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## MIGRATION PROCESSES IN THE CONDITIONS OF TRANSITION TO THE DIGITAL ECONOMY

This research was supported by a Marie Curie Research and Innovation Staff Exchange scheme within the H2020 Programme (grant acronym: CARSI, GA: 101086415)

Submission Date: January 09, 2024, Accepted Date: January 14, 2024,

Published Date: January 19, 2024

Crossref doi: <https://doi.org/10.37547/ijlc/Volume04Issue01-10>

**Rakhmanov Shukhrat**

Acting Professor at Tashkent state University of Law, Doctor of Philosophy (PhD) in Law, Uzbekistan

### ABSTRACT

The article is devoted to the influence of digital technologies on migration processes. As well as forecasting migration processes, the authors consider digital technologies as a means of management and control. In addition, the article notes the role of digital technologies in ensuring and protecting the rights of migrants. The issues of introducing artificial intelligence into the implementation of migration policy are touched upon. There is special attention paid to the threats that digital technologies may pose to migrants and steps that can be taken to minimize these threats.

### KEYWORDS

Migration, migrant, migration processes, management of migration processes, forecasting migration flows, digital technologies, artificial intelligence.

### INTRODUCTION

**Digital technologies as a factor in the transformation of migration processes.** The rapid development of digital technologies in the modern period is one of the main factors of transformation in all areas. Migration processes, like other processes, are undergoing some changes due to the introduction of digital technologies in the field of management and production. UN

General Assembly Resolution 73/195 on December 19, 2018 recognizes the impact of digital technologies on migration processes through the Global Compact for Safe, Orderly and Regular Migration. [1].

Increasing mobility of the population is brought about by globalization, and the digital economy accelerates

the transformation of migration processes and the emergence of new forms of migration.

A mixed form of labor migration can include innovation-intellectual migration, which initially arose as a “brain drain” [2]. As a rule, migrants in this category have a high level of knowledge, especially in the field of digital technologies. The value of this form of migration is that it ensures the circulation of highly professional labor between developed and developing countries, which contributes to faster innovative development of less developed countries, reducing the gap between them, including the gap in the level of proficiency in new digital technologies. In other words, highly skilled migrants, by increasing their skills and experience in developed countries, later contribute to the development of the country of origin.

Thus, according to statistics, 80-90% of Indian and Chinese migrant professionals are involved in business in their own country and make more than five trips there per year. Taking into account the positive impact of the circulation of professionals, the Chinese government has created preferential conditions for scientists who devote themselves to research work, allowing them to stay abroad for up to five years with permission to return multiple times. [2].

As a combined form of labor migration, labor migration can be considered as a form of employment on demand, when workers “move” their labor from country to country to implement business projects, often performing work on a remote basis, through communication via digital technologies. There are approximately 77 million freelancers in Europe, India, and the United States alone, according to statistics [2].

Thus, labor migration in the context of the development of the digital economy takes on various forms of manifestation. The future of labor migration

will be accompanied by a further transformation of labor relations, but these changes will be at different speeds and in different countries. [2].

Thus, labor migration in the context of the development of the digital economy takes on various forms of manifestation. In the future, labor migration will be accompanied by a further transformation of labor relations, but will be of a different speed and heterogeneous nature in different regions and countries of the world [2].

### **Digital technologies as a means of managing, monitoring and forecasting migration processes.**

Today, digital technologies have become the most important means of implementation in all areas of public policy [3]. The migration policy is no exception. In the field of migration, digital technologies have improved the efficiency of state migration management and the effectiveness of state control. Migration rules are being simplified and unified, migrants' access to public services is being facilitated, and conditions for reducing illegal and hidden migration by predicting migration processes are being created. To confirm the above, we give a number of examples.

Thus, regarding the role of digital technologies in managing migration processes, we note that the most striking examples can be cited from their practices in the European region. Europe operates the Schengen Information System (SIS), created in accordance with the Schengen Convention of 1990 and began operating in 1995. Through this system, the movement of people across external borders or within the territory of member states is monitored, as well as when issuing visas and residence permits. In addition, there is a fingerprint database EURODAC (European Dactyloscopy), which makes it possible to detect people illegally staying in the EU and facilitate their

return [4]. Another element of external border management is the Visa Information System (VIS), created for the exchange of visa data [4].

**Digital technologies also help predict migration processes.** At the same time, one of the promising sources of big data is social networks, the number of active users worldwide in 2020 reached 4.2 billion, of which 2.9 billion were Facebook users [4]. Based on information provided by social media users themselves, including their geolocation, it is possible to estimate the size of international migration flows by age, gender, professional skills and preferences. Thus, Facebook data made it possible to successfully predict the increase in the number of Venezuelan migrants and refugees in Colombia and Spain [4].

Another migration forecasting tool is Google search query analysis. There are a number of studies that have used the Google Trends application to forecast migration flows. Thus, studies on Google Trends queries and migration flows from Latin America to Spain have shown that Internet search queries correlate with information about subsequent migration flows [4].

Another example of using digital technologies to forecast migration flows is the United Nations High Commissioner for Refugees' Jetson project, which uses AI to calculate an index and make short-term forecasts of expected migration flows in Somalia based on key variables such as commodity market prices, rainfall and violent conflict [4].

Digital technologies are of great importance for raising awareness of migration processes. To facilitate the management and forecasting of migration processes, it is important to ensure the availability of information. In this regard, we can mention the so-called Atlas of Migration, which is a product of the Knowledge Center

on Migration and Demography of the European Commission (KCMD). Making global migration data easy to access and use, Atlas of Migration brings together harmonized, updated and validated data from 12 international sources on 25 indicators on demography, migration, asylum, integration, development in the EU 27 and 36 indicators including demography, migration, asylum applications, results of their consideration, residence permits, Schengen visas, integration indicators for 171 countries and territories outside the EU [5]. The Migration Atlas provides a snapshot of migration around the world at a specific point in time.

Such initiatives are implemented not only within the framework of international projects, but also in the practice of individual countries. For example, Swedish authorities have used "migration algorithms" based on methods such as machine learning to predict future migration flows. In China, they actively use digital technologies in migration management and are mastering digital technologies based on data from the social credit system [6].

The significance and need for the use of digital technologies in managing migration processes is reflected in the above-mentioned Global Compact for Safe, Orderly and Regular Migration of 2018. In particular, the treaty provides for the consolidation of national digital databases, while respecting the right to privacy and ensuring the protection of personal data, providing easily accessible information and guidance, including through digital platforms and special mechanisms [1].

Thus, digital technologies can contribute to the effective management of migration processes. This means the need to create special digital platforms for managing migration policy, mobile applications, social

media accounts, as well as their systematic and periodic analysis [7].

**Digital technologies and protection of migrants' rights.** Using new digital technologies in migration processes, the state, to a certain extent, acquires tools that guarantee the protection of the rights and legitimate interests of migrants when regulating migration processes [8].

In the modern world, migrants and refugees are actively exploring the digital world, turning to online resources to obtain legal, social and medical assistance, establish connections with the community, find work and educational opportunities. Digital technologies allow migrants to obtain the necessary information to protect their rights and help increase their awareness of their rights and migration policy in general. The lack of communication with labor migrants through official channels inevitably leads to the fact that informal communication becomes relevant for them.

One of the trends has been the creation of mobile applications for migrants, as well as the availability of official websites of multifunctional centers for migrants. Migrant Resource Centers (RMCs), created to provide neutral information on labor migration in countries of origin, also use digital channels in their activities. In addition to matching services, there is also a growing demand for online visa services to enable migrants to work legally in destination countries, especially given the long wait times for visas in Europe and Central Asia [9].

A significant number of commercial organizations publish information on websites about providing assistance in obtaining citizenship, residence permits, temporary residence permits, as well as the possibility of taking Russian language testing. In some cases, such

organizations maintain groups on social networks, where they periodically publish not only advertising messages, but also information on pressing problems faced by migrants [10].

In the digital economy, remittances are of particular importance for migrants. The digital revolution opens up vast opportunities for the use of money transfers. In particular, almost 61% of migrant respondents from Central Asia in the Russian Federation use digital platforms to send remittances home. However, the majority of remittance recipients in Central Asia still prefer to receive cash from operator offices or banks. They often do not have access to other financial services, such as financial literacy programs, insurance programs, or savings accounts. Digital documents and financial services can make it easier to send and receive money, and the infrastructure needed to spread the digitalization of money transfer systems has already been largely established in the region. Four out of five Central Asian migrants surveyed in the Russian Federation have a smartphone and Internet access, as well as bank cards [11].

The importance of remittances is reflected in the aforementioned 2018 Global Compact for Safe, Orderly and Regular Migration, which calls for the development of innovative technology solutions for remittances, including mobile payments, digital tools and electronic banking, to reduce costs, improve efficiency and reliability, increasing the volume of remittances through regular channels and opening gender-sensitive distribution channels to underserved populations, including those living in rural areas, people with low literacy levels and people with disabilities [1].

At the same time, if an immigrant does not have basic digital skills, the advantages of digitalization and access to appropriate resources will be more of an



obstacle for him in the realization of rights and freedoms. This means that measures need to be taken to improve the digital literacy of migrants.

Development of artificial intelligence and migration policy

In the modern period, the role of artificial intelligence (hereinafter referred to as AI) is increasingly increasing in all areas of business and society, and labor migration is no exception. AI is used to scan large volumes of applications and select workers for available vacancies. By using AI in selection, companies and recruiters can process candidate applications faster and shortlist the applicants they need.

Additionally, AI-powered language translation tools help overcome language barriers and make it easier to provide information in your preferred language. In a number of countries, in particular, in Latvia, Ireland, Finland, AI-based chatbots are becoming widespread, i.e. digital virtual assistants trained to answer common questions and queries about labor migration, which is important for informing those in need of assistance about functions and services, thereby reducing the burden on human staff [9]. The Netherlands and Germany are using AI to verify identities based on biometrics and to better detect fake documents. In Finland, the TIKKA pilot project aims to verify the identity of applicants using a combination of open-source data, artificial intelligence and human analysis. Moreover, host countries can use AI to process large amounts of data needed to develop labor migration strategies and operational plans [9].

**Risks and threats of digital technologies to migrants and migration processes.** One of the threats to the use of digital technologies in the management of migration processes is that the use of digital technologies in providing assistance is accompanied by ethical risks,

such as interference with privacy, confidentiality issues and the use of personal data to the detriment of migrants [7].

Another threat is the presence of digital divides between countries. Digitalization in the field of migration is developing differently in different countries. Digital transformation can strengthen its leading position among developed countries capable of such changes, and will be one of the main factors in managing risks associated with migration processes. In developing countries, where there is no opportunity to actively use digital technologies, on the contrary, the lag in their development will increase. The consequences of emerging digital technologies may be a widening gap between countries with weak development of Internet communications and countries with a very high level of digitalization [6].

**The digital divide between countries can become an obstacle to labour mobility.** Thus, Internet penetration rates vary depending on the Prague Process region: the percentage of the population using the Internet is 99% in Norway and drops to 90% in Kazakhstan, 81% in Serbia, 78% in Kyrgyzstan, 77% in Uzbekistan and 75% in Bulgaria. Fixed broadband subscription statistics also vary widely. In Germany, 44% of the population uses it, while this figure drops to 31% in Romania, 22% in Tajikistan, 19% in Uzbekistan, 18% in Ukraine and 14% in Kazakhstan. This means that countries of origin of labor migrants have lower rates of Internet penetration and access to broadband services than countries of destination [9]. These differences in technology and skills can result in destination countries providing electronic services that migrants do not have access to or do not have the necessary skills for, so that future migrants are often unable to take advantage of the potential benefits of the services offered [9].

To overcome such barriers, the Global Compact provides for the “more comprehensive use of technology and digitalization for the assessment and mutual recognition of skills based on officially certified work records, as well as for the recognition of informally acquired skills and work experience at all skill levels.” The agreement also provides for the “development of innovative technological solutions for remittances, including mobile payments, digital tools and electronic banking, to reduce costs, increase efficiency and reliability, increase the volume of transfers through regular channels and open gender-sensitive distribution channels for population groups the underserved, including those living in rural areas, people with low literacy levels and people with disabilities” [1].

Another threat concerns the demand for migrants from developing countries. New technologies and the digitalization underlying them are transforming the labor process, presenting new demands to the labour market, transforming it. Due to the active development of digital technologies and changes in the labor market, requirements for migrants may change or the demand for their labor may decrease due to the replacement of most routine work that does not require high qualifications with digital technologies and AI.

Thus, digital technologies create new opportunities for the development of migration processes, in particular for managing and forecasting migration processes, which creates conditions for safe migration. At the same time, digital technologies pose risks and threats for migrants and migration policy due to the risk of personal data breaches, changes in qualification requirements for migrants, as well as the digital divide between countries.

Particular attention is paid to improving migration policy in Uzbekistan, including through the introduction of digital technologies. Thus, the President of Uzbekistan Shavkat Mirziyoyev noted: “Currently, about 2 million people work abroad to feed their families, far from their families, parents and children. It is very difficult to work in different difficult conditions, endure and earn money.... We will create the opportunity for compatriots to receive government services remotely from anywhere in the world” [12].

Taking into account the above, migration policy should be developed taking into account the development of digital technologies. It is necessary to improve the digital literacy of migrants. When preparing for migration, inform them not only about the legislation of the host country, but also teach them how to use various digital platforms on migration issues and in general. It is also important to take action to reduce the digital divide.

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