DIGITAL TRANSFORMATION AS A NEW STAGE IN THE REGULATION OF MIGRATION PROCESSES IN THE CENTRAL ASIAN REGION

Arsen MALTABAROV* *PhD doctoral student, Al-Farabi Kazakh National University, Almaty, Kazakhstan,* maltabarov.arsen1@gmail.com, *ORCID ID: https://orcid.org/0000-0001-8864-6049*

Meiram SARYBAYEV *PhD, Associate Professor, K.I. Satbayev Kazakh National Research Technical University, Almaty, Kazakhstan,* smeiram81@gmail.com, *ORCID ID: https://orcid.org/0000-0001-8420-9255, Researcher ID: B-1728-2015, Scopus Author ID: 57202092354*

Abstract. The article examines the importance of digital transformation in the regulation of migration processes in the Central Asian region (CAR). The authors note that digitalization in the field of migration contributes to the development of practical solutions to migration problems and the provision of humanitarian assistance to migrants. The purpose of the article is to analyze the features of digital transformation inherent in the migration processes of the countries of Central Asia (CA). The authors conclude that digital transformation will have a positive impact on the adjustment of the labor composition of the population of the Central Asian countries. The influence of digital transformation on the development of migration flows in a number of countries of the world and, in particular, in Central Asia is studied. The role of digital transformation in the context of more effective regulation in the context of an influx of migrants is reflected. The authors conducted a comparative analysis of the digital transformations of the Central Asian countries. In general, the scientific and practical significance of the work is that the authors explore the little-studied topic of the impact of digital transformation on the development of migration processes.
Keywords: migration, digitalization, mobile application, digital transformation.

Аңдатпа. Мақалада Орталық Азия аймағындағы (ОАА) көші-қон процестерін реттеудегі цифрлық трансформацияның маңызы зерттеледі. Авторлар көші-қон саласындағы цифрландыру көші-қон проблемаларының практикалық шешімдерін әзірлеуге және мигранттарға гуманитарлық көмек көрсетуге ықпал ететінін атап өтті. Бұл мақаланың мақсаты Орталық Азия (ОА) елдерінің көші-қон процестеріне тән цифрлық трансформация ерекшеліктеріне талдау жүргізу болып табылады. Авторлар цифрлық трансформация ОАА елдері халқының еңбек құрамын түзетуге оң әсер етеді деген қорытындыға келді. Цифрлық трансформацияның әлемнің бірқатар елдерінде, атап айтқанда, Орталық Азияда көші-қон ағындарының дамуына әсері зерттелуде. Цифрлық трансформацияның мигранттар ағыны жағдайында тиімдірек реттеу контекстіндегі рөлі көрсетілген. Орталық Азия елдерінің цифрлық трансформацияларына салыстырмалы талдау жүргізілді. Жалпы, жұмыстың ғылыми және практикалық маңыздылығы авторлардың цифрлық трансформацияның көші-қон процестерінің дамуына әсері туралы аз зерттелген тақырыпты қарастырғанында.
Түйін сөздер: көші-қон, цифрландыру, мобильді қосымша, цифрлық трансформация.

Аннотация. В статье исследуется значение цифровой трансформации в регулировании миграционных процессов в Центральноазиатском регионе (ЦАР). Авторами отмечается, что цифровизация в сфере миграции способствует разработке практических решений миграционных проблем и оказания гуманитарной помощи мигрантам. Целью данной статьи является проведение анализа особенностей цифровой трансформации, присущих миграционным процессам стран Центральной Азии (ЦА). Авторами сделан вывод о том, что цифровая трансформация окажет положительное влияние на корректировку трудового состава населения стран ЦАР. Исследуется влияние цифровой трансформации на развитие миграционных потоков в ряде стран мира и, в частности, в Центральной Азии. Отражена роль цифровой трансформации в контексте более эффективного регулирования в условиях наплыва мигрантов. Проведен сравнительный анализ цифровых трансформаций стран Центральной Азии. В целом, научная и практическая значимость

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* *Corresponding author: A. Maltabarov,* maltabarov.arsen1@gmail.com

работы заключается в том, что авторами исследована малоизученная тема влияния цифровой трансформации на развитие миграционных процессов.
Ключевые слова: миграция, цифровизация, мобильное приложение, цифровая трансформация.

Introduction

In the context of active digital transformation in certain regions of the world [1], migration processes also began to take on new outlines. Thus, according to official data, since the early 2000s, there has been a trend in the CAR countries characterized not only by active territorial displacement, but also by an increase in the intensity of migration outflow of the population [2, 3]. Obviously, the trigger for this was the deterioration of the overall socio-economic situation after various crises. However, we believe that the main reason was the imbalance of the national labor market. It found expression in the lack of jobs corresponding to the level and quality of training of the workforce, in the low level of employment of the population, insufficient level of social security, etc.

Due to the increased migration flows, the International Organization for Migration (IOM) has proposed a number of measures aimed at solving problems through modern technologies. In particular, it was about the use of digital gadgets. Back in 2017, the UN Migration Agency developed MigApp [4], the first pilot project of the IOM global initiative to provide information to facilitate regular, safe and orderly migration using mobile devices. As expected, this initiative was supposed to comply with the six basic principles on migration issues. These principles are based on the protection of the safety, dignity, human rights [5] and fundamental freedoms of all migrants, regardless of their migration status, and at any time.

In this regard, the question arises whether the current situation with the digital transformation of the migration sphere, in particular in the CAR countries, reflects and corresponds to the basic world principles? It is known that the migration policy of the CAR countries has generally revised the work in the field of migration management. For example, conditions have been created for the legalization of employment flows of citizens abroad, aimed at solving urgent problems in the field of labor migration and safe travel to foreign countries. These features of the development of the migration sphere became the justification for the choice of the topic, revealed its relevance.

The absence of a number of exhaustive answers to the authors' questions proves the theoretical or practical significance of the chosen topic. Thus, the main question remains open about the degree of digital transformation of the countries of the Central Asian region in the field of migration.

Literature review

It is important to note that a huge number of works by both foreign and domestic scientists are devoted to migration issues in general. So, in particular, the works of Kazakhstani scientists are devoted to the problems of regulating migration processes in Central Asian countries in the context of EEU integration and new international realities [6]. It should be noted, that there are a number of articles considering the current state of migration in Kazakhstan in the digital economy [7]. Of particular interest in the framework of this study is the work of P. Rajasekhara Mouly, K. Mukhtarova [8], which presents the main aspects of the development of digital technologies within the framework of social and economic development. It is worth noting that the paper considers promising directions for the development of research in this area. This made it possible to develop a model of digital transformation of the migration sphere within the framework of this work.

The authors of this article also studied the research of foreign authors on the role that digital technologies have played in simplifying the regulation of migration. Thus, the authors Olusegun, J., & Mamaiev Adebayo Ahmed Olanrewaju, D. were able to formulate a conceptual framework for digital transformation resources used by migrants in the migration process [9]. In addition, the work of a team of authors McAuliffe, Marie, Jenna Blower, and Ana Beduschi [10] was studied, which examines the consequences of increased digitalization for migration and mobility systems after the COVID pandemic. In

addition, there are many scientific papers that consider international experience in the field of management and regulation of migration processes [11]. In the current digital realities, the use of information technologies in all spheres of society is comprehensively studied [12].

However, in general, it is important to note that to date the authors have not considered the role of digital transformation in migration processes using the example of the CAR region. In particular, it is worth noting the absence of works devoted to the role that digital technologies have played in simplifying the regulation of migration. Thus, we note that little attention is paid to the issues of digitalization of the migration sphere.

Research methods

In this scientific study, the authors used the analysis of primary and secondary materials. In particular, the authors processed and analyzed data on the digitalization of the migration sphere. In general, due to the methods used, the authors managed to collect and interpret information about the attitude of migrants and governments of the region to the digitalization process. Using scientific research methods, the authors identified the context of publications (For example, the topic and position of the governments of the CAR countries, which published materials related to the development of digital transformation in the field of migration).

The authors also studied statistical data that allowed to confirm assumptions about the current situation in the field of digitalization of migration in the CAR countries. With the help of statistical data, the authors of the study carried out work to establish the degree of readiness of the migration management system in the countries of the CAR of digital transformation. To ensure the accuracy of quantitative data, statistical data from various sources were analyzed and their comparative analysis was carried out.

In the course of applying the appropriate methodology, the authors of this study put forward two main hypotheses:

- The first hypothesis. The CAR countries have different attitudes to the issue of digital transformation of the sphere of migration management.

- The second hypothesis. The presence of a digital database solves the problem of transparency of the system for collecting relevant documents for migrants.

The object of this study is the digital transformation in the field of migration. The subject of the study is the peculiarities of digital transformation in the Central Asian countries as a factor of transformation in the field of migration.

We consider it important to note that the research field discussed in the article focuses on the problem of regulating migration by the state through its digital transformation. That is, digital transformation is carried out under the control of the state and the sphere of migration, control services, local executive bodies, but not migrants, are subjected to it. In this regard, the concept of "migrant" is used in this article. Since the present study does not consider the presence of migrants in social networks, in the creation of virtual network migrant communities (which serves as an information base for the digital adaptation of migrants and the formation of their virtual identity), the authors do not use the concept of "digital migrant". Within the framework of this study, a "migrant" means a person who realizes his information needs through information digital technologies provided by the state.

Results and Discussion

There is a tendency in the world to simplify the obtaining of temporary residence visas by foreigners while working for a foreign company or as a freelancer. Such visas take the form of a temporary residence permit, which gives visitors the right to stay in the country and work remotely and legally via a computer for a foreign employer or enterprise, thus not violating any labor or immigration laws in the destination countries. Uzbekistan and Kyrgyzstan have already introduced such visas or similar schemes in the CAR. The first step towards the introduction of digital services, which will also be used by migrant workers, should probably be an electronic visa. There is a general trend towards providing more visa services online. The advantage of this approach is primarily to reduce the waiting time. It has been

established that Uzbekistan, which already offers an electronic visa, has been actively introducing new digital schemes among Central Asian countries recently.
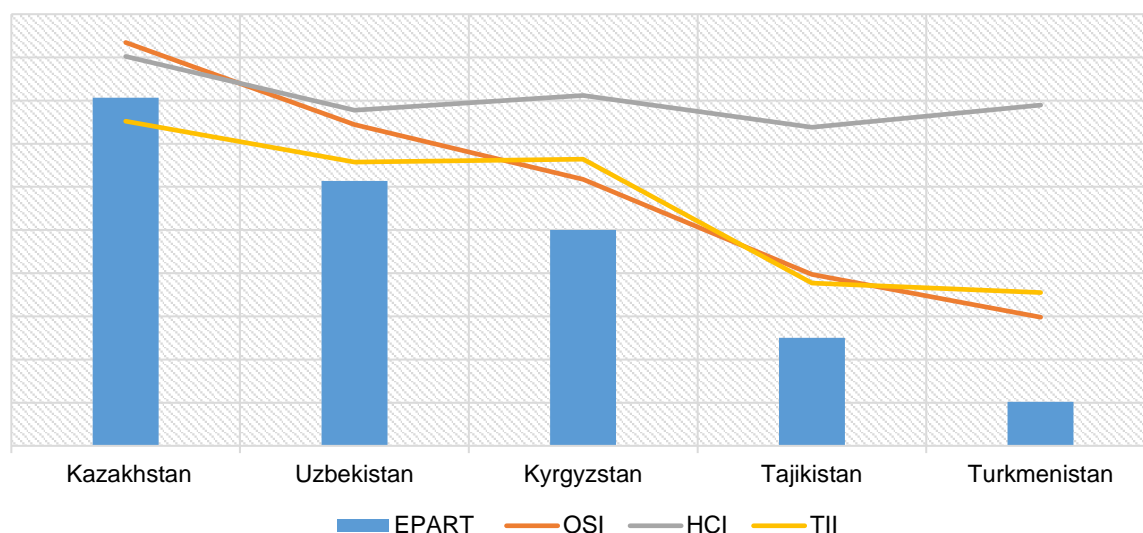
In recent years, the creation of resource centers for migrants (RCMs) has become a source of advancement in the field of digitalization of migration [13]. They use digital channels in their activities, and provide neutral information about labor migration in the countries of origin. It is noteworthy that RCMs from the CAR countries were created in Tajikistan (it is also planned to launch in Uzbekistan and Kyrgyzstan). Electronic services are usually provided in such centers, helping people make informed decisions about migration for employment purposes. Consultants are increasingly providing their services through social networks and online platforms, as the digital component of their activities has expanded in recent years. The study of the materials of the analytical brief of the Prague Process [14] allowed us to establish that Kazakhstan and Tajikistan have become active providers of information on labor migration online and public services in electronic form in the

Central Asian region aimed at supporting migrants.

Nevertheless, we have found that so far such measures within the framework of migration policy cannot affect obtaining an instant result. According to the analysis of the general situation in the field of migration, the authors identified a number of significant problems in this area that require a comprehensive solution through digital transformation.

Analysis of the current migration situation in the CAR countries

Taking into account the fact that this study involves studying the issue of digital transformation in the field of migration among the countries of the Central Asian region, the authors analyzed two indicators: the degree of digitalization of the country in the region and the trend in migration. Thus, according to official statistics, it has been established that Kazakhstan is a leader in the introduction of digital technologies in the Central Asian region. Also, the country is actually a recipient of migrants from Central Asian countries, the data also show this.

Compiled by the authors. Sources: [15]

Figure 1 – Comparison of digitalization levels in the Central Asian countries based on 4 indicators for 2022

Notes - Online Service Index - OSI, Telecommunication Infrastructure Index - TII, Human Capital Index - HCI, The E-Participation Index – EPART.

In general, data analysis showed that the level of digitalization in the CAR

countries continues to grow. Among the countries of the region in 2022, Kazakhstan

took the first place in terms of the development of e-government, and among 193 countries of the world - the 28th place included in the UN monitoring. The country's index (E-Government Development Index, EGDI) was 0.86 points. This is the highest indicator among the CIS and Central Asian countries. The graph shows three components of EGDI: online services, telecommunications and human potential (provision of online services, telecommunication connectivity and human capacity.). In the ranking of electronic citizen participation (E-Participation Index), Kazakhstan took the 15th place - one of the strongest indicators in the world. This index reflects citizens' access to public information on request or without it, involvement in participation and discussion of public policies and services, as well as the empowerment of the population through joint electronic decision-making regarding policies, services and the way they are provided.

As for migration data, according to official data, the main immigration exchange with the countries of the region takes place in Uzbekistan - 6,631 people, Kyrgyzstan – 709 people, Turkmenistan – 633 people and Tajikistan - 491 people. The number of people who left the Republic of Kazakhstan by country of departure was distributed as follows, Uzbekistan - 266 people, Kyrgyzstan – 175 people, Tajikistan - 3 people, Turkmenistan – 1 person. As a result, the balance of external migration of the population of the Republic of Kazakhstan by country showed that with Uzbekistan – 6,365 people, Turkmenistan – 632 people, Kyrgyzstan – 534 people and Tajikistan - 488 people [16].

Thus, according to statistics, Kazakhstan is the leader in the development of digital technologies in the Central Asian region, as well as the leader in the influx of migrants from the countries of the region. In this regard, the main analysis to identify problems related to the lack or slow implementation of digital solutions for migration will be associated with an assessment using the example of a more developed Kazakhstan.

Obviously, such a situation could not but affect the dynamics and specifics of migration processes.The analysis of statistical data showed that Kazakhstan is distinguished by growing educational

migration among all the countries of the Central Asian Republic [17]. It is also noteworthy that transformational movements of highly professional labor resources to other countries are taking place. Ranking by level of education shows that mainly people with higher or secondary vocational (special) education migrate from Kazakhstan, and they come mainly with a general secondary level of education. The largest share of Kazakhstanis with higher education who left the country are specialists in technical professions, as well as citizens with economic and pedagogical education. There are many lawyers, medical workers, architects, and builders among the emigrants. The leakage of highly qualified personnel is relevant for the Republic of Kazakhstan. In general, over the period from 2011 to 2022, 367.1 thousand people, mostly of working age, left for permanent residence abroad. 38% and 34%, respectively, left with higher and technical vocational education [18]. The dynamics of migration flows in recent years shows a decrease in the counterflow of highly educated immigrants to the country: in 10 years, the number of people with higher education who entered the country has more than halved and amounted to 1.9 thousand people in 2020 [9]. Obviously, there is a bias in this issue. All this naturally affects the outflow of labor resources from the regions and from the country. Thus, according to the Ministry of Internal Affairs of the Republic of Kazakhstan, after 2012 there has been a steady increase in emigration of the population in Kazakhstan, which, combined with a decreasing migration influx, led to a significant increase in the negative migration balance.

In Kyrgyzstan, in recent years, the migration exchange of the population with neighboring countries has decreased but has increased with a number of developed regions of the world. As for Uzbekistan, the problem of regulating external labor migration remains unresolved in the country, the cause of which has been an excess of labor resources for many years. The main reason for migration in Tajikistan is that the rate of job creation in the country is significantly lower than the rate of natural population growth. In these socio-economic conditions, earning money abroad is one of the ways out for households. Statistical data show that the problem of the flow of

short- and long-term migration and active labor migration is not so acute in Turkmenistan.

An increase in the outflow of qualified personnel from the republics of the Central Asian Republic (mainly from Kazakhstan, Uzbekistan, Kyrgyzstan) often causes a shortage of professional labor in certain regions of the countries. The analysis of statistical data indicates that the problems of stabilizing the flows of external labor migration of the population of the above-mentioned CAR countries continue to be relevant. All this indicates that emigration largely covers the educated part of the population and qualified specialists. Which ultimately affects the quality of human capital in the country.

Illegal migration, which is on a huge scale in the region, is often the result of low awareness of the risks associated with traveling to another country, insufficient knowledge of the visa procedure and opportunities to interact with legitimate service providers. As the analysis of the materials showed, it can be difficult for migrants from the CAR to find reliable answers to important questions related, for example, to the visa regime or the possibility of obtaining support in a particular country. Many migrants face great difficulties during their travels, and although many of them, especially those who are forcibly displaced or who migrate irregularly, have very few personal belongings, most still have a smartphone, which can become a source of reliable practical information about migration and humanitarian services. In this regard, the question arises about the lack of a digital system that could be accessible and transparent to all parties.
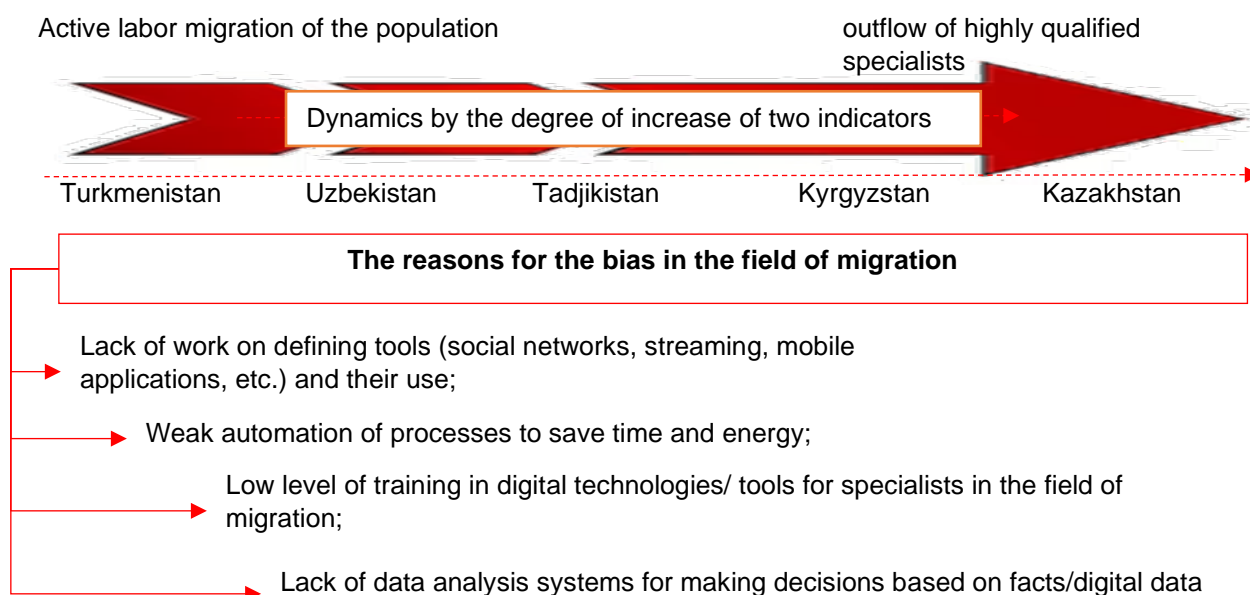
Prerequisites for digital transformation in migration policy

In the context of independent development, the CAR countries (especially Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan) faced new types of migration, such as forced migration, illegal migration. As the study of the materials has shown, the reason is also the lack of clear prospects for some citizens to implement them as specialists in their country.

A characteristic feature of labor migration within the Central Asian region is a significant number of migrants with an irregular status. In other words, we are talking about persons without permits. Having a high latent component, labor migration in all countries is one of the most difficult economic phenomena to account for. Illegal migration in the CAR countries, in particular in Kazakhstan, is expressed in violation of labor legislation by migrants and employers. In particular, problems often arise in the field of employment or hiring low-skilled foreign citizens without registration of an employment contract and with violation of working conditions and payment. On the other hand, in connection with the reforms carried out in the Central Asian countries, there is a growing trend of increasing demand in society for the active implementation of anti-corruption measures [19]. Thus, we consider it important to note that the issue of adaptation and integration of migrant workers remains unresolved in the field of digitalization of migration to this day. This is the most important and difficult problem in both sending and receiving States.

In this sense, the issue of weak accounting for the flow of migrants, data collection and analysis remains open. Which ultimately indicates the lack of full-fledged digitalization of this area (see Figure below). The problem of correct statistical data on short- and long-term migration is acute for all CAR States, both donors and recipients.

Active labor migration of the population   outflow of highly qualified specialists

Dynamics by the degree of increase of two indicators

Turkmenistan   Uzbekistan   Tadjikistan   Kyrgyzstan   Kazakhstan

The reasons for the bias in the field of migration

Lack of work on defining tools (social networks, streaming, mobile applications, etc.) and their use;

Weak automation of processes to save time and energy;

Low level of training in digital technologies/ tools for specialists in the field of migration;

Lack of data analysis systems for making decisions based on facts/digital data

Compiled by the authors. Sources: [20, 10].

Figure 2 – Analytical diagram of the bias in the management of migration flows in the absence of digital transformation in the field of migration

We believe that this situation arose as a result of the lack of transparent digital platforms created for registration, registration at the place of residence, obtaining a patent, residence permit, citizenship, etc. The study of open Internet sources shows that there is currently a problem of illegal schemes in the field of migration. In this case, we are talking about the lack of simple, affordable digital services for migrants. This is evidenced by the continuing level of abuse and corruption offenses in the field of migration. Simply put, there is no digital scheme for official registration for a legitimate way of processing documents.

The Concept of Migration of Kazakhstan, in the 11th initiative, discusses the issue of introducing an intelligent system for registering (and tracking) migrant workers [9]. The text notes that measures will be taken to develop information systems of government agencies to automate migration processes by integrating existing systems and refining the implementation of new functions, as well as reengineering the business processes of the migration system.

Although, in general, as a positive side of the initiative, it is worth noting measures to introduce an automated migration system. However, in this case we are talking only about the introduction of a digital system for registration, accounting and control of the stay of migrants. We also consider it important to have an analytical base. Therefore, at the present stage, the lack of qualitative analysis of digitized information on migration processes is one of the most important problems in this area.

Digital technologies for the modern society of the Central Asian countries

The analysis of data on internal migration showed that as a result of migration movements, the population tends to move from the northern regions to the interior of the country, and from the southern regions to megacities. The analysis of the data allowed us to conclude that in the CAR countries, especially in Kazakhstan, migration has taken the form of mass spontaneous migration from rural areas to cities. There is a clear multidirectional dynamics of the population of the regions of the country and a change in the distribution of the population across its territory. For example, in Kazakhstan, population growth in the cities of Astana, Almaty and Shymkent is ahead of other regions and averages 20%, and their share in the total population of the country has increased to 24%. The main vector of

internal migration remains movement from the northern regions to the cities of Nur Sultan, Almaty and Shymkent. The share of these three cities in the total population of the country has doubled compared to 1992 [21].

According to the analyzed official statistics, there are certain trends in Kazakhstan in the areas of internal and external migration, as well as in labor and ethnic migration. More than a million people participate in internal migration in Kazakhstan every year (intra-regional, interregional migration). In general, there is a constant internal migration due to the flow of rural population to large cities. At the same time, the influx of the country's population into large cities exacerbates a number of other problems, for example, demographic imbalance. The dynamics leads to overpopulation of large cities and regions and to an imbalance of the population in other places. This problem is known to lead to an increase in voltage. So, for example, in cities or settlements, competition is formed for housing, for food, for transport, where this can serve to increase instability. There are difficulties in the labor market and the growth of crime.

Recent events related to the active movement of citizens of the Russian Federation to the territory of Kazakhstan have shown that there are a number of specific problems. Although Russian citizens praised the PSC and fast service, the issue of unresolved digital base for resource allocation, regulation of rental housing, and other household services remained clearly acute. This eventually led to an increase in the price due to the influx of migrants. There is migration pressure from the Russian Federation to the border regions of Kazakhstan, an increase in the cost of renting housing and certain types of services. It is obvious that recent events in Russia have forced young people to temporarily or permanently leave the country and cross the border with Kazakhstan.

The last few years have been marked by an influx of migrant workers from Central Asia due to the flow from the Russian Federation, an increase in the number of migrants from the Russian Federation itself and the number of refugees and asylum seekers, as well as the use of Kazakhstan by migrants as a transit territory for travel to third countries. It is obvious that the excessive growth in the number of migrants of working age creates risks of a narrowing of the labor market for Kazakhstani citizens and the emergence of social tension.

As the data show, migration exchanges within the countries of the region have little impact on the adjustment of the ethnic composition of the population of the regions. For the regions of the country experiencing migration and natural decline, experiencing a trend towards a decrease in the number of local population, there is no question of the growth of ethnophobia [22]. Nevertheless, for example, for Kazakhstan there is a threat of the greatest concentration of migrants in certain regions of the country. And for migrants, it is always an acute problem not to be protected from discrimination, isolation, and less integration into society.

On measures to stabilize and manage migration: A vision of migration policy

As part of the study, we studied the accumulated positive international experience in managing migration processes. As a result, it became obvious that in all successful models of other countries, the principle of analyzing the needs of regions within the country is applied. For example, in Russia, within the framework of the State Program for Increasing Labor Mobility, Russian citizens moving to regions located in the north, east and a number of regions of the European part of the country are provided with state support measures. Here it is important to pay attention to the allocation to specific regions [18, 14].

In China, this issue is being solved by focusing on the management of migration flows. This is one of the factors of leveling the socio-economic development of the regions. Thus, the Government of the People's Republic of China regulates flows, increasing and reducing them depending on the economic situation and needs in urban labor markets. In Germany, the resource capabilities of individual German territories are taken into account. So, for example, the availability of dormitories for migrants is taken into account, the situation in local labor markets, which are fixed in quotas for the reception of migrants and refugees.

Using the example of Kazakhstan, it is worth noting that, in general, the state is working on the above-mentioned problem of human resource allocation. However, as we have noted, the measures mainly cover young people and have a number of disadvantages, mainly related to incomplete processing of data by region. So, since 2014, the educational project «Mangilik el zhastary – Industriyaga» – «Serpin – 2050» («Мәңгілік el zhastary – Industriyaға» – «Serpin – 2050») has been implemented in Kazakhstan. This project is aimed at providing opportunities for higher and postgraduate, technical and vocational education for young people from labor-surplus regions and their employment in labor-deficient regions. It is important to note about the rather promising project «With a diploma in the village». However, the study found that the problem with the inefficiency of these projects lies in the weak analysis of data by region. Thus, during the implementation of the above-mentioned projects, such problems emerged as: securing graduates of the project in the regions of study due to the low level of employment, the lack of a differentiated approach in determining the amount of social support (lifting allowance and budget loan).

The example of Kyrgyzstan shows the problem of controlling money transfers. The increase in commissions, various restrictions and prohibitions contribute to the fact that part of the transfers goes into the shadow sphere [23]. The lack of a conditional system for tracking digital money transfers leads to the problem of obtaining data for statistics. As a result, the authorities collect inaccurate information about the reduction in migrant transfers, although people continue to go abroad, work there and send money home.

Thus, two illustrative examples of Kazakhstan and Kyrgyzstan have shown the importance of having a digital database, data collection and analysis is an example of ineffective solutions.

The lack of a digital base revealed the problem of weak consideration of regional peculiarities, living standards in different regions in the allocation of funds, insufficient measures to provide adaptation services, etc. The analysis of materials showed that in the CAR countries there is no digitization of local conditions in specific cities and regions. In this case, we are talking about places where there is enough housing, conditions, catering, access to medicine, and transport. The lack of digitization leads to a special problem for displaced citizens inside and outside the country.

The analysis of the materials showed that today there is also no work on making forecasts in the field of migration. This problem is a direct consequence of slow digitization and the lack of a database, their collection and analysis. There is a real problem of the lack of measures to monitor the socio-economic situation among migrants and expand the social package for more vulnerable migrants. In this sense, the issue of control over the movement of labor and distribution by region is not regulated in any way.

Analysis of the legislative part of regulation

We consider the example of the Philippines to be the most indicative for the CAR countries, a country that has managed to create a comprehensive system of employment for its citizens in the labor markets of other countries. The Philippines has been able to ensure the protection of labor and social rights during the period of foreign employment of its citizens [14].

The CAR countries position themselves as countries with very strict rules in this area. However, it is also characterized by the ambiguity of the practice of implementing digital migration. In general, an analysis of the current migration legislation of the countries showed that they contain a number of uncertainties and gaps. In particular, we are talking about the fact that the interests of, for example, migrant workers and employers are not adequately regulated when preparing documents, organizing accommodation, and providing them with legalized labor.

Taking into account Kazakhstan's leading positions among all the CAR countries in many areas of socio-economic development, as well as the country's positioning as a recipient of migrant workers from other countries of the region, we analyzed the degree of state involvement in the processes of digital transformation of the migration sphere.

First, it is worth paying attention to the

Law «On Population Migration», adopted in 2011 in Kazakhstan [24]. It is noteworthy that in this Law priority is given to attracting qualified foreign workers, which is also reflected in the Concept of Migration Policy of the Republic of Kazakhstan for 2017-2021 [16]**Ошибка! Закладка не определена.**;

Secondly, a simplified procedure for obtaining work permits for highly qualified specialists and the principle of free movement of employees for multinational corporations have been introduced;

Thirdly, the government is updating the issue of introducing a special visa for «digital nomads». That is, this visa is designed to guarantee IT specialists, who usually have high incomes, the right to live and work in the country for a long period;
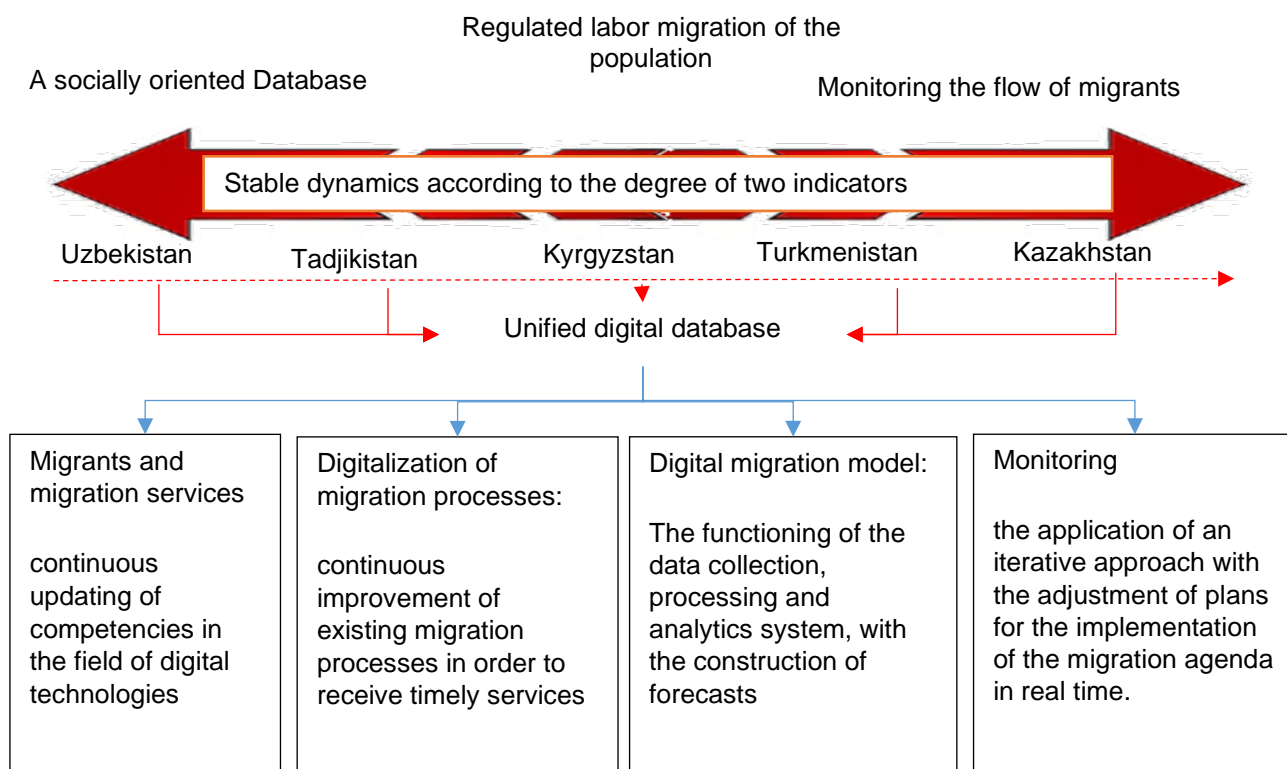
Fourth, the concept of migration policy until 2023-2027 [9] discusses the need to attract visiting specialists, create special support programs, provide access to infrastructure for innovation and work with local start-ups;

Fifthly, the same concept notes that the state policy in the field of migration will be accompanied by modern information systems and technologies for processing large amounts of data. The importance of developing predictive scenarios for the development of events for short, medium and long-term periods and the formation of a decision-making system is noted. However, it does not provide data on the degree of digitalization of this area.

In general, we believe that such a situation in the field of migration of the CAR countries arose as a result of the lack of a clear and clear policy in the field of digital transformation of migration processes. In connection with the above-mentioned points, the question arises about the positive experience of countries around the world where steps are being taken to increase the degree of protection of migrants, for poorly protected segments of the population forced to move within the country.

The study of world experience in the development of digital transformation has allowed us to form the main provisions on the issue of digital regulation. So, firstly, we believe that migration digitalization policy should be focused on the goals of socio-economic development of a particular territory/region/city in accordance with demographic needs and demand in the labor market.

Compiled by the authors. Sources: [15, 3].

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Figure 3 - Migration flow management model for the implementation of digital transformation projects in the field of migration

We believe that according to the practice of implementing digital transformation, two main stages need to be passed for the CAR countries. First, the simplest, but at the same time significant problem for most countries in the region is inequality in access to technology and digital skills. This creates obstacles to the mobility of the workforce, marking a digital divide. Thus, Internet penetration rates vary depending on the countries of the Central Asian region. Thus, the percentage of the population using the Internet is 90% in Kazakhstan, 78% in Kyrgyzstan, 77% in Uzbekistan [25]. Secondly, we believe that only through a single digital database will it be possible to regulate, for example, the need of large cities for migrants. This becomes possible because the digital database will already contain information about the city's infrastructure and its capabilities. In this regard, it should be noted the increasing importance of artificial intelligence, which, based on a digital database, will be able to offer solutions to problems where there is a shortage of workers. For example, in cities, these problems are related to housing construction, the development of urban transport and engineering infrastructure, the need to develop social services, and ensuring the environmental safety of residents.

Results

Thus, within the framework of this study, the authors have established a low degree of digital transformation of the migration sphere in the CAR countries. The authors proved that accelerating the development of a digital strategy is possible only if information and humanitarian services are provided to a larger number of migrants and government agencies. Using the example of foreign countries, it has been established that the lack of development of digital migration increases dependence on unauthorized processes that have a negative impact on other spheres of society.

We believe that the two hypotheses put into the research turned out to be working. Indeed, digital transformations in the field of migration management in the Central Asian countries are taking place on radically different development vectors. As for the second hypothesis, in fact, migrants from the CAR perceive digitalization as a way to solve many problematic aspects. It is obvious that the availability of a digital database will solve the problem of transparency of the system for collecting relevant documents for migrants.

In general, the analysis of the data showed that a common characteristic of the CAR countries in the issue of digitalization of migration is ignoring its practical implementation. This statement is confirmed in the absence of structured data collection and analysis. As a result, there is an uncontrolled process of outflow of qualified workers with their replacement by low-skilled personnel, an increase in the imbalance in the labor market, a shortage of qualified specialists, a decrease in the share of migration growth in population growth, and an increase in migration sentiment among the population (especially among young people). The study determined the level of support provided by the countries of the region to migrants, taking into account their needs and capabilities, through digital platforms. In connection with the results obtained, the authors substantiate the importance of accounting, regulation, and management of migration processes through digital platforms. It is proved that the processes of digitalization of migration will be able to solve the issue of spontaneity, unregulated migration flows. We believe that the introduction of a full cycle of digital transformation will help to systematize migration and make it predictable.

As the data showed, the active migration of the population of the CAR countries is an objective reality for the modern independent republics of the region. Different forms of migration to/from/through the territory of the CAR countries are the result of the fact that they are open to modern global migration flows. We believe that in the near future, taking into account the geopolitical situation, the CAR countries, especially Kazakhstan, will remain attractive for migrants, and primarily from the EAEU countries. As a result, the

issue of the development of digital transformation will become more relevant than ever.

Conclusion

As a result of the study, it was found that the issue of developing digital transformation in the field of migration directly relates to the problem of protecting migrant workers and any other form of migration, supporting civil society working with migrants, and institutional development with a focus on evaluating and monitoring migration programs. In general, as world experience shows, population migration has a positive potential for the state, society and migrants themselves. However, at the same time, it is associated with a number of significant risks, which have become intensified due to the acceleration of many processes.

Therefore, we believe that the lack or weak development of a digital base for resources (human, infrastructural) in specific places is the main problem in this area. Migrants, both inside and outside the country, do not have access to information and employment prospects, for example, due to the lack of digital transformation. In this study, an attempt was made to substantiate the position of the authors that the development of systemic measures for digitalization by the state will have a positive impact on migration flows. For the CAR countries, in particular for Kazakhstan, it is important that migration services and the government itself understand the benefits of digitalization of the sphere. The digital transformation of the migration sphere will not only allow regulating migration issues, but will also benefit migrants, the state, and society. Thus, within the framework of this study, it was proved that all migration processes today require an integrated and innovative approach.

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САНДЫҚ ТРАНСФОРМАЦИЯ ОРТАЛЫҚ АЗИЯ АЙМАҒЫНДАҒЫ КӨШІ-ҚОН ПРОЦЕСТЕРІН РЕТТЕУДІҢ ЖАҢА КЕЗЕҢІ РЕТІНДЕ

Арсен МАЛТАБАРОВ, PhD докторант, әл-Фараби атындағы Қазақ ұлттық университеті, Алматы, Қазақстан, maltabarov.arsen1@gmail.com, ORCID ID: https://orcid.org/0000-0001-8864-6049

Мейрам САРЫБАЕВ, PhD, қауымдастырылған профессор, Қ. И. Сәтбаев Атындағы Қазақ Ұлттық Техникалық Зерттеу Университеті, Алматы, Қазақстан, smeiram81@gmail.com, ORCID ID: https://orcid.org/0000-0001-8420-9255, ResearcherID: B-1728-2015, Scopus Author ID: 57202092354

ЦИФРОВАЯ ТРАНСФОРМАЦИЯ КАК НОВЫЙ ЭТАП РЕГУЛИРОВАНИЯ МИГРАЦИОННЫХ ПРОЦЕССОВ В РЕГИОНЕ ЦЕНТРАЛЬНОЙ АЗИИ

Арсен МАЛТАБАРОВ, PhD докторант, Казахский национальный университет им. аль-Фараби, Алматы, Казахстан, maltabarov.arsen1@gmail.com, ORCID ID: https://orcid.org/0000-0001-8864-6049

Мейрам САРЫБАЕВ, PhD, ассоциированный профессор, КазНИТУ им. К.И. Сатпаева, Алматы, Казахстан, smeiram81@gmail.com, ORCID ID: https://orcid.org/0000-0001-8420-9255, Researcher ID: B-1728-2015, Scopus Author ID: 57202092354