

RESEARCH ARTICLE

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The Role of Digital Technologies in Promoting Gender Equality in Kazakhstan

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ABSTRACT

The dynamics of digital technologies affect the economy and society, opening up new opportunities and prospects for promoting gender equality in the workplace. The aim of this paper is to explore the role of digital technologies in promoting gender equality, assess their impact on various aspects of women's lives, and identify the main challenges and prospects associated with their use. The study employs a mixed-methods approach, including secondary data analysis, surveys, and case studies, to assess the impact of digitalization on women's employment and professional development. Special attention is paid to comparing the results of countries in international rankings, which allows us to identify the most successful practices and general trends. Despite the measures taken by Kazakhstan to ensure gender equality in areas such as digitalization and the successes achieved, it is still being revealed that there are many inequalities in the labor market of Kazakhstan. Surveys conducted among 174 respondents (59.7% women) revealed that 55.7% believe digital technologies can reduce gender discrimination in the labor market, and 56.3% recognize the contribution of digital labor to gender equality. Findings suggest that digital platforms enhance women's participation in the labor market, offering flexible work arrangements and professional growth opportunities. However, barriers such as limited access to digital education and persistent gender stereotypes still hinder women's full participation in the digital economy. The paper concludes with recommendations for policymakers to develop gender-focused digital strategies to ensure equitable access to digital resources and opportunities.

KEYWORDS: Digital Inequality, Gender Equality, Labour Market, Digital Economy, Sustainable Development, Gender Economics, Kazakhstan

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1. INTRODUCTION

In an era marked by rapid advancements in digital technologies and globalization, the transformation of all aspects of life becomes inevitable. One of the key areas where digitalization exerts a significant impact is gender equality. Despite notable improvements in the status of women in society over the past few decades, substantial gaps remain, particularly in employment, education, and managerial participation. In addition, digital technologies offer new opportunities to bridge gender disparities by providing access to information, education, and resources previously inaccessible to a significant portion of the population. Moreover, digital platforms and social networks are crucial in empowering women, offering them avenues for self-development, professional growth, and active participation in public life.

In Kazakhstan, digitalization occupies a central place in government policy, reflected in initiatives and programs aimed at modernizing the economy and improving the population's quality of life. In world practice, research on the impact of digitalization on gender equality is attracting more and more attention. For example, studies by the International Labour Organization (ILO) and the Organization for Economic Cooperation and Development (OECD) show that digitalization can serve as a tool to reduce the gender gap in employment and income, creating new jobs and expanding opportunities for women's professional development (ILO, 2015).

Nevertheless, Kazakhstan's labor market exhibits significant gender disparities: women are frequently employed in lower-paid, less stable sectors and have restricted access to senior positions and career resources. Digitalization offers a pathway to alter this landscape by generating flexible employment options such as remote work and freelancing. Yet, without incorporating gender-focused strategies, digitalization risks perpetuating or exacerbating existing inequalities. For instance, women's limited access to digital education and resources is a substantial barrier

to their full participation in the digital economy.

Significant gender inequalities characterize Kazakhstan's labor market, women are often employed in lower-paid and less stable sectors of the economy, less often occupy senior positions and have limited access to resources and career opportunities (Yeralina et al., 2023). Digitalization can potentially change this situation by creating new jobs and providing flexible forms of employment, such as remote work and freelancing. However, without proper consideration of gender aspects, there is a risk that digitalization may reproduce or even exacerbate existing inequalities. For example, women's limited access to digital education and resources can significantly hinder their participation in the digital economy.

The aim of this paper is to explore the role of digital technologies in promoting gender equality, assess their impact on various aspects of women's lives, and identify the main challenges and prospects associated with their use. The article examines unique aspects, including the impact of digitalization on the development of gender equality in Kazakhstan, which distinguishes it from existing research. Special attention is paid to specific problems in Kazakhstan, such as women's limited access to digital technologies and education in rural areas, as well as the prevalence of gender stereotypes that hinder women's professional growth.

2. LITERATURE REVIEW

Gender equality has become a paramount issue in modern society, impacting various spheres such as education, employment, healthcare, and political participation. Digital technologies have emerged as potent tools in addressing gender disparities, offering innovative solutions to long-standing issues. Digitalization significantly impacts the labor market, creating opportunities for improving gender equality and challenges associated with achieving it. It is important to consider international and domestic research to understand key trends and barriers in this

context.

New digital technologies create opportunities by enhancing women's participation in the labor market and promoting their financial and digital inclusion, ultimately contributing to greater economic welfare (Frey & Osborne, 2017). The latest advancements in digital technologies, such as artificial intelligence, machine learning algorithms, cloud computing, and advanced robotics, hold significant potential to transform current labor markets (Rashid, 2016) radically. While the replacement of human labor by digital technologies can have disruptive effects, digitalization can also be transformative. For instance, when digital technology complements rather than replaces human labor, it can lead to positive spillovers and new employment opportunities in both traditional and entrepreneurial ventures (Fossen & Sorgner, 2019).

Digitalization has been a pivotal factor in job creation, improving working conditions, and enhancing opportunities for women's professional development. The ILO conducted research demonstrating that digital technologies contribute significantly to creating new jobs. For instance, the ILO's report asserts that digital technologies can help reduce the gender gap in employment and income (ILO, 2019). These technologies enable women to enter and thrive in sectors previously less accessible to them. Thus, Efobi et al. (2018) emphasized the importance of information technology in promoting gender inclusion within the formal economic sector. Information technology has facilitated the entry of women into formal employment by providing tools that enhance productivity, communication, and access to information.

Antonio and Tuffley (2014) examined the digital divide, focusing on the specific challenges women in developing countries face when accessing the Internet. The authors highlight potential benefits of increasing women's online activity, such as improved education, economic opportunities, and overall community development. Piroșcă et al. (2021) analyze the impact of digital skills on the labor

market, especially in the context of the COVID-19 pandemic. They found that digital skills are crucial for rapid adaptation to market changes, with workers possessing these competencies adapting faster and having wages closely related to their skill level. Vasilescu et al. (2023) emphasize the importance of gender equality in the digital age, pointing out differences in Internet access and use by men and women in developing countries. Shah et al. (2024) study the impact of digital technologies on gender equality in the workplace. They examine how digitalization can both mitigate and exacerbate gender inequalities in employment, leadership opportunities, and work-life balance.

Krieger-Boden et al. (2018) highlighted gender differences in the coverage of the labor market, financial services and digital technologies that prevent women from taking advantage of opportunities in the digital age, leading to persistent gender inequality. Larsson et al. (2020) analyzed how digitalization affects women's prospects in the labor market. The article examines the relative shortage of women in Western countries studying science, technology, engineering, and mathematics (STEM). This, in turn, leads to a lower turnout of women working in jobs related to information and communication technologies.

Zhu et al. (2023) analyzed the impact of digitalization on the gender gap in labor force participation using panel data from G20 countries (2006-2021). They found that digitalization tends to narrow the gender gap, mainly in high-income countries, while the interaction between digitalization and globalization has little impact on this gap across the G20. Lu et al. (2023) studied the effect of the digital economy on women's employment using data from China's General Social Survey and online recruitment datasets. Their findings suggest that digitalization increases women's employment and supports egalitarian gender views. However, comprehensively improving the quality of women's employment is needed. While it increases professional status and job satisfaction for part-time women, it has

minimal impact on protecting workers' rights and reducing overtime.

Acilar et al. (2021) investigated ways to bridge the gender digital divide by introducing information and communication technologies (ICT). They found that women, especially in developing countries, still need to improve in terms of access to ICT despite the global growth in technology use. Filippi et al. (2023) analyzed how the institutional context related to gender equality affects the risk of replacing women's jobs in Europe with automation technologies. Owusu (2024) examined the impact of digitalization on work-life balance, highlighting the blurred boundaries between professional and personal spheres, especially for women who face inequality due to outdated

gender norms and policies.

Digitalization, as a global process of transforming all aspects of society through the introduction of digital technologies, is an essential factor in determining social, economic, and cultural changes (Gribanov & Shatrov, 2019). A study by Kazakhstani scientists Turebekova et al. (2023) describes how digitalization transforms labor markets and online education's key role in providing the global workforce with the necessary skills. It highlights the accessibility, flexibility, and scalability of online learning platforms that are needed to address skill gaps and promote lifelong learning.

Based on the above, Table 1 provides a visual overview of the theories overview.

TABLE 1. The hierarchical relationships and details of each key area related to the impact of digitalization on gender equality

No.	Key areas and sub-nodes	Details and authors
1	Job creation & Professional development	Enhances productivity and communication (Efobi et al., 2018)
		New employment opportunities (Fossen & Sorgner, 2019)
2	Barriers & Labor market	Disruptive effects of automation (Rashid, 2016)
		Persistent gender inequalities (Krieger-Boden et al., 2018)
		STEM shortage (Larsson et al., 2020)
3	Digital divide & Access to ICT	Improved education and economic opportunities (Antonio & Tuffley, 2014)
		Challenges in developing countries (Acilar et al., 2021)
		Differences in Internet access (Vasilescu et al., 2023)
4	Gender equality policies	Impact on job displacement (Filippi et al., 2023)
		Narrowing the gender gap (Zi Hui Yin et al., 2023)

Note: compiled by authors

The literature review highlights the multifaceted impact of digitalization on gender equality across various domains, including labor markets, education, and social inclusion. Digital technologies have emerged as potent instruments for addressing gender disparities, possessing substantial potential to enhance women's labor force participation, foster financial and digital inclusion, and support professional development. Nevertheless, the digital gender divide persists, particularly in developing countries, as emphasized by Acilar et al. (2021) and Vasilescu et al. (2023). Despite the global increase in technology use, women continue to encounter substantial

obstacles in accessing and utilizing digital tools. Current research underscores the significant potential of digitalization to advance gender equality in the labor market, while also revealing the necessity for an in-depth analysis of the specific barriers and opportunities encountered by women in the context of digital transformation. Policymakers must consider these factors when devising strategies aimed at reducing the gender gap and promoting equal opportunities for all within the digital labor market. The intersection of technology and gender necessitates a comprehensive approach that considers not only the provision of digital tools but also the

socio-economic and cultural contexts that influence women's access and usage.

3. RESEARCH METHODS

The study of digitalization's role in promoting gender equality in Kazakhstan's labor market employs an integrated approach, utilizing a variety of research methods. The primary objective of the methodology is to systematically collect and analyze data to identify existing trends and relationships between digitalization and gender equality in the labor market. Several research methods are utilized to achieve this purpose.

Secondary data analysis makes it possible to determine the level of digitalization and gender equality in the labor market in Kazakhstan using national and international databases, such as reports from the World Economic Forum and the International Labor Organization, as well as national statistical data. Secondary data helps to identify general trends and changes in these areas in recent years.

Surveys and Questionnaires. Surveys and questionnaires are conducted among various groups of respondents, including women and men working in different sectors of the economy. These surveys collect primary data on the impact of digitalization on employment and working conditions for women and men in

Kazakhstan. Additionally, the surveys assess the level of digital skills, access to online education and training, and perceptions of gender equality in the workplace.

A sociological survey was conducted among the population of Kazakhstan using a questionnaire survey method. The total number of respondents was 174, with 63% living in urban areas and 37% in rural areas. The majority of respondents (59.7%) were women, and 40.3% were men. The age distribution of respondents as follows: less than 20 years - 4.4%, 20-29 years - 50%, 30-39 years - 22.2%, 40-49 years - 15.2%, 35-54 years - 16.7%, and 50 years and older - 1%.

Educational levels among respondents were: higher education - 84.8%, specialized secondary education - 12%, and secondary education - 3.2%. Employment status showed that 88.6% were employed, 3.1% were on maternity and unpaid leave, 7% were students, and 1.3% were unemployed. The sectoral distribution of respondents' employment was: education - 28.5%, public service - 25.8%, industry - 14.6%, medicine - 9.5%, financial sector - 12.7%, agriculture - 3.8%, IT - 2.5%, and art - 2.6%.

Next, Figure 1 shows a visualization of the survey data, which can help to better understand the distribution.

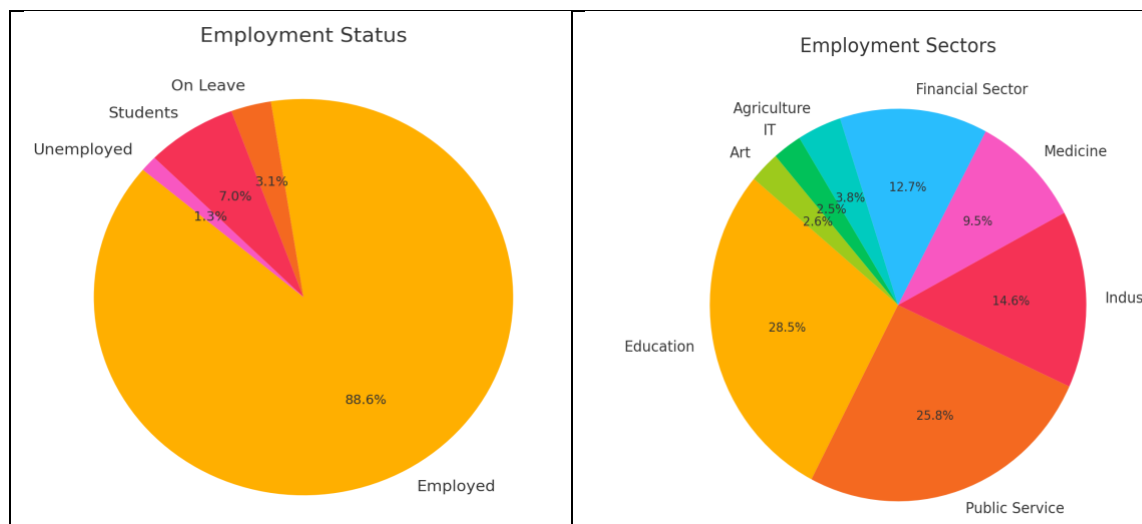


FIGURE 1. Employment status and employment sectors of respondents

Note: compiled by authors

In total, respondents were asked ten questions, including information about the benefits of digital technologies, the impact of digital technologies on the labor market, etc. The sociological survey was conducted from May to July 2024. The data was processed using the Visme program, which included several analytical methods to ensure accurate interpretation and meaningful information.

Case studies analyze specific cases and initiatives aimed at promoting digitalization and gender equality in various sectors of the economy of Kazakhstan. An integrated approach to the study of the role of digitalization in promoting gender equality in the labor market of Kazakhstan provides a deep and comprehensive analysis of the problem. The use of various methods helps to develop effective strategies and policies aimed at improving gender equality in the context of increasing digitalization.

4. FINDINGS AND DISCUSSION

The digital gender gap refers to differences between men and women in accessing, using,

and acquiring digital skills in information and communication technologies (ICTs). This gap can manifest in differences in Internet access, ownership of digital devices, participation in online learning, and use of digital services. Such differences can exacerbate existing gender inequalities in society and the labor market, limiting the opportunities of women and girls in the digital age (Mariscal et al., 2019).

Like many other countries, Kazakhstan faces difficulties in achieving gender equality in the labor market. Despite progress in education and the legislative framework, significant gaps still need to be in employment, wages, and leadership positions. Traditional gender roles and stereotypes continue to influence career choices and opportunities, limiting women's participation in economic life.

Due to the lack of official statistics, Table 2 provides a detailed overview of the population's employment and the share of Internet and mobile phone users in Kazakhstan from 2019 to 2022 (includes forecast data from 2023 to 2027, divided by gender).

TABLE 2. Employment of the population and the leading ICT indicators of Kazakhstan by gender, %

Year	The employed population		The share of Internet users from the total population		Share of mobile phone users	
	Men	Women	Men	Women	Men	Women
2019	51,6	48,4	84,3	84,2	94,3	94,5
2020	51,7	48,3	88,5	88,0	95,9	95,8
2021	51,7	48,3	93,2	92,6	96,9	97,2
2022	52,0	48,0	93,8	94,2	97,1	97,3
2023*	52,0	47,9	98,2	98,4	98,0	98,3
2024*	52,2	47,8	101,5	101,8	98,7	99,2
2025*	52,3	47,7	104,9	105,2	99,4	100,0
2026*	52,5	47,5	108,2	108,7	100,1	100,8
2027*	52,6	47,4	111,5	112,1	100,9	101,7

Note: compiled by authors based on the data from the Bureau of National Statistics (2023)

In 2019, employment among men was 51.6%, among women - 48.4%. The share of Internet users among men was 84.3%, among women - 84.2%. Mobile phone users among

men and women accounted for 94.3% and 94.5%, respectively. In subsequent years, there has been a gradual increase in these indicators.

For example, in 2022, employment among men is projected at 52.0%, among women - 48.0%. The share of Internet users among men and women will be 93.8% and 94.2%, respectively, and mobile phone users - 97.1% among men and 97.3% among women. Forecasts up to 2027 show a further increase in these indicators: employment among men will reach 52.6%, among women - 47.4%; the share of Internet users among men and women will be 111.5% and 112.1%, respectively; the share of mobile phone users among men and women will reach 100.9% and 101.7%.

Data forecasting from 2023 to 2027 was performed using prediction functions in Excel. The impact of digital indicators on employment is obvious: as the number of Internet and mobile phone users increases, employment increases. This may be due to the expansion of opportunities for remote work, access to information and training via the Internet, as well as the development of new technologies and sectors of the economy where digital technology skills are needed. Thus, digitalization plays an important role in changing the employment structure and contributes to an increase in the employment rate among both sexes, despite small differences in indicators.

In this regard, as a result of rapid technological development and the introduction of digital innovations in the labor market, new forms of flexible employment have become an integral part of the modern working environment. According to the changes that came into force on July 1, 2023, in accordance with the Social Code, innovative regimes are being introduced:

(1) Joint Employment: This approach involves hiring multiple employees to perform a function. This model opens up new prospects for cooperation and collaboration, leveraging the opportunities provided by digital technologies.

(2) Flexible Work Schedule: This allows for the flexible allocation of work hours on

different days of the week. This format is especially beneficial for women, enabling them to more easily balance professional and personal responsibilities. Digital technologies can facilitate optimal time and task allocation.

(3) Four-Day Work Week: This regime allows the parties to agree on a shortened work week, which can help reduce gender pay gaps and provide a more flexible schedule for women, particularly mothers. Digital technologies support the planning of work processes in this model.

(4) Platform Employment: This work format, developed using digital platforms, offers opportunities for both primary and additional employment. The growth of this type of employment can increase women's participation in self-employment and enable the development of their own businesses through digital technologies (Adilet, 2023).

These innovative approaches are not only consistent with the dynamics of the labor market, but can also significantly contribute to improving gender equality by creating more flexible and equal conditions for men and women.

A country's digital competitiveness is determined by its ability to effectively use digital technologies to improve its economic and social infrastructure. The inclusion of such parameters as knowledge, technology and readiness for the future makes it possible to assess how ready a country is to integrate digital innovations into various sectors, including the labor market. Improving these indicators contributes to the development of gender equality, improving the skills of employees and creating new opportunities for all categories of the population.

Figure 2 shows the digital competitiveness ratings of Kazakhstan, the USA, the Netherlands, and Singapore from 2019 to 2023, covering four key categories: overall rating, knowledge, technology, and readiness for the future.

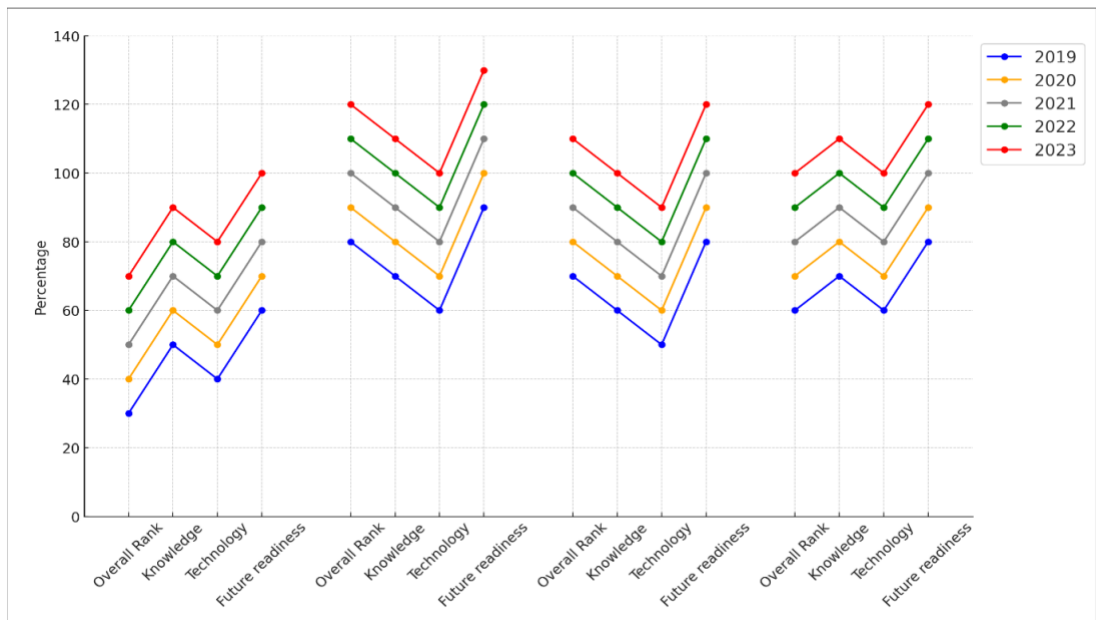


FIGURE 2. The place of the top 3 countries and Kazakhstan in the ranking of global digital competitiveness for the period 2019-2023

Note: compiled by authors based on the data from the IIMD (2023)

Data analysis shows that Kazakhstan still lags behind advanced countries in digital competitiveness, especially in aspects such as technology and readiness for the future. Kazakhstan's positions are consistently in the range of 30 to 40 places, which indicates a significant gap in digital competitiveness compared to the leading countries. Kazakhstan is experiencing the greatest difficulties in the categories of “Technology” and “Readiness for the future”. This gap limits the opportunities for the effective use of digital technologies in the labor market. While the United States occupies a leading position in the ranking, which reflects its high digital competitiveness in all four categories. This contributes to more equal opportunities in the labor market, thanks to the active introduction of technology and a high level of readiness for future changes.

The Netherlands consistently performs well, especially in the Knowledge and Technology categories. Such digital competitiveness promotes equality in the labor market by providing equal opportunities for men and women to access advanced technologies and educational resources.

Singapore also ranks high, especially in the Technology category. The high level of technological development and readiness for the future makes it possible to minimize gender gaps in the labor market by creating equal conditions for all employees. Digitalization plays a crucial role in promoting gender equality in the labor market, providing more significant opportunities for women in various sectors of the economy.

In Kazakhstan despite the progress in digitalization, women still need help accessing highly paid and technical professions. Insufficient digital literacy and limited access to modern technologies exacerbate gender disparities. In upper-middle-income countries such as Kazakhstan, the effect is less pronounced due to insufficient integration of digital technologies into educational and professional processes. To improve the situation, it is necessary to increase the level of digital literacy among women and encourage their participation in the technological sectors of the economy.

To achieve gender equality in the labor market, Kazakhstan needs to improve its

digital infrastructure and create conditions for equal access to technology. This will eliminate barriers and ensure equal opportunities for everyone, regardless of gender.

Figure 3 shows how changes in digital competitiveness correlate with the gender equality index in different countries.

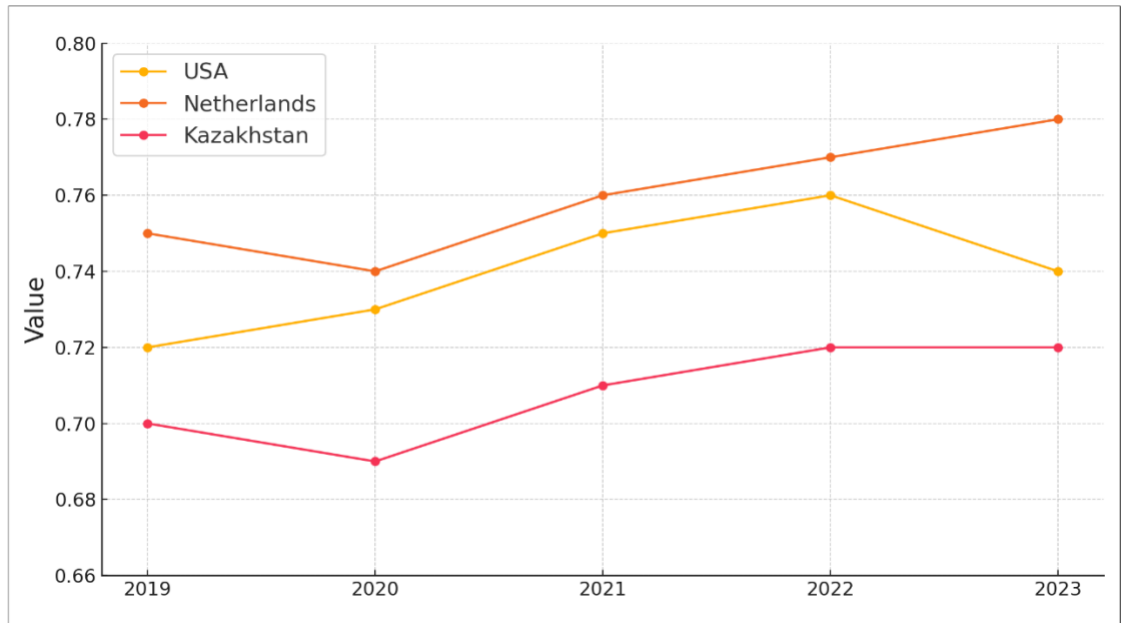


FIGURE 3. The place of the top 3 countries and Kazakhstan in the gender equality ranking for the period 2019-2023

Note: compiled by authors

The United States and the Netherlands show steady growth in both digital competitiveness and the gender equality index, while Kazakhstan shows slow progress in these areas.

Data shows that improved digital infrastructure and access to technology contribute to reducing the gender gap. A high level of digitalization allows for more equal access to educational and professional resources, improving women's employment and career prospects. Thus, the data and analysis confirm that the development of digital technologies and the improvement of digital competitiveness are essential factors in promoting gender equality in the labor market. Due to its low position in international rankings, Kazakhstan introduced digital technologies in employment. So, since July 2021, the Skills. Enbek's online vocational training platform operates in

Kazakhstan, which is part of the digital ecosystem in the field of employment. The primary purpose of this platform is to create opportunities for continuous skill development and professional development of the entire population throughout their lives (Workforce Development Center, 2022).

Digitalization is represented by tools such as Skills. Enbek is crucial in promoting gender equality in Kazakhstan's labor market. Access to online education and vocational training allows women and men to develop new skills and competencies necessary for competitiveness in the labor market. This helps to reduce the gender gap, as women receive equal opportunities for education and career growth in various sectors of the economy. In addition, the flexibility of online education allows women to combine professional development with family responsibilities, which also contributes to

their employment and economic activity (Workforce Development Center, 2022).

Thus, the Skills. Enbek platform is an important digital tool that promotes gender equality in Kazakhstan's labor market, providing equal opportunities for lifelong

learning and professional development for all population segments.

Figure 4 shows data on users of the Skills. Enbek Professional Online Learning Platform.

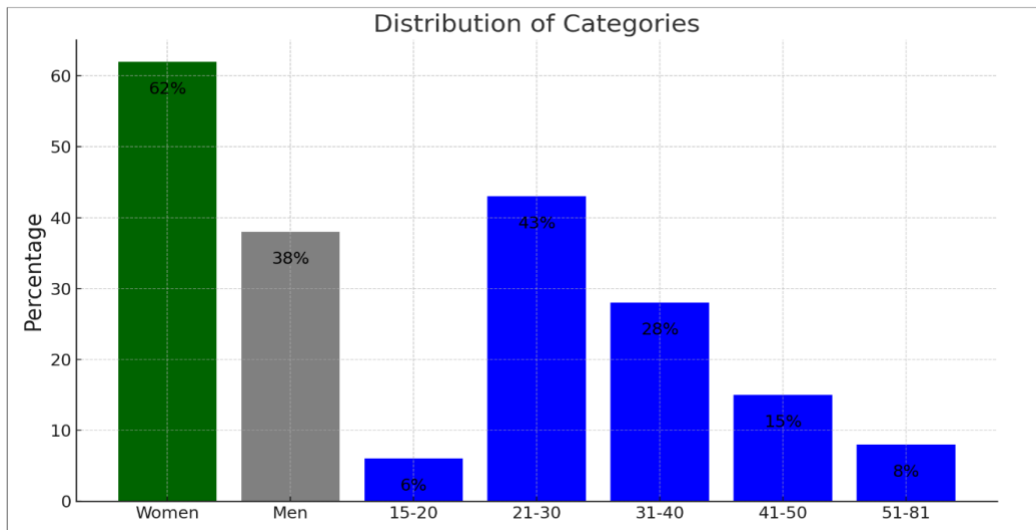


FIGURE 4. Distribution of respondents by gender and age, %

Note: compiled by authors based on the data from the Workforce Development Center (2022)

An analysis of data on platform users shows that women make up 62% of the total number of those who took courses, while men make up 38%. This indicates the significant participation of women in online learning and their desire to develop new skills, which helps to increase their competitiveness in the labor market. The age group division also demonstrates the diversity of participants: 6% are aged 15-20, 43% are 21-30, 28% are 31-40, 15% are 41-50, and 8% are 51-81. The majority of users are in the 21-30 age group, which indicates a high interest of young people in professional development through online training.

Digital tools such as Skills. Enbek promotes gender equality by providing access to educational resources and opportunities for all, regardless of gender and age. This allows women, who often face limitations in traditional education and employment, to develop the necessary skills and improve their

professional qualifications, contributing to their economic independence and career growth. Moreover, the flexibility of online learning provides an opportunity to combine study with family responsibilities, which is especially important for women, who traditionally bear most of the responsibility for home and family.

Based on the above, Skills. Enbek not only increases the general level of professionalism of the population but also helps to reduce the gender gap in the labor market in Kazakhstan, creating a more inclusive and equitable working environment. According to the survey, 56.3% of respondents indicate that digital labor contributes to gender equality. Additionally, in response to the question, "Do you think that the introduction of digital technologies in the labor market can reduce gender discrimination?" 55.7% of respondents answered affirmatively, while 44.3% did not (Figure 5).

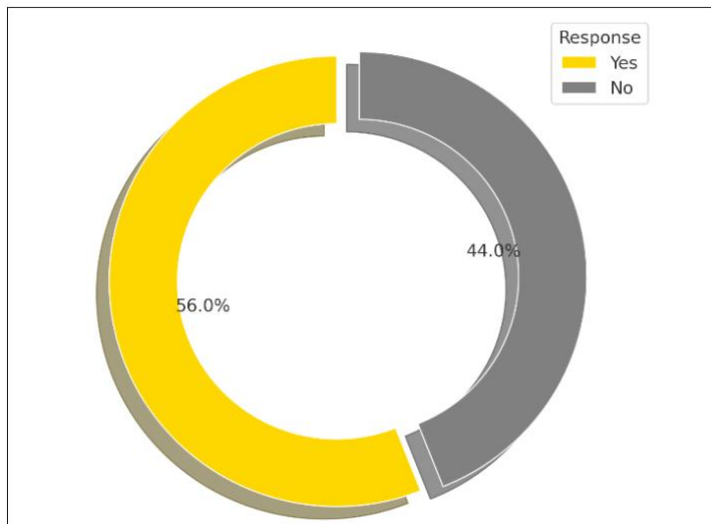


FIGURE 5. Distribution of responses regarding the impact of digital technologies on reducing gender discrimination in the labor market, %

Note: compiled by authors

Most respondents are optimistic about the potential of digital technology in reducing gender discrimination in the labor market, emphasizing its ability to make objective and effective decisions. However, a significant minority remains cautious, pointing to algorithm bias and transparency concerns. This highlights the importance of responsibly developing and implementing digital technology systems with a focus on fairness, accountability, and transparency to harness the potential of digital technology to promote gender equality in the labor market.

Figure 6 shows the results of a survey on the benefits of introducing digital technologies in the labor market.

Based on the data from the presented diagram, several conclusions can be drawn about the supposed benefits of using digital technologies to achieve gender equality in the labor market. The most significant advantage, noted by 42.4% of respondents, is that digital technologies can contribute to objective decision-making. This indicates a strong belief in their potential to reduce staff bias and increase fairness in workplace decision-

making. Additionally, 24.1% of respondents believe digital technologies can help eliminate stereotypes and prejudices, fostering a more inclusive environment. Another 17.1% believe that digital technologies can expand access to employment opportunities, reflecting the potential benefits of online platforms and remote work options, especially for women with childcare responsibilities.

Furthermore, 13.9% of respondents believe that digital technologies can improve the efficiency of recruitment and promotion processes by utilizing digital tools and data analytics to optimize HR management functions. However, a small percentage of respondents (0.6% each) remain skeptical about the benefits of digital technology, indicating areas where further training and demonstration of benefits may be required.

Overall, these findings indicate that digital technologies are generally perceived positively as tools for promoting gender equality in the labor market, although some areas require continuous improvement and awareness-raising.

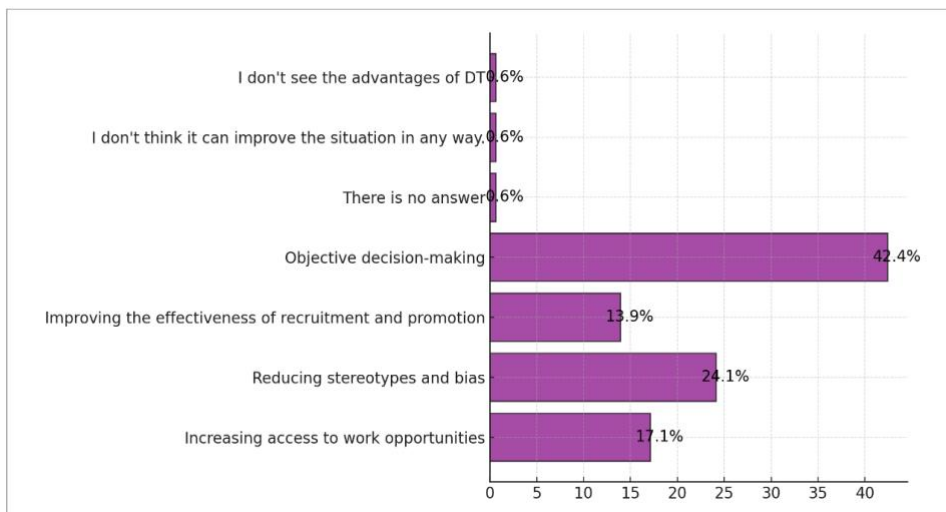


FIGURE 6. Distribution of responses regarding the perceived advantages of using digital technologies to achieve gender equality in the labor market, in %

Note: compiled by authors

Analyzing the role of digitalization in promoting gender equality in Kazakhstan's labor market, several key results and challenges can be identified. The Skills Enbek platform, created in 2021, has become an essential tool for the continuous professional development of the entire country's population. This platform is especially significant for women, providing them access to online courses to improve their skills and acquire new ones. This helps increase their competitiveness in the labor market and opens up new career opportunities.

The introduction of flexible forms of employment, such as co-employment, flexible working hours, and a four-day workweek, also positively impacts gender equality. These measures help women better balance professional activities and personal responsibilities, promoting their more active participation in the workforce and helping reduce the gender pay gap.

Additionally, digital platforms and platform employment expand opportunities for women to engage in self-employment and entrepreneurship. This contributes to their economic independence and professional growth, providing more opportunities to work for themselves and start their businesses.

However, despite these positive outcomes, challenges remain. Not all women have equal access to the Internet and digital devices, which limits their opportunities to participate in online education and work on digital platforms. The gender gap in digital skills remains a significant obstacle, reducing women's competitiveness in the labor market. Traditional gender roles and stereotypes continue to influence women's choice of professions and career opportunities, limiting their participation in highly paid and technologically advanced sectors of the economy.

To achieve sustainable gender equality in Kazakhstan's labor market, it is necessary to solve the problems of access to digital technologies, eliminate stereotypes, and ensure equal conditions for women's professional development. Digitalization provides many opportunities for this, and it is important to use these opportunities to create a more inclusive and equitable society. This, in turn, makes it possible to identify new challenges and problems that have arisen in the field of gender inequality that require further research and the development of targeted measures.

5. CONCLUSIONS

Digitalization plays a crucial role in promoting gender equality in Kazakhstan's labor market. Data analysis of the Skills Enbek platform, which was established in July 2021, shows that online learning and skills development significantly impact gender equality. The platform provides opportunities for continuous skills development and professional development for the entire population, which is especially important in the context of rapid changes in technology and the labor market.

The survey data on the benefits of using digital technologies to achieve gender equality shows that most respondents (42.4%) believe that digital technologies contribute to objective decision-making, minimizing the impact of bias. This confirms that digital tools can contribute to creating more equitable working conditions. Moreover, using digital technologies can improve the efficiency of recruitment and career promotion processes, reduce stereotypes and bias, and increase access to job opportunities for all population groups.

The gender gap in Kazakhstan remains significant despite advances in education and the legislative framework. Women continue to face restrictions in their access to high-paying professions and leadership positions. However, the use of digital technologies, such as online training on the Skills Enbek platform, can help overcome these barriers. The platform provides flexible learning and development opportunities, which allows women to improve their professional skills and increase their competitiveness in the labor market.

The following recommendations are proposed for government agencies on the development and implementation of gender-oriented digital strategies and policies:

(1) Authorized bodies on employment and digitalization must expand access to platforms like Skills Enbek and encourage women's participation in these programs. This will help them develop the necessary skills and increase their chances of successful employment.

(2) The Ministries of National Economy and Finance of the Republic of Kazakhstan should support and finance digital education programs aimed at women. This may include subsidies for training and the creation of specialized courses and training.

(3) The Ministry of Labor and Social Protection of the Population of the Republic of Kazakhstan proposes introducing digital technologies in the recruitment and personnel management processes to minimize bias and increase objectivity. The development and implementation of appropriate technologies can significantly improve gender equality in the workplace.

(4) The authorized body in the labor field should investigate digitalization's impact on gender equality and regularly monitor progress. This will allow the identification of practical strategies and the adjustment of policies following the data obtained.

Digitalization and the use of modern technologies can become powerful tools for achieving gender equality in the labor market of Kazakhstan. It is important to continue to support and develop these initiatives to create a more inclusive and equitable society.

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