agree	30.30%	10
▼ Частично соглашусь/Partly agree	33.33%	11
▼ Частично не соглашусь/Partly disagree	9.09%	3
▼ Полностью не соглашусь/Totally disagree	9.09%	3
▼ Затрудняюсь ответить/I am not sure	18.18%	6
TOTAL		33

24. Respondents' additional comments about the Chinese EVs in Kazakhstan

Survey Question: Есть ли у Вас замечания или наблюдения, которыми Вы хотели бы поделиться о китайских электромобилях в Казахстане и их влиянии на отношения между Китаем и Казахстаном? Например, Вы можете прокомментировать экономические, политические или экологические последствия. / Do you have any remarks or observations about Chinese EVs in Kazakhstan and their influence on China-Kazakhstan relations? For example, you may comment on economic, political, or environmental impacts.

Translation of the open responses:

- “Cars assembled for the domestic market of China are poorly adapted for other countries, especially northern countries with harsh continental climate. In these cars there is no anticorrosion coating, winter package (heated seats and front windows, as well as the wiper zone), the operation of the heater is not stable. Ecological consequences in 10-15 years will be enormous, because at the moment there is no technology for recycling used batteries. Also, the consequences of large-scale open-pit lithium mining and its impact on the marine environment are not yet known, as mining and purification requires a lot of drinking water, which after interaction with lithium becomes contaminated. And unfortunately this water ends up in the world's oceans. Just as the consequences of internal combustion engines were unknown at the beginning of the XX century (not only in automobiles but also in manufacturing), no one knows what consequences the mass use of lithium and other batteries will lead to. Provided that mankind finds a way to extract electricity and store it in a less harmful way, then electric cars have a great chance for the future, otherwise, it's just a hype for now”;
- “Accessibility for people to purchase a quality and inexpensive product”;
- “No”;

- “We need maintenance personnel, as well as high-quality and affordable spare parts”.

Q24

 Save as ▼

Есть ли у Вас замечания или наблюдения, которыми Вы хотели бы поделиться о китайских электромобилях в Казахстане и их влиянии на отношения между Китаем и Казахстаном? Например, Вы можете прокомментировать экономические, политические или экологические последствия./Do you have any remarks or observations about Chinese EVs in Kazakhstan and their influence on China-Kazakhstan relations? For example, you may comment on economic, political, or environmental impacts.

Answered: 5 Skipped: 29

RESPONSES (5)

WORD CLOUD

TAGS (0)

 Search Responses

 Filter: by tag ▼

 Showing 5 responses

- Автомобили собранные для внутреннего рынка Китая, плохо приспособлены для других стран, особенно северных с резко-континентальным климатом. В данных авто отсутствует антикоррозийное покрытие, зимний пакет (подогревы сидений и лобовых окон, а так же зоны дворников), работа печки не стабильна. Экологические последствия через 10-15 лет будут колоссальными, поскольку на данный момент нет технологий по переработке использованных батарей. Так же ещё не известны последствия от масштабной добычи лития открытым способом и его влияние на морскую среду, так как для добычи и очистки требуется много питьевой воды, которая после взаимодействия с литием становится зараженной. И к сожалению данная вода попадает в мировой океан. Так как же как были неизвестны последствия от двигателей внутреннего сгорания в начале XX века (не только в авто но и в производстве), никто не знает к каким последствиям приведёт массовое использование литийных и других батарей питания. При условии, что человечество найдёт способ добывать электричество и сохранять его менее вредным способом, тогда электромобили имеют большой шанс на будущее, в противном случае, это пока просто хайп
- 26.11.2024 07:21 [View respondent's answers](#) [Add tags ▼](#)
-
- Доступность для народа приобрести качественный и не дорогой продукт
- 25.11.2024 13:37 [View respondent's answers](#) [Add tags ▼](#)
- Нет
- 25.11.2024 11:05 [View respondent's answers](#) [Add tags ▼](#)
- Нужны кадры по обслуживанию, а также запчасти качественные и доступные
- 25.11.2024 10:26 [View respondent's answers](#) [Add tags ▼](#)