

**DIGITAL TRANSFORMATION OF A COUNTRY'S IMAGE: THE CASE OF THE
ASTANA INTERNATIONAL FINANCE CENTRE IN KAZAKHSTAN**

Azel Zhanibek, Rafis Abazov, and Andrey Khazbulatov

Abstract. A strong positive image is an important asset for all countries around the world. Simple recognition of a name or geographic location is not enough to make a successful brand. People should want to visit, live, and preferably work and invest in the country. The research methodology for this article used Simon Anholt's approach. Anholt is the author of the widely recognized system Nation Brands Index which measures the power and quality of each country's "brand image" by combining the following six dimensions: Exports, Governance, Culture and Heritage, People, Tourism, and Investment and Immigration. In this article, the authors selected one important dimension, "Investment and Immigration," using the case of the Astana International Finance Centre (AIFC), which was created to enhance and promote Kazakhstan's investment image. The expected outcomes of the study include assessing the perception of how the AIFC used digital technologies to build its brand as a part of the country's image, and discussing the digital context of developing investment attractiveness. It also covers a short literature review on the theoretical and empirical aspects of digital transformation and presents a case study and a questionnaire-based survey to illustrate the impact of digital transformation, and especially the use of digital technologies for the AIFC's image promotion. The conclusion summarizes the findings of this research and discusses some implications for investment and immigration attractiveness and the image of the AIFC.

Keywords: digital transformation, country branding, place branding, investment attractiveness, immigration, image policy

JEL Classification: M15; M30; O31

Authors:**Azel Zhanibek**

Al-Farabi Kazakh National University, Faculty, Almaty, Kazakhstan

E-mail: azel.zhanibek@gmail.com

<https://orcid.org/0000-0003-1306-5738>

Rafis Abazov

Kazakh National Agrarian Research University, Almaty, Kazakhstan

E-mail: r.abazov@kaznaru.edu.kz

<https://orcid.org/0000-0001-6042-9560>

Andrey Khazbulatov

Kazakh Research Institute of Culture, Almaty, Kazakhstan

E-mail: ar.khazbulatov@gmail.com

<https://orcid.org/0000-0002-1499-7396>

Citation: Zhanibek, A., Abazov, R., & Khazbulatov, A. (2022). Digital Transformation of a Country's Image: The Case of the Astana International Finance Centre in Kazakhstan. *Virtual Economics*, 5(2), 71-94. [https://doi.org/10.34021/ve.2022.05.02\(4\)](https://doi.org/10.34021/ve.2022.05.02(4))

Received: October 6, 2021. Revised: December 18, 2021. Accepted: February 15, 2022.

© Author(s) 2022. Licensed under the [Creative Commons License - Attribution 4.0 International \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

1. Introduction

The economic and political processes taking place in the world today increase the importance of building and promoting a positive image of countries. To be competitive on the “Global Olympus” today means keeping abreast of global trends and “creat[ing] favorable conditions for living and working at home and abroad” (TPBO, 2020). It is as if the world has turned into one big information field where choices are made on the basis of technologies, highlighting quality processes and products (Drozd et al., 2020b). Each country defines its own key effective tools to promote its image suitable to the realities of the region and considering global trends. In this context, the global digital transformation is one of the trends that significantly help to promote a country’s image (Petroye et al., 2020). Over the past two decades, digital technology has fundamentally changed the approach to promoting the image of countries (Kwilinski, 2018c; Miśkiewicz, 2019). It is not just channels of information flow that have changed. There are more opportunities not only to highlight but also to create the necessary processes and products. Today it is not enough just to create pretty photos or interesting videos to attract tourists and investors. What is even more important is to tell real success stories and generate narratives (Moskalenko et al., 2022; Yang et al., 2021).

According to Kotler and colleagues, the modern approach uses marketing tools and mechanisms in promoting the image of territories (Kotler et al., 2002). Thus, when studying the image of countries, it is logical to focus on the promotion of a country’s brand. To date, there are many approaches to assessing the brand of countries, and perhaps the most recognized in the world science is the famous hexagon by the British scientist Simon Anholt, who identified six key elements of the modern brand of territories, categorized as tourism, export, politics, investment, culture and human capital (Anholt & Hildreth, 2004). In this context, developing countries, on the one hand, face more difficulties because the “branding” processes have become much more complex and require mobilization of significant resources – both human and financial. However, at the same time, it has also become easier, because Information and Communication Technologies (ICTs) and digital transformation have facilitated an access to the global marketplace (Kwilinski et al., 2022a; Miśkiewicz, 2021b). The past studies outline (Abaas et al., 2018; Bilan et al., 2020; Polcyn et al., 2022; Prokopenko & Miśkiewicz, 2020; Saługa et al., 2020; Pimonenko et al., 2021) that new paradigm of sustainable development require to consider the energy (Melnychenko, 2021; Ingber, 2017; Drożdż et al., 2020; Miskiewicz, 2020; 2021b) and ecological (Lyulyov et al., 2020; 2021; Miśkiewicz et al., 2022) dimensions within assessment of country’s brand. This can be seen in all aspects of a country’s life and operations.

This article examines the digital transformation of Kazakhstan’s image in terms of its investment appeal. “Kazakhstan – like many neighboring countries in Central Asia – is undergoing an early stage of the digital revolution and making significant efforts towards building a post-industrial information society” (Abazov, 2018). A relatively young state, Kazakhstan has only recently begun active work on shaping and promoting its image in general, and in terms of investment attractiveness in particular. The image of “Kazakhstan abroad is still based on stereotypes formed from a standard set inherent in all countries whose

name has the ending 'stan' (Kyrgyzstan, Tajikistan, etc.)" (Tlepbergenova, 2011). However, this outdated image is changing. "Big changes in the formation of Kazakhstan's international image took place in February 2007, when the Department of International Information was established within the Ministry of Foreign Affairs of the Republic of Kazakhstan, whose main function was the formation of the country's image abroad" (Zhanibek, 2011). Among the major projects aimed at promoting the country's image has been the creation and development of the Astana International Financial Center (AIFC). The authors have chosen the AIFC as a case study for a more detailed evaluation of the significance of the organization's activities, which, in addition to its core business, is designed to make a major contribution to the promotion of the country's brand. The choice of the AIFC for this case study is also due to the fact that the main objective of the organization is to "promote investment in the economy of the Republic of Kazakhstan by creating an attractive environment for investment in the financial services sector" (Constitutional Law of the Republic of Kazakhstan, 2015), as investment attractiveness corresponds to one of the key elements of the modern branding of territories.

Building a country's brand and promoting its image today are closely linked to the process of global digital transformation. This study analyzes the process of formation and promotion of Kazakhstan's country image using the example of the AIFC and its digital transformation. The authors employ a questionnaire-based survey among representatives of the business community, academic community, government officials and culture to identify and assess the tools used by the AIFC to create and develop its image; and also, to identify and its contribution to the development of the country's image: in this case, the investment image of the country. The purpose of this article is to evaluate the perception of the effectiveness of using digital technologies to promote the country's image and investment appeal, focusing on the AIFC as an industry organization dedicated to shaping and developing Kazakhstan's investment image.

"The degree of investment attractiveness of the country is directly related to the image of the state" (Myakishev & Zhdanova, 2018). As a rule, investment attractiveness and the country's image develop at the same pace and strengthen or weaken each other. Accordingly, the tools and channels chosen to promote a country's image should be organically combined with the tools and channels to enhance investment attractiveness. Implementing a country's image-making process through institutions and their various tools are shown in Fig. 1.

It is important to note that the study considers the AIFC as an institution designed for enhancing the country's investment appeal. Digital transformation has made an impact on many aspects of life, knowledge, and activity (Szczepańska-Woszczyzna & Gatnar, 2022; Trzeciak et al., 2022; Vaníčková & Szczepańska-Woszczyzna, 2020). However, in order to understand the extent to which the digital transformation process is already in place and how successful it is in promoting the country's image and investment appeal, the authors conducted a survey designed to evaluate the perception of the level of these processes by internal stakeholders, namely the citizens of Kazakhstan. The survey was conducted during the year of 2022. A total of 17 questions were included in the questionnaire. Five of these

questions asked about the geography and demographics of the respondents. Only three of the 17 questions were selected for this article.

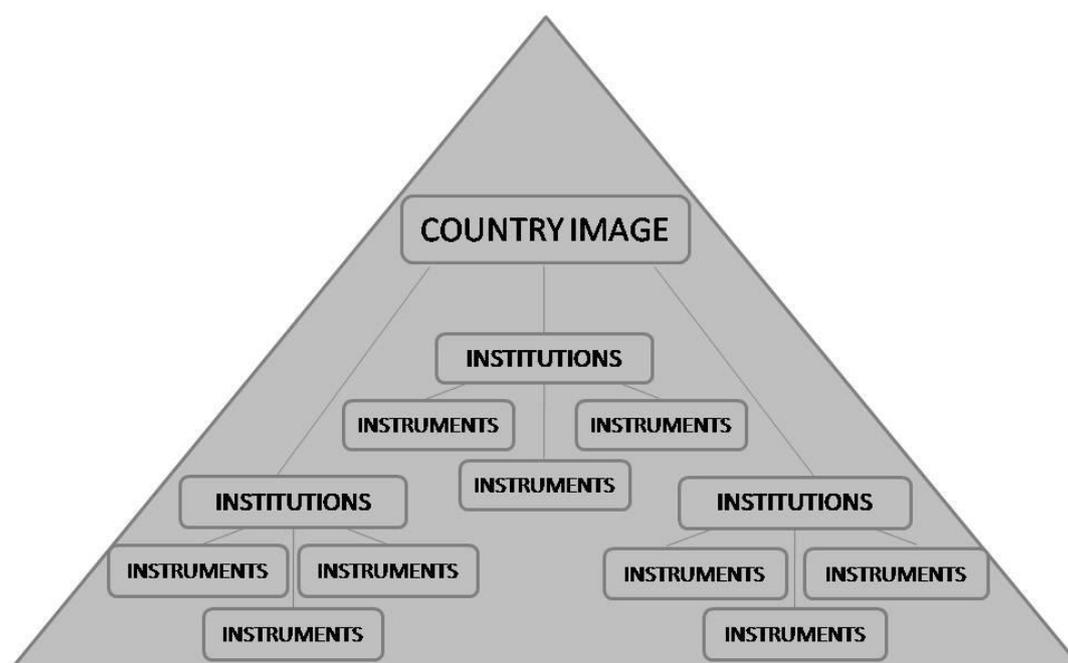


Figure 1. Implementing a country's image-making process through institutions and their various tools

Source: developed by the authors.

The expert survey to evaluate perceptions of the effectiveness of using digital technologies to promote the country's image, investment appeal and activities of the AIFC was based on three sets of questions:

1. The first set of questions aims to identify the perception of the most effective investment image communication channels.
2. The second set of questions aims to evaluate the perception of the impact of digitalization and digital transformation on the country's investment image.
3. The third set of questions aims to identify the most effective channels of communication for the AIFC as a sectoral organization designed to enhance the investment attractiveness of the Republic of Kazakhstan.

The survey was designed to estimate the impact of digital transformation on the country's image, the strengths and weaknesses of brand-building activities, and tools used for developing the investment attractiveness. In this regard, the authors set the following objectives:

- to study the basis for building the country's brand and promoting it through sectoral organizations;
- to consider the digital context of the development of the country's investment and immigration attractiveness;

- to review briefly the literature on the theoretical and empirical aspects of digital transformation;
- to consider examples of the digital transformation impact through using digital technologies to promote the image of the AIFC.

The object of this study is the role of digital technology in shaping and promoting the investment image of Kazakhstan. A comprehensive view of a representative group of participants on the holistic image of the country is important.

The subject of the study is the activity of the AIFC as a special body for shaping and promoting the investment image of Kazakhstan. In this case the activity of the AIFC is considered as an institution for increasing investment attractiveness, so at the meeting of the government of Kazakhstan on attracting investment held on April 22, 2019 “a single center for coordination of work on investment attraction and promotion of the investment image of Kazakhstan was determined: the international financial center ‘Astana’ (AIFC)” (AIFC.KZ.,2019). Since the investment image of the country is one of the components of the country’s image as a whole, it is logical to consider the activities of the AIFC as a component of the construction and promotion of the country’s image.

Globalization, growing international trade and rising economic productivity in many countries around the world contribute to increasing the competition among countries for foreign direct investments (FDIs) and for technology transfers (Kovchuha, 2020; Chygryn et al., 2018). This, in turn, requires strengthening measures to improve investment attractiveness and the country’s image, as these are the links in the chain of the country’s economic (Lyulyov et al., 2021; Melnyk et al., 2018; Kharazishvili et al., 2021; Hussain et al., 2021;), social (Kharazishvili et al., 2020; Lyeonov et al., 2018; Smiianov et al., 2020), energy (Coban et al., 2022; Drożdż & Mróz-Malik, 2017; Drożdż et al., 2021; Dźwigol et al., 2019; Miskiewicz, 2022; Miśkiewicz et al., 2021) and political (Lyulyov et al., 2021a; Bilan et al., 2019) prosperity.

This issue is relevant for all countries of the world, but especially for developing ones. The use of new digital technologies brings changes to the organization of communication, organizational, educational, cultural and many other processes. It has a particularly great impact on the organization of business processes. Cooperation with major investors today implies the readiness of the digital environment of the region. Kazakhstan today is experiencing a digital transformation in many sectors. According to the state program “Digital Kazakhstan,” the implementation of which was planned for 2018–2022, one of the five key areas is “digitalization of economic sectors” (Gosudarstvennaya programma “Tsifrovoi Kazakhstan”, 2017). As part of the implementation of this direction, the authorized bodies studied in detail the processes of digitalization. However, the impact of digital transformation on the promotion of investment attractiveness and the image of the country remains only superficially studied.

The relevance of this research rests on several factors. First, the need to understand how the investment image of a country is formed, using the case of the Republic of Kazakhstan. For example, there is a need to understand and explain how, Kazakhstan achieved the ranking

position No 52 in the Global Direct Investment Country Attractiveness Index for foreign investment in 2020 (ahead of neighboring Kyrgyzstan, Tajikistan, and Uzbekistan, A Global Direct Investment Country Attractiveness Index, 2020). The authors suggest that the analysis of experts' perceptions of the methods used information and promotion of the investment image will allow better understanding of the reason for the country's placement at this level. For comparison, Azerbaijan, another post-Soviet country, is positioned 62 in this rating. Second, the study is relevant given the need to understand how digital technology affects the promotion of the country's investment image and its communication channels. Third, analysis of the AIFC effectiveness as an organization designed to influence the investment image of Kazakhstan in the global market allows evaluation of the digital transformation effectiveness and the use of digital technology.

The issue of forming and promoting the investment image of a country is of concern for almost all countries in the world, especially due to the growing global competition for FDIs. As a country's positive investment image is a reflection of a favorable business environment within the region, the growth of the economy as a whole depends on it, among other things (Moskalenko et al., 2022; Chygryn et al.; Dzwigol et al., 2020a; Kwilinski, 2018a; Kwilinski et al., 2020b; 2020c). A wide range of tools in this area are used by different countries at various stages. Kazakhstan has taken a comprehensive approach to the issue of shaping and promoting its investment image. In 2015, a specialized institution, the AIFC, was created, whose activities should directly affect the investment image of Kazakhstan. This organization is unique in its structure. The AIFC became the first organization in the region to offer businesses a legal regime of attraction, implementation and protection of investments, based on the principles, norms and precedents of the law of a foreign entity – in this case of England and Wales. It is critical to gain and secure organizational legitimacy for representatives of business, and it is good for the international image of the host country (Marschlich & Ingenhoff, 2022).

This article is designed to address the challenges in evaluating the brand formation of an institution such as the AIFC and the tools used in forming it.

2. Literature Review

This section presents a brief review of the literature on the digital transformation of a country's image promotion process and its investment appeal. The purpose of the literature review is three-fold. First, it evaluates conceptual research on promoting such an image, including such concepts as image, brand and reputation of the country. Leading experts, expert organizations and the media compile various ratings using the concepts of brand, image and reputation. The purpose of this study is to determine the correct terminology for describing the public perception of the country, both domestically and abroad. This is in addition to a more detailed study of the theoretical foundations of the perception of the country's investment attractiveness. Second, it overviews case studies on the correlation between the internal and external country image. It seeks to determine the degree of interconnectedness among the perceptions of business environment representatives,

residents of the country and foreigners concerning the favorable conditions for business on the given territory. Third, it evaluates the latest research in the field of digital transformation of international public relations, marketing and branding.

The concept “image” is multifaceted. American scientists Deborah J. MacInnis and Linda L. Price considered “image” from the standpoint of psychology as a unique way whereby certain characteristics of the object are processed and stored in memory, and came to the conclusion that these characteristics affect the purchasing power of a person (MacInnis & Price, 1987). According to some researchers, the image has been studied most often in fragments in accordance with the discipline in which it is considered. For instance, it can be considered in the plane of sociology, psychology, philosophy and of course in the plane of marketing, management and public relations (Popova, 2003). John Pantzalis and Carl A. Rodrigues looked at factors that contributed to the 1997 financial crisis and concluded that international capital is influenced by investors’ perceptions of the country’s brand, and that the positioning and management of this brand play a crucial role in attracting global capital. Even more, such perceptions influence how and when this global capital, in similar situations, will leave the country (Pantzalis & Rodrigues, 2011).

The British scholar Simon Anholt examined the importance of building a nation’s image and concluded that a powerful and positive brand of a nation directly benefits its exporters, importers, government, cultural sector and tourism; it facilitates immigration processes for the state and virtually every other aspect of international relations (Anholt & Hildreth 2004, p.20). Ulyanovsky (2008) considers the corporate image of organizations in the context of the Eastern Europe and Central Asia (EECA) region and concludes that there is a stable image of the subject in the public consciousness. Ilyin & Leonova (2008) consider the importance of the image in conditions of globalization and prove that the image of the country today has acquired such a significant role that it can be attributed to the social value, on which there depends the success of political and economic activities of the state in the foreign policy, as well as the social stability of its internal political processes.

The findings of Simon Anholt, who is the author of a number of concepts and notions in the field of building and promoting a country’s image, introduced the concept of the nation branding. In his early works, he argued that countries and nations can be equated with brands and trademarks (Anholt, 2003). Next, Anholt introduced the concept of competitive identity into the academic world, presenting it as a hexagon, including six elements of the modern country’s brand: tourism, exports, foreign and domestic policy, investment and immigration, culture and heritage, and human capital. The elements of a hexagon are shown in Figure 2.

In later works, he refers to these elements as natural channels through which most countries communicate with the rest of the world, either deliberately or accidentally building their reputation (Anholt, 2007). In 2004, Anholt co-authored with the young British scholar D. Hildreth a book titled *Brand America: The Mother of All Brands*, in which the scholars suggest the existence of links between certain product brands and the country’s image.

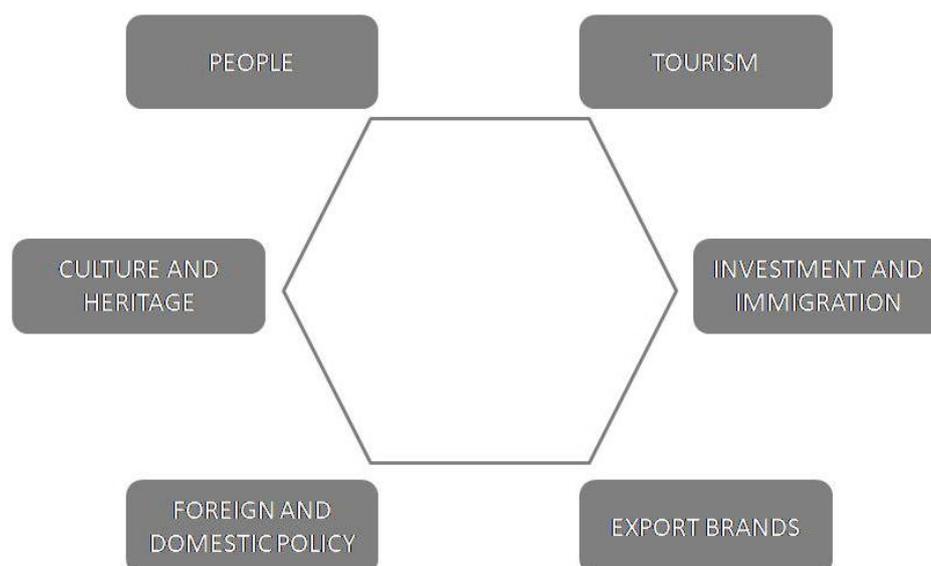


Figure 2. Competitive identity hexagon elements

Source: Anholt (2007).

They highlight such American brands as Coca-Cola, Pepsi, Apple, Microsoft, Time, NBS, Nike, Johnson&Johnson and many others linked to “Brand America” (Anholt & Hildreth 2004). Anholt argues for the creation of specialized agencies for competitive identity within national and regional governments. He emphasizes the marketing necessity for a brand of the country of a product origin: “Made in...” (Anholt, 2007).

In 2007, Anholt introduced the concept “place branding”, which should be based on a synthesis of brand management with public diplomacy. In 2010, in a new study, Anholt notes that nations and countries can have brands – in the sense that they have a reputation, which is certainly important for prosperity in today’s world, just like brand images for corporations and their products. However, according to Anholt, the idea that one can “brand” a country identically to the way companies would “brand” their products is futile (Anholt, 2010).

Prue Robson suggests that place branding shares many commonalities with public relations: it involves relationships with a wide range of stakeholders and communication campaigns that involve no direct sale of product (Robson, 2021). In this context, similar to the studies (Bogachov et al., 2020; Borodin et al., 2021; Kwilinski, 2018b; Kwilinski et al., 2021), the author confirms that digital transformation might play an important role in improving the image of a country. According to Jafari-Sadeghi theory, digital transformation should be divided into “three categories, namely technological readiness (e.g., ICT investment), digital research (e.g., research and development) and digital exploration (e.g., patents and trademarks)” (Jafari-Sadenhi et al., 2021, p.100; Abazov, 2021).

3. Methods

Based on the previous studies (Abazov, 1997; 2010; 2021) the authors prepared the questionnaire-based survey using the competitive identity theory of the British scholar Simon Anholt (Anholt, 2007), according to which “investment and immigration” are important components of a country’s image. Based on the studies (Arefieva, 2021; Dzwigol, 2020; 2021; Dzwigol et al., 2020b; Kuzior et al., 2021b; Kwilinski et al., 2020a; 2022; Miśkiewicz, 2018; Lyulyov et al., 2015) the authors, therefore, compiled questions on the respondents’ perceptions of the country’s image in the areas of: tourism, exports, foreign and domestic policy, investment and immigration, culture and heritage, human capital. In addition, the questionnaire included a group of questions concerning the activities of the AIFC, as the authors considered it as a case study. As a result, the questionnaire consisted of 17 questions, of which five were the passport data of the respondents. For this article, three questions belonging to different groups were selected, which, according to the authors, show information relevant to achieving the purpose of the research.

As a first step, the authors organized a focus group to evaluate how a representative sample and relevant information could be collected. During the focus group interviews, it was determined that the questionnaire should be compact and mobile, in both paper and electronic form. The participants had a choice of answering in Russian, Kazakh or English.

As a second step, the research team worked on achieving the proportional geographical diversity of respondents to cover not only the residents of Nur-Sultan and Almaty, but also other large regional centers.

As a third step, the questionnaire was created on the Google forms platform and the link to it was distributed via various platforms. It was critical to select respondents from industries related to the key elements of the country’s contemporary brand. Preference was given to experts with a university degree and/or academic degree and/or MBA.

4. Results and Discussion

A total of 105 people took part in the survey. However, five questionnaires were dismissed due to incomplete data. The survey was conducted among experts. In addition to age, other demographic and geographic indicators were recorded in the passport data. The demographic indicators included age, gender, education and occupation of the respondents, while the geographical indicators included the city of residence. This study does not report a detailed correlation of respondents’ responses according to passport data, but this can be made available upon request.

The research questions were presented in three groups. The first group was designed to identify the most effective communication channels for the investment image. When asked how the investment image of Kazakhstan was constructed, the respondents’ answers were distributed as follows: 17% of respondents chose traditional media, 2% of respondents

marked social networks, 38% of respondents said through conferences and other events, and 38% of respondents chose a combination of social networks and traditional media as it shown in Figure 3.

How do you see the investment image of Kazakhstan being built

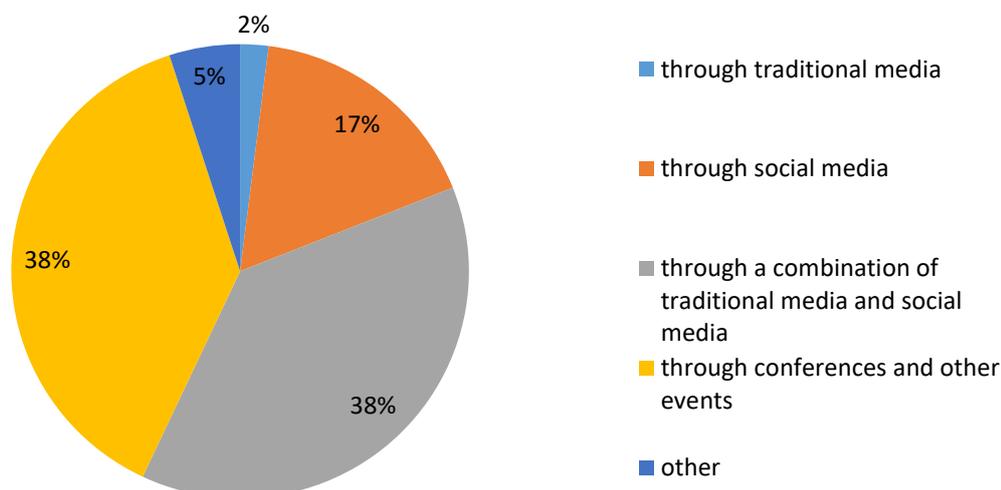


Figure 3. Communication channels for the image of Kazakhstan

Source: Devised by the authors.

In addition, respondents had an open-ended option and 5% provided their own answer. Below are the examples of interesting answers.

Respondent X: *In my opinion, the investment image of the Republic of Kazakhstan is developing quite dynamically and uses the whole range of promotion technologies. Big contribution to the development of the investment image in my opinion is made by the AIFC. Mostly they implement it through an integrated approach, working with international partners of various levels and using modern communication channels.*

One respondent suggested that Kazakhstan's investment image was built through behind-the-scenes arrangements that were not advertised to the general public. The authors focused on this example, as they suggest that it also demonstrates the view of the 38% of respondents who chose the option "through conferences and other events." Respondents were not given an explanation as to which other events fell into this category. These may be of very different formats and of course of varying levels of confidentiality. It is therefore possible that some respondents may have meant other events that are confidential and not publicly visible. It is also very interesting that only 2% of respondents mentioned social media as an independent tool to promote the country's investment image. It is especially interesting that this is 8.5 times less than those who chose traditional media as an independent channel for promoting the country's investment image.

This data may indicate either low coverage of the topic in social media or low trust in social media information. Kazakhstan's statistics also lead to such a conclusion: in January 2021 the number of users of social networks amounted to 12 million people, which is 26% more (2.5 million people) compared to the beginning of 2020. The total population of Kazakhstan as of January 2021 stood at 19,126,000. According to some recent studies, the country has increasingly the “internet and social media active population” as the share of social media users reached 62.7% in 2021 (Zhusupova, 2021). For example, if we look at the top five popular social networks in the country, the most popular social network in the world in January 2021, according to Statcounter Global Stats, is Facebook, with a share of 69.8%. Next comes Pinterest (11.9%), Twitter (9.5%), YouTube (4.9%) and Instagram (2.56%). All of the above-mentioned networks are, for the most part, entertaining and informative, which explains the respondents’ perception of social networks as an independent communication channel for the country’s investment appeal (Statcounter Global Stats, 2021). Thus, it can be seen that the greatest preference, and perhaps even trust, among the target audience of our study is firstly for conferences and other events, and secondly for traditional media. It is particularly interesting to observe these responses in the light of the fact that as many as 74% of respondents believe that the digitalization of image policy will have an impact on the formation and promotion of a positive investment image of the country. Only 5% believe that there will be no impact and 20% did not answer as it shown in Fig. 4.

Do you think the digitalization of image policy will affect the formation and promotion of a positive investment image of the country?

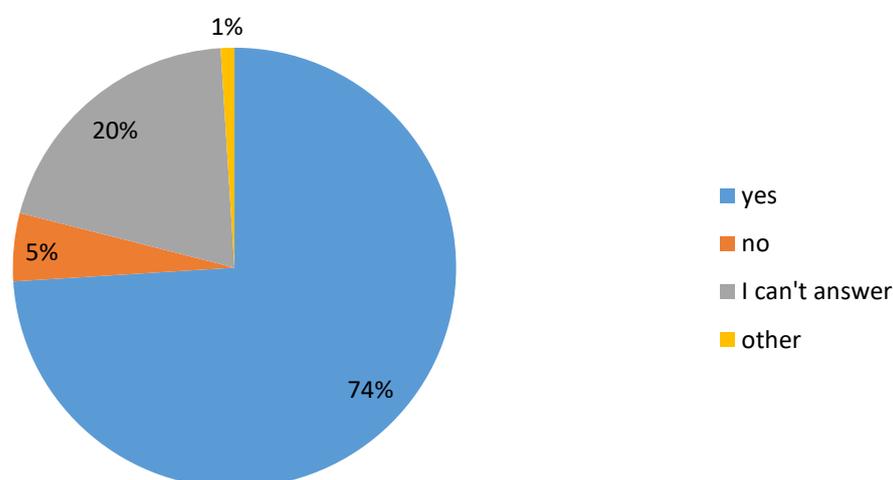


Figure 4. The impact of digitalization of the image policy on promoting a positive country image

Source: devised by the authors.

The distribution of responses clearly demonstrates the positive perception of digitalization by the target audience, and their acceptance of it as an effective tool to promote the country’s image in the area of investment attractiveness. To some extent, such a positive assessment

by respondents is also due to the level of Internet penetration, which stood at 81.9% at the beginning of 2021.

The second set of questions aims at evaluating how the impact of digitalization and digital transformation on the country's investment image is perceived. Digitalization is a strategic priority for Kazakhstan, because the introduction of digitalization technologies allows the state to develop effectively in a variety of ways, including promoting its investment image and increasing the investment attractiveness of the country. In 2017, Kazakhstan launched a state program "Digital Kazakhstan," which aims at creating conditions for the transition to a digital economy. In the UN E-Government Survey 2020, Kazakhstan ranked 29th out of 193 UN member states, with a score of 0.92 out of 1 for e-services (UN, 2020, p.270). A favorable business environment, and the resulting increase in attractiveness to foreign investors, largely depends on the region's technological development. Digital support for doing business in the country is one of the key factors of comfortable business conduct. Kazakhstan has created quite comfortable conditions in this respect.

Another critical key factor is the legal and judicial system. Taking the opportunity to give an open response, 1% of respondents pointed out that digitalization alone without a transparent judicial system cannot be effective in improving the investment image.

Respondent Y: Indeed, I would say that in the modern world it is impossible to do without it. For example, compared to neighboring countries Fintech is developing well in Kazakhstan, which is very important for foreign investors. The FinTech Lab has been opened at the AIFC, which brings together developers of innovative financial products. Leadership in such breakthrough areas becomes the basis for the digital component of promoting the country's image. The digitalization of the image policy has a positive effect on the country's investment image, especially in the business environment, and the AIFC plays a big role in this. Earlier they very correctly determined what should be emphasized.

In 2014 Tursunbek Omurzakov, a member of the Majilis of the Kazakh parliament, spoke about the need to develop a positive investment climate in the country and noted that "59% of investors already operating in Kazakhstan consider the regulatory environment to be insufficiently transparent and stable. Foreign companies operating in Kazakhstan regularly encounter instances of ambiguous interpretation and selective application of the law. In addition, the judicial and arbitration systems have proven ineffective in handling cases involving investors. Respondents expressed their concerns about respecting property rights and guaranteeing investment security" (Kuatova, 2014). This means that at the highest level of the country's leadership, there was a clear understanding of the weaknesses of promoting investment attractiveness in the traditional "old" ways and the need to come up with the new innovative ideas including integration of digital tools and digital transformation for both improving effective management of investors' needs and creating an attractive investment image of the country.

The AIFC establishment in 2015 was a part of the country's effort in introducing new modern and effective ways of working with investors and international businesses and it began working with the mandate to ensure investor protection and maintain investor confidence. All of these benefits need to be communicated. How effective these channels of communication are after almost seven years is addressed in this study under the third set of questions, which seeks to identify the most effective channels of communication for the AIFC as a sectoral organization designed to enhance the investment attractiveness of the Republic of Kazakhstan. Regarding the most effective communication tool used by the AIFC, 8% of respondents chose social media, 14% chose traditional media, 35% chose a combination of social media and traditional media, while 37% chose conferences and other events and 6% preferred an open response as it is shown in Figure 5.

What is the most effective communication tool used by the Astana International Financial Center (AIFC)?

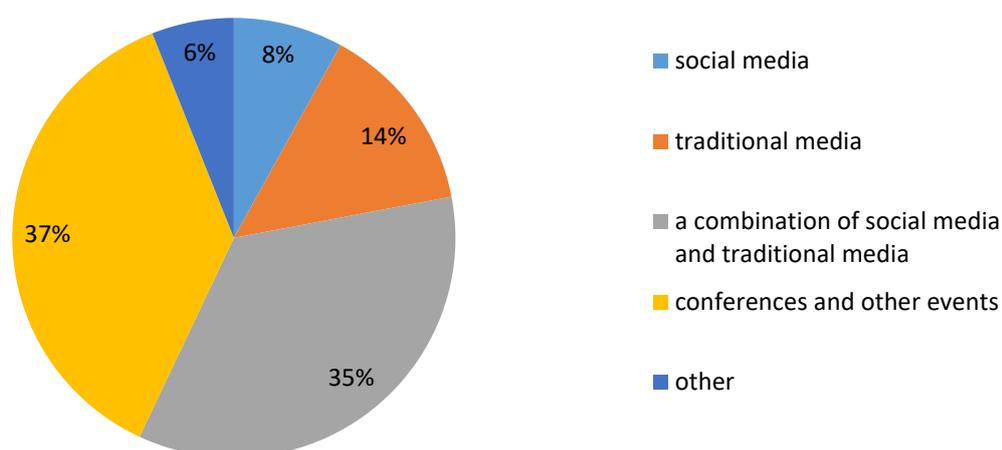


Figure 5. Perception of the most effective channel of communication used by the Astana International Financial Center (AIFC)

Source: devised by the authors.

The overall picture of respondents' perception of the effectiveness of the AIFC's communication channels is similar to how the same group of respondents evaluated the effectiveness of communication channels of the country's investment image as it is shown in Figure 6.

The main reason for this similarity, according to the authors, lies in the fact that respondents identify the activities of the AIFC as the main mouthpiece for information about the country's investment attractiveness. On the one hand, this is evidenced by the fact that in the respondents' perception in the general information field there is no gradation of messages into those initiated by the AIFC or by other participants in the process of formation and promotion of the investment image of Kazakhstan.

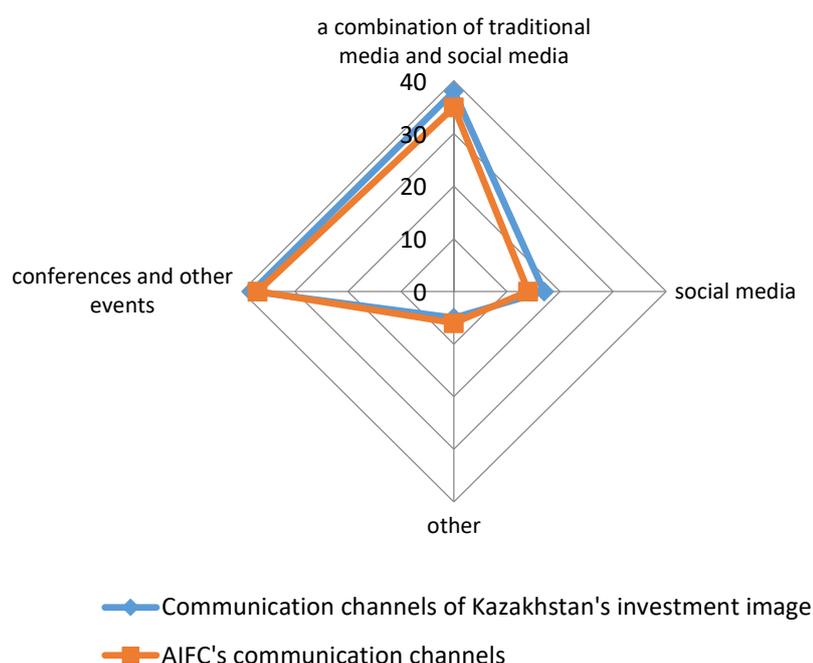


Figure 6. A comparison of the perception of communication channels of the investment image of Kazakhstan and the communication channels of the Astana International Financial Center (AIFC)

Source: devised by the authors.

The volume of information flow also plays a significant role in this, and the diversity and uniqueness of the AIFC's products today allow the Center to be on the agenda and generate a variety of information occasions. On the other hand, despite the strategic importance of digitalization as designated at the state level, and a sufficient level of Internet penetration, there can be seen a scarce use of social networks as a separate channel of communication for AIFC activities and promotion of the investment image of the country as a whole.

5. Conclusions

A rapid development of information communication technologies affects all aspects of economy at both the macro and micro levels, including the formation and promotion of the country's investment image. Changing practices in using digital technologies contribute to the development of new approaches, tools and institutions to reshape the investment image in many countries. By their very nature, digital technologies become a driver of the globalization process for developing countries through creating favorable conditions for integrating their economies into the global economic system (Trushkina, 2020). However, ICTs and digital transformation can either help some countries integrate into the global community, or become an insurmountable barrier undermining international competitiveness of other national economies.

This study reconfirms the Anholt's assumption that there are links between certain product brands and a country's image (Anholt & Hildreth 2004, p.23-26) and shows the positive impact of digital transformation of some product brands (in our case – the AIFC in Kazakhstan) on the country's investment image and investment attractiveness. In fact, the majority of responses in the survey confirmed the link between the work of AIFC and an investment image of Kazakhstan. In the case of Kazakhstan, digital technologies were actively introduced not only in the core business, but also in the development of new communication channels. Yet, the picture is more nuanced as the respondents pointed out that it was the combination of traditional media and new social networks that played an important role in promoting the investment image of the country. The existence of this trend is confirmed by research conducted in other countries. For example, Albishri Osama in his recent studies suggests that some governments began using strategically mediated and digitalized public diplomacy tools, including satellite news, radio, newspapers and, more recently, social media platforms for building a country's image (Osama, 2019).

The information and image policy of the state has become increasingly complex in its nature. Therefore, this requires the creation of specialized institutions or support of certain national private companies dedicated to the implementation of various activities in different areas by using the full range of digital technology capabilities (Dementyev & Kwilinski, 2020; Dźwigoł & Wolniak, 2018; Kotowicz et al., 2022; Kuzior et al., 2021a; Saługa et al., 2021). For instance, the AIFC activities exemplifies the emergence of such national institutions specifically designed to work both on improving investment climate for the international investors inside the country and on developing the investment image of the country in the international business arena, especially among large international investment entities.

The authors conducted a comparative analysis of how the communication channels of the country's investment image in general and of the AIFC in particular are perceived. The analysis suggested that the respondents perceived the existence of the links between the AIFC efforts in developing investment image and changing image of the country in the international economic space. The authors determined that most respondents have recognized the AIFC's activities as one of the important tools for creating and disseminating information about the country's investment appeal utilizing various tools. This, in turn, leads to the suggestion that the nation's image in the developing countries and in emerging economies can be effectively shaped and promoted not only by traditional "old" communication tools, but also through the work of "new" institutions which utilize "new" digital tools for promoting an image of their respective countries. There is some additional evidence which confirms this trend. For example, Kazakhstan was ranked 63rd in 2014 in the Global Direct Investment Country Attractiveness Index. It was before the active work of the AIFC started in 2015 (A Global Direct Investment Country Attractiveness Index, 2020). Over the next few years Kazakhstan gradually improved its positions in the Index, and it was ranked 52nd in 2020. This data combined with the results of our research may lead to an assumption that the work of specialized private and/or public institution (in this case of the AIFC) contributed to the improvement of country's position in the global ranking (Table 1).

Table 1. Global Direct Investment Country Attractiveness Index

Global Direct Investment Country Attractiveness Index							
	2014	2015	2016	2017	2018	2019	2020
Kazakhstan	63	56	54	55	55	53	52

Source: *Global Direct Investment Country Attractiveness Index (2020)*

Indeed, the AIFC operates as a unique and innovative new institution which works on improving investment climate for foreign investors inside the country and on improving the country's image in a very competitive global investment environment. It utilizes both traditional tools for communicating with international partners (such as Business-to-business (B2B) events: investment seminars, forums and consultations) and innovative digital communication and social media tools (such as social media presence on such platforms as Instagram, Facebook, Twitter, etc.). In fact, in March 2022, AIFC's managing director Kairat Kelibmetov announced that the AIFC became one of the most successful institutions in attracting the FDIs to Kazakhstan and he quoted several macroeconomic statistical data as the evidence of success. According to him, the total amount of investments attracted through the AIFC platform accounts for \$6.2 billion (Nurgaliyeva, 2022).

Our study suggests that a careful and effective use of ICTs and digital transformation may contribute to the development of a positive investment environment and ultimately to the positive investment image of a country. In addition, the results of the study suggest that traditional 'old' channels of communication should not be discharged. Another lesson is that the activities of a combination of communication channels – both traditional and new digital ones – should be anchored in an especially dedicated institution(s) that would coordinate the work of public and private organizations and partners in developing the investment attractiveness of the country. In the development of the country's investment image and investment attractiveness, this institution should also combine and coordinate media tools in order to achieve synergies. Indeed, the lessons from the AIFC suggest that it is possible that in such a short time – less than a decade of functioning of the AIFC – it became a model institution contributing to the development of the investment image of the country through digital transformation of communication channels.

Future studies should pay more attention to the diversity and effectiveness of digital tools for shaping the country's investment image and investment attractiveness, both in terms of core business and in terms of communications.

6. Acknowledgements

The authors would like to express their gratitude to the editorial board of the journal and to the anonymous reviewers of the article.

References

- Abaas, M. S. M., Chygryn, O., Kubatko, O., & Pimonenko, T. (2018). Social and economic drivers of national economic development: The case of OPEC countries. *Problems and Perspectives in Management*, 16(4), 155-168. [https://doi.org/10.21511/ppm.16\(4\).2018.14](https://doi.org/10.21511/ppm.16(4).2018.14)
- Abazov, R. (1997). Formation of the non-state sector and privatisation in Kazakhstan and Uzbekistan. *Communist Economies and Economic Transformation*, 9(4), 431-448. <https://doi.org/10.1080/14631379708427896>
- Abazov, R. (2010). Independent Tajikistan: Ten years lost. In (Ed.), *Oil, Transition and Security in Central Asia* (pp. 59-71). London, UK: Routledge. <https://doi.org/10.4324/9780203457771>
- Abazov, R. (2021). Digital transformation of IR and UN studies: Case study on youth engagement in model UN New Silk Way. *Vestnik KazNU. Seria Zhurnalistiki*, 62(4), 14-24. <https://doi.org/10.26577/HJ.2021.v62.i4.02>
- Abazov, R. (2021). Engaging in the internationalization of education and SDGs: Case study on the global hub of UNAI on sustainability. *E3S Web of Conferences*, 307, 06001. <https://doi.org/10.1051/e3sconf/202130706001>
- AIFC Authority. (2019). *Pravitelstvo Kazakhstana sozdaet koordinacionniy sovet po investiciyam I investicionniy hub na baze MFCA [The government of Kazakhstan creates an investment coordinating council and an investment hub based on the AIFC]*. Retrieved from <https://authority.aifc.kz/ru/news/pravitelstvo-kazahstana-sozdaet-koordinatsionnyi-sovet-po-investitsiyam-i-investitsionnyi-hab-na-baze-mftsa/> (accessed on August 21, 2022).
- Albishri, O., Tarasevich, S., Proverbs, P., Kioussis, S.K., Alahmari, A. (2019). Mediated public diplomacy in the digital age: Exploring the Saudi and U.S. governments' agenda-bulding during Trump's visit to the Middle East. *Public Relations Review*, 45(4), 101820. <https://doi.org/10.1016/j.pubrev.2019.101820>
- Anholt, S. (2003). *Brand new justice*. Oxford, United Kingdom: Elsevier Ltd.
- Anholt, S. (2007). *Competitive identity: The new brand management for nations, cities and regions*. London, UK: Springer. <https://doi.org/10.1057/9780230627727>
- Anholt, S. (2010). *Places: Identity, image and reputation*. New York: Palgrave Macmillan.
- Anholt, S. (2014). *The good country equation: How we can repair the world in one generation*. Oakland, USA: Berrett-Koehler Publishers.
- Anholt, S., & Hildreth, J. (2004). *Brand America: The mother of all brands*. London, UK: Cyan Books.
- Arefieva, O., Polous, O., Arefiev, S., Tytykalo, V., & Kwilinski, A. (2021). Managing sustainable development by human capital reproduction in the system of company's organizational behavior. *IOP Conference Series: Earth and Environmental Science*, 628(1), 012039. <https://doi.org/10.1088/1755-1315/628/1/012039>
- Astana International Financial Center. (2019). Retrieved from <https://aifc.kz> (accessed on August 21, 2022).

- Bilan, Y., Pimonenko, T., & Starchenko, L. (2020). Sustainable business models for innovation and success: Bibliometric analysis. Paper presented at the *E3S Web of Conferences*, 4037-159. <https://doi.org/10.1051/e3sconf/202015904037>
- Bilan, Y., Raišienė, A. G., Vasilyeva, T., Lyulyov, O., & Pimonenko, T. (2019). Public governance efficiency and macroeconomic stability: Examining convergence of social and political determinants. *Public Policy and Administration*, 18(2), 241-255. <https://doi.org/10.13165/VPA-19-18-2-05>
- Bogachov, S., Kwilinski, A., Miethlich, B., Bartosova, V., & Gurnak, A. (2020). Artificial Intelligence Components and Fuzzy Regulators in Entrepreneurship Development. *Entrepreneurship and Sustainability Issues*, 8(2), 487-499. [https://doi.org/10.9770/jesi.2020.8.2\(29\)](https://doi.org/10.9770/jesi.2020.8.2(29))
- Borodin, A., Tvaronavičienė, M., Vygodchikova, I., Kulikov, A., Skuratova, M., & Shchegolevatykh, N. (2021). Improving the Development Technology of an Oil and Gas Company Using the Minimax Optimality Criterion. *Energies*, 14(11), 3177. <https://doi.org/10.3390/en14113177>
- Chygryn, O., Bilan, Y., & Kwilinski, A. (2020). Stakeholders of Green Competitiveness: Innovative Approaches for Creating Communicative System. *Marketing and Management of Innovations*, 3, 358-370. <https://doi.org/10.21272/mmi.2020.3-26>
- Chygryn, O., Pimonenko, T., Luylyov, O., & Goncharova, A. (2018). Green bonds like the incentive instrument for cleaner production at the government and corporate levels: Experience from EU to Ukraine. *Journal of Environmental Management and Tourism*, 9(7), 1443-1456. [https://doi.org/10.14505/jemt.v9.7\(31\).09](https://doi.org/10.14505/jemt.v9.7(31).09)
- Coban, H. H., Lewicki, W., Sendek-Matysiak, E., Łosiewicz, Z., Drożdż, W., & Miśkiewicz, R. (2022). Electric Vehicles and Vehicle-Grid Interaction in the Turkish Electricity System. *Energies*, 15(21), 8218. <https://doi.org/10.3390/en15218218>
- Constitutional statute (No. 438-V ZRK OF 7) on the Astana International Financial Centre. (2015, December). Retrieved from <https://aifc.kz/files/legals/7/file/constitutional-statute-with-amendments-as-of-30-december-2019.pdf> (accessed on August 1, 2022)
- Demytyev, V.V., & Kwilinski, A. (2020). Institutional Component of Production Costs. *Journal of Institutional Studies*, 12, 100-116. <https://doi.org/10.17835/2076-6297.2020.12.1.100-116>
- Drożdż, W., & Mróz-Malik, O. (2017). Morska energetyka wiatrowa jako istotny potencjał rozwoju polskiej gospodarki morskiej. *Problemy Transportu i Logistyki*, 37(1), 151-159
- Drożdż, W., Kinelski, G., Czarnecka, M., Wójcik-Jurkiewicz, M., Maroušková, A., & Zych, G. (2021). Determinants of Decarbonization—How to Realize Sustainable and Low Carbon Cities? *Energies*, 14, 2640. <https://doi.org/10.3390/en14092640>
- Drozd, W., Marszalek-Kawa, J., Miskiewicz, R., & Szczepanska-Waszczyna, K. (2020b). *Digital Economy in the Comporary World*. Torun: Wydawnictwo Adam Marszalek.
- Drożdż, W., Szczerba, P., & Kruszyński, D. (2020a). Issues related to the development of electromobility from the point of view of Polish utilities. *Polityka Energetyczna – Energy Policy Journal*, 23(1), 49-64. <https://doi.org/10.33223/epj/119074>
- Dzwigol, H. (2020). Methodological and Empirical Platform of Triangulation in Strategic Management. *Academy of Strategic Management Journal*, 19(4), 1-8.
- Dzwigol, H. (2021). Meta-Analysis in Management and Quality Sciences. *Marketing and Management of Innovations*, 1, 324-335. <http://doi.org/10.21272/mmi.2021.1-25>

- Dźwigol, H., & Wolniak, R. (2018). Controlling in the management process of a chemical industry production company. *Przemysł Chemiczny*, 97(7), 1114–1116. <https://doi.org/10.34021/10.15199/62.2018.7.15>
- Dzwigol, H., Dzwigol-Barosz, M., Miskiewicz, R., & Kwilinski, A. (2020b). Manager Competency Assessment Model in the Conditions of Industry 4.0. *Entrepreneurship and Sustainability Issues*, 7(4), 2630–2644. [https://doi.org/10.9770/jesi.2020.7.4\(5\)](https://doi.org/10.9770/jesi.2020.7.4(5))
- Dźwigol, H., Dźwigol-Barosz, M., Zhyvko, Z., Miśkiewicz, R., & Pushak, H. (2019). Evaluation of the energy security as a component of national security of the country. *Journal of Security and Sustainability Issues*, 8(3), 307–317.
- Dzwigol, H., Dźwigol-Barosz, M., & Kwilinski, A. (2020a). Formation of Global Competitive Enterprise Environment Based on Industry 4.0 Concept. *International Journal of Entrepreneurship*, 24(1), 1-5.
- Global Direct Investment Country Attractiveness Index. (2020). Retrieved from <http://www.fdiattractiveness.com/ranking-2020/> (accessed on August 1, 2022)
- Good Country Index 2020. (2020). Retrieved from <https://index.goodcountry.org/> (accessed on August 1, 2022).
- Gosudarstvennaya programma "Tsifrovoy Kazakhstan" ["Digital Kazakhstan" State program]. (2017). Retrieved from <https://digitalkz.kz/wp-content/uploads/2020/03/%D0%A6%D0%9A-%D1%80%D1%83%D1%81.pdf> (accessed on August 6, 2022)
- Hussain, H.I., Haseeb, M., Kamarudin, F., Dacko-Pikiewicz, Z., & Szczepańska-Woszczyzna, K. (2021). The role of globalization, economic growth and natural resources on the ecological footprint in Thailand: Evidence from nonlinear causal estimations. *Processes*, 9(7), 1103. <https://doi.org/10.3390/pr9071103>
- Ingber, L. (2017). Quantum path-integral qPATHINT algorithm. *Open Cybernetics and Systemics Journal*, 11, 119-133.
- Jafari-Sadeghi, V., Garcia-Perez, A., Candelo, E., & Couturier, J. (2021). Exploring the impact of digital transformation on technology entrepreneurship and technological market expansion: The role of technology readiness, exploration and exploitation. *Journal of Business Research*, 124, 100-111.
- Kharazishvili, Y., Kwilinski, A., Grishnova, O., & Dzwigol, H. (2020). Social safety of society for developing countries to meet sustainable development standards: Indicators, level, strategic benchmarks (with calculations based on the case study of Ukraine). *Sustainability*, 12(21), 8953. <https://doi.org/10.3390/su12218953>
- Kharazishvili, Y., Kwilinski, A., Sukhodolia, O., Dzwigol, H., Bobro, D., & Kotowicz, J. (2021). The Systemic Approach for Estimating and Strategizing Energy Security: The Case of Ukraine. *Energies*, 14(8), 2126. <https://doi.org/10.3390/en14082126>
- Kotler, Ph., Haider, D., & Rein, I. (2002). *Marketing places: Attracting investment, industry and tourism to cities, states and nations*. The Free Press.
- Kotowicz, J., Węcel, D., Kwilinski, A., & Brzęczek, M. (2022). Efficiency of the power-to-gas-to-liquid-to-power system based on green methanol. *Applied Energy*, 314, 118933. <https://doi.org/10.1016/j.apenergy.2022.118933>

- Kuatova, D. (2014). Stranovoi imige Kazakhstana khromaet [The country image of Kazakhstan is lame]. Kapital. Retrieved from <https://kapital.kz/economic/30605/stranovoy-imidzh-kazakhstana-khromayet.html> (accessed on April 1, 2022)
- Kuzior, A., Kwilinski, A., & Hroznyi, I. (2021a). The Factorial-Reflexive Approach to Diagnosing the Executors' and Contractors' Attitude to Achieving the Objectives by Energy Supplying Companies. *Energies*, 14(9), 2572. <https://doi.org/10.3390/en14092572>
- Kuzior, A., Lyulyov, O., Pimonenko, T., Kwilinski, A., & Krawczyk, D. (2021b). Post-Industrial Tourism as a Driver of Sustainable Development. *Sustainability*, 13(15), 8145. <https://doi.org/10.3390/su13158145>
- Kwilinski, A. (2018a). Mechanism of formation of industrial enterprise development strategy in the information economy. *Virtual Economics*, 1(1), 7-25. [https://doi.org/10.34021/ve.2018.01.01\(1\)](https://doi.org/10.34021/ve.2018.01.01(1)).
- Kwilinski, A. (2018b). Mechanism of modernization of industrial sphere of industrial enterprise in accordance with requirements of the information economy. *Marketing and Management of Innovations*, 4, 116-128. <http://doi.org/10.21272/mmi.2018.4-11>.
- Kwilinski, A. (2018c). Trends of development of the informational economy of Ukraine in the context of ensuring the communicative component of industrial enterprises. *Economics and Management*, 1(77), 64-70.
- Kwilinski, A., Dalevska, N., & Dementyev, V.V. (2022b). Metatheoretical Issues of the Evolution of the International Political Economy. *Journal of Risk and Financial Management*, 15(3), 124. <https://doi.org/10.3390/jrfm15030124>
- Kwilinski, A., Dielini, M., Mazuryk, O., Filippov, V., & Kitseliuk, V. (2020b). System Constructs for the Investment Security of a Country. *Journal of Security and Sustainability Issues*, 10(1), 345–358.
- Kwilinski, A., Litvin, V., Kamchatova, E., Polusmiak, J., & Mironova, D. (2021). Information Support of the Entrepreneurship Model Complex with the Application of Cloud Technologies. *International Journal of Entrepreneurship*, 25(1), 1–8.
- Kwilinski, A., Lyulyov, O., Pimonenko, T., Dzwigol, H., Abazov, R., & Pudryk, D. (2022a). International Migration Drivers: Economic, Environmental, Social, and Political Effects. *Sustainability*, 14(11), 6413. <https://doi.org/10.3390/su14116413>
- Kwilinski, A., Slatvitskaya, I., Dugar, T., Khodakivska, L., Derevyanko, B. (2020c). Main Effects of Mergers and Acquisitions in International Enterprise Activities. *International Journal of Entrepreneurship*, 24, 1–8.
- Kwilinski, A., Zaloznova, Yu., Trushkina, N., Rynkevych, N. (2020a). Organizational and methodological support for Ukrainian coal enterprises marketing activity improvement. *E3S Web of Conferences*, 168, Article 00031. <https://doi.org/10.1051/e3sconf/202016800031>.
- Lyeonov, S. V., Vasylieva, T. A., & Lyulyov, O. V. (2018). Macroeconomic stability evaluation in countries of lower-middle income economies. *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu*, (1), 138-146. doi:10.29202/nvngu/2018-1/4
- Lyulyov, O., Chortok, Y., Pimonenko, T., & Borovik, O. (2015). Ecological and economic evaluation of transport system functioning according to the territory sustainable development. *International Journal of Ecology and Development*, 30(3), 1-10.

- Lyulyov, O., Paliienko, M., Prasol, L., Vasylieva, T., Kubatko, O., & Kubatko, V. (2021). Determinants of shadow economy in transition countries: Economic and environmental aspects. *International Journal of Global Energy Issues*, 43(2-3), 166-182.
- Lyulyov, O., Pimonenko, T., Kwilinski, A., & Us, Y. (2021a). The heterogeneous effect of democracy, economic and political globalisation on renewable energy. *E3S Web of Conferences*, 250, 03006.
- Lyulyov, O., Vakulenko, I., Pimonenko, T., Kwilinski, A., Dzwigol, H., & Dzwigol-Barosz, M. (2021b). Comprehensive assessment of smart grids: Is there a universal approach? *Energies*, 14(12) doi:10.3390/en14123497
- MacInnis, D. J., & Price, L. (1987). The role of imagery information processing: Review and extension. *Journal of Consumer Research*, 13(March), 473–491. Retrieved from <https://msbfile03.usc.edu/digitalmeasures/macinnis/intellcont/4656740-1.pdf>
- Marschlich, S., & Ingenhoff, D. (2022). Public-private partnerships: How institutional linkages help to build organizational legitimacy in an international environment. *Public Relations Review*, 48(1), 102124. <https://doi.org/10.1016/j.pubrev.2021.102124>
- Melnychenko, O. (2021). The Energy of Finance in Refining of Medical Surge Capacity. *Energies*, 14, 210. <https://doi.org/10.3390/en14010210>
- Melnyk, L., Sineviciene, L., Lyulyov, O., Pimonenko, T., & Dehtyarova, I. (2018). Fiscal decentralization and macroeconomic stability: The experience of Ukraine's economy. *Problems and Perspectives in Management*, 16(1), 105-114. doi:10.21511/ppm.16(1).2018.10
- Miśkiewicz, R. (2018). The importance of knowledge transfer on the energy market. *Polityka Energetyczna*, 21(2), 49–62. <https://doi.org/10.24425/122774>
- Miśkiewicz, R. (2019). Challenges Facing Management Practice in the Light of Industry 4.0: The Example of Poland. *Virtual Economics*, 2(2), 37-47. [https://doi.org/10.34021/ve.2019.02.02\(2\)](https://doi.org/10.34021/ve.2019.02.02(2))
- Miskiewicz, R. (2020). Efficiency of electricity production technology from post-process gas heat: Ecological, economic and social benefits. *Energies*, 13(22), 6106. <https://doi.org/10.3390/en13226106>
- Miśkiewicz, R. (2021a). The Impact of Innovation and Information Technology on Greenhouse Gas Emissions: A Case of the Visegrád Countries. *Journal of Risk and Financial Management*, 14, 59. <https://doi.org/10.3390/jrfm14020059>
- Miśkiewicz, R. (2021b). Knowledge and innovation 4.0 in today's electromobility. In Z. Makięta, M. M. Stuss, R. Borowiecki (Eds.), *Sustainability, Technology and Innovation 4.0* (pp. 256-275). London, UK: Routledge.
- Miskiewicz, R. (2022). Clean and Affordable Energy within Sustainable Development Goals: The Role of Governance Digitalization. *Energies*, 15(24), 9571. <https://doi.org/10.3390/en15249571>
- Miśkiewicz, R., Matan, K., & Karnowski, J. (2022). The Role of Crypto Trading in the Economy, Renewable Energy Consumption and Ecological Degradation. *Energies*, 15(10), 3805. <https://doi.org/10.3390/en15103805>
- Miśkiewicz, R., Rzepka, A., Borowiecki, R., & Olesiński, Z. (2021). Energy Efficiency in the Industry 4.0 Era: Attributes of Teal Organisations. *Energies*, 14(20), 6776. <https://doi.org/10.3390/en14206776>

- Moskalenko, B., Lyulyov, O., Pimonenko, T., Kwilinski, A., & Dzwigol, H. (2022). Investment Attractiveness of the Country: Social, Ecological, Economic Dimension. *International Journal of Environment and Pollution*, 69(1-2), 80–98. <https://doi.org/10.1504/IJEP.2021.125192>
- Myakishev, D. A., & Zhdanova, O. A. (2018). Investment attractiveness of the economy as a factor of national security. *Vestnik nauki i obrazovaniya [Science and Education Bulletin]*, 18(54), 76–77.
- Nurgaliyeva, R. (2022). Kelimbetov doložil Tokaevu kak idet proces vozvrasheniya kapitalov v Kazakhstan. *New Times*.
- Petroye, O., Lyulyov, O., Lytvynchuk, I., Paida, Y., & Pakhomov, V. (2020). Effects of information security and innovations on Country's image: Governance aspect. *International Journal of Safety and Security Engineering*, 10(4), 459-466. <https://doi.org/10.18280/ijssse.100404>
- Pimonenko, T., Lyulyov, O., & Us, Y. (2021). Cointegration between economic, ecological and tourism development. *Journal of Tourism and Services*, 12(23), 169-180. <https://doi.org/10.29036/JOTS.V12I23.293>
- Polcyn, J., Us, Y., Lyulyov, O., Pimonenko, T., & Kwilinski, A. (2022). Factors Influencing the Renewable Energy Consumption in Selected European Countries. *Energies*, 15, 108. <https://doi.org/10.3390/en15010108>
- Prokopenko, O., & Miśkiewicz, R. (2020). Perception of “green shipping” in the contemporary conditions. *Entrepreneurship and Sustainability Issues*, 8(2), 269–284. [https://doi.org/10.9770/jesi.2020.8.2\(16\)](https://doi.org/10.9770/jesi.2020.8.2(16))
- Robson, P. (2021). Public relations and place branding: Friend, foe or just ignored? A systematic review. *Public Relations Review*, 47(5), 102096. <https://doi.org/10.1016/j.pubrev.2021.102096>
- Saługa, P.W., Szczepańska-Woszczyzna, K., Miśkiewicz, R., & Chład, M. (2020). Cost of equity of coal-fired power generation projects in Poland: Its importance for the management of decision-making process. *Energies*, 13(18), 4833. <https://doi.org/10.3390/en13184833>
- Saługa, P.W., Zamasz, K., Dacko-Pikiewicz, Z., Szczepańska-Woszczyzna, K., & Malec, M. (2021). Risk-adjusted discount rate and its components for onshore wind farms at the feasibility stage. *Energies*, 14(20), 6840. <https://doi.org/10.3390/en14206840>
- Smilianov, V. A., Lyulyov, O. V., Pimonenko, T. V., Andrushchenko, T. A., Sova, S., & Grechkovskaya, N. V. (2020). The impact of the pandemic lockdown on air pollution, health and economic growth: system dynamics analysis. *Wiadomości Lekarskie (Warsaw, Poland : 1960)*, 73(11), 2332-2338.
- Statcounter Global Stats. (2021). Social media stats worldwide. Retrieved from <https://gs.statcounter.com/>
- Szczepańska-Woszczyzna, K., & Gatnar, S. (2022). Key Competences of Research and Development Project Managers in High Technology Sector. *Forum Scientiae Oeconomia*, 10(3), 107-130. https://doi.org/10.23762/FSO_VOL10_NO3_6
- Tlepbergenova, A. A. (2011). Stranovoi imige [Country image].
- TPBO. (2020). *Simon Anholt on competitive identity, the good country equation, and place branding 2.0*.

- Trzeciak, M., Kopec, T.P., & Kwilinski, A. (2022). Constructs of Project Programme Management Supporting Open Innovation at the Strategic Level of the Organisation. *J. Open Innov. Technol. Mark. Complex.*, 8(1), 58. <https://doi.org/10.3390/joitmc8010058>
- UN. (2020). E-Government survey.
- Vaničková, R., & Szczepańska-Woszczyna, K. (2020). Innovation of business and marketing plan of growth strategy and competitive advantage in exhibition industry. *Polish Journal of Management Studies*, 21(2), 425–445. <https://doi.org/10.17512/pjms.2020.21.2.30>
- Yang, C., Kwilinski, A., Chygryn, O., Lyulyov, O., & Pimonenko, T. (2021). The green competitiveness of enterprises: Justifying the quality criteria of digital marketing communication channels. *Sustainability*, 13(24), <https://doi.org/10.3390/su132413679>
- Zhusupova, A. (2021). *Media potrebleniev Kazakhstanev 2020 godu: internet I socseti pobezhdayut. [Media consumption in Kazakhstan in 2020: The Internet and social networks win].*