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UNDP Project: *"Digital skills and opportunities for youth employment towards digital economy in the Kyrgyz Republic"*

REPORT
on
establishing closer contacts and creating network on Digital Skills mismatch by exchanging of information between public and private sector and between industry and education

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LIST OF ABBRVIATIONS

AI - artificial intelligence

EC - European Commission

NSCKR - National Statistical Committee of the Kyrgyz Republic

EAEU - Eurasian Economic Union

UNDP - United Nations Development Program

SDG - Sustainable Development Goals

ICT - Information and communications technology

DPC - data processing centers

GDP – Gross Domestic Product

SUMMARY

Currently, technological advancements and digital skills of labor force play a critical role in the economic competitiveness of countries. Recent technological advancement has been reshaping the skills demanded by labor market. By 2025, the capabilities of machines and algorithms will be more broadly employed surging demand for workers who can fill roles at the forefront of the data and artificial intelligence economy, as well as new roles in engineering, cloud computing, and e-product development.

In the course of this study, in order to provide possible recommendations to narrow the existing digital skills divide, within the project funded by UNDP in Kyrgyzstan, National Strategies for development of digital skills, previous projects, and existing literature which assessed the digital competency level of population in Kyrgyzstan were reviewed.

As a result of assessment of the current attempts to reduce digital skills mismatch and analysis of international experiences, recommendations are provided, including establishment of digital ecosystem and its components, *systematic program for digital literacy improvement for* all age categories, public-private cooperation and synthesis between governmental policymaking ministries, collection of reliable data and continuous market research, providing academic freedom for education institutions so that they can modify education programs in accordance with labor market's skill demand, and others.

INTRODUCTION: DIGITAL TRANSFORMATION AND SKILL MISMATCH

Skill mismatch is a particular outcome of the complex interplay between skill supply and demand in a labor market that is continuously affected by various factors, including institutional settings, technological progress, demographic changes, market failures, and others[i]. While digital technologies are progressing rapidly, mismatches in digital skills supplied and industry demand pose an ongoing challenge for the future of work. Rapid technological advancements put the population with low or basic digital skills at greater socio-economic risk by exacerbating inequalities and unemployment[ii]. Failing to create targeted measures for addressing labor market needs will widen the skills gap over time as worldwide technological advancement continues. Digital transformation is rapidly driving changes in labour markets in almost every sector, as diverse as agriculture, education, environment, finance, health, trade, transportation, tourism, and the environment, among others, creating an increasing need for countries to develop a digitally skilled population to be competitive and employable in the global society and economy. Skills mismatch is costly for a national economy since such an economy is not able to decrease labor costs, increase productivity, and slow in the adoption of important technological innovation. Technological advancement has been reshaping the skills needed for work. The demand for less advanced skills that can be replaced by technology is decreasing. Recent evidence in developed countries suggests that although technology may replace workers in some jobs, overall, it raises the total demand for labor, particularly for the labor force with advanced digital skills. For example, instead of hiring traditional loan officers, a leading fintech platform created risk management or data analysis jobs to sharpen algorithms for digitized lending. Technological progress leads to the direct creation of jobs in the information technology sector [iii].

By 2025, the capabilities of machines and algorithms will be more broadly employed worldwide than in previous years; in the mid-term, job destruction will most likely

be offset by job growth in the 'jobs of tomorrow'—the surging demand for workers who can fill green economy jobs, roles at the forefront of the data and artificial intelligence (AI) economy, as well as new roles in engineering, cloud computing, and product development[iv].

At the end of 2019, 53.6% of individuals, or 4.1 billion people, used the internet, ranging from 26% in sub-Saharan African to 84% in Europe and Northern America and 87% in Australia and New Zealand. In less developed countries, due to the high cost and lacking digital infrastructure, there were almost no fixed-broadband connections. The leading world countries set goals for the transition to a 'Gigabit society' by 2025. The European Commission (EC) proposed that by 2025 all transport hubs, public service providers, all education institutions, and digital-intensive enterprises should have access to internet with download and upload speeds of 1 Gigabit/second[v]. Mckinsey estimates that by 2030, about 70% of companies will be using one type of AI, but that the first companies to adapt will receive the maximum benefit[vi].

From an economic perspective, as reported by Global 2000 of Forbes, in recent years, the list of top global companies according to market capitalization has included Hitech companies. Although due to the Covid – 19 epidemics, most companies' market values drop considerably, the biggest players in e-commerce—including Amazon, Alibaba and Walmart—have all experienced growth thanks to the rise in online shopping, and Zoom and Slack have also been instant beneficiaries of the new work-from-home realities[vii].

In many developing countries, a large number of workers remain in low-productivity jobs, often in informal sector firms whose access to technology is lacking. In economies with a low digitally skilled population in the last two decades, informality has remained high[viii]. The first half of 2020 has seen an additional, significant, and unexpected disruption to labor markets, with immediate knock-on effects on individuals' livelihoods and household incomes. The COVID-19 pandemic appears to be deepening existing inequalities across labor markets [ix]. It is estimated that 9

out of 10 jobs will require digital skills in the future[x]; consequently, a population with a low level of digital skills will be left out of the digitalized world economy[xi]. The lack of skills to utilize advanced technologies has been one explanation for many developing countries' failure to fully exploit the existing opportunities [xii].

In Kyrgyzstan, despite all the attempts that have been made in recent years, including implementation of projects funded by international donor organizations to increase the level of population's digital knowledge, digitalization of public services, adoption of regulatory documents and concepts by government, there is still a digital divide, compounded by imbalances in access and digital skills, especially between urban and rural areas, and gaps in the availability of accessible and affordable digital services, particularly for people in vulnerable groups: people with disabilities, the elderly, women, and young people[xiii].

The highest demand for advanced digital skills is generated by the communication and information services sectors. The share of people employed in the Information and Communication sector by type of activity is 28.1 thousand people out of 2.38 million employed at the end of 2018. This is about 1.1% of all employed in the Kyrgyz economy, while this indicator in developed countries reaches 4.3% of the total employed population [xiv].

According to the National Statistical Committee (NSC), the contribution of the digital economy to the GDP of Kyrgyzstan is 0.4% of the country's GDP; whereas, the World Bank's report on the prospects for the digital agenda of the Eurasian Economic Union (EAEU) shows that Kyrgyzstan is at a nascent stage in terms of the level of development of the digital economy. Within the EAEU, Kyrgyzstan has the lowest indicators in terms of technology development and the level of a supportive environment for the development of the digital economy.

Moreover, during the outbreak of coronavirus, due to the closure of jobs, thousands of migrants returned to Kyrgyzstan. As it has been witnessed, the Covid-19 lockdown and job cut aggravated the situation in Kyrgyz citizens who are dependent on remittances.

In order to reveal, assess current situation, and provide possible recommendations, for the purpose of this report, within the project funded by UNDP in Kyrgyzstan, National Strategies for development of digital skills, previous projects on digital skill development, and existing literature which assessed the digital competency level of population in Kyrgyzstan were reviewed. Additionally, a round table on the issue of building closer contacts and information exchange between the public and private sectors, as well as between entrepreneurs and educational institutions to close digital skills gaps, was organized with the participation of representatives of the public and private sectors, as well as representatives of non-profit and non-governmental organizations. Finally, based on the issues discussed with representatives of various sectors and findings of previous reports, recommendations for the solution of digital skills mismatch and development were provided.

The structure of the report as follows. Firstly, it discusses the digital skills development policy of Kyrgyzstan. Second, the current level of digital literacy is reviewed, and a mismatch of supply and demand for digital skills is exposed. Third, international experiences of bridging digital skills mismatch were considered, and finally, the recommendations for bridging the gap in supply and demand for digital skills are provided.

DIGITAL SKILLS DEVELOPMENT POLICY OF KYRGYZSTAN

In 2015, Kyrgyzstan, along with other UN member states at the United Nations General Assembly, adopted the 2030 Agenda and seventeen Sustainable Development Goals (SDGs) and took up the subsequent integration of the SDGs into its national strategic processes. The development of digital skills and competencies is an integral part of SDG 4.4.

On December 26, 2016, the Eurasian Economic Union (EAEU) Digital Agenda 2025 was adopted. According to this document, the economic effect of its implementation will increase the GDP of the EAEU by 2025 by about 10.6% of the total expected growth of the aggregate GDP of the member states by 2025. Regarding employment, based on a 30 percent average fixed broadband penetration rate in the EAEU, 2 to 4 million new jobs may be created by 2025, 1 million of which would be in the ICT sector[xv]. In turn, growth in employment in the ICT industry will provide additional growth in total employment by 2.46% by 2025.

In 2017, at the international forum in Bishkek, the Kyrgyz government announced the latest digital transformation initiative called "Taza Koom". This initiative is seen as one of the National Sustainable Development Strategy's key goals until 2040.[xvi] In 2018, Kyrgyzstan adopted the National Sustainable Development Plan 2040, which describes the creation of a digital government as the base of the country's future. In this respect, the five-year "Sanarip Kyrgyzstan" policy has been introduced since 2019.[xvii] The improvement of digital skills and proficiencies amongst the population is one of the most essential areas of the “Sanarip Kyrgyzstan 2019-2023 Digital Transformation”.[xviii]

At the end of 2020, the Acting President of Kyrgyz Republic Talant Mamytov signed a decree on "Urgent measures of the introduction of digital technologies in the public administration of the Kyrgyz Republic". The main goal of the document is the

activation of the implementation of the "Digital Kyrgyzstan 2019-2023" concept for the introduction of innovative approaches to the accounting of goods and services, optimization of public administration, simplification of procedures for obtaining public services for citizens and entrepreneurs and introduction of e-government in the legislative, executive and judicial branches of government.

By 2040, Kyrgyzstan should become a digital hub on the Great Silk Road. A network of data processing centers (DPC) of regional significance will provide ICT services to the entire region. The created digital infrastructure will allow connecting the information and communication spaces of Central Asia, the EAEU, the Middle East, China, and Europe.

A base and a system for training highly qualified specialists will be formed in the country. Regional centers for the implementation of innovations in the digital economy, applied research, and development using "breakthrough" technologies will stimulate the creation of new "smart" jobs. Kyrgyzstanis will be able to work all over the world without leaving the country".

The Strategy for Sustainable Industrial Development of the Kyrgyz Republic for 2019-2023, approved on September 27, 2019, sets one of the goals to expand the high-tech, competitive export industry, ensuring the transition of the national economy from the export of raw materials to the industrial-innovative type of development. The document defines the priority industries for the development of mining and metallurgical industries, energy, food processing, construction, light industry and tourism.

In 2016, the Ministry of Education and Science introduced a "Smart School" program, which calls for improving the proficiency and digital skills of teachers in using IT through the educational process.

Along with the adoption of national programs to improve digitalization, several projects funded by international donor organizations have been implemented, including "Digital CASA Kyrgyz Republic", "Learning for the Future", Sector

Development Program "Skills for Inclusive Growth", Project “Digital Skills and Opportunities for Youth Employment Towards Digital Economy in the Kyrgyz Republic”, and others.

THE CURRENT LEVEL OF DIGITAL LITERACY AND DEMAND OF DIGITAL SKILLS IN THE LABOR MARKET OF KYRGYZSTAN

Despite all the progress that has been made in recent years and implementation of projects in this field, there is a digital divide, compounded by imbalances in access and digital skills, especially between urban and rural areas, and gaps in the availability of accessible and affordable digital services, particularly for people in vulnerable groups: people with disabilities, the elderly, women, and young people[xix]. In general, the level of digital skill of the population remains at the basic level[1] , which provides the very minimal skills needed to use digital devices in a secure manner[xx] and has a very low contribution to value creation.

The national programs adopted to support the development of digital skills, including the Strategy for Sustainable Industrial Development of the Kyrgyz Republic, define the priority industries for the development of mining and metallurgical industries, energy, food processing, construction, light industry and tourism. However, the documents do not specify which technologies and skills are needed to achieve the set priorities in the field of digitalization.

Due to the lack of a sectoral strategy for the modernization of the industrial complex and the implementation of Industry 4.0 robotization systems and data available, there is no analytical information to assess the role of digitalization on these sectors of the Kyrgyz economy and the impact on the formation of demand for digital professions. Overall insufficient technical skills in the population inhibit the involvement of people and companies, and their desire to use the digital economy, digital utilities.

[1] *Basic skills include using e-mail and instant messengers, using a computer and smartphone, creating digital Instagram and Facebook accounts, and security settings.*

Public sector

The government has launched digitization of public services at a relatively good level, and it does not experience problems with the introduction of new technologies; however, the issue that is slowing down the implementation of national digitalization plans are the significantly low level of digital skills of users at all level of government, from high officials to municipal employees. Moreover, despite the introduction of new information systems designed to make life easier for citizens, a certain part of the population is afraid of technology.

The e-governance policy in Kyrgyzstan addresses basic digital capacity development, focused on increasing IT staff (currently 2%, about 1/10 of what is usual in other countries), its retention rate (by improving salaries, presently at 20-35% of private-sector level) and general IT training. The common problem for vast majority of government officials is that their ICT skills are very limited and basic that do not even allow them to run their office PCs without help of IT experts[xxi].

Digitalization of provision of public goods and services lead to collection data, however, currently there is the lack of specialists with the skills to analyze big data. In this regard, there is a demand for data scientists and implementation of data analytics using information technology in order to use the available data for rational policy development in public sector.

Private sector

Priority sectors of the economy such as mining, hydropower, and the service sector, which are the main generators of GDP and employment in Kyrgyzstan require, on

average, confident intermediate skills[2]; but specialists with advanced digital skills[3] are also required for deep digital transformation of industries.

In the private sector, many entrepreneurs do not have an understanding of the role of information technology in expansion of business operations and do not have relevant skills. In this regard, it is necessary to pay attention to training entrepreneurs with these skills.

Digital transformation in traditional sectors of the economy such as industrial production, tourism, agriculture, light industry and construction that can be achieved through the development of digital commerce and access to digital financial services through improved policies and regulatory mechanisms demands more IT specialists with intermediate and advanced digital skills, and requires digital literacy of entrepreneurs. The current slow pace of new technology introduction in the private sector is associated with the low level of fund allocation[xxii] , which means the reluctance of firm owners originated from their low level of digital literacy.

For instance, agriculture is a crucial sector of the economy, which employs the largest part of the country's working-age population. Digital development of this industry has been enforcing Kyrgyzstan to consider the development and implementation of digital technologies in the agricultural sector, aimed at advanced development, which will significantly affect productivity and growth through digitalization, the introduction of digital innovations and the latest technologies based on collection, transmission, and analysis of data.

In order to achieve the EAEU-2025 indicators, Kyrgyzstan needs to bring the share of the digital economy's contribution to 2.4%, six times more than the current level

[2] *Ability to use ICTs to digitize current business practices or use digital networks, automated systems, apps, and mobile applications to conduct processes, to use social networks to advertise products and services, the use of graphics editors to create digital design, office applications for presentation, text and spreadsheets for office applications, and mobile apps.*

[3] *Advanced level includes skills needed to develop creative ICT-based solutions including programming and the use of emerging technology*

of development, which requires at least double employment in the ICT sector and bring it to the level of 56 thousand people by 2025.

Education sector as digital skills training channels in Kyrgyzstan

At the World Economic Forum in Davos (2016), it was noted that in the near future 60% of students would be forced to master completely new professions, including robotics, biotechnology, information technologies, new areas of the economy, nanotechnology, and others. The transition to a knowledge economy demands a workforce with highly developed digital skills, as well as, for example, complex-problem-solving ability, adaptability, and communications know-how. Meanwhile, the number of professions is growing rapidly, many having emerged in the past 10 to 15 years, bringing deeper specialization and new, independent areas of knowledge. As a result, certain technical skills become obsolete in two to five years—faster than the average training period for a highly-skilled professional.

Today, the knowledge obtained at higher professional education does not meet the basic needs of the labor market. In Kyrgyzstan, neither a preliminary forecast, nor a plan has not been developed to determine which specialists and in what quantity will be needed in the near future and in the long-run. 70% of the curriculum consists of subjects required by the government, which inevitably leads to conservatism—creative approaches are not welcomed, and the overwhelming majority of teaching is carried out using outdated traditional methods. Lecturers also use information that has long been outdated. Since universities are not given academic freedom, students have limited opportunities for self-choice. State-run universities in Kyrgyzstan have little access to new innovative technology, software, and technological equipment, restricting the country's ability to develop advanced innovations. The products of universities, graduates, are not trained to think critically nor search for information on their own; thus, they are not able to manage crises, nor give or receive. As a result, graduates do not have basic competencies. Until now, the analysis, assessment, and rating of the activities of higher educational institutions is not fully used, there are

practically no internationally accredited higher educational institutions in Kyrgyzstan. The functions of universities are not defined in accordance with modern requirements, including education, research, and product innovation.

In Kyrgyzstan, officially, it is reported that 99% of schools are supplied with an internet connection. However, the quality of the connection remains at a low level, insufficient even for students to use it in computer science lessons. According to official open data, only 61% of schools have broadband or cable Internet using Metro Ethernet or ADSL technologies. Others use mobile modems to provide mobile internet for a limited number of computers. The type of mobile connection in many regional schools is provided at 3G speed sufficient only for administrative purposes of schools, but not for educational use.

In general, the level of IT adaptation remains at a basic level. Until 2016, the curriculum included informatics lessons taught only in grades 8-9 according to the educational standards developed during the Soviet Union. Students were taught the basics of using computers, as well as the basics of outdated programs. Since 2016, significant transformations have been taking place; computer science lessons as a separate subject are taught from the sixth grade; however, technical supply is not sufficient.

As a result of the review and assessment of the current situation of digital skills development in Kyrgyzstan, the following concluding points are derived:

First, the overall ecosystem of digital skills and its components have not been established. There is a lack of systemic programs of digital literacy improvement. Even the implementation of some ICT related programs is delegated to various state-owned enterprises, which often lack coordination between each other.

Second, the lack of data impedes the accurate of assessment of digital competency in the country. Therefore, no detailed forecast available on ICT labor market demand with focus on professions and qualifications at national level. Although unemployment can be thought of as a form of mismatch in comparatively developed

countries, there are many reasons for unemployment not linked to skills issues, including economic slowdown and weak aggregate demand in Kyrgyzstan. Consequently, in order to create a suitable model of the ecosystem, data-driven solutions are required.

Third, due to the lack of reliable data or reports about the digital literacy of population or particular groups in Kyrgyzstan as monitoring of this area, no suitable capacity building programs have been worked out.

Fourth, the level of digitalization in the public sector is very low, and most of the public services are operated manually due to the low level of digital literacy of employees in the public sector.

Fifth, there is no synthesis between public and private sectors, education system and business environment, which the important driver of skill mismatch. Due to the mismatch between the curriculum taught at education institutes and the requirements of the real sector, the graduates of educational institutes are not able to work.

RECOMMENDATIONS FOR BRIDGING DIGITAL GAP

Bridging the skills gap will require various approaches, from improving recruiting practices to upskilling and reskilling employee skills. Therefore, it is crucial to measure the skills gap of the existing workforce and then invest heavily in closing it[xxiii]. Parallelly, consistency between the labor market and the professional choices made by students is also required. This may be achieved by supporting more direct contact between schools and students on the one hand and the stakeholders, including employers, government, and other social partners on the other.

Matching skills to labor market demand has been gaining attention among policymakers of almost all countries in the world. The 'one size fits all' approach of transferring entire policies or measures are very rarely useful, since labor market characteristics, education system, culture, national policy, and other contextual conditions affect the effectiveness of policy measures. However, policy learning can be important mechanism in assisting government make rational choices when introducing and applying new instruments targeting skill mismatch. In the following section, skill mismatch policy instruments of other countries that could reach relatively successful outcomes are systematically reviewed.

International experience in bridging the digital gap

Estonia

The main keys to the success of the Estonian e-revolution have been private-public cooperation and reciprocity. The government has backed e-Estonia since the launch of the program in the early 1990s; on the other side, the private sector, academic institutions, and citizens all have cooperated to realize the initiative. Moreover, the government has gained the citizens' confidence, who in turn allowed access to their personal data. The first project of the initiative was to bridge the digital divide in the

country by providing free digital skill training for 10 % of the adult population, teach children computer programming starting at age seven. Implementing this project, Estonia made a huge jump; in 2000, only 28,6 % of the population used internet, whereas, in 2016 91, 4 % of the population was connected[xxiv].

Estonian *occupational qualification standards* program introduced a standardized process to improve the design of curricula and training programs and to ease the comprehensive assessment of competencies. The efficiency of Estonian company recruitment and vocational guidance and counseling for young people improved as a result. The standards also facilitated an international comparison of qualifications provided in Estonia.

The vocational reintegration programme for early school leavers program aimed to reintegrate early from the vocational system into education. The instrument is mainly a course programme which, for example, provides additional study places in the VET schools for the target group.

The career guidance and counselling system in general and vocational schools were provided in regional centers, supported by ICT applications. Cooperation and information exchange between institutions dealing with education, training, youth work and the labour market was strengthened.

Work practice (internship) schemes assisted to improve the skills and competencies of unemployed young people to help them find stable employment. This programme is well suited to reducing skill mismatch by allowing employers to train potential employees in line with specific company needs, and to provide youth with a first period of work experience.

Hungary

'Step one ahead' program in Hungary gives uneducated or undereducated individuals in occupations requiring low skills the opportunity to raise their skill level through training for specific occupations. The purpose of such training is to

attain stable employment, where possible in fields where skill shortages exist. The instrument combined completing elementary and/or secondary school studies, leading to a school certificate, with learning for a vocational qualification: this mixes upskilling in general skills with vocational skills training. By responding to labour market needs, the instrument concentrated on so-called 'missing vocations' for which shortages exist or are foreseen in the near future. A key element of the approach was to use active labour market tools instead of direct financial aid.

Training combined practical training and theoretical learning, tailored to individual capacities. Stakeholders attribute the low dropout rate (around 5%) to this personalised approach. Around 60% held jobs matching their skills after completing training.

Recommendation for bridging digital gap in Kyrgyzstan

In order to decrease the digital divide in Kyrgyzstan, firstly, the *overall digital ecosystem* and its components are recommended to be established. Additionally, a *systematic program for digital literacy improvement* is required to be developed. To do so, a matrix of digital skills for all age categories and life stages for the subsequent development of requirements for each group, the formation of teaching methods, and assessment of the cross-section of knowledge is required.

The development of different levels of integrated digital competencies for entire education serves as the most rational solution. For instance, it should be certain when a child completes kindergarten what digital skills at what level and parameters a given child should have; after primary and secondary education what digital skills at what level and parameters a student should possess. Similarly, in higher education, depending on the major, what digital skills a graduate should have. Each major must have its own digital skills level and assessment instruments. Such a pattern could be projected onto the entire educational process. Further, in postgraduate education, doctoral studies require research skills and knowledge of technology to conduct

analysis and research. The adult population's digital skill knowledge which is necessary for them to integrate with society and use new information technologies should be identified. Additionally, these competencies should be integrated into government education standards in all levels. Based on standards, the programs of IT related subjects are required to be revised and implemented in education process of students. It certainly requires the provision of trainings to teachers and school administrators because they are the main actors in skills development work. The Ministry of education and science of the Kyrgyz Republic together with the Institute for advanced training of teachers should develop courses for teachers and put precise indicators in certification requirements.

Second, public-private cooperation and synthesis between governmental policymaking ministries are required. Currently, there is no synthesis between public and private sectors, education system and business environment, which is an important driver of skill mismatch. To narrow the gap, ministries that are responsible for labor market regulation, for instance, in terms of Ministry of Economy, Ministry of Labor and Social Development, and Ministry of Education and Science, as a responsible government body for qualification of future employees are required to function in cooperation to anticipate the skill mismatch and unemployment in the economy.

Third, to reach the cooperation mentioned above, in order to analyze and assess the supply and demand of skills, the existence of available and reliable data is an important factor. Therefore, continuous data collection and labor market research should be provided.

Fourth, massive training of digital skills for the adult population and public sector employees can be considered as one of solution ways, since they are the main users of digital products and services. A reorganization of the work of public libraries to computer rooms with high-speed Internet, wi-fi zones and conducting trainings together with volunteers, students or even via Zoom platform may serve as a possible

way of implementation of massive digital trainings. It is necessary to provide the opportunities and equipment to the public because there are many areas in Kyrgyzstan where computer and Internet is still perceived as luxuriousness.

Fifth, more academic freedom is required for universities and vocational schools to train more qualified professionals, including in ICT / IT, to meet labor market demands, which also leads to university-employer participation in the preparation of employees. Moreover, it is considered necessary to create a Technological Business Incubator on the basis of higher education institutions to initiate and support business start-ups. As it is widely known, the business incubator will create favorable conditions for obtaining starting knowledge in business, developing the skills of students in the development and promotion of their own innovative projects through communication with successful representatives of the IT sphere.

Sixth, support higher education institutions and vocational schools in access to international platforms as Coursera, Oracle, and others is required, so that students can learn their preferable skills that are out of education curricula and get certificated. Additionally, these resources should be translated into local languages (Kyrgyz, Russian or Uzbek) to make them more affordable to the regional audience. 70% of the Kyrgyz population live in rural areas and mostly speak in Kyrgyz, so the content provided should be localized and available for them.

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