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The Report on Jizzakh Polytechnic Institute preparedness for future challenges

Jizzakh Polytechnic Institute, Uzbekistan

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Introduction

This Report on HEI preparedness for future challenges at **Jizzakh polytechnic institute (JizPI)** serves as a basic document for further work on the project “Triggering innovative approaches, entrepreneurial skills and attitudes in HEI learners through creating the favourable conditions for graduate’s employability in Central Asia” (TRIGGER) outputs preparation. The assessment is based on the HE Innovate tool - a free self-assessment tool for all types of HEIs, which is an initiative of the European Commission, DG Education and Culture and the OECD LEED Forum. Generally, it is intended for HEIs which are interested in assessing themselves against a number of statements related to the entrepreneurial and innovative nature of their higher education environment.

The Report provides the first practical inside to eight areas:

1. Leadership and Governance
2. Organizational Capacity: Funding, People and Incentives
3. Entrepreneurial Teaching and Learning
4. Preparing and Supporting Entrepreneurs
5. Digital Transformation and Capability
6. Knowledge Exchange and Collaboration
7. The Internationalised Institution
8. Measuring Impact

Through the HE Innovate tool, the strengths and the weaknesses of HEI are identified and suggestions for strong support to overcome the weaknesses are prepared.

The self-assessment of HEI was carried out from April to November 2021. The respondents included top management staff of the university, teachers, researchers, and professional and support staff. Altogether 78 respondents used the HE Innovate tool.

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1. **Jizzakh Polytechnic Institute in a glance**

Jizzakh Polytechnic Institute was established in 1992 by the Decree of the President of the Republic of Uzbekistan on the basis of the Jizzakh branch of the Tashkent Institute of Architecture and Civil Engineering. The Institute consists of seven (7) faculties: Transport; Architecture and construction; Engineering and building materials; Industrial technologies; Chemical technologies; Power engineering and radio electronics and Service. Currently, Jizzakh Polytechnic Institute employs 450 academic and non-academic staff.

Over the years, the Institute has provided many of the leading sectors of the national economy of the Republic of Uzbekistan with highly qualified specialists with bachelor's and master's degrees in such areas as industry, transport, construction, agriculture, economy, electricity and chemical technology. Currently, 8377 students are pursuing BA, MA and PhD degrees whereas more than 35000 students have already graduated from the Jizzakh Polytechnic Institute.

On 29th of June,2012 the decision of the Cabinet of Ministers of the Republic "on improving the activities of the Jizzakh Polytechnic Institute" determined the bright future of the Institute. Until 2016 the Institute carried out extensive work in all areas. In particular, there were wide opportunities for accelerated development of science, education and technology. The adoption of the resolution of June 29, 2012 left an indelible page in the history of the Institute and caused significant positive changes to accommodate the needs of the faculty and its students (modern laboratory equipment, photovoltaic stations and wind power generators, engine running parts, funding for new courses etc.) What is more, in 2012-2014, our Institute built world-standard walk-in closets, washrooms, and sports facilities, including artificial turf fields, a gym, and other sports facilities-something that could only have been dreamed of in the recent past. Our Institute is known not only as a talented athlete, but also as an institution where major tournaments are held.

Additionally, JizPi has collaborated with foreign universities in international programs to design and develop disciplines and curricula. In particular, practical and laboratory classes in 5 disciplines were designed in collaboration with the Royal Swedish University within the international Tempus program, which includes 1 billion 200 euros, of which 100 thousand euros belongs to the Jizzakh Polytechnic Institute. Additionally, together with the University of Birmingham in England, 680,000 euros were allocated for the development of curricula on "roads and motorways and directions". This laboratory mainly conducts laboratory work on the design of modern automotive parts, as well as students perform coursework using computer technology.

Jizzakh region is located in the centre of the Republic of Uzbekistan and near such large cities as Tashkent and Samarkand, as well as borders with the Republics of Kazakhstan and Tajikistan, which predetermines its geographic and logistical potential and gives our region logistics advantages for the export of goods and services. There are two free economic zones "Jizzakh" and "Zomin Farm" and small industrial zones where the participants enjoy special tax privileges and preferences.
In the greater Jizzakh region currently operate 82 enterprises with foreign investments from the United States, China, Russia, Turkey, the United Arab Emirates and other countries.

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2. University organisation and management

Human Resources

The rector of Rector of Jizzakh Polytechnic Institute is the Head of the University. There are 5 Vice-rectors: the Vice-Rector for youth issues and spiritual and educational affairs, the Vice-Rector in academic affairs, Vice-rector for scientific work, Vice-rector for financial and economic affairs, Vice-rector for international cooperation. Additionally, there are 5 councils in the JizPi: EDU board, Trusteeship Council, Council of Young Scientists, Women's Council and the Scientific Council.

The Jizzakh Polytechnic Institute employs 450 people as academic staff, 380 as non-academic staff whereas 100 people are employed as scientific/research staff.

In last years, the quantitative and qualitative composition of the teaching staff has been strengthened. The share of the teaching staff with academic degrees and titles is 31,5%: 26 - doctors of sciences, 106 - candidates of sciences, PhD. Overall, teachers under the age of 39 represent the 36%. More than 80 foreign professors are attracted annually to deliver lectures, to guide the scientific work of doctoral students. Most of them represent the world's leading universities in the top 500 in the rankings.

Budget of the University

The total budget of the Jizzakh Polytechnic Institute for the 221-2022 academic year is **5 534 000** euros.
From the private sector (more than 10 private companies) **3 011 000** euro
From Public Sector **1 864** 000 euro
For Research Activities **659** 000 euro

JizPi Ranking

JizPI ranked on the National system of ranking under the Ministry of Higher education of Uzbekistan (www.tdi.uz) -31st rank.

Type of Institution

Jizzakh Polytechnic Institute is a public institution.

Quality Assurance

JizPI is certified for Quality Assurance. State Inspectorate for Supervision of the Quality in Education under the Cabinet of Ministers of the Republic of Uzbekistan certifies for Quality Assurance every 5 years.

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The training for service providers/technical staff

Institute regularly organizes every quarter training for all staff such as regular trainings on the topic of the impact of the use of alternative energy sources on the economy and etc. In the last 2 years, 5-6% of JizPi staff attended trainings and internships abroad.

Marketing and Communication

The institute has a marketing a communication office which is responsible for the following activities:

- Ensuring the execution of decisions of the Board of Orders of the Ministry of Higher and Secondary Special Education of the Republic of Uzbekistan, as well as orders of the university and decisions of the Council within the period specified in the section, control and determination of appropriate measures;
- Forming a database based on the study of the needs of enterprises, institutions and organizations for highly educated personnel being trained at a higher educational institution;
- Systematically analyses and evaluates the processes of employment of graduates of higher educational institutions, directs the activities of the higher educational institution to meet the real needs of personnel of institutions, enterprises and organizations in the area where the higher educational institution is located;
- Taking into account the rapid change of the processes of marketing service in the higher education system and the interrelationship with the dynamics of the labour market development, in cooperation with potential employers (consumers), to study the need for highly educated young professionals in the branches and sectors of the republic's economy by regions;
- During the process of personnel training, discussing the requirements of customers regarding the quality of personnel in the council of the higher education institution, organizing the advertising of graduates through television, radio, newspapers and other mass media;
- Studying the labor market situation, formulating proposals for admission parameters based on the orders of consumers for graduates, submitting documents to the Ministry of Higher and Secondary Special Education in a timely manner on the organization of the database of the higher education institution on admission, student contingent, and referral of graduates to work.

Internal Communication

The Head of the internal department is responsible for the internal communication for the Jizzakh Polytechnic Institute.

The main responsibilities of this office are:

- Analysing the educational trends and specialties of state education standards (SES), qualification requirements, curricula, work plans and science programs;
- Studying the quality of the educational process, the availability of textbooks and teaching materials in JIZPI;
- Assessing the objectivity, transparency and quality of points by analysing students' knowledge assessment process;

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- Additionally, selectively carry out work on monitoring the assessment of students' knowledge (this does not affect the assessment), the analysis of the data obtained, the organization of determining the factors affecting the quality of education;
- Analysis of classes for each discipline and provide information to the rector JIZPI;

External & International Communication

The Department of International Relations is responsible for the external and international communication. The department's activities are aimed at solving the following tasks:

- Interaction with foreign universities, embassies, international organizations, associations in order to develop international cooperation, including measures to establish and develop international partnerships, organizational support and monitoring of the implementation of agreements, participation of representatives of JIZPI in events of partner organizations;
- Interaction with faculties and structural divisions of JIZPI on the development of international cooperation with foreign partners;
- Information, analytical and organizational support for international activities and institutional participation of JIZPI in international network organizations, programs and projects in the field of higher education;
- Organization of work of the Council of International Relations of JIZPI

Website of the JizPi

The Jizzakh Polytechnic Institute has a website (https://jizpi.uz/en/) available in Uzbek, Russian and English. Even though the website is detailed and its design is attractive, it needs further improvement regarding the structure of information that it contains. Some information must be updated on a weekly basis. The university team responsible for the website is working to make the website useful and clear for users.

Social Networks

To promote the activities of the Institute, JizPi is active in several social networks such as: Facebook (https://www.facebook.com/jizpi/), an account which has 1,600 followers, Twitter https://twitter.com/jizpiuz, Telegram https://t.me/s/JizPI_online 6800 followers.

The printed/electronic versions of brochures, guides, etc.

The institute and all faculties have printed brochures to share information to all interested parties. In the website of the Institute, there is a video showing the life in the Jizzakh Polytechnic Institute as well as a newspaper of the JizPi “Yoshlar ovozi”.

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The merchandise for sale on campus.

There is not any merchandise and shop in campus but in the near future there are plans to open such kind of markets and shops in the area of institute.

The Activities with marketing and communication impact

As it was mentioned above, the priorities of the Department of Marketing and The Department of International Relations have changed in the last months. They have been engaged in more interactive and student-oriented activities as follows.

- It established the social networking channels like Telegram, WhatsApp and etc of the institute, which have almost 600 followers and makes possible direct communication between the Rector and the population of the region.
- The institute participates in international exhibitions aimed at the employment of institute graduates.
- Every year, graduates are selected for industrial companies in the industry based on an interview.

3. Education

Total number of students in JizPI

Currently, 8377 students are pursuing BA, MA and PhD degrees whereas more than 35000 students have already graduated from the Jizzakh Polytechnic Institute. The number of Bachelor degree students is 8173 (13 of students are International Students), Master students are 204 and PhD students are 20.

Total Number of study programs

There are 50 study programs at Jizzakh Polytechnic Institute from which 29 are Bachelor, 12 are Master and 9 in PhD (there are 7 double degree programs in Bachelor and 1 in Master)

Mobility indicators

	Incoming	Outgoing
Number of students	6	98
Number of teachers/professors	6	30
Number of non-academic staff	2	3
Number of international student traineeships	0	3

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Offer of free online courses/ MOOCs

As an institute, because of COVID-19 we offered online courses to students for all the subjects in the form of MOOC, using a Moodle platform (**http://moodle.jizpi.uz/**). Also **www.hemis.jizpi.uz** offered free online courses such as Marketing, Management, Tax and Taxation, Business fundamentals, Entrepreneurship and small business, foreign investment and etc.

Offer of new pedagogical models (ICT/E-learning/Distance Learning) for students.

To all students available of distance learning due to COVID-19.

Alumni Network

Each department has a telegram network for alumni. Also, each department has a responsible person who is working with alumni.

Database of companies and other institutions interested in education provision and or taking interns.

The Institute has created a database of companies located in the free economic zone of the Jizzakh region and other enterprises located in the city. The companies that are registered in the database have shown over the recent years strong commitment in receiving interns from the Jizzakh Polytechnic University.

4. Research and innovation

Scientific publications in numbers

During the last 2 years, the scientific articles published by researchers employed at the institution are **more than 110 Scopus articles.**

What is more, JizPi academic staff published **650 high impact factor journal articles** as well as **580 national articles**. The Jizzakh Polytechnic Institute has also publishes 1scientific journal-Bulletin.

Highly cited papers: 5

Percentage of international collaboration publications is 10%.

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Research projects

JizPI has developed 24 national projects with international collaboration financed by the Republic of Uzbekistan, with total budget of 14 million euros. It has also developed 4 international projects with international collaboration which total budget of 2 851 811 euros. These are:

1) TRIGGER:617309-EPP-1-2020-1-SK-EPPKA2-CBHE-JP “Triggering innovative approaches and entrepreneurial skills for students through creating conditions for graduate’s employability in Central Asia”
2) REILEAP: 618930-EPP-1-2020-1-EL-EPPKA2-CBHE-JP “Reinforcing Capacities of HEIs for leather and leather products in Uzbekistan-Kazakhstan”
3) INTRAS Project: 586292-EPP-1-2017-1-PL-EPPKA2-CBHE-JP Intelligent Transport Systems: New ICT-based Master’s Curricula for Uzbekistan
4) World bank grant.

Research funding

Research funding between the years of 2016 and 2020 came from the state budget and represented 550 000 euros, whereas from the private sector (local and foreign companies such as Jizzax Battery LLC, Jizzax ADM and etc.) accounted for 935 000 euros. There have not been any research activities funded by European Union, however, the staff of the Faculty of Serves has long educational and research relationships with India, the Czech Republic and China, France and Spain. Research funding between 2016 and 2020 from international funds was calculated about 102 000 euros.

Research fellowships (incoming and outgoing mobilities)

For the entire period, the institute welcomed 6 Fulbright specialist from the USA, two specialists from Turkey, and one Master’s student for a one-month internship from Istanbul University (Turkey), two Indian specialists within the ITEC program. All those specialists were mostly engaged in technical subjects. JizPI has not received any incoming mobility students from other countries so far for a semester or more.

One of the JizPI student´s is studying at Czech Technical University within the Erasmus+ International Credit Mobility Program as well as one employee of the university is pursuing his PhD in Czech Technical University within the fund “El-yurt Umidi” (Uzbekistan).

Patents

In 2021, 33 new patents were registered by "UZSTANDARD" – the agency for standardization, metrology and certification, but none of them is internationally recognized. The university specialists and researchers obtain 3-4 new patents yearly, especially in Electricity Engineering, Mechanical Engineering, and Construction.

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5. International cooperation and internationalisation

The bilateral/multilateral international agreements:

JizPI has signed about 60 agreements with foreign partners since 2014, including: a Memorandum of Understanding, Agreements of Cooperation, and Joint Degree Agreements. The institute itself actively seeks international partnerships and experiences, creates innovative programming and delivery methods, and embraces the internationalization movement without joining any international network or global consortium of higher education institutions and JizPI has 40 Foreign university partners.

The university has not offered any grants for international students but has lowered the cost of study 2-3 times compared to other universities in Uzbekistan which makes the university easily accessible for people in need from neighbouring countries. However, in 2021 special grants were provided only for citizens of Afghanistan based on the special agreement between Uzbekistan and Afghanistan. Other types of scholarships for international students are not available as there are no institutional, regional, national, or international funding sources.

International affairs in the Managing Board

The Managing Board of JizPI on International affairs includes the Vice-Rector of International Cooperation and the Head of International Relations Office. They are in charge of shaping the international image of the university and establishing international relations with partner organizations.

Regarding international activities, the institute applies bidirectional planning, which is a combination of top-down and bottom-up approaches. That is to say, the institute administration mostly takes initiative to build and strengthen international partnerships, and it is open to receiving any offers made by students and teachers. Moreover, the Ministry also keeps close guidance regarding the international activities of the institute. Copies of the international agreements, contracts with international students, and all related information should be presented to the Ministry of Higher and Secondary Special Education. Internal communication within the institute is conducted in local languages. The service providers are also learning English to serve the international hosts professionally.

The newspaper “Yoshlar ovozi” comes out once per month with a circulation of 5000 copies per year. The newspaper gives information on the latest news, highlights campus activities, and demonstrates some poems, writings and publications of the students and staff.

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Grading System

The transparent grading system at universities and for the whole republic is regulated by the Charter by the Ministry of Higher and Secondary Special Education on the system of monitoring and evaluating students' knowledge in higher education institutions. (https://lex.uz/uz/docs/3916793?otherlang=1)

<table>
<tr><th colspan="8">UZBEKISTAN GRADE SYSTEM</th></tr>
<tr><th>Grades in all Uzbek HEIs</th><th>Russian Grade System</th><th>ECTS — European Credit Transfer System</th><th>USA Grade System (A- F)</th><th>GB grade system (%)</th><th>Japan grade system (%)</th><th>Korean grade system (%)</th><th>Uzbek grades in Percentage (%)</th></tr>
<tr><td rowspan="3">«5»</td><td rowspan="3">«5»</td><td rowspan="3">«A»</td><td>«A+»</td><td rowspan="2">70 — 100</td><td rowspan="3">80 — 100</td><td rowspan="3">90 — 100</td><td rowspan="3">90 — 100</td></tr>
<tr><td>«A»</td></tr>
<tr><td>«A-»</td><td>65 — 69</td></tr>
<tr><td rowspan="3">«4»</td><td rowspan="3">«4»</td><td>«B»</td><td>«B+»</td><td>60 — 64</td><td rowspan="3">70 — 79</td><td rowspan="3">80 — 89</td><td rowspan="3">70 — 89,9</td></tr>
<tr><td rowspan="2">«C»</td><td>«B»</td><td rowspan="2">50 — 59</td></tr>
<tr><td>«B-»</td></tr>
<tr><td rowspan="6">«3»</td><td rowspan="6">«3»</td><td>«D»</td><td>«C+»</td><td>45 — 49</td><td rowspan="6">60 — 69</td><td rowspan="3">70 — 79</td><td rowspan="6">60 — 69,9</td></tr>
<tr><td rowspan="5">«E»</td><td>«C»</td><td rowspan="5">40 — 44</td></tr>
<tr><td>«C-»</td></tr>
<tr><td>«D+»</td><td rowspan="3">60 — 69</td></tr>
<tr><td>«D»</td></tr>
<tr><td>«D-»</td></tr>
<tr><td rowspan="2">«2»</td><td rowspan="2">«2»</td><td>«FX»</td><td rowspan="2">«F»</td><td rowspan="2">0 — 39</td><td rowspan="2">0 — 59</td><td rowspan="2">0 — 59</td><td rowspan="2">0 — 59,9</td></tr>
<tr><td>«F»</td></tr>
</table>

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6. Informatisation

The institute has an electronic platform called HEMIS (https://hemis.jizpi.uz/). This universal platform includes numerous functions that cover many areas of students learning and the institute staff's activities. The platform enables students to get information about tuition fees and payment, curriculum and schedule of classes, level of course completion, and obtained credits and also it is possible to download the contract form for financial procedures with the help of this system. The lecturers will be able to get the following information: the timetables of classes; midterm exams and final exams; students' attendance in classes. The institute staff will be able to get the following information: personal and educational background of students and lecturers; timetables of classes for all students and academic staff; student attendance; workload (occupancy) of lecture rooms and halls; the implementation of the teaching load of lecturers; the information about the scientific work (published books and textbooks, articles, participated project and etc.)

Besides the HEMIS platform, the university has an official website (www.jizpi.uz) and a Telegram channel (https://t.me/s/JizPI_online) that has about 6800 subscribers. There are students and institute staff able to get a wide range of information.

Above mentioned HEMIS universal platform (system) also has academic (educational) components which include:

- Course resources (the soft versions of lecture texts, PowerPoint versions, course plan and relevant literature)
- The course tasks (tests, self-education topics and assignments)
- This platform also includes students' graduation system (educational monitoring and midterm exams);

JizPI is connected to the Unified national system of Labour under the Ministry of Employment and Labor Relations of the Republic of Uzbekistan (https://my.mehnat.uz/login). JizPI's HR office managers can get information about the institute personnel by logging into the system which includes staff's personal information, educational background and work experience.

In the period review, JizPI had no strategic plan for internationalization, but in 2021-2022, because it became an economically independent institute, a special strategic plan was developed. In this strategic plan of the Institute, the term "internationalization" is not recognized and is not officially recognized as strategically important, but the development of international cooperation is noted as one of the four main directions for 2022 – 2030.

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During 2015-2020 the academic staff was not required any certain English level. However, according to Presidential decree No. PD-5117, from 19th of May 2021 and the Cabinet of Ministries decree No. 312 from 19th of May 2021 all academic staff of HEIs must have at least B2 level in any foreign languages until the 1st September of 2023. Language teachers are required to have a C1 level in foreign languages of their specialty. Moreover, the applicants for all Master's degrees are required to have foreign language certificates in order to apply for their documents.

The position of Vice-Rector of International Cooperation was opened at the institute in 2021. As the number of international students and international partners increased, and dual degree programs started, the institute experienced formal restructuring in early 2021.

Guidance on the criteria for conducting international relations and signing protocols are developed by the International Department of the Ministry of Higher and Secondary Specialized Education of the Republic of Uzbekistan. Based on these recommendations and criteria, the staff collaborate with foreign partners. In some individual cases, this scheme may work differently: the institute itself decides on what criteria to choose for foreign partners or develops recommendations itself and only then coordinates it with the Ministry.

Official documents at the institute are drawn up in the Uzbek, Russian, and English languages. The application form for admission to the institute is issued in 3 languages: English, Russian, and Uzbek. Transcription of diplomas and diploma supplements are issued in English and Uzbek only. The institute strategic plan and the internationalization plan are issued only in the Uzbek language. The most asked questions are issued only in English and Uzbek.

The most important improvement for the institute internationalization model will be having independent staff-coordinators for specific purposes (international students and visa processes; international and national grants; joint-dual degree program coordinators).

The main internationalization activities that JizPi focuses at:

- Student mobility
- Academic staff mobility
- International traineeship
- Participation in international university networks
- Strategic partnerships
- Study programs in English
- Study programs in other foreign languages
- International research activities

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Currently, JizPi does not offer any summer schools or short training courses in English or other foreign language.

ICT/E-learning/Distance Learning courses

JizPI also offers Moodle Distance Learning system for international students. The students have access to a multinational work environment during their academic path. Based on the agreement of cooperation with German and Turkish or Chinese companies and institutions, the students have spent their certain periods abroad doing job shadowing and internships, which are very important to take experience on their own field it takes from 2 months to 6 months.

International Promotion

JizPI's website is available in three languages such as Uzbek, Russian, and English.

The Vice Rector of International Cooperation and the International Relations Office are mainly responsible for the international promotion of the institute. At the same time, all other departments of the administration closely help with related areas to increase the internationalization of the institute. However, the institute does not have any international program to encourage international visibility.

From 2016, JizPI participated in more than 5 international fairs, 10 staff weeks and 5 international days organized by the institute partners mostly in Russia, Turkey, Kazakhstan and Tajikistan.

Electronic versions of the institute brochures and guides are available in English, Russian and Uzbek languages.

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Self- assessment of dimensions based on HEINNOVATE

Altogether 76 respondents took part in the survey by following positions:

Name of the position	Respondents	in %
Academic position (Professor/ lecturer, researcher)	31	41
Academic position (Professor/lecturer, researcher), Professional		
and support staff (e.g., career consultants / technology transfer	1	1
office / Administrative support office)		
Academic position (Professor/lecturer, researcher), Professional		
and support staff (e.g. career Advisors / Technology Transfer	5	7
Office / Administrative office)		
Senior Management position (Rector/Chancellor, Vice-rector/		
Vice-Chancellor, Dean, Vice-Dean), Academic position (Professor	17	22
/ Lecturer, Researcher)		
Teacher involved in entrepreneurial education	13	17
Professional and support staff (e.g., career Advisors / Technology	9	12
Transfer Office / Administrative office)		
Total	76	100

DIMENSION: Leadership and Governance

In this direction, respondents believe that the institution intends to carry out entrepreneurial activities to support its strategic goals, and it is necessary to have key resources to maintain and develop of its entrepreneurial abilities. At the institution, entrepreneurial goals are supported, and there is a potential and culture for building new relationships and interaction throughout the organization.

To develop this direction, the institution should give the power the following measures:

1. Formulate the mission and develop a strategy setting out the entrepreneurial vision for the future of the institution
2. Coordinate activities with other stakeholders within the local entrepreneurship ecosystem
3. Explain how the business strategy is regularly reviewed and refined to keep it up to date;
4. Develop a strategy that emphasizes the importance of entrepreneurship in the cultural, social and economic terms;
5. Create a clear plan for the implementation of its strategy and vision with clear objectives and key performance indicators.

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DIMENSION: Organisational Capacity: Funding, People and Incentives

For this section, the average response score was 3.83 points, which is quite a high indicator so entrepreneurial teaching and training provide an opportunity to get acquainted with the entrepreneurial experience and acquire skills and competencies for the development of entrepreneurial thinking.

The institution provides a number of learning opportunities that promote innovative teaching and training. The University conducts a number of activities to encourage the use of various innovative approaches in teaching. The institution has an institute that promotes additional non-formal education.

5 measures that should be taken by JIZPI:

1. Strive for a balanced and diversified range of funding sources and investments, including non-cash contributions;
2. Regularly assess the progress of employees in achieving these goal;
3. Reinvest income from own research, training and other activities (self-financing);
4. Promote the objects sharing at faculties;
5. Create structures for dialogue between staff and students, as well as the overall decision-making.

DIMENSION: Entrepreneurial Teaching and Learning

For this section, the average response score was 3.83 points.
Entrepreneurial teaching and trainings provide an opportunity to get acquainted with the entrepreneurial experience and accomplish skills and competencies for the development of entrepreneurial thinking. The JizPi offers a number of learning opportunities that encourage innovative teaching and training. The institute conducts a number of activities to encourage the use of various innovative approaches in teaching. The JizPI regularly networks with stakeholders to understand future skills needs.

1. Support curriculum change to stimulate and develop entrepreneurial mindsets and skills through new pedagogies, student-centred, cross-disciplinary and practice-based learning;
2. Support access to student enterprise clubs, awards and societies;

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3. Engage students in business idea / plan competitions as part of their extracurricular opportunities;
4. Ensure students have a clear understanding of the entrepreneurial learning outcomes expected and achieved;
5. Validate entrepreneurial learning outcomes at the institutional level.

DIMENSION: Preparing and Supporting Entrepreneurs

For this section, the average response score was 3.77 points.
Institutes such as JizPI can help students, graduates and employees reflect opening a business as a career. From the very start, it is important to support people think about commercial, social, environmental or life goals related to their entrepreneurial ambitions and purposes.

At present-day, Uzbekistan pays special attention to improving the financial literacy of graduates. Actually, the Cabinet of Ministers of the Republic of Uzbekistan has launched the project "Improving the financial literacy of the population in Uzbekistan", the Central Bank of the Republic of Uzbekistan, the International Finance Corporation, the Chamber 18 of Commerce and Industry and the Centre for Professional Development organization named "Norma". Within the framework of this curriculum, a number of listeners and students have improved their financial literacy.

1. Offer entrepreneurial team building support and conflict management;
2. Provide opportunities for peer-to-peer mentoring, such as entrepreneur clubs, where members help each other;
3. Host their own incubators or facilitate easy access to external incubators;
4. Ensure that their incubators offer a full range of soft support (networking, mentoring, etc.) as well as physical infrastructure;
5. Embed the incubation facilities with the research and education infrastructure of the HEI to enhance synergies.

DIMENSION: Digital Transformation and Capability

For this section, the average response score was 3.75 points.
It is very needed to take extensive measures for the active development of the digital economy in country, the widespread introduction of modern information and communication technologies in all sectors and industries, especially in educational system. In particular, it is necessary to implement

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priority projects aimed at improving the e-government system, further development of the local market of software products and information technologies, the establishment of IT parks in universities in all regions of the country, as well as the provision of qualified personnel. Training in software products and information technology, development and implementation of hardware and software export of information services via the Internet, as well as training in the field of education in the field of data storage and processing.

1. Assess, monitor and communicate the benefits and added value of digital transformation across all activities of the HEI for innovation and entrepreneurship;
2. Ensure that legal and ethical policies and standards specifically related to digital aspects are in place and widely understood, also with regards to innovation and intellectual property rights;
3. Promote an enabling environment which supports open science and innovation across different disciplines, faculties and with external stakeholders;
4. Provide guidelines, training and support on open science and innovation practices;
5. Have strategies for communication, collaboration and networking underpinned by the use of digital tools.

DIMENSION: Knowledge Exchange and Collaboration

For this section, the average response score was 3.75 points.

The motivation for expanding cooperation and knowledge sharing is to create value for the institute and society. The JizPI is committed to collaborating and sharing knowledge with industry, the public sector, and society. The Institute is open for cooperation with the public and private sector. The Institute starts partnerships with several establishments, such as regional and local organizations, public or private organizations, companies (Large and international firms, social companies and entrepreneurs), schools and alumni.

1. Ensure knowledge exchange and collaboration is a high priority at senior level and that implementation is in line with the institution’s entrepreneurial agenda;
2. Establish structures to exploit knowledge exchange and collaboration opportunities, and encourage staff to engage in such activities;
3. Play an active role in influencing regional governance and regional / local development including entrepreneurship development;
4. Support entrepreneurship development of schools and colleges through networking and broader engagement;

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5. Have direct financial or management interest in science parks and incubators, ranging from participation to ownership.

DIMENSION: The Internationalised Institution

For this section, the average response score was 3.84 points.
In the process of development in Uzbekistan, the further development of cooperation between schools and higher education institutions for the development of education and science is important in further strengthening the integration of these two educational institutions. The main goal of the collaboration is to realize the talents of students, to direct them from an early age in the field of their interest and dreams, and to develop entrepreneurial skills. As a result of this cooperation, the events of secondary schools will be improved, the professional and pedagogical skills of teachers and their interest in science and the profession should increase. Interaction between higher education institutions and secondary schools will be structured.

1. Ensure the internationalisation strategy reflects its entrepreneurial agenda;
2. Incentivise, recognise and reward international mobility;
3. Explicitly set out to attract international staff which match the needs of its entrepreneurial agenda;
4. Have a support system in place for the cultural integration of international staff;
5. Ensure all departments and faculties actively participate in international research partnerships and networks.

DIMENSION: Measuring Impact

For this section, the average response score was 3.80 points.
Entrepreneurial advanced organizations should take an attention to the impact of the changes they are making to their educational institution. In order to become an entrepreneurial institution, The JizPI can consider how its staff and resources are used. The institute may need to develop new Human Resources strategies, involve external partnerships to overcome internal weaknesses, and afford new sources of financial support. The institute regularly evaluates the teaching and learning of entrepreneurship in the institution, through a questionnaire at the end of the academic period. And also, regular intensive look of the expected results and impact of these activities is carried out at all faculties and departments.

1. Ensure the findings are fed back into the development of start-up support activities;

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2. Set internal measurements of success such as new research ideas generated, joint HE business projects and relationships formed, number of start-ups and spins-offs created;
3. Use the evidence of success as a tool for reflection and review of the entrepreneurial agenda;
4. Set clear objectives and intended outcomes / impacts for internationalisation activities linked to its entrepreneurial agenda;
5. Use the evidence of success as a tool for reflection and review of its internationalisation and entrepreneurial agenda.

SWOT analyses based on self-assessment

STRENGTHS	WEAKNESSES
• The institution has strong connection with employers and provides seminars and internships; • 70% of institution graduates are employed in the first and second year after graduation; • The institution has division targeted to shaping entrepreneurial education (The chair of Economics and Management); • Disciplines on entrepreneurial education are provided in the educational programs.	• The institution mostly has educational programs of technological direction, whose graduates go to work in technological institutions or in industrial companies; • Lack of funding from the most entrepreneurs into new start-ups and weak relationship with entrepreneurs; • Low student interest and activity. Strong graduates from schools in the region go to institutions in the capital. Lower-potential school graduates go to the local institution.
OPPORTUNITIES	**THREADS**
• The growth of the number of activities with employers, entrepreneurs, heads of enterprises; • Applying in mobility programs, international programs of entrepreneurial education; • Increasing of the institution Unity Center of competencies, Retraining and career planning.	• Financial crises and the introduction of quarantine COVID 19, the reduction in the number of enterprises; • Not willingness of students to master entrepreneurial skills High wages in the oil and gas sector attracts graduates to work at these companies, rather than create their own start-ups or organize their own businesses.

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The main areas for further intervention on JIZZAKH POLYTECHNIC INSTITUTE preparedness for future challenges

Activity	*Dimension*	*Who*	*When*
Create a clear plan for implementing your strategy and vision with clear goals and KPIs	*Leadership and Governance* *Measuring Impact*	*Department of Strategic, Innovative and International Development*	*July, 2021*
Actively participate in communities, such as supporting local cultural and artistic events (5 events / activities)	*Knowledge Exchange and Collaboration*	*Business incubator I-Space*	*1 event in 2021, 2 events in 2022, 2 events in 2023*
Organize networking events between students and entrepreneurs/businesses	*Knowledge Exchange and Collaboration*	*Center for Competence, Retraining and Career Planning*	*1 event in 2021, 2 events in 2022, 2 events in 2023*
Involve students in business idea/plan competitions as part of their continuing education	*Preparing and Supporting Entrepreneurs*	*Business incubator I-Space*	*1 competition annually in 2021, 2022, 2023*
Provide students with the opportunity to participate in research projects that open up opportunities for entrepreneurship and do internships with entrepreneurs (at least 200 students)	*Preparing and Supporting Entrepreneurs*	*Deans of faculties*	*Constantly*
Incorporate digital competencies and skills into the curriculum and intended learning outcomes for all disciplines	*Entrepreneurial Teaching and Learning*	*Heads of departments*	*During the project*

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(56 bachelor's degree programs and 28 master's degree programs)	*Digital Transformation and Capability*		
Provide training and professional development opportunities for employees in the use of digital technologies in teaching, learning, and assessment (50 teachers)	*Organisational Capacity: Funding, People and Incentives*	*Deans of faculties*	*During the project*
Initiate dialogue and discussion between the university and the external environment for mutual benefit (at least 6 meetings)	*Knowledge Exchange and Collaboration*	*Deans of faculties*	*2nd half of 2021*
Apply for participation in European mobility programs and support staff and student applications for grants, scholarships and mobility programs	*The Internationalised Institution*	*Department of International Partnership and Internationalization*	*During the project*