

Startup Ecosystem Report Tashkent

Chief Editor: Wail Daoud (V.i.S.d.P.)

Author: Eileen Trenkmann

Editing: Clara Cardona, Heather Dannyelle Thompson

Design Support: Joan Saló

Print: FLYERALARM GmbH

Publisher:

enpact e.V.

Albrechtstr. 10

10117 Berlin

Contact:

info@enpact.org

www.enpact.org

ISBN: 978-3-96604-008-2

Copies: Digital version only

Registration Court: Amtsgericht Charlottenburg (Berlin)

Registration Number: VR 32765 B

Cover photo: Christopher Rose

This work is licensed under the Creative Commons Attribution-NonCommercial 2.0 Generic License. To view a copy of this license, visit <https://creativecommons.org/licenses/by-nc/2.0/> or send a letter to Creative Commons, PO Box 1866, Mountain View, CA 94042, USA.



Funding Note:

This report is part of the initiative “Startup Ecosystem Support in Uzbekistan”(SESU) funded by the German Federal Ministry for Economic Cooperation and Development (BMZ). As part of the programme “Sustainable Economic Development in selected regions of Uzbekistan”, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH has commissioned enpact e.V. with the implementation of the activities.



Implemented by:



Table of Contents

1. Methodology	1
2. Research Design	3
3. Uzbekistan Overview	4
4. Executive Summary	5
5. Business Investment & Environment Climate	9
5.1 Macro Political and Legal Framework	10
5.2 Human Capital	21
5.3 Finance	32
5.4 Startup Scene	39
5.5 Infrastructure	45
5.6 Market	56
6. Interacting Actors	63
6.1 Support Organisations	66
6.2 Academia	69
6.3 Financial Actors	71
6.4 Startups	73
6.5 Other Actors	75
6.6 Connectedness	77
7. Entrepreneurship Culture & Attitudes	79
8. Interventions	82
8.1 Policy Recommendations	83
8.2 Recommendations Targeting Support Organisations	87
8.3 Recommendations Targeting Startups	90
9. Acknowledgments	91
10. References	92
11. Indicators and Sources	98

1. Methodology

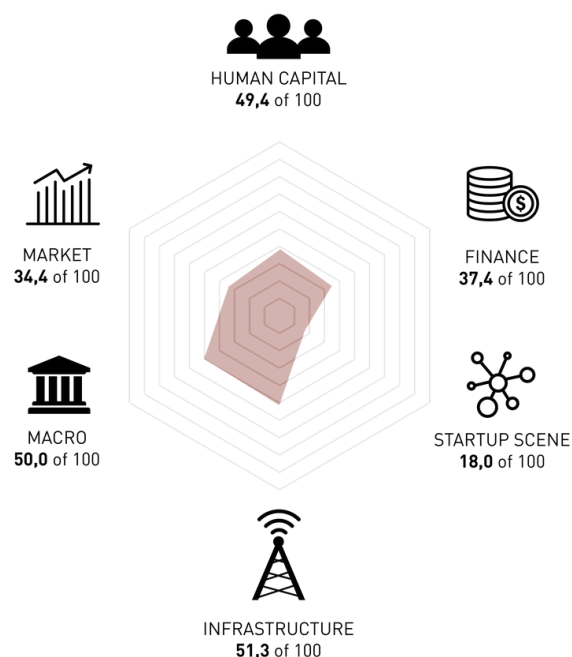
The Startup Friendliness Index (SFI)

Startup ecosystems play an important role in the field of entrepreneurship. A startup ecosystem is formed of entrepreneurs, startups in their various stages and numerous other entities, including academic and research institutes, financial players such as banks, investors and venture capital funds, support organisations like accelerators, incubators and co-working spaces, as well as government actors, media players, the private sector and international development organisations. These players cooperate and interact as a system and are determined by the business and investment climate in a particular country in addition to the entrepreneurial attitudes and cultures. Through the complex interaction of these factors, a startup ecosystem has the capacity to empower entrepreneurs to develop new ideas and bring innovation to the market.

The success rate of entrepreneurs and new enterprises are determined by the composition and maturity level of startup ecosystems. A good understanding of the strengths and weaknesses of ecosystems allows specifically targeted interventions that enhance the business and investment climate, the capacity of stakeholders and actors of the startup ecosystem and improves the impact of development cooperation.

In an effort to derive a comprehensive understanding of the startup ecosystem in Uzbekistan with a particular focus on Tashkent, the Startup Friendliness Index (SFI) developed by enpact was used in combination with the methodology 'Mapping the Entrepreneurial Ecosystem' by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

Startup Ecosystem Approach



The Startup Friendliness Index (SFI) analyses the potential for cities to advance entrepreneurship by measuring six key features (domains) of the startup ecosystem: **Human Capital**, access to **Finance**, the liveliness of the **Startup Scene**, **Infrastructure**, **Macro** framework, and **Market** conditions. Together, these six domains interact to form an urban environment that can champion or hinder entrepreneurship.

Mapping the Entrepreneurial Ecosystem

The Guide for Mapping the Entrepreneurial Ecosystem, developed by GIZ, analyses startup ecosystems using three components:

1. Business Environment & Investment Climate
2. Interacting Actors, and
3. Entrepreneurial Cultures and Attitudes

The business environment and investment climate form the legal, administrative and regulatory framework in which the actors (individuals, organisations and institutions) interact with each other. There is a constant interplay between the business environment and investment climate and the actors, which precisely determines both the framework's design as well as the actors' interactions. Therefore, all actors are mutually dependent. The third component, culture and attitude, constantly resonates with the business environment and investment climate and the actors' interaction.



2. Research Design

To derive a comprehensive understanding of the startup ecosystem in Uzbekistan, a variety of indicators were analysed. The SFI analyses data on 80 key indicators, within the six domains representing core elements of a startup ecosystem. The SFI relies on data procured from a combination of primary data, collected through survey and interviews and secondary data from established sources such as the World Bank. The indicators used in the SFI were complemented by additional indicators from the guide for 'Mapping the Entrepreneurial Ecosystem', in order to gather additional insight from the labour market, the quality of regulatory governance, the political situation and the role of women, among other factors.

Uzbekistan is not featured in a number of indexes, such as the World Economic Forum, the Global Innovation Index, the Global Competitiveness Index or the GEM Score. Thus, in terms of primary data-gathering, 14 indicators were collected through surveys from entrepreneurs and experts living in Tashkent. 23 respondents commented on topics including graduate salaries, startup events, financing sources, influential actors, readiness of the startup ecosystem and success stories of startups in the media. Because of data limitations in the infrastructure domain, data was also gathered through additional infrastructure related questions.

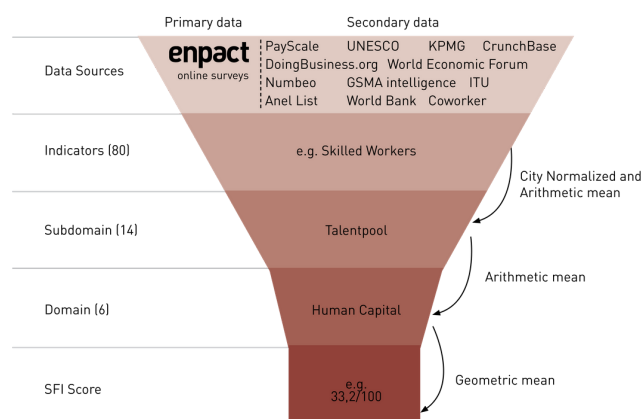
In addition, 25 interviews with relevant stakeholders and one focus group discussion with eight startups were conducted to complement the information from the surveys and the secondary data.

The data gathered for the 80 indicators of the SFI were normalised to achieve comparability with other mapped cities. The normalised indicator values range from 0 (for a city that has the lowest performance relative to the others) to 100 (for the city that has the best relative performance). Where relevant, normalised scores were adjusted to the population of the city.

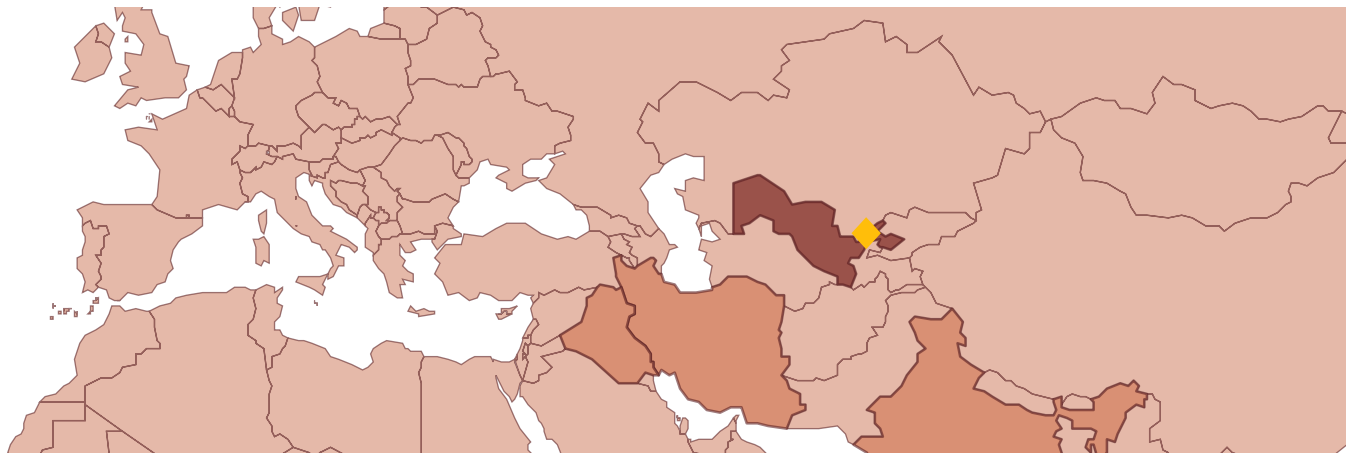
As a final step, the data was aggregated. Drawing from best practices in composite indicator-building[1], a combination of the familiar arithmetic mean as well as the geometric mean was utilised, resulting in an index, which accurately reflects the importance of balance (having relatively even levels of maturity across all domains) within the ecosystem.

The logic behind this method is simple; imbalances in an ecosystem have a negative impact, because deficiency in even one area may slow or impede entrepreneurship completely. For example, excellent infrastructure is of limited use if there are no funding opportunities available to initiate a new venture. In other words, there are no substitution effects between domains. The final SFI scores can be used both as a tool to compare cities on common indicators, but also offer a structured lens to evaluate areas of strengths and weaknesses within individual cities. Wherever suitable, the findings were furnished with additional indicators as outlined in the GIZ guide for 'Mapping the Entrepreneurial Ecosystem'. For this purpose, data from three consecutive years was analysed.

For further methodology details, see:
www.startup-meter.org/methodology/



3. Uzbekistan



Uzbekistan, located in Central Asia, is bordered by Turkmenistan, Kazakhstan, Kyrgyzstan, Tadjikistan and Afghanistan. Major spoken languages include Uzbek, Russian and Tajik. Uzbekistan, with a population of approximately 33 million people, is Central Asia's most populous country, thus offering huge market potential. It was once at the heart of the silk road, an important trading road that connected the far east with Europe. Like other Central Asian countries, Uzbekistan has a very young population, with an average median age of 28,6 years. The major religion is a moderately practised Islam.

After the dissolution of the Soviet Union, Uzbekistan was ruled by Islam Karimov from 1989 until his death in 2016. Since the leadership change in 2016, Uzbekistan has been showcasing an impressive economic transformation, offering both challenges and opportunities for the country. After decades of isolation, Uzbekistan has taken a giant leap to open up its economy by implementing new economic, social and judicial reforms. In 2017, Uzbekistan's first ever Development Strategy for 2017-2021 was announced, setting out a comprehensive program for reform. Economic development and liberalisation featured among the five priority areas of the program.

Besides improving the overall economic framework conditions, the new government has recognised the

importance of entrepreneurship and startup promotion for Uzbekistan's economic growth. 2018 was declared as the year of supporting active entrepreneurship ideas and technologies. Several ministries are dedicated to support this mandate. For instance, in 2017, the government established the Ministry of Innovative Development with the goal to ensure accelerated innovation-driven growth in all sectors.

Indeed, Uzbekistan offers a wide range of opportunities for startups to be actively engaged. Uzbekistan is rich in natural resources such as gold, copper, uranium and gas and has several sectors of high potential for development and entrepreneurial activity. For instance, with the Uzbek banking sector slowly opening, fintech solutions are required. Other areas that offer opportunities for startups include food processing, textile, construction, tourism and the ICT sector.

To support the emergence of new startups, several support organisations, mostly government-owned and driven, have emerged in the last three years. Yet, the startup ecosystem in Uzbekistan is still nascent, thus offering a playfield for interventions and a high potential for development. Uzbeks, despite difficult framework conditions, have always been entrepreneurial. This along with the new mindset of the government, is creating a fertile ground for the birth of a strong entrepreneurial sector.

4. Executive Summary

To determine and understand the status of the startup ecosystem in Uzbekistan, with a focus on Tashkent, two methodologies, namely the 'Startup Friendliness Index' developed by enpact and the methodology for 'Mapping the Entrepreneurial Ecosystem' developed by GIZ, were merged for the first time. The combination of these two methodologies allows the development of a comprehensive overview of the framework conditions that govern the business and investment climate, understand the actors and their interaction and the entrepreneurship cultures and attitudes that determine the behaviour of these players.

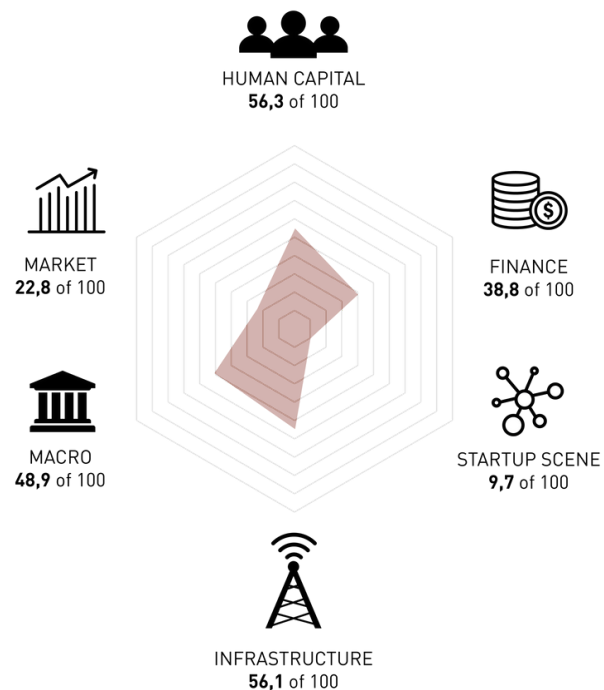
SFI Score:

33,2 out of 100,00

Uzbekistan has embarked on an ambitious transformation process since 2016. While the reforms have started paying off, challenges remain. These are reflected in the overall ranking of Tashkent in the 'Startup Friendliness Index', that is determined by examining 80 indicators in six domains: Macro (describing the political and legal system), Human Capital, access to Finance, liveliness of the Startup Scene, Infrastructure quality and Market conditions (such as trade balance and capacity utilisation). Cities with relatively even scores across all parameters receive a higher overall score than a city with stronger performance in one area and weak performance in another.

Given Uzbekistan's very recent political, economic and societal reforms, Uzbekistan is fairly well positioned in the Startup Friendliness Index at rank 24 out of 37 cities with an overall score of 33,2. However, in the Asian comparison, Uzbekistan lags behind and is at the last position in the SFI.

Uzbekistan's Startup Ecosystem



SFI Scores relative to the Global SFI in all domains

The new legislature, seeking to liberalise and transform the economy have led to Uzbekistan being on a par with the global average of the SFI in the Macro domain. Especially the process of registering a business has been eased. Challenges, however, remain in dissolving a business and paying taxes. In addition, corruption is rife, remaining prevalent in everyday life, both at the level of personal and business transactions. Initiatives to foster democracy stay sporadic. Yet, the government is making an active effort to integrate people's opinions in shaping new laws by opening up drafts and papers for discussion. There is scope to further build on this process by fostering evidence-based policymaking and integrating professional services in the shaping and drafting of laws and regulations. The government is receptive and has called upon support from international donor organisations and experts in this field.

While Human Capital is the strongest domain of Uzbekistan in the SFI, this is mainly on account of several sub-indicators in this domain scoring extraordinarily high, namely the indicators workforce constraint, skilled workers, labour regulation constrain as well as salaries of graduates and software developers. On the other hand, in critical indicators such as total enrolment in tertiary education and percentage R&D expenditure of total GDP, Uzbekistan secures the last position in the overall SFI. Uzbekistan's universities are in the midst of a transformational process brought by the need for more independence to update curricula, to equip the young population with skills demanded by the market, modernize infrastructure and to enter a pathway of research and innovation.

Access to finance remains a central challenge for a startup. There are hardly any business angel and VC activities in Uzbekistan. Most startups either rely on government funds that are backed with high equity demands and extended government control or on loans with high interest rates and collateral requirements. Alternative sources of funding such as crowdfunding miss the legal basis to date.

Uzbekistan's startup scene is nascent and mainly driven by the government and subordinate organisations that lack experience and capacity in supporting startups. Three ministries and government agencies are entrusted with startup promotion. They are all fighting for a share of the very small startup market and are focused on the frontrunner position in the ecosystem, rather than in exploring synergies and jointly supporting the startup ecosystem.

However, small private initiatives are evolving, and several international organisations have discovered the potential of Uzbekistan's entrepreneurship ecosystem. Infrastructure is a priority on the government agenda and several high value infrastructure projects have been initiated with the support of the World Bank, Asian Development Bank (ADB) and other multilateral and bilateral organisations.

Uzbekistan, thus scores well in the Infrastructure domain compared to the global average of the SFI. Yet, discrepancies, especially between rural and urban areas, persist. The infrastructure remains monopolised and characterised by old hierarchical and state-controlled structures that have hampered innovation and progress.

Backed by large amounts of natural resources, Uzbekistan's economy has been growing. However, fluctuating commodity prices have contributed to a growing account balance deficit. To decrease this deficit, important substitution as well as export diversification is essential. Embellishing commodities through innovation and technology will help Uzbekistan to reduce its trade deficit. Startups as well as an overall diversification of Uzbekistan's economy can play a vital role in this change. The tourism sector has been identified as a sector of high potential and growing tourist numbers underline the importance of the sector.

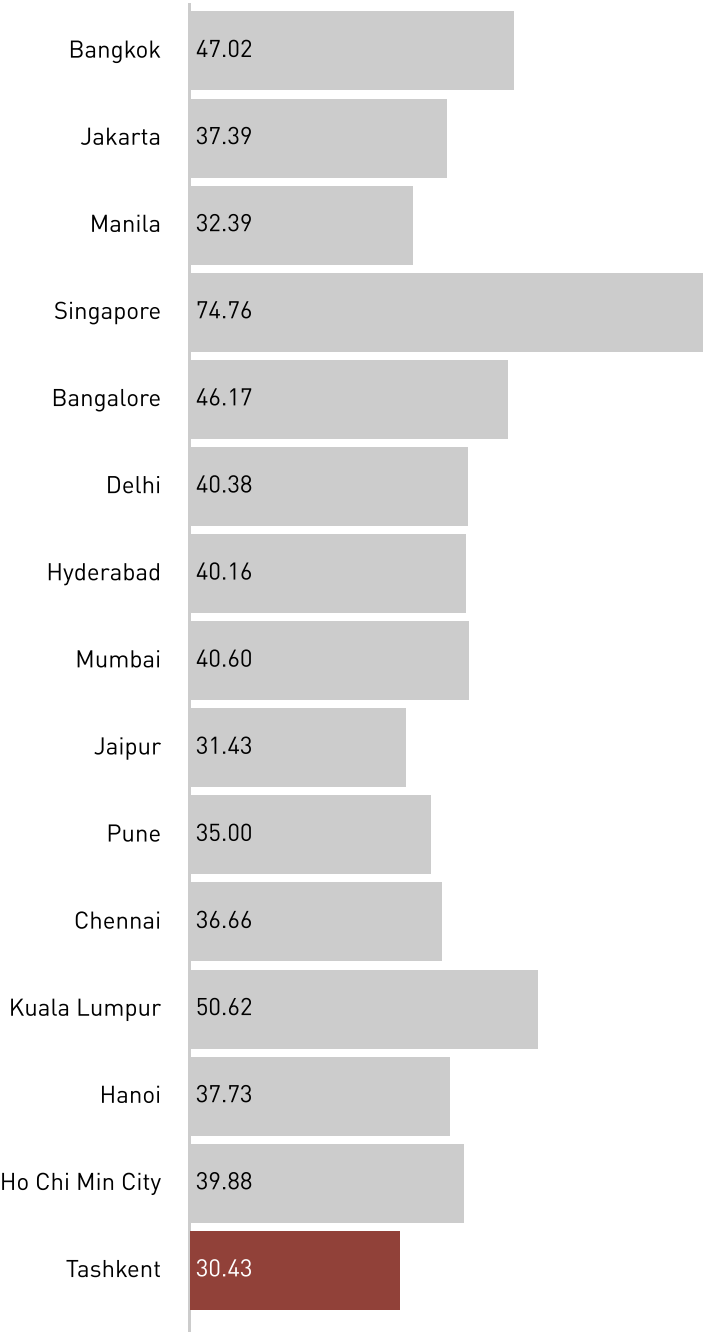
On the actor's front: while several actors have emerged in recent years supporting entrepreneurship, their capacity to support startups due to limited exposure and experience is low. Startup promotion is currently dominated by the government and its subordinate organisations. Lacking coordination and cooperation, these initiatives operate mostly in silos. Private actors have been challenged to develop long-term sustainable operations as there is currently limited support from the government for private initiatives. For many universities, entrepreneurship is a new field. However, private universities in particular have recognised the additional value they can provide to students by offering startup competitions, incubation and acceleration programs. The number of angel investors that have displayed interest in investing in Uzbek startups is low and characterised by unrealistic equity demands. High equity expectations are a result of the general risk-averse mentality of Uzbek investors and a lack of understanding about startups.

On the cultural side, Uzbekistan showcases relatively high ethnic and religious harmony with almost no hostilities involving religion or ethnicity. Yet, the society is characterised by low interpersonal trust, which limits cooperation, co-creation and innovation in the startup sector. Strong compliance to higher authorities and multifaceted governance structures make the emergence of bottom-up initiatives complex. In addition, women are challenged in leveraging their full potential.

After the dissolution of the Soviet Union, deeply embedded gender stereotypes have found a revival, resulting in Uzbekistan having low number of women in opportunity driven entrepreneurship and in leadership-positions. Despite Uzbeks being entrepreneurial at heart, entrepreneurship activity as a career choice rather than being necessity-based is hampered by low exposure to practical experience, lack of successful role models and challenging framework conditions. Recognising this issue, several platforms have emerged regularly reporting about successful entrepreneurs.

On the bright side, Uzbekistan has a very young population that has positively responded to the recent reforms and for the first time in decades sees a ray of hope on the horizon. Being Central Asia’s most populous country, Uzbekistan has a huge market potential. The government focus on entrepreneurship coupled with the country’s wealth in natural resources such as gold, copper and gas and its high potential in sectors such as food processing, textile, ICT and tourism, is an opportunity that has yet to be harnessed.

Based on the findings of this research, the report concludes with a series of recommendations targeting the policy level, the intermediary level, mostly support organisations that focus on the development of startups such as incubators, accelerators, co-working spaces and development agencies, and the micro level, the startups themselves. These include setting-up a coordinating unit within the government responsible for developing a holistic approach towards startup promotion as well as drafting a startup strategy at the policy level. At the intermediary level, the development of a joint information platform with information for and about startups, which will increase transparency and knowledge within the Uzbek startup ecosystem, is being suggested. In addition, the recommendations include several capacity building measures to increase the understanding and the capacity of all actors to effectively support the startup ecosystem.



SFI Scores for Asia

5. Business Environment & Investment Climate

DOMAINS AND INDICATORS

5.1 Macro Political and Legal Framework

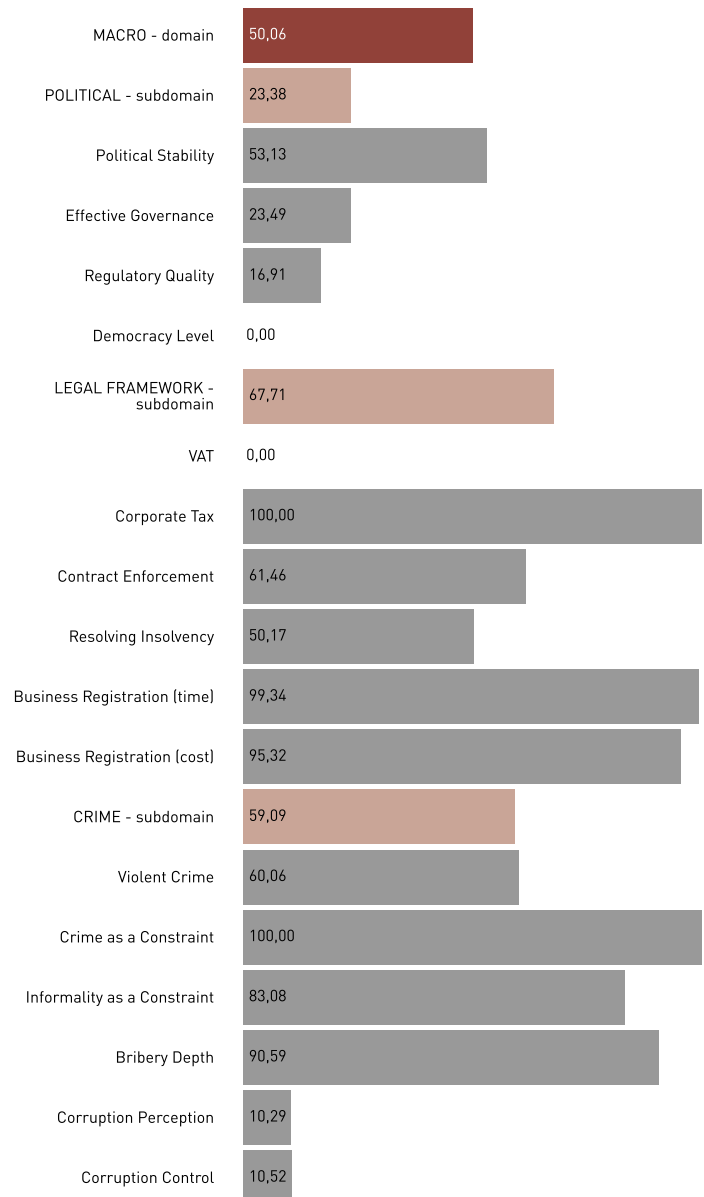
A fair and reliable policy framework, political stability, and low crime are important fundamentals for a startup ecosystem to thrive. The macro domain measures these factors through three subdomains, namely Political Stability, Legal Framework and Crime. The Political Stability subdomain gives an overview of the country's legal and policy framework by measuring indicators such as political stability, government effectiveness, regulatory quality and democracy level. The Legal Framework subdomain considers aspects such as VAT, corporate tax, contract enforcement, resolving insolvency, and business registration time and cost. The Crime subdomain measures violent crime, corruption and informality.

Given the national nature of political and legal systems, the political and legal framework domains are an aggregation of country-level indicators. The Crime subdomain in contrast, is city specific.

Macro score:

24th out of 37 cities

Out of 37 cities represented by the SFI, Tashkent ranks 24th in the Macro domain and lowest among all analysed Asian cities. However, compared to regional counterparts, as well as some other cities analysed by the Startup Friendliness Index, the overall macro framework in Uzbekistan is relatively stable. Especially in indicators such as Business Registration, Uzbekistan has seen a significant improvement in the last few years. Nevertheless, low regulatory quality, the lack of effective governance and high levels of corruption continue to play a role in the challenging circumstances of this domain.



SFI Scores relative to the Global SFI. Scores range from 0 - 100

Political

Subdomain of Macro Political and Legal Framework

Improving the overall framework conditions

Since 2016, the Uzbek government has made active efforts to foster economic development and liberalise the economy. The first Development Strategy for 2017-2021 was drafted, setting out a comprehensive political, administrative and judicial reform in the following areas:

1. Improving the system of state and public construction

2. Ensuring the rule of law and further reforming the judicial system

3. Economic development and liberalisation

4. Development of the social sphere

5. Improving the field of security, inter-ethnic harmony and religious tolerance, and implementation of balanced, mutually beneficial and constructive foreign policies

Supporting entrepreneurship promotion

Entrepreneurship promotion plays a significant role in several areas of the strategy. For instance, the strategy, focuses on the further modernisation and diversification of the industrial sector, through upgrading to a new qualitative level, aimed at the development of high-tech industries. These industries shall primarily focus on the production of finished products with emphasis on processing of local raw materials. Further, the promotion of production of new types of products and technologies is another key ambition within the framework.

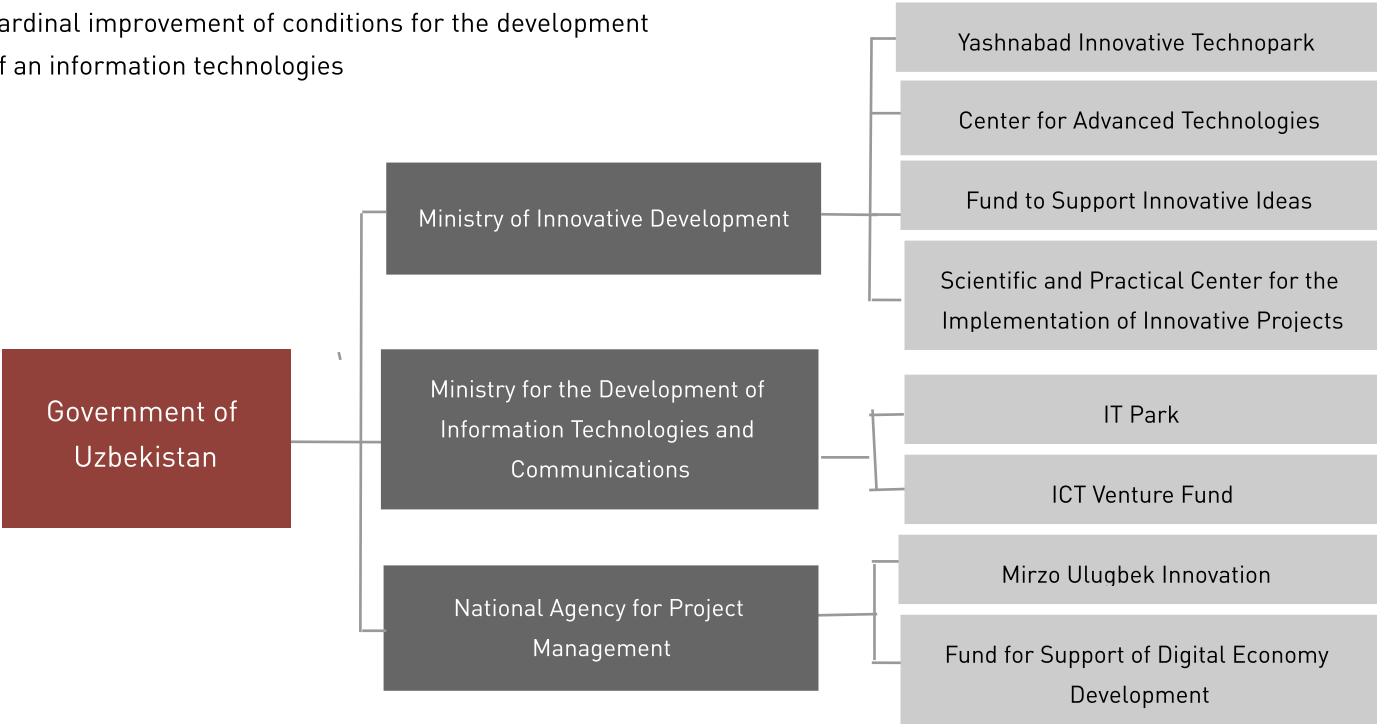
Along these lines, 2018 was declared as the year of supporting active entrepreneurship ideas and technologies. The government highlighted that a priority should be given to provide all-round support to entrepreneurs, with a focus on creating favourable conditions for the introduction of high-tech products and the latest scientific achievements. In the same year, the government established the Ministry of Innovative Development. Besides being responsible for ensuring accelerated innovation-driven growth of all sectors, the ministry also supports startups through several subordinate organisations. The associated Centre for Advanced Technologies as well as the Yashnabad Innovative Technopark were set-up to provide acceleration and implementation support to aspiring and existing entrepreneurs. Besides offering co-working space as well as lab and production facilities, the Center for Advanced Technologies is also conducting an accelerator program, namely the C.A.T. Science Accelerator.

The accelerator is a six-months program providing mentorship, workshops on business modelling, financial modelling, basics on taxation and IP among other things. Selected startups can also use the labs at the center. The center is currently looking to expand the accelerator regionally, as they have recently set-up two affiliated regional centres. In addition, a \$6 million USD fund to support innovative ideas was created by the Ministry of Innovative Development. Plans to establish another center under the supervision of the Ministry, namely the ‘Scientific and Practical Center for the Implementation of Innovative Projects’ as a startup incubator, are underway and will be realised once the new building of the Ministry of Innovative Development is completed.

At the same time, the Ministry for the Development of Information Technologies and Communications of the Republic of Uzbekistan as well as the National Agency of Project Management under the President of the Republic of Uzbekistan (NAPM) have been mandated to particularly support IT startups. In accordance with the decree of the president of the Republic of Uzbekistan No. PD-5099 from June 30, 2017 ‘On measures for the cardinal improvement of conditions for the development of an information technologies

industries in the Republic’, the Mirzo Ulugbek Innovation Center was established under the supervision of NAPM. In addition, a Digital Trust was constituted, with the responsibility of supporting startups and their initiatives in the digital economic development sector, mostly those aiming to introduce blockchain technologies.

At the beginning of 2019, after a visit of the president from Uzbekistan to India, the Tashkent IT Park started its operations to support IT startups, constituting another division under the Ministry for the Development of Information Technologies and Communications. The IT Park is offering incubation support (education plus physical support) for nine startups and acceleration support (education plus mentorship) for six startups. Both programs will have a duration of three months. Furthermore, a \$10 million USD venture fund was set-up by the Ministry for the Development of Information Technologies and Communications for startups having successfully passed the accelerator of the IT Park.



Ministries supporting entrepreneurship and subordinate structures

Challenges in effectively implementing policies remain

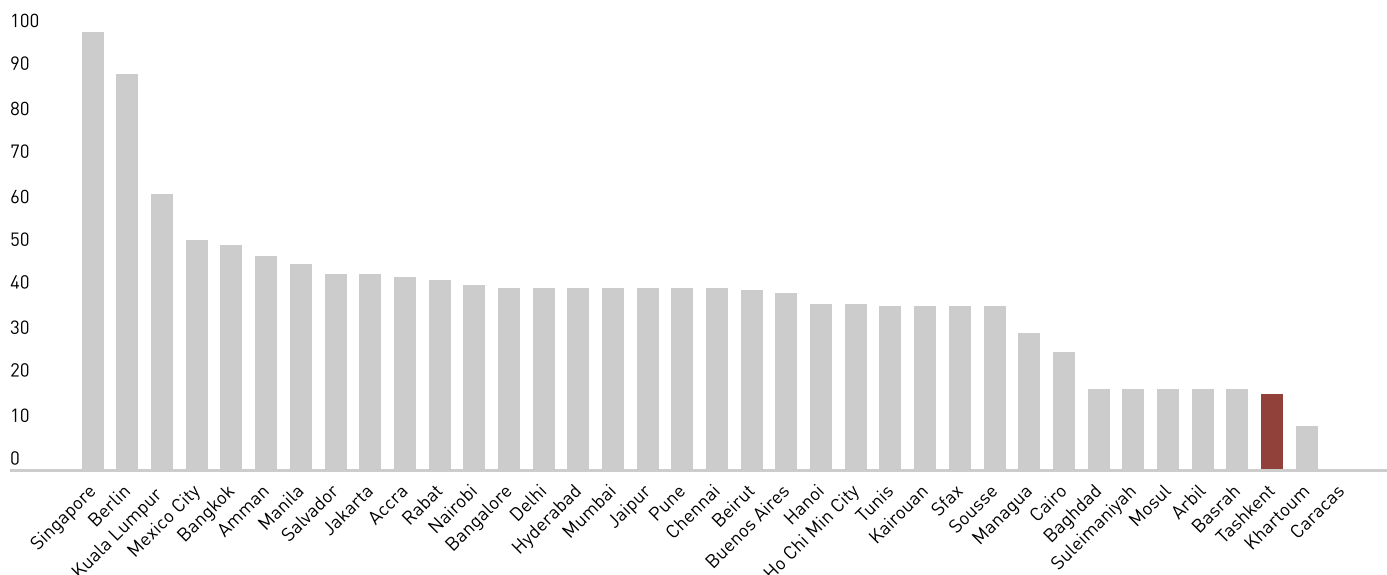
Uzbekistan is experiencing a new and more dynamic pace of reforms – at least on the level of public announcements and presidential decrees. However, while Uzbekistan has initiated a range of policies to improve the general business environment, to support entrepreneurship and startup promotion, the sheer number of laws that need to be upgraded, is making the transformation challenging. It is thus not surprising that Uzbekistan is still amongst the lowest performers in the SFI (ranked 28th out of 37 countries) with regards to effectiveness of the Government. The government effectiveness indicator captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures. Yet, with the government having realised its shortcomings, there is significant potential for improvement in this indicator. However, the success of the reforms will especially depend on the ability of the administration to translate the recent reforms into reality.

Another challenge in Uzbekistan is that policy making is not yet sufficiently inclusive and evidence based. More so, the problem lies in the policy making process itself. Many strategies seem to be conjured up out of nothing, are drafted in great haste and disregard important interim steps. While platforms such as www.regulation.gov.uz have emerged in recent times, giving people the opportunity to comment on government documents. Think tanks, research organisations or professional consultancies supporting the government to draft policies are still rare. The reasons are manifold.

Firstly, budget constraints have prevented the government to access external support. For instance, in June 2018, the Ministry for Innovative Development attempted to engage the Boston Consulting Group to support the drafting of Uzbekistan's Innovative Development Strategy. Insights, however, suggest that this was not realised due to lack of funds.

Secondly, while a high degree of consensus among the elite exists concerning the transformation of the economy, the question remains as to what extent the Uzbek government will include reformers and dissenters in the government and the overall policy making process in the future. The main challenge for the president is to find a balance between the old oligarch system and the relatively conservative elite, and those progressive forces that are emerging from civil society.[2] It is yet to be seen which way Uzbekistan will embark. However, given the relatively new political upheaval, the country has the lowest score of all SFI countries on the democracy level indicator, which is based on five categories: electoral process and pluralism, civil liberties, the functioning of government, political participation and political culture.

Furthermore, many strategies and papers lack specific direction as well as concrete targets and numbers. It was highlighted by several stakeholders that this has contributed to a lack of clarity, especially among the stakeholders in the government supporting startup promotion regarding what should be achieved in terms of outcome.



Ranked scores of all SFI cities in the regulatory quality indicator

The score for the regulatory quality indicator is therefore low (16,91 out of 100). The regulatory quality indicator captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. From a global perspective, Uzbekistan ranks towards the bottom in the regulatory quality indicator (position 35 out of 37).

The number of players involved in startup promotion on the government-level constitutes another challenge. As highlighted above, there are currently three ministries and agencies mainly entrusted with startup promotion. Every ministry/agency is currently striving to become the frontrunner with regards to the topic. Coordination and cooperation between these organisations thus are rather ad-hoc and unsystematic. Furthermore, a startup policy or a coordinating unit for startup activities does not exist yet. This contributes to both, a lack of clarity regarding who is responsible for the topic in the government and nescience regarding startups.

The Ministry of Innovative Development is currently trying to integrate a startup definition in a new law on innovation, which potentially will be passed by the parliament next year. However, while this would solve the issue on the definition of a startup and what might be the associated benefits of being classified as a startup, it would not solve the lack of cooperation and coordination on the topic between ministries and agencies.

International organisations can potentially further aggravate this problem by anchoring projects with startup components in ministries that have not yet focused on the topic. For instance, UNDP recently announced a new joint project to work on the promotion of youth employment in Uzbekistan with the Ministry of Employment and Labour Relations. One objective of the project is to promote youth and female entrepreneurship as well as business startups. In the previous project, this component was anchored in the Chamber of Commerce and Industry (CCI) and has now been shifted to the Ministry of Employment and Labour Relations. Involving further ministries in the topic may create additional competition and silo-thinking, thus reinforcing the actual need for cooperation.

Policy and Legal Framework

Subdomain of Macro Political and Legal Framework

Reforms, Strategies and Decrees

Besides creating subordinate structures conducive to the creation of entrepreneurship, the government also initiated several reforms to reduce the government's presence in the economy, support innovation and entrepreneurship. For instance:



2016 & 2018 Starting a Business

The Uzbek government introduced an online one-stop shop to streamline registration procedures.

2018 Every Family — Entrepreneur

The program was set-up to support entrepreneurial initiatives by allocating concessional loans as well as practical technical assistance at each stage of the business. The program also envisions the establishment of mini clusters for the development of entrepreneurship.

2018 Strategy of Innovative Development for 2019-2021

The strategy emphasizes the need for developing the human capital of the country by improving the quality and spread of education. The strategy also seeks to strengthen the scientific potential and effectiveness of scientific research and the development of mechanisms to integrate education, science and entrepreneurship. Additionally, it envisions Uzbekistan being among the top 50 countries in the Global Innovation Index by 2030.

2017-2019 Paying Taxes

In 2017, the government reduced the unified social payment rate paid by employers and the corporate income tax rate, thus making paying taxes less costly. In 2018 an electronic system for filing and paying VAT, land tax, unified social payments, Corporate Income Tax [CIT], infrastructure development tax, environmental tax, personal pension fund contributions and cumulative pension contributions was introduced and in 2019 a new classification for enterprises was introduced. The new classification has a provision that small enterprises can pay a single social contribution at a fixed rate, but not less than 65% of the minimum wage for each employee. In addition, startups and enterprises falling within the subordinate organisations highlighted above, enjoy reduced personal income tax and a waiver of corporate tax and unified social payments till 2028.

Resolving insolvency remains challenging

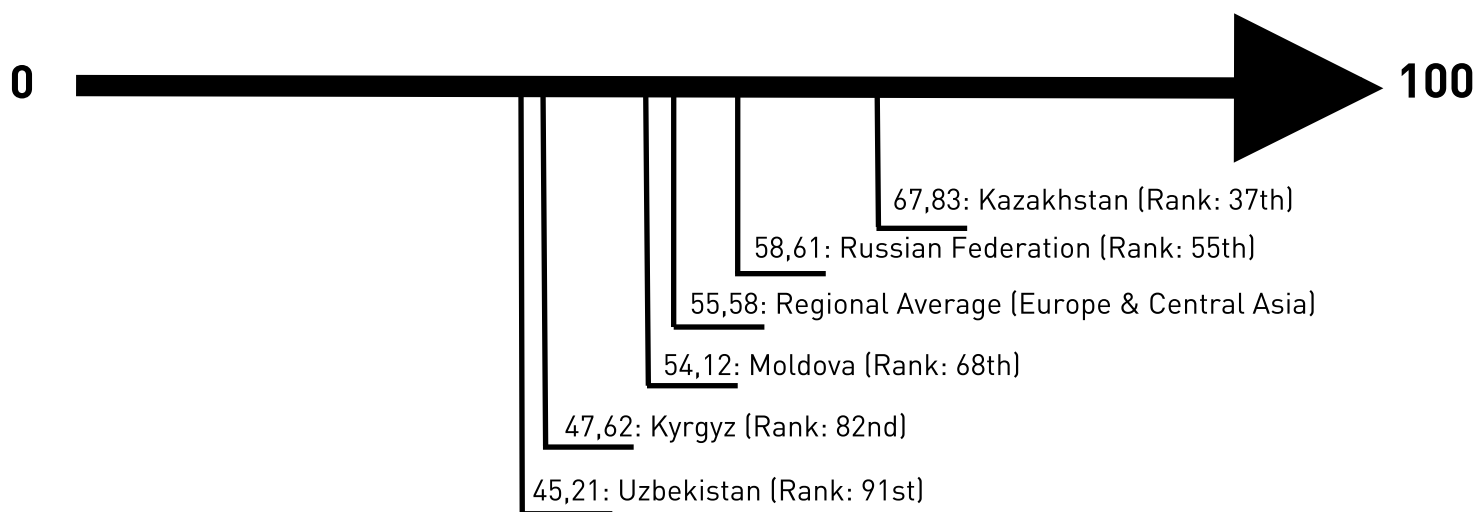
While these economic reforms have contributed to Uzbekistan improving in the World Bank 'Ease of Doing Business (Index)' from rank 87th in 2017 to rank 76th in 2019 of 190 analysed countries, challenges in key business indicators remain. In 2019, Uzbekistan was ranked number 12 out of 190 countries in ease of registering a business, due to the introduction of a one-stop-shop. Uzbekistan stands out from the rest and ranks among the leaders of the SFI at both global and Asian comparison levels. However, resolving a business remains difficult, and Uzbekistan has decreased its rank from 77th in 2017 to 91st out of 190 countries in 2019. An anecdote of an entrepreneur interviewed during the research suggests that closing a business can take years with several institutions and offices being involved. Since 2013, Uzbekistan's regulations for resolving insolvency have not been updated. Yet, out of all SFI cities, Uzbekistan ranks number 12th, together with India - despite having a more advanced ecosystem - ranking behind Uzbekistan.

In the regional comparison, however, Uzbekistan lags significantly behind.

[To] date I have not been able to close two of my businesses and I do not know when exactly it will happen. However, the easiest way to close a business is to stop all activities for at least six months, which is called the silence period. After six months the tax authority has to give the paper to the mayor's office with the request to close the company. There is a single window system in the mayors' office where they collect information about all inactive companies. If these companies have no debt, the list of companies is given to the court. However, before closing them, it has to be announced in the local newspaper that these are the companies closing down, with a request to come forward if there are any open claims. Now it is always a question who pays for publishing this call in the newspaper. In theory, after the announcement and no open claims were registered, the documents of the company are given to an archive.

- Startup Founder

”



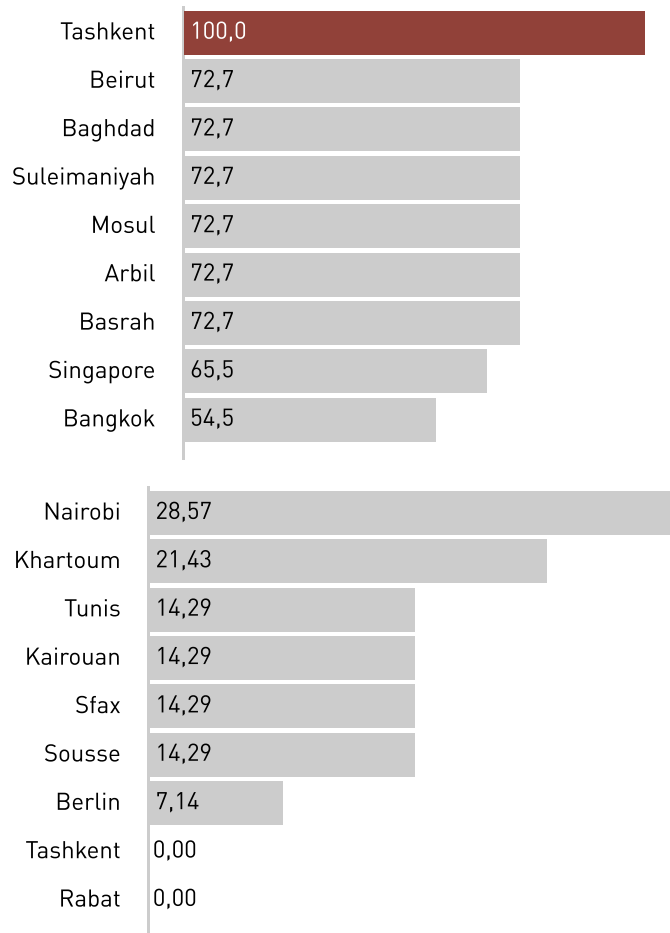
Uzbekistan's regional rank on 'Ease of Doing Business'

Reduced taxes only for startups located in the subordinate structures of the government

Due to several reforms in the past three years, Uzbekistan has significantly improved its rank in paying taxes in the World Bank 'Doing Business (Index)' from position 138 in 2017 to rank 64th in 2019. Yet, the tax system remains complicated. According to a stakeholder from a support organisation, some sectors are disproportionately highly taxed, such as the e-commerce sector that apparently ranges in the highest upper tax bracket.

As a startup law outlining benefits for companies recognised as startups does not exist, only startups sitting in the subordinate divisions of the various ministries and agencies (e.g. IT Park, Center for Advanced Technologies, Yashnabad Innovative Technopark and Mirzo Ulugbek Innovation Center) enjoy reduced or waived taxes. The following graphic, which outlines benefits for residents of the IT Park Tashkent depicts this.

However, with an average of 7,5% income tax for general businesses, Uzbekistan is the country with the lowest average corporate tax in the SFI, thus ranking at the top. Yet, Uzbekistan has one of the highest VATs and ranks at the bottom of the SFI, jointly with Morocco.



Ranked score for selected SFI cities in corporate tax and VAT indicators

	Personal income tax	Corporate tax	Unified social payment	All internal transaction & payments in USD	Custom payments for imported goods and services
Non residents	12%	5 - 10%	15 - 25%	NO	YES
Residents	7,5%	0%	0%	YES	NO

Tax advantages being a resident of the IT Park in Tashkent

Crime


Subdomain of Macro Political and Legal Framework

High religious and ethnic harmony versus discrimination of non-mainstream groups

Regarding the assessment of whether violent crime is likely to pose a significant problem for the government and/or businesses over the next two years, Uzbekistan ranks number one among all SFI cities analysed. This signifies a low risk of crime disrupting the business world. None of businesses surveyed in Tashkent identified crime as a constraint of doing business. In the Fergana Valley, however, 8,6% highlighted that crime, theft and disorder pose a major constraint for their businesses. Also, in the overall 'Global Peace Index' 2019, that measures ongoing domestic and international conflicts, safety and security in the society and the degree of militarisation, Uzbekistan ranks ahead of other more advanced startup hubs such as India, Kenya, Egypt and Tunisia. Yet, in the overall index Uzbekistan is only at position 102 out of 163 countries analysed. With 8% of the overall GDP being economic cost due to violence, Uzbekistan scores amongst the lowest one-third (rank 48), with almost all regional counterparts scoring better: Turkmenistan of rank 80 (6% of GDP), Kyrgyzstan of rank 103 (5% of GDP) and Kazakhstan of rank 139 (4% of GDP).[3] Indeed, while Uzbekistan is perceived rather stable, marginalised and so called non-mainstream groups such as the LGBT community or unmarried women with children are often discriminated.[4] Domestic violence against women is recognised as an issue. However, according to a female activist, reported numbers are alarmingly low as the police routinely refuses to file cases, blaming the victims for the misconduct. This inevitably affects the role of women in entrepreneurship and in businesses in general.

Point of no return

With the reforms launched in 2016, Uzbekistan's relatively young population is for the first time recognising the opportunities the modernisation process brings along. The Uzbek government has understood that employment generation is the key to achieving societal stability, particularly as unemployment and a lack of prospects have driven some Uzbeks into radicalisation. Yet, policy making remains highly centralised. A change in leadership could disrupt the initiated modernisation process. However, during the interviews, stakeholders highlighted that the 'point of no return' has already passed. A return to old practices could potentially bear the risk of an outcry from the people and challenge the relative stability of Uzbekistan. In addition, the 2018 Bertelsmann Transformation Index found that the main risk in Uzbekistan is the high level of fragility and conflict between state agencies and the oligarchic interest groups which could challenge the development process of Uzbekistan.

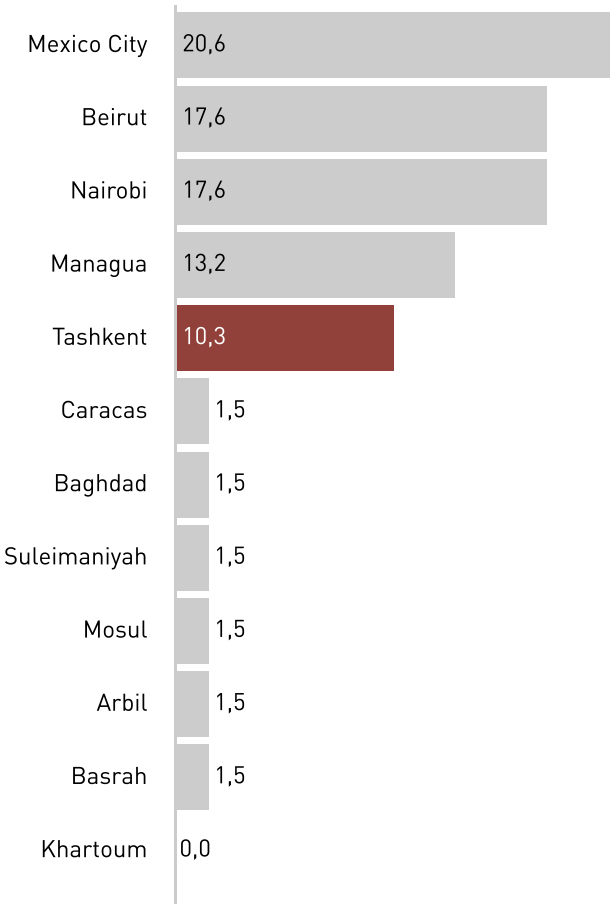


**Uzbekistan has a low
risk of crime
disrupting the
business world**

Public discourse is accommodating corruption issues

As outlined earlier, the ability and willingness of the Uzbek administration to implement new laws and regulations will be decisive in Uzbekistan’s transformation towards an open market economy. However, the administration is still characterised by nepotism and high levels of bureaucracy. Transparency and accountability as well as corruption in the public sector and in general remain high, making the implementation of new laws difficult. In the ‘International Transparency Index’ 2018 Uzbekistan ranked as low as 158 out of 180 analysed countries. During the latest World Enterprise Survey in 2013, respondents highlighted that 19,9% of the time of senior management was spent on dealing with the requirements of government regulations. Two indicators in the SFI seek to illustrate the impact of corruption: Corruption Perception (scoring from 0 for low perception of corruption to 100 for high) and Control of Corruption (which captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption). On both indicators, Uzbekistan scores in the lower one third and ranks 30th on a par with cities like Managua, Nicaragua.

For both Corruption Perception and Control of Corruption, Uzbekistan scores on par with cities like Managua

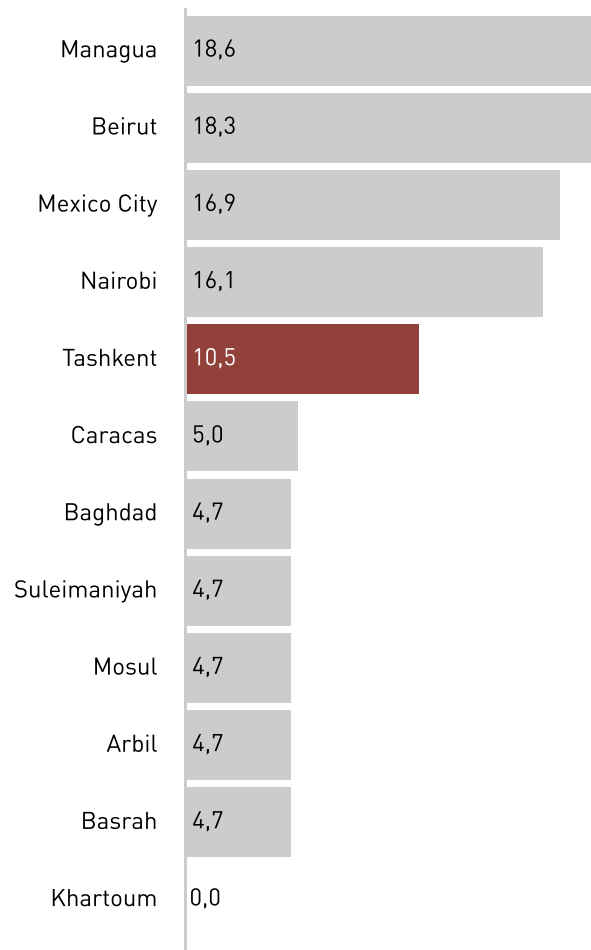


Ranked scores for bottom SFI cities in the corruption perception indicator

While earlier a taboo topic, since the change of leadership in 2016, the government has passed a new Anti-Corruption Law in 2017, in recognition of the issue. The law includes the simplification and improvement of the efficiency of registration and licensing procedures, optimisation of control and supervisory functions of state agencies and introduction of distance interaction. Corruption has become a topic of public debate. Yet, corruption remains an issue. Startups highlighted that especially in the academic sector, corruption is still a pressing challenge and bribery is common, imposing barriers to access education, particularly higher education.

Difficulties in resolving insolvency as well as missing regulations contribute to high number of businesses in the informal sector

The challenges in resolving businesses, the high VAT tax and inconsistent corporate taxes have contributed to a high number of companies, especially startups staying in the informal sector. Another factor contributing to large numbers of startups in the informal sector are missing new legislations, particularly targeting new technology fields. With the world changing fast and new digital solutions and technologies emerging and evolving frequently, governments have to react with prompt and appropriate action to create favourable legal framework conditions. While the overall framework for businesses has improved, startups during the research stated that especially new digital topics are still not sufficiently regulated, thus leading to uncertainty and newly established companies remaining in the informal sector. For instance, startups mentioned during the interviews that most e-commerce companies still operate in a semi-regulated framework due to missing laws and high taxes. However, this challenge appears to be more prevalent in the Fergana Valley than in Tashkent. In the overall SFI, Tashkent ranks 14th out of 37 analysed cities.



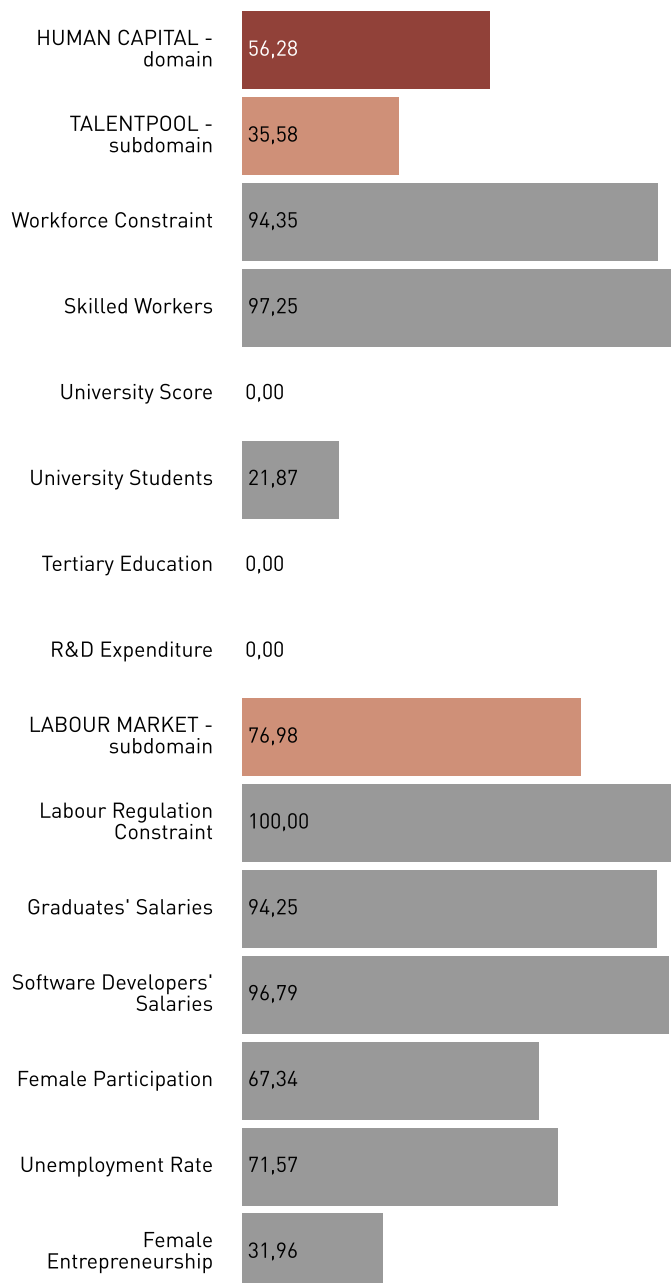
Ranked scores for bottom SFI cities in the corruption control indicator

5.2 Human Capital

Human Capital is critical for starting a new venture. Being able to access talent with the right skills during the early stages of a business has a significant impact on a startup's future success. The Human Capital domain seeks to measure the availability of talent with the right skills to help a fledgling venture succeed. The Human Capital domain is comprised of two subdomains, namely Talent Pool and Labour Market. While the Talent Pool subdomain discusses the availability of educational resources, and whether those in the workforce have the necessary skills to meaningfully contribute to modern startup ventures, the Labour Market subdomain analyses the systematic factors that impact entrepreneurs in their ability to find and retain the best employees.

Besides access to finance, human talent was cited as the number one obstacle to the development of Uzbekistan's startup scene. Startup founders emphasised the need for improving the education sector to close the gap between education and the needs of the market. Yet, Uzbekistan ranks 9th in the Human Capital domain of the global SFI average and number 7 among all Asian SFI cities, on a par with cities such as Berlin and Singapore.

However, a deep investigation reveals that this good result is mainly on account of several sub-indicators scoring extraordinarily high, namely the indicators workforce constraint, skilled workers, labour regulation constrain and salaries of graduates and software developers. However, these indicators have to be put into context to understand their overall relevance. On the other hand, in critical indicators such as total enrolment in tertiary education and percentage of R&D expenditure of total GDP, Uzbekistan secures the last position.



Indicator scoring in the human capital domain
 SFI Scores relative to the Global SFI. Scores range from 0 - 100

Talentpool

Subdomain of Human Capital

The decline of the education sector post Soviet Union

Uzbekistan has a long history of science and education. Uzbek cities such as Bukhara and Samarkand were well known centres of education in their time. Major achievements in maths, astronomy, classic Persian and Arabic literature, music and history can be traced back to Uzbekistan. Mirzo Ulugbek, the grandson of Amir Timur, who built an empire reaching from Central Asia to Turkey, gathered and attracted scientists from all over the world to Uzbekistan. One of his achievements is the Samarkand Observatory which embodies Uzbekistan's scientific progress at the time. The progress was perpetuated throughout the Soviet Union era. However, unlike other Soviet countries that started to transition to liberal market economies in the early 1990s, Uzbekistan only recently embarked upon an ambitious economic modernization process.

While literacy rates officially are around 99%, the education system has steadily declined since 1991. At the same time, Uzbekistan's working population has risen from 14 million to 22 million in the last 20 years. This represents both an opportunity and a challenge.[5] Uzbekistan has to improve its education system quickly to cater to the increasing demand for jobs and prevent brain-drain. Already 7-10% of Uzbekistan's population resides outside the country, especially in Kazakhstan and Russia. Due to the lift of the 'Exit Visa Regime beyond the Commonwealth of Independent States (CIS)' in January 2019, migration to other countries beyond the former Soviet Union countries may increase.

Education in Uzbekistan is understood to be a driver of transformation

The Uzbek government has recognised these challenges and the entire education sector is currently in a state of flux. By 2021, the Government of Uzbekistan is looking to achieve 100% enrolment in preschool education. However, more efforts are needed to modernise the higher education system. Uzbekistan's spending on higher education is one of the lowest in the world, only contended by East Timor and Kyrgyzstan. This comes along with only a fraction of the population being enrolled in tertiary education due to limited places and high costs of universities, creating favourable conditions for corruption and nepotism. With 9,15%, Uzbekistan has the lowest enrolment rate in tertiary education among all countries/cities of the SFI. Recent statistics show that Uzbekistan has approximately 67.000 university graduates annually from a population of roughly 32 million, compared to approximately 500.000 university graduates every year in Germany from a population of roughly 82 million.

Despite Tashkent holding a middle rank in the SFI in comparison to other cities, with regards to the number of students per 1.000 population, insights of studies suggest that the distribution of admission places per region is misaligned with the corresponding student demand for places. 50% of all universities in Uzbekistan are located in Tashkent. However, Tashkent was not among the regions with the highest numbers of applications per seat available, indicating that rural areas are more affected in terms of human capital development.[6]

While this should suggest that the talent pool in Tashkent is significantly better, startups highlighted immense challenges in finding the right talent, especially in new technology fields, such as app development, blockchain and Artificial Intelligence. The same was also confirmed by academic stakeholders. A leading university in the IT field stressed that they had only recently undergone a change focusing on software rather than on IT hardware. Yet, skills on topics such as artificial intelligence and digitalisation were not yet available in the university due to dearth of knowledgeable academic staff. The survey results are in alignment with these statements. The respondents rated the ability of the national education system to provide young people with future-oriented skills (e.g. ICT and entrepreneurship) at 2,25 (5 being very good) - a rather average result.

60% of the students only come to University because of the certificate, not the skills. Practical skills for instance how to run a business are mostly acquired outside of universities.

- Startup Founder

”

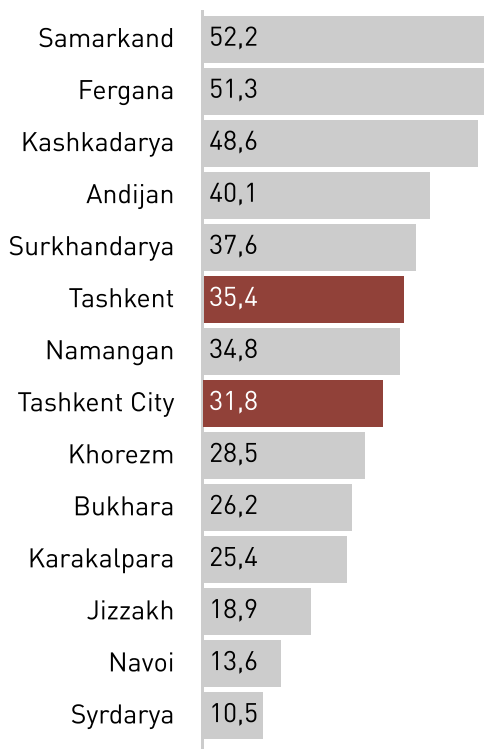
Reasons for this gap are manifold. On the one hand, the overall education quality is low. On the other hand, there is still a lack of appropriate infrastructure, especially in public universities. While private universities are to a certain degree free to structure and develop curricula, educational programs of public universities used to be defined centrally by the Ministry of Higher and Secondary Specialised Education. Recent policy changes allow public universities to acquire approvals from the scientific board of the university, to change and update curricula once a year. However, startups highlighted that curricula remain outdated and lack pedagogy promoting problem-solving, innovation and creativity. Private universities lead the way for Uzbekistan's higher education sector and private universities such as Westminster University and Inha University were cited as positive examples of offering more demand-oriented skills. In addition, while the material base of universities has improved, especially in private universities, public universities lack significant infrastructure investments to achieve global excellence.

The Government of Uzbekistan has acknowledged concerns in this area in their recently launched 'Program for the Systematic Development of the Higher Education System 2017-2021', which includes goals of increasing the budget for the material and technical base of HEIs 1.5-fold.

VET as a key to address Uzbekistan's labour needs

Given the persistent low enrolment numbers in universities, vocational education plays a key role in Uzbekistan's education sector. Approximately 500.000 young people graduated from secondary vocational education in the academic year 2017/18. However, Tashkent ranked only number six in terms of graduation numbers, posing a threat in terms of access to labour for the startup sector that is mainly located in Tashkent.[7]

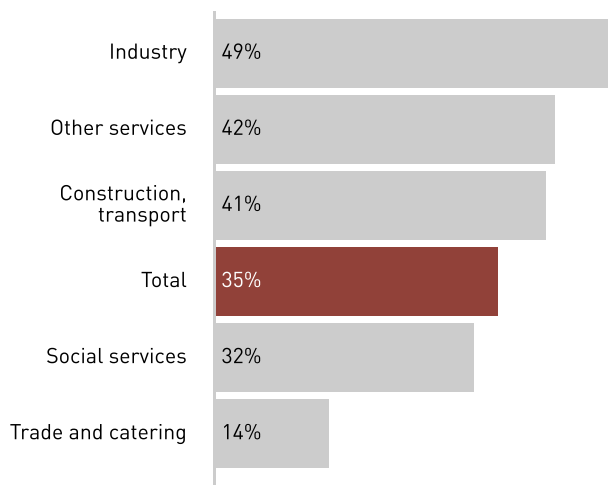
Nevertheless, an asset for Tashkent is the strong score on the number of skilled workers in the city. 91,1% of workers in the surveyed companies were skilled, compared to the mere 76% average for the entire country. This indicates higher numbers of skilled labour available in Tashkent.



Number of VET graduates by region [Source: World Bank, 2018]
(in thousands)

Skills do not match market needs

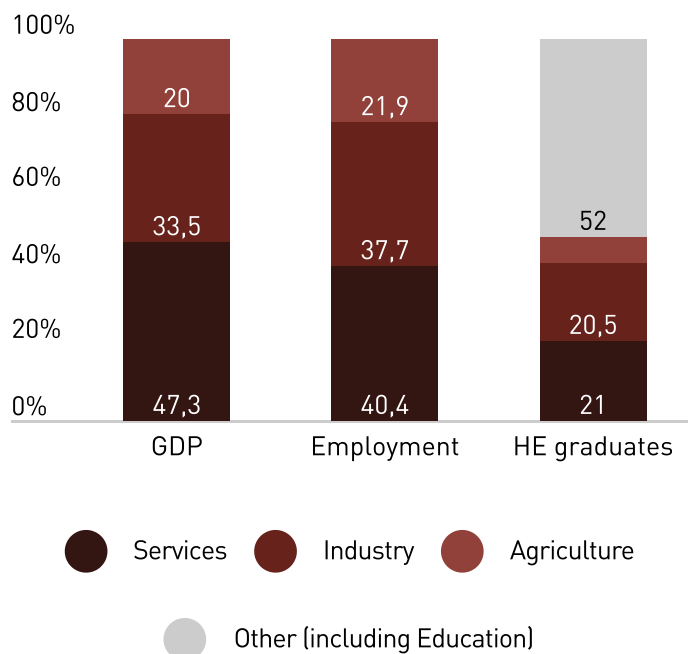
Statistics differ regarding whether graduates of higher education and of secondary vocational education both possess the right skills required by firms to grow. In the 2013 Enterprise Survey, only 4,5% of Tashkent-based and 2,3% of overall companies surveyed, identified workforce as a major constraint. However, in 2008, these numbers were still up, with 35% of firms identifying an inadequately educated workforce a 'major' or 'severe' obstacle to growth. While this suggests that access to human capital is not a severe problem for firms anymore, the interviews conducted during the research for this study gave a different picture and are on a par with the employer survey commissioned in 2013 for the higher education report. In this study, 49% of industrial enterprises said that they face a lack of adequate numbers of qualified specialists with a higher education degree. Similarly, other sectors reported severe shortages.[8] Rigid admission policies contribute to this challenge. For instance, in 2006-2010 there was a 30% increase in applications for industry-related disciplines. Yet, due to rigid admission procedures this has not translated into increasing graduate numbers in the science and engineering fields, severely restricting the talent base.



Share of firms reporting difficulties in hiring specialists with higher education degrees [Source: World Bank, 2018]

In general, individuals with secondary vocational training or tertiary education have better employment prospects than individuals who only complete secondary education. Recent statistics show an employment rate of 94% for all higher education graduates in the 2017/18 academic year six months after graduation. However, skills of both graduates from the vocational secondary education background and tertiary education graduates do not match market needs. To date the distribution of graduates' specializations is driven by government priorities rather than by market needs as the following graphic depicts.

Similarly, only 30% of secondary vocational education graduates found employment in their field of specialisation. [9]



Mismatch between Uzbekistan's higher education system and market needs [Source: World Bank, 2018]

Only 0,02% of GDP spent annually on R&D

The national-level indicator R&D expenditure measures annual R&D spending as a percentage of total GDP. In Uzbekistan, this results in only 0,02% of GDP. Uzbekistan hence ranks lowest compared to all countries analysed in the SFI.

The lack of R&D spending has directly translated into the research outcome of the country being insufficient. Uzbekistan lacks significantly behind in number of researchers and scientific publications produced by Uzbekistan's higher education staff. Official statistics cite only 357 published scientific articles in 2016. Kazakhstan on the contrary, produced 1.564 research publications during the same time frame. This leaves little scope for university research to be commercialised. However, during the interviews, university stakeholders highlighted that the budget for R&D had increased in the last year. They also highlighted that researchers are now encouraged to publish articles in the SCOPUS database and that the fee for publishing articles is reimbursed by the university.

During the interviews, most of the Uzbek universities ascribed to a third mission for furthering socio-economic development by commercialising research output and highlighted joint research cooperation with the private sector. However, government officials responsible for the support of commercialising research highlighted severe challenges in identifying fundable research, namely a lack of ideas that could be successfully brought to the market. Moreover, the restrictions in the inflow of Foreign Direct Investments (FDI) and the monopolisation of certain key sectors limits competition and offers little incentive for state-owned companies to be innovative. The Enterprise Survey 2013 confirms this picture. 0% of surveyed small and medium companies (5-99 employees) and only 1,7% of large companies (100+ employees) said that they spent funds on R&D. This is in strong contrast to the European and Central Asian average of 10,2% of small companies (5-19), 15,1% of medium sized companies (20-99) and 23,8% of large companies (100+) spending on R&D. The last time Uzbekistan participated in the Global Innovation Index (2015) it ranked 122nd out of 141 countries.

Overarching framework for science and technology does not exist

Before 2016, there has been a significant gap in government efforts to coordinate R&D. The objective of the recently set-up Ministry of Innovative Development is to overcome this problem and to stimulate research and commercialisation. Two laws, namely the Law of the Republic of Uzbekistan on Innovative Activities and the Law of the Republic of Uzbekistan on Science were drafted and published for public discussion in March 2018. Little has happened since then. The Law on Innovative Activities is still in a drafting stage, despite original plans to implement the law at the end of 2018. There have been no updates on the Law on Science since it was published for public discussion. A representative of the Ministry for Innovative Development highlighted that the law is currently under consideration by the Senate. The purpose of the document was to regulate scientific and technical activities as Uzbekistan lacks a single document containing legal provisions and an overarching framework for the science field.

However, in August 2018 the 'Innovative Development Strategy' was announced with an extensive roadmap envisioning the development of acts in the following areas (not limited):

- Identification of priority areas of science and technology for the development and financing of targeted state scientific and technical programs, technology transfer and commercialisation.
- Improving the scientific activity in the Republic of Uzbekistan.
- Stimulating the participation of the private sector in identifying and financing the priorities of scientific and technological development.

The main objective of the strategy is to catapult Uzbekistan into the league of the top 50 countries of the Global Innovation Index by 2030.

Labour Market

Subdomain of Human Capital

The working population of Uzbekistan has risen significantly in the last twenty years. 37% of the population is under the age of 19. A drop is not expected. Moreover, Uzbekistan is facing high demographic pressure for the age group zero to seven, indicating that Uzbekistan will have a large youth population for years to come.[10] Despite this labour market pressure, according to the latest modelled International Labour Organisation (ILO) estimates, Uzbekistan has an overall unemployment rate of only 5,2%, below developed countries like Canada, Luxembourg and Spain, but also other countries analysed in the SFI.

While these numbers seem low, one has to bear in mind that 41,7% of the total workforce are self-employed, with more women than men finding work by themselves: namely 42,1% of women and 41,1% of men. There are no official statistics that show the distribution of people that have voluntarily chosen self-employment as a career option versus those that engage in self-employment due to a lack of access to waged employment. However, stakeholders during the interviews stated that a significant share is necessity-based self-employment, with high numbers of people conducting business activity (mostly trading) due to necessity or for additional income generation, as a side activity to their normal jobs.

In many developing countries, self-employment is associated with poverty, especially for women. Indeed, self-employment or entrepreneurship for most women in Uzbekistan takes place in the informal cottage industry or home-based production. Other sectors women engage in include retail trade, agricultural production, handicrafts and the service sector. However, while Tashkent scores relatively well in terms of the number of firms with majority female ownership, ranking 10th out of 37 cities, other cities in Uzbekistan such as Samarkand report an upsetting 0,7%. Overall, Uzbekistan is behind the global average of 14,1%.



**Uzbekistan has an
overall
unemployment rate
of only 5,2%**

Low economic participation of women

In addition, Uzbekistan seems to be on a par with the global labour force participation rate average for women. According to latest estimates, the labour force participation rate of women stands at 53%, a relatively high number compared to other SFI countries.

However, at the same time, the male participation rate in the same segment is 78%. These numbers have to be taken with caution as the collection of statistical data is in dire need of improvement. A survey conducted by the European Bank for Reconstruction and Development (ERDB) in 2016 revealed key differences. According to this survey only 33,1% of women of working age were economically active, compared to 73,9% of men.[11] The current state of economic inequality for women has also been acknowledged in the Global Gender Development Index. Uzbekistan ranks 105th out of 189, compared to Kazakhstan being ranked 58th and Russia at position 49. In addition, the World Bank estimates that women's participation in the management of private enterprises is among the lowest in the Eastern European and Central Asian region.[12]

The reasons for low economic participation of women are manifold. Traditional gender roles have seen a come-back after the Soviet era. Stakeholders confirmed that especially after marriage, women were expected to assume traditional roles such as taking care of children. A survey found that 48% of those under age 30 and 54% of older respondents preferred a patriarchal family model.[13] Another study came to the conclusion that the term 'Gender' is not properly understood by key stakeholders entrusted with women empowerment and in many cases simply means working with women, especially in social fields. It was also observed that policy makers and the society in general reinforced notions of women as caretakers, being devoted, selfless and tender, contradicting images of women in leadership roles. Policies on economic development, private sector development and others, thus mostly take a gender-neutral approach, and miss required provisions that foster gender-equality.[14]

In addition, women entrepreneurs are often not taken seriously, and their roles are discouraged by men. Hence, during the research it was confirmed by stakeholders that women in tech are rare. Most female driven business activity in Uzbekistan is micro or small scale and is seen as an additional income source for families, rather than an activity for personal fulfilment and growth.

Furthermore, in Uzbekistan few women are pursuing higher education. In 2018, only 37% of students enrolled in Uzbekistan's universities were women. These numbers are below that of neighbouring countries, including Tajikistan. Surprisingly, Tashkent and Samarkand had the lowest enrolment numbers of all big cities. In addition, women's participation in higher education institutes is unevenly distributed across disciplines. Highest enrolment rates of women can be found in education studies and lowest in engineering. This can partly be attributed to gender stereotypes of professions. However, sectors with high representation of women were also those with the lowest average wages.[15] The low representation of women in higher education and other gender-related challenges have resulted in the talent base for entrepreneurship being low, especially for tech-related entrepreneurship.

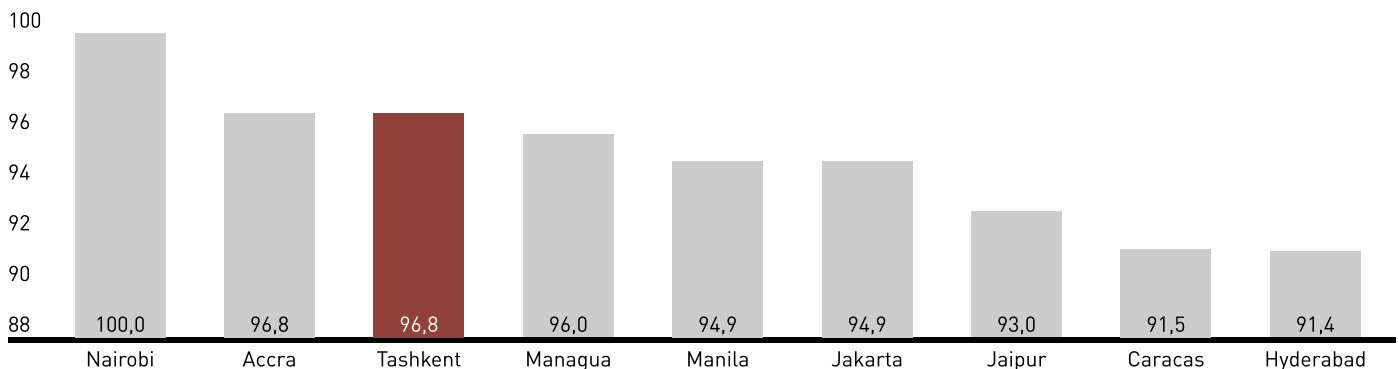
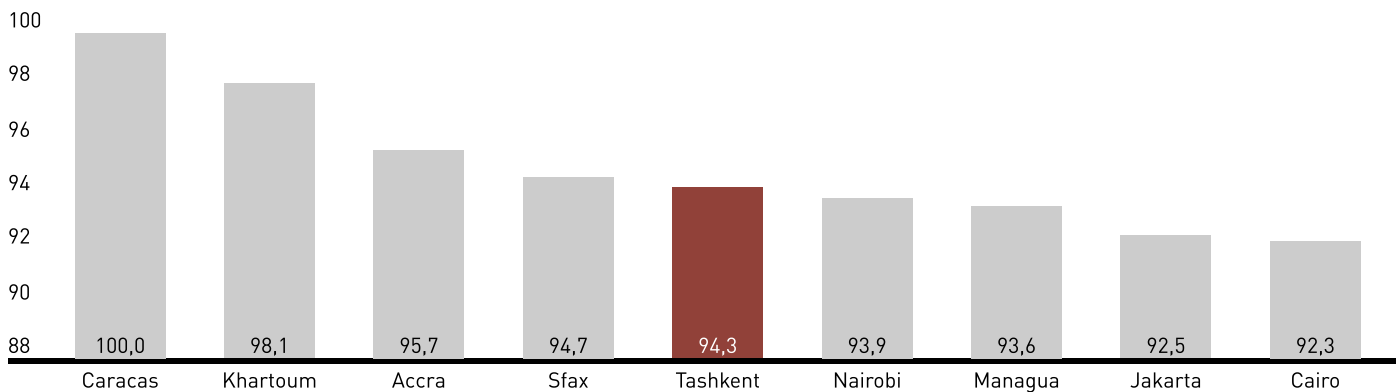
Something startling emerged during the analysis for this study: during the interviews, men in particular, did not agree with the findings uncovered and tended to relativize economic and social hardship of women, wherein almost all interviewed women highlighted severe challenges in all aspects of life. This leads to significant inequalities in terms of living standards for women. On the other hand, this also presents a huge area of opportunity for Uzbekistan. Integrating women more meaningfully into the economy could have a massive impact on future success of Uzbekistan, especially in the field of entrepreneurship. First initiatives, such as the Technovation Girls Global Program and the Central Asia Women in Tech & Science Week Conference conducted by ecosystem actors such as Brand.uz, StartupFactory.uz and Green Business Innovation (all three soon merging to Tech4Impact), address these opportunities and want to leverage the potential of women.

Affordable labour and expert cost

On the bright side, for those that are looking to start a new venture, labour is fairly affordable in Uzbekistan. A fresh graduate earns on average \$260 USD and a software developer \$570 USD on average. This places Tashkent among the most affordable cities in the global SFI average.

In addition, labour regulations are almost of no concern for Uzbek companies. A mere 0,8% of firms based out of Tashkent highlighted labour regulations as a major constraint, compared to 90,68% in Singapore. Uzbekistan is thus at the bottom of all SFI cities.

The reason for this is probably that the state till recently has played a central role in labour organisation and that till this day no real, independent trade unions exist in Uzbekistan. The only trade union is the Federation of Trade Unions of Uzbekistan that is part of Uzbekistan's social security system and acts as an extended arm of the state. Historically, Uzbekistan was characterized by a repressive system of labour relations that lacked worker's rights and favoured employers that were mostly state-owned entities. However, since 2016, Uzbekistan has embarked on a transitional journey and has ratified the ILOs convention on freedom of association and the right to unite in trade unions. [16] The outcome of these changes have yet to be seen since the economic transformation process is too nascent.



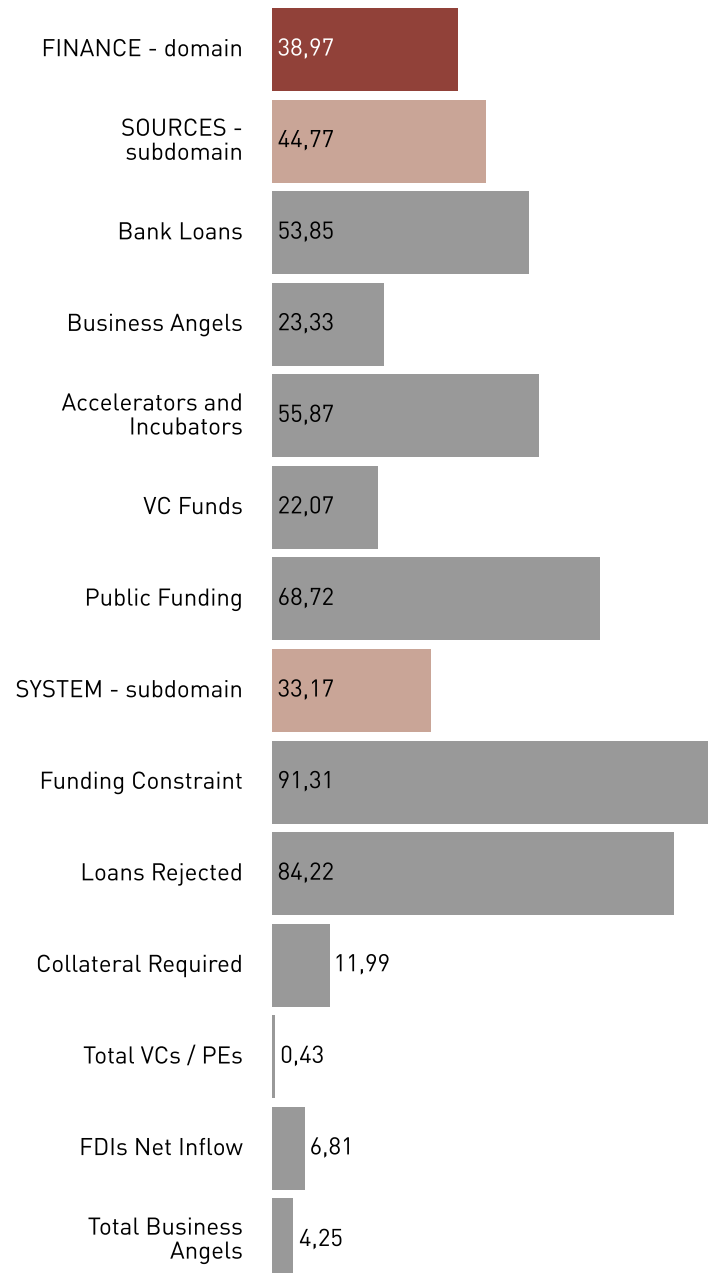
Ranked scores of top SFI cities in the graduates' salary and software developers' salary indicators

5.3 Finance

Being able to access adequate financial resources is a key element for starting and scaling a new venture. The Finance domain seeks to examine the financing options that entrepreneurs have by looking at two subdomains: Sources and Systems. While Sources describes the methods entrepreneurs rely on to secure funds, System covers systemic factors such as collateral requirements and FDI inflow, which may support or hinder financing efforts.

Out of 37 cities represented by the SFI, Tashkent ranks 16th in the Finance domain and in the lower one-third among all analysed Asian cities.

While many entrepreneurs around the world struggle to overcome this hurdle, the challenge is particularly pronounced for Uzbek entrepreneurs. Business Angel and Venture Capital funding is almost non-existent in Uzbekistan and entrepreneurs highlighted access to finance, besides access to talent, as one of the biggest challenges Uzbek entrepreneurs face.



Indicator scoring in the finance domain

SFI Scores relative to the Global SFI. Scores range from 0 - 100

Sources

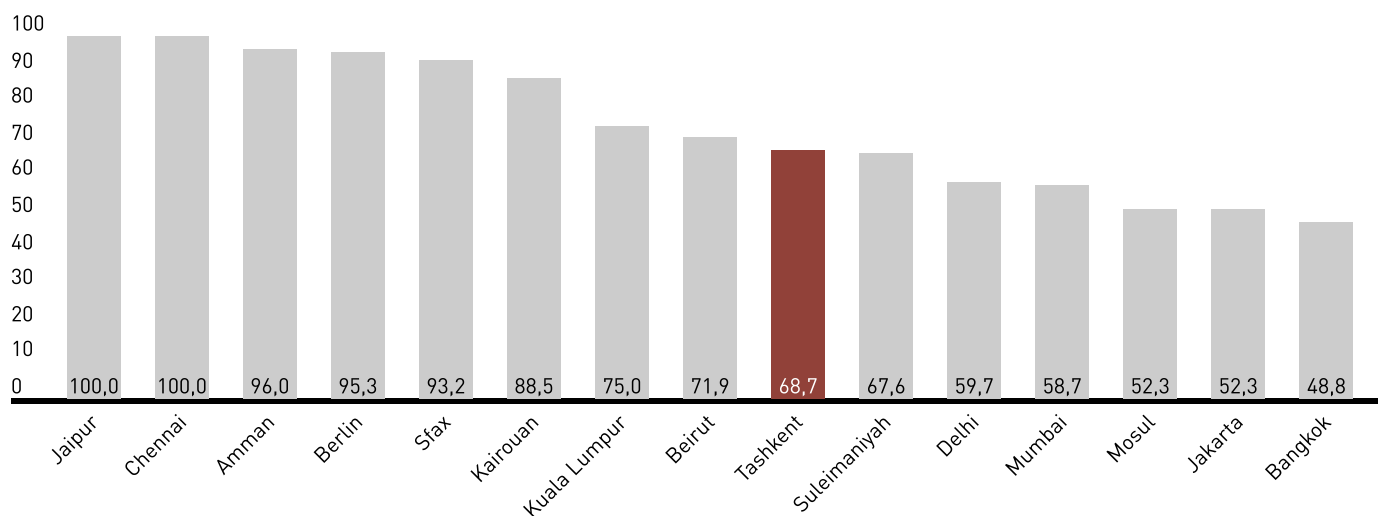
Subdomain of Finance

Liberalisation of the financial market is underway

In Uzbekistan, capital is hard to come by. Like the economy, the financial sector is also in a state of flux with an ongoing liberalisation process. In 2017, the foreign currency regime was liberalised, easing the ability of businesses to trade internationally. In addition, the requirement for all types of businesses to convert foreign currency export earnings was abolished.

Free market mechanisms are now determining the exchange rate and foreign currencies can be freely exchanged. However, the finance sector in Uzbekistan remains underdeveloped and mainly represented by banking structures. 11 out of 28 banks are large state-owned banks and control approximately 80 percent of the system's assets.

As of 2018, the government was considering the privatisation of non-strategic state-owned banks. However, they did not want to touch state-owned core financial institutions. The Tashkent stock market with a mere \$300 million USD is still relatively low, although the government has initiated several privatisation projects. Micro finance institutions, insurance and leasing companies exist but are either poorly developed or play an insignificant role.[17] [18] [19] [20] In addition, no legal basis for crowdfunding yet exists and there are only a few homegrown angel investors active in Uzbekistan.



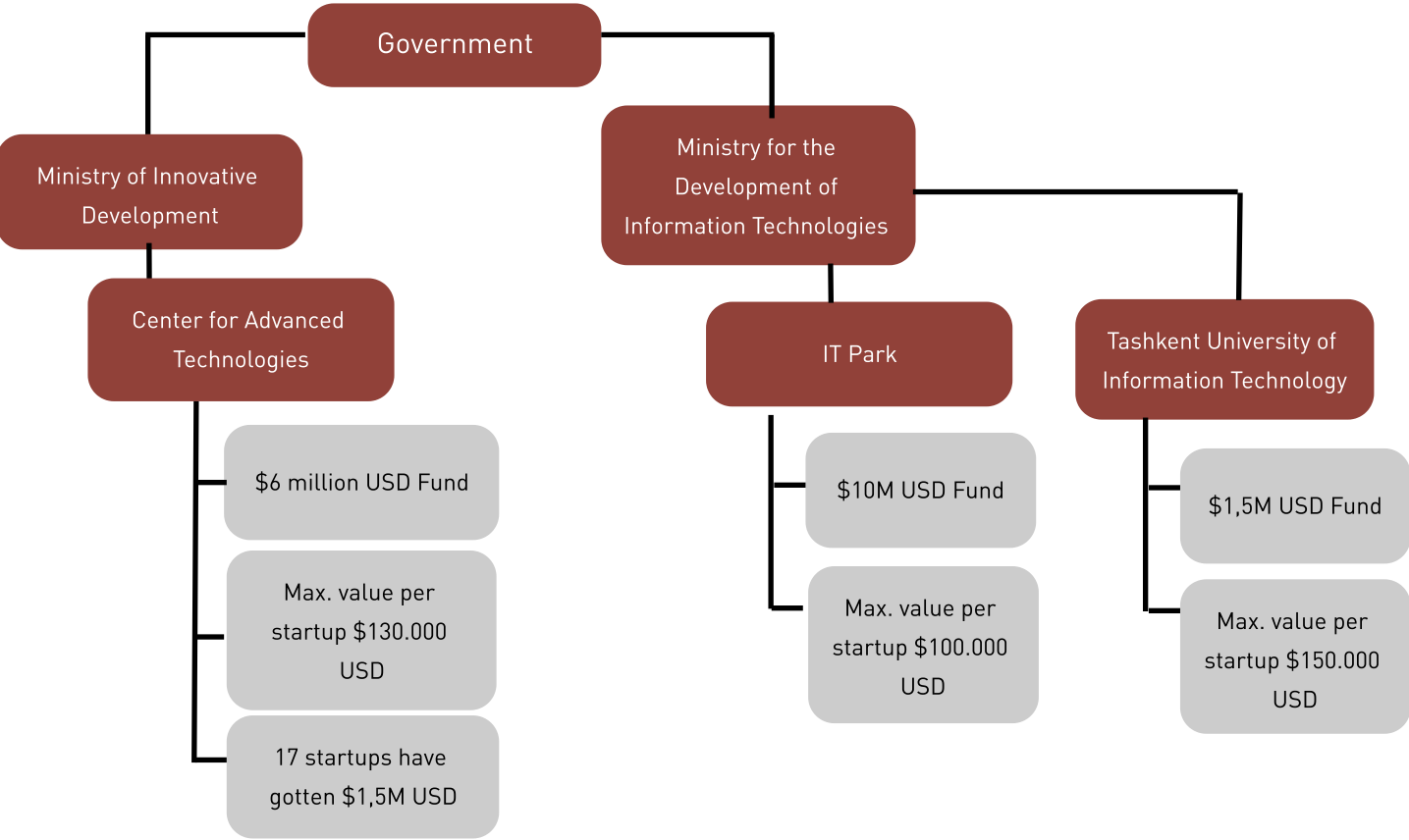
Ranked scores of the top 15 SFI cities in the public funding indicator

The government is addressing the lack of access to finance for startups

The Uzbek government acknowledges the problem of access to finance for startups and has set-up several funds anchored with its subordinate organisations.

Stakeholders are recognising the efforts of the government and rate availability of public funding with an average of 2,88 (5 being very high), ranking Tashkent at 9th position among all SFI cities.

However, several issues remain. Stakeholders during the interviews highlighted that the funds of the government for individual startups are generally larger in size, thus only benefiting a few. But there is a need for smaller grants in the range of \$5.000-6.000 USD, benefiting a wider audience of entrepreneurs. Recognising this need, the Ministry of Innovative Development contributed approximately \$20.000 USD to the 'Startup Initiative' of UNDP in 2018, jointly conducted with the Chamber of Commerce and Industry, with the best startups receiving around \$4.200 USD. Initiatives like these are still rare and there is a significant demand for more such grants.



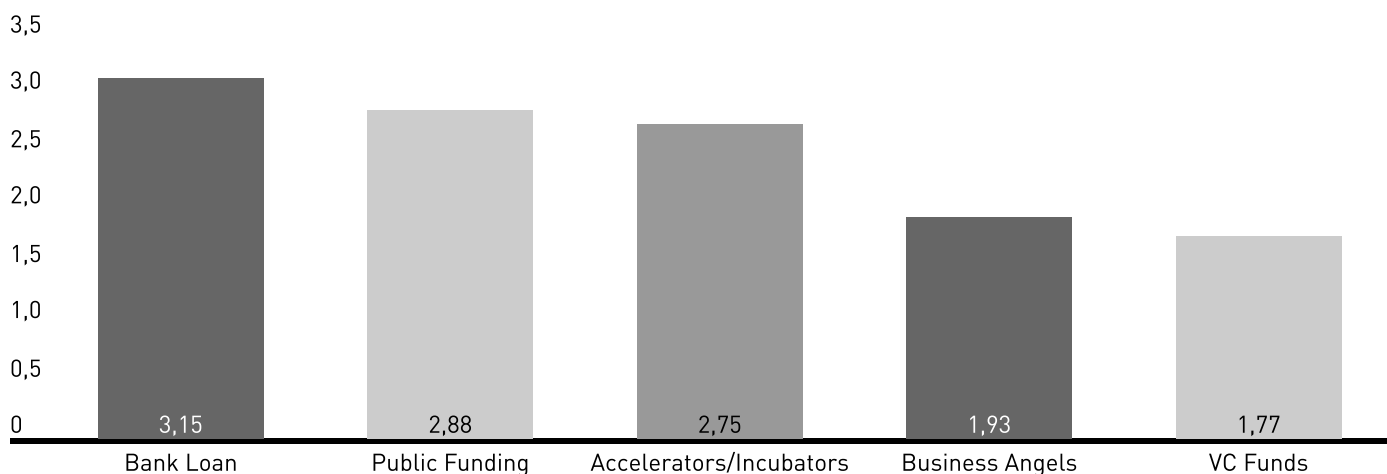
Government funds for startups

Liberalisation vs. protectionism

Further, despite subordinate structures being entrusted with startup activities and the overall startup selection for financial support, the final decision for the funds managed by the IT Park and the Center for Advanced Technologies remains with their line ministries, reducing transparency in the overall process and making it prone to corruption. In addition, it is questionable whether the ministries have the financial expertise to make informed investment decisions. While IT Park mentioned taking equity of 5-10%, startups sitting in the Center for Advanced Technologies reported that they were urged to provide up to 20% of equity, showcasing the persisting strong influence of the government in the private sector. Some startups said the state control coming along with these funds creates hesitancy among entrepreneurs to accessing government funds. There are currently no foreign VCs legally based in Uzbekistan closing this gap. The only official domestic VC fund (Astron VCs) seems to not have invested any funds in the start-up space yet.

A fund of funds by the government leveraging, private capital and expertise, especially in the investment process, allowing for independent flow of capital and creating incentives for foreign investors to enter Uzbekistan does not yet exist. Instead, the government sees itself in the lead of solving the VC funding puzzle. The Ministry of Innovative Development has been put to task, reportedly, to create its own Venture Capital Fund, manifesting the state dominance in the startup sector. However, end of September 2019, the IT Park announced that the newly established Venture Fund will only invest in startup projects if there is a direct financial or corporate co-investor for the target project.

Given the lack of VC funds, Tashkent is among the SFI cities scoring lowest on availability of Venture Capital, with the respondents rating the availability of Venture Capital with an average of 1,77 (on a scale from 1 to 5, 5 being very high). In addition, the availability of VC funding as a financing source for startups in Uzbekistan was overall rated lowest by the survey respondents.



Rated availability of financial sources for startups in Uzbekistan (5 being very high)

System

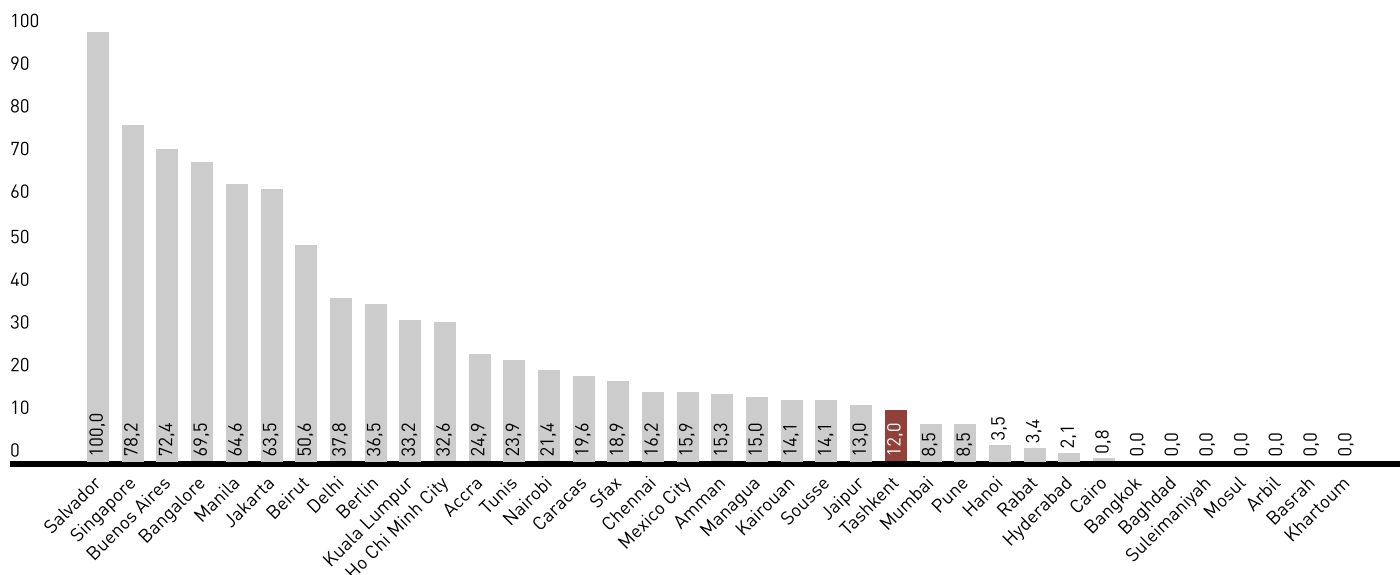
Subdomain of Finance

Bank loans as the most common source for financing of startups

According to the survey respondents, banks loans are the most widely available financial source for entrepreneurs. Yet, the banking system is characterised by state interference in loan decisions and favoured lending to state-owned companies. For smaller companies lending is heavily collateral-based with high interest rates. 90,8% of loans in Tashkent are collateral based. In Samarkand, 99,6% of loans require collateral as backup. Thus, Tashkent is among the SFI cities with the highest proportional need of collateral for loans.

To tackle this issue, the government has introduced the state program “Youth is our Future – Yoshlar Kelajagimiz”, which gives preferential loans with an interest rate of 7% to entrepreneurs. According to the program, till date, 1.600 entrepreneurs have received \$40 million USD. The program also provides guarantees of up to 50% of the loan amount, amounting to not more than approximately \$105.000 USD. There is also an option for equity participation as a co-founder in the projects of the entrepreneurs of up to 50% of the project amount and its implementation for five years.

Despite a loan being involved in the proceedings, the state keeps the option open to become a co-founder in the project, once more indicating the persisting strong influence of the government in the private sector. While envisioned as a loan for entrepreneurs, startups reported difficulties in accessing the loan and preferential loan disbursement to bigger companies. They also stressed that they had seen incidences of the loan being misused for household purposes rather than entrepreneurship projects. In addition, the loan disbursement process raises questions: the fund manager reported that once a year, program staff visit houses to promote the loan product. This may push people into loans that they otherwise would not have taken. This is especially critical since overall financial literacy in Uzbekistan is still low. The 2017 Findex survey reports that only 37% of people aged 15 and older had a bank account. Digital finance, especially, remains an area of improvement: only 7% used the internet to pay bills or to purchase online (compared to 24% in Kazakhstan and 40% in Russia). Only 7% used the mobile phone or the internet to access an account, compared to 18% in Kazakhstan and 33% in Russia.[21] This offers huge potential for fintech startups to emerge as a strong sector.



Ranked scores of all SFI cities in the ease of getting loans without collaterals indicator

Foreign investors are keeping a close watch on Uzbekistan

With difficulties to access loans, especially for young entrepreneurs, the importance of business angels and VC funds rises. As outlined in the previous chapter, there currently exists only one local VC fund in Uzbekistan seeking to support startups.

For foreign investors Uzbekistan is still a dark horse. In early 2019, the Asia Frontier Fund based out of Hong Kong announced its entry into Uzbekistan by launching the AFC Uzbekistan Fund. In addition, all ministries have been urged to identify sources of foreign investments. Notwithstanding, the overall FDI net inflow remains low. With \$0,6 billion USD a year, FDI inflow is considerably lower in Uzbekistan than the global SFI average, ranking Uzbekistan 30th - among the SFI countries with lowest FDIs.

Investors continue to be hesitant to invest in Uzbekistan due to several reasons. The government still holds shares in all key industries, e.g. energy, telecommunication and mining.

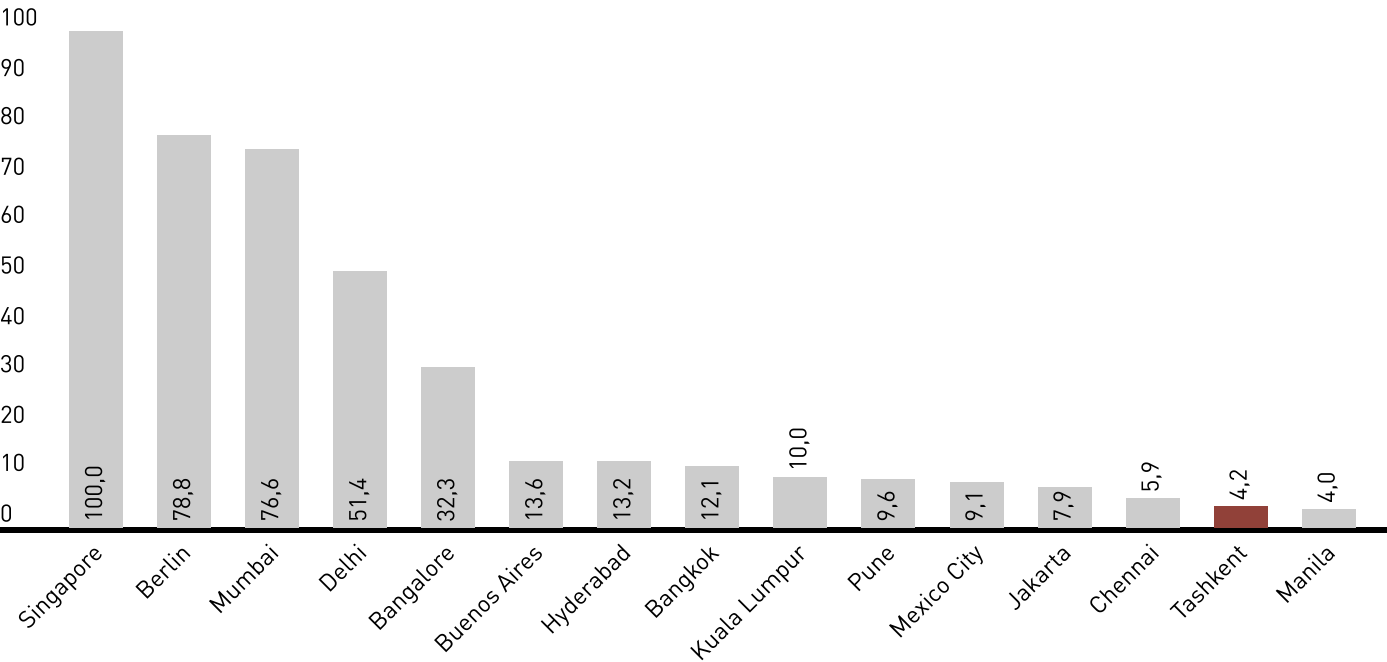
In addition, investment and capital flow into, for example, the raw cotton market is still controlled, making the textile sector uncompetitive for foreign companies. At the beginning of 2019, Uzbekistan's Investment Promotion Agency was established with the goal of providing information and legal support to foreign investors. Additionally, the introduction of a one-window system for investors was announced for July 2019.[22] However, as of August 2019, this system seems not yet to be in place. Also, according to Sander, FDI projects are still closely scrutinized and there is no standard and transparent screening process for FDI.[23] On the banking side, sources say that the government is currently drafting a new banking law, lifting restrictions on foreigners owning up to 5% of a bank's share, paving the way for a new privatization wave. The details of the law are still unknown.[24] It is yet to be seen where the country is heading to and predictions are difficult to make.

The number of active business angel investors remains low

The number of Business Angels throughout Uzbekistan is notably low. According to several stakeholders, there are currently not more than 10-15 active Business Angels, placing Tashkent at position 14 in the SFI. However, surprisingly, based on data from AngelList, there are over 5.000 foreign investors that have registered interest in investing in Uzbekistan. This is quite significant compared to the global SFI average of 3.400. It is to be hoped that this interest will translate into reality and play an increasingly important role in developing the Uzbek startup scene.

In my opinion, there are not more than 10 to 15 business angels active in Uzbekistan, with 5 to 6 being comparatively tech-savvy.

- Startup Founder



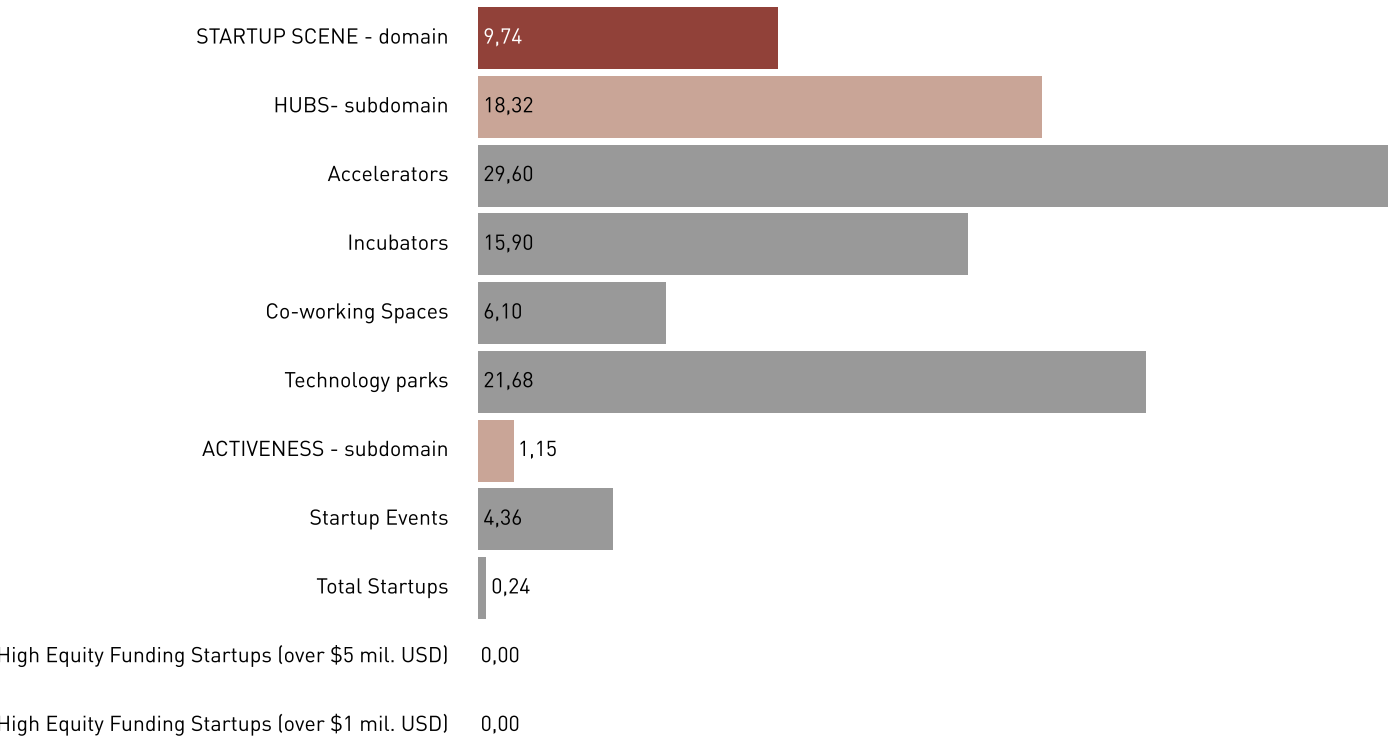
Ranked scores of the top 15 SFI cities in the total number of business angels indicator

5.4 Startup Scene

The **Startup Scene** domain seeks to measure the maturity and liveliness of a city's startup culture. Cities with a more vibrant startup scene foster continued growth for startups by facilitating networking and learning, providing resources and encouraging an entrepreneurial spirit. The Startup Scene is composed of two subdomains, namely Hubs and Activeness. The Hubs subdomain measures the availability of institutional capacity such as accelerators and co-working spaces, while the Activeness subdomain covers indicators related to events, numbers of startups, and if there are high-equity cases.

Out of 37 cities represented by the SFI, **Tashkent ranks 29th in the Startup Scene domain** and lowest amongst all analysed Asian cities.

Especially in the Activeness sub-domain Tashkent scores significantly low. In the Hubs subdomain, Tashkent is among the middle-ranking cities and ranks 10th out of 37 analysed cities. In Uzbekistan, startup culture and ecosystem development are in the early stages, thus, offering plenty of opportunities to improve.



Indicator scoring in the startup scene domain
SFI scores relative to the global SFI. Scores range from 0 - 100

Hubs

Subdomain of Startup Scene

An early premature startup ecosystem

Uzbekistan is an early premature startup ecosystem with the first actors having evolved only in recent years. One of the first organisations to become engaged in the startup field was the private company Brand.uz. The company in conjunction with the Chamber of Commerce and Industry initiated the Startup Mix conference in 2013. With the growing audience of the conference and more stakeholders getting involved in the startup scene, the conference is currently conducted in partnership with the Inha University on their campus.

Another initiative of previous staff of Brand.uz is StartupFactory.uz who in 2016 conducted one of the first accelerators of Uzbekistan jointly with Brand.uz. The accelerator was not repeated. However, StartupFactory.uz in cooperation with Brand.uz established Green Business Innovation consultancy which operates under the same leadership. They have conducted several independent initiatives since 2016. For instance, in 2019, the Water Solution Innovation Lab Startup Accelerator was organised in collaboration with the Tashkent Institute of Irrigation and Agricultural Mechanization Engineers and its affiliated organisation the Innovations and Scientific Research Cluster and supported by USAid and CAREC. The StartupFactory.uz consortium has also organised several short-term projects with other international partners.

For example, StartupFactory.uz is the official organiser of the Technovation Girls challenge in Uzbekistan. These initiatives are often donor funded and thus, lack long-term sustainability. However, to bring all initiatives under one umbrella and strengthen its position in the ecosystem, Brand.uz, StartupFactory.uz and Green Business Innovation are currently merging to form Tech4Impact. Around the same time, UNDP in collaboration with the Chamber of Commerce and Industry launched the pilot program “Startup Initiatives” supporting 30 teams in the first year. Till this day, the initiative has conducted three cycles of the program and supported 90 teams in 2018.

While private initiatives have dominated the initial developmental stages of the ecosystem, since the Government has declared startup and entrepreneurship promotion as its key priority, it is leading the efforts in developing the startup sector through its subordinate structures as highlighted above.

A growing number of co-working spaces

Besides these private and donor-funded initiatives, Tashkent has a handful of impactful private co-working spaces: the GroundZero network being the largest one in Tashkent. GroundZero currently operates five co-working spaces in Tashkent and seeks to expand its network to 30 co-working spaces across Uzbekistan. However, according to Ground Zero, the co-working centres are mainly frequented by freelancers and only twelve startups were using the co-working spaces of Ground Zero during the research phase. Startups highlighted financial challenges as a barrier to access the space and pointed out the need for additional infrastructure such as labs. To increase its outreach and usage, GroundZero regularly cooperates in events and offers space as a price. **Overall, access to co-working spaces as well as testing and production infrastructure was mentioned as challenges to startups.** A makerspace does not yet exist. Though, Tech4Impact has plans to open a MakerSpace by the end of 2019, combining labs with co-working space.

Besides co-working, GroundZero also offers training, events and programs for startups, the in-house 'Startup School' being the most prominent one. More of a pre-accelerator program, the 'Startup School' supports aspiring entrepreneurs in a three-months education course on how to build a startup in five steps. The education part is followed by six-months ad-hoc support for the aspiring entrepreneurs. For 2019, GroundZero is planning to also connect the entrepreneurs with mentors to eventually arrive at a full-fledged accelerator program. Another co-working space in Tashkent is C-Space.

Entrepreneurship promotion in universities is nascent

During the research, only three academic institutions actively working in the startup space were identified, with private universities being ahead of their public peers. Under the umbrella of the Tashkent Institute of Irrigation and Agricultural Mechanisation Engineers, a public university, the independent Innovations and Scientific Research Cluster has been set-up. The cluster aims to provide innovative solutions to water and environmental challenges in Central Asia by building a bridge between science, practice and policy. Besides conducting various events, the cluster also partnered for the Water Solution Innovation Lab Startup Accelerator.

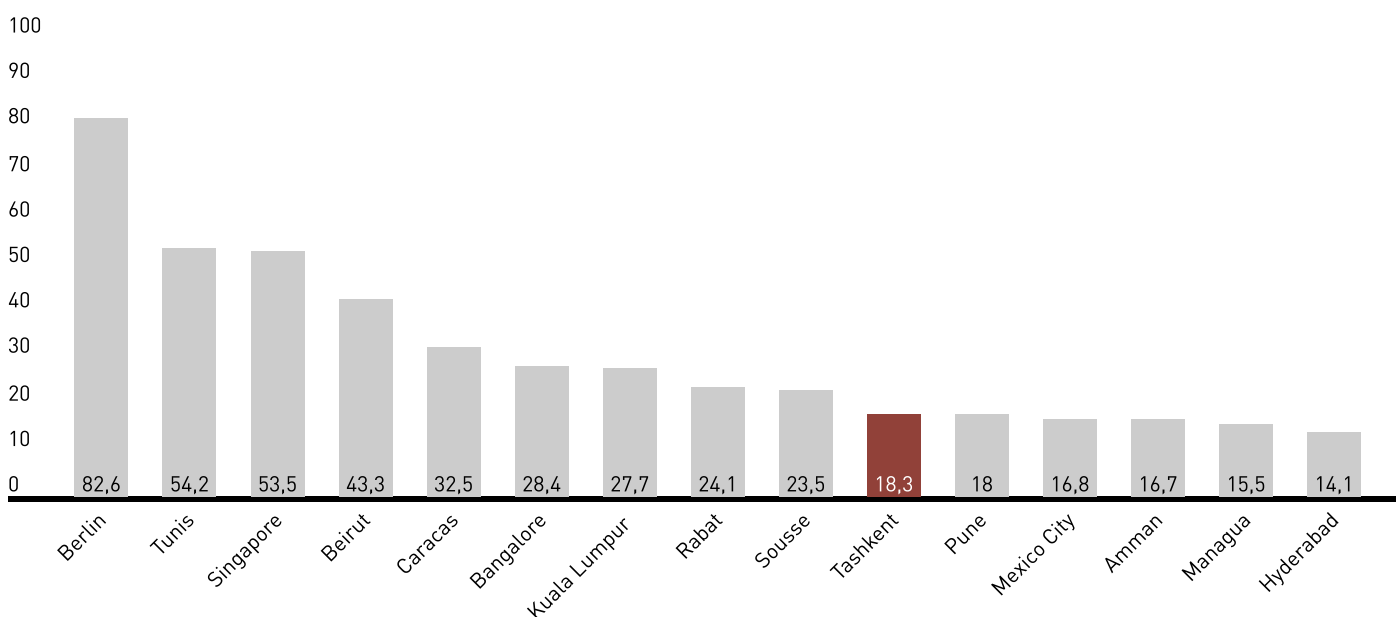
The Inha University, a Korean private academic institute, mentioned during the interviews that they have set-up a Center for supporting active entrepreneurship, innovative ideas and technologies. The center aims to expand research and innovation capacity at the Inha University to ensure the commercialisation of scientific research and intellectual activities and enable student startups to have more access to experienced players in the ecosystem. The center provides incubation support to aspiring entrepreneurs by offering space, office infrastructure and supervisors that support the prospective entrepreneurs.

The program is followed by an accelerator that provides mentorship, conducts field trips and equips the aspiring entrepreneurs with the right skillset. Both incubation and acceleration is jointly conducted within a timeframe of six months. However, stakeholders highlighted that the incubation and acceleration program offered by the university are not full-fledged programs and that there is ample need for improving existing programs. Besides incubation and acceleration support, the University is implementing a variety of events such as the Open Data Hackathons, the Startup Mix Conference and the Technovation Challenge with various partners. Another private university, that seeks to increase its engagement in the startup space, is the Westminster University. As of August 2019, the university was setting-up an entrepreneurship lab called 'Innowuit'.

The center seeks to accelerate the startup culture in Uzbekistan and will consist of a three-month startup accelerator program and a student-in-residence program, which places students in bigger corporations.

Overall, the university landscape is underrepresented in the entrepreneurship ecosystem, especially since universities are the key talent source and lay the foundation for an entrepreneurship ecosystem in a country.

Given these recent efforts, **Tashkent ranks fairly well in the overall SFI, ranking 10th out of 37 cities**, with Tashkent ahead of cities such as Mumbai, Delhi, Bangkok and Nairobi. However, this is mainly due to the indicator correlating the number of hubs with every 100.000 inhabitants. While cities like Mumbai and Nairobi have a more vibrant startup scene, they also have a significantly higher population to cater to, thus reducing their overall score in the Hubs subdomain.



Ranked scores of the top 15 SFI cities in the hubs subdomain

Activeness

Subdomain of Startup Scene

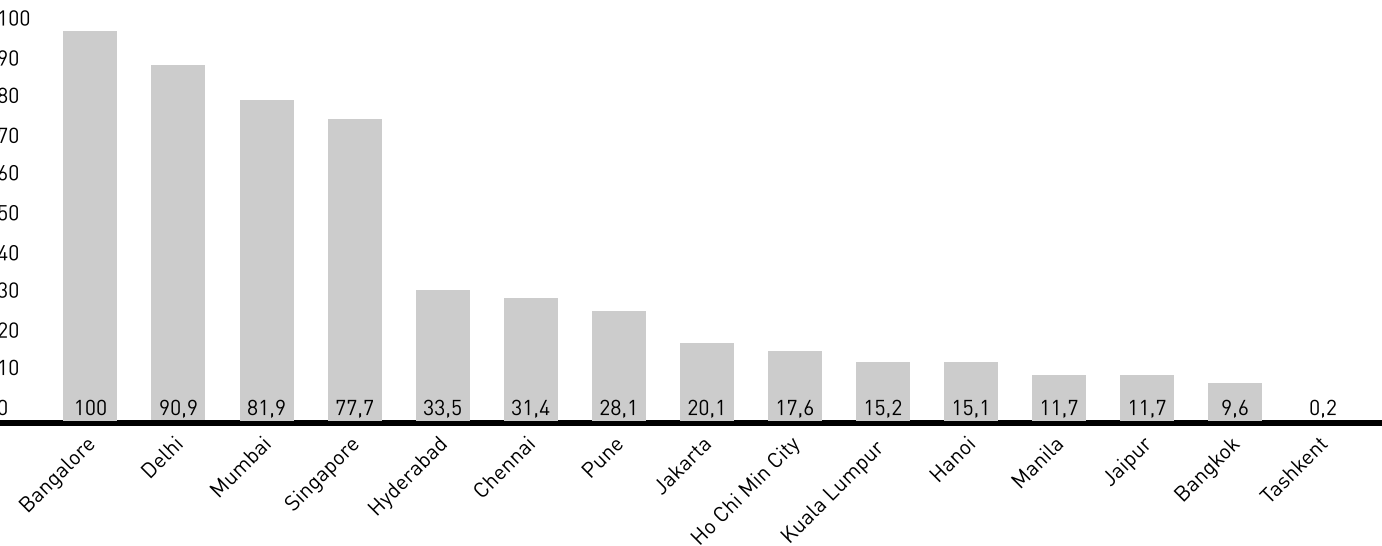
Uzbekistan has yet to see high equity funding

The Activeness subdomain measures the vibrancy of a startup ecosystem in terms of events, number of startups and high equity cases. A higher total number of startups and startup related events in a city has a significant impact on the growth of the ecosystem as they increase visibility and encourage others to become involved.

In the Activeness subdomain, **Tashkent scores amongst the lowest one third of all SFI cities and is at position 29.** While Tashkent with regard to events still ranks somewhere in the centre (position 20 out of 37), it ranks amongst the lowest with regard to high equity funding and total number of startups, significantly decreasing Tashkent’s overall score in the Activeness subdomain.

While success stories such as MyTaxi exist, Tashkents’ startup ecosystem is not supported by any high-equity success cases. However, success stories are relevant for the future strength of the ecosystem as they can provide a blueprint for future startup founders, bring knowledge into the ecosystem and most importantly attract attention to the city as a potential location for investment. Successful startups can also encourage others to become a part of the startup scene, and employees of such start-ups often begin their own ventures later.

Given the early stage of the startup ecosystem, the total number of startups is unsurprisingly very low. Several stakeholders during the interviews highlighted that there are not more than 10-15 scalable startups currently active in Uzbekistan, placing Tashkent at position 30 in the global SFI and last in the Asian SFI ranking.



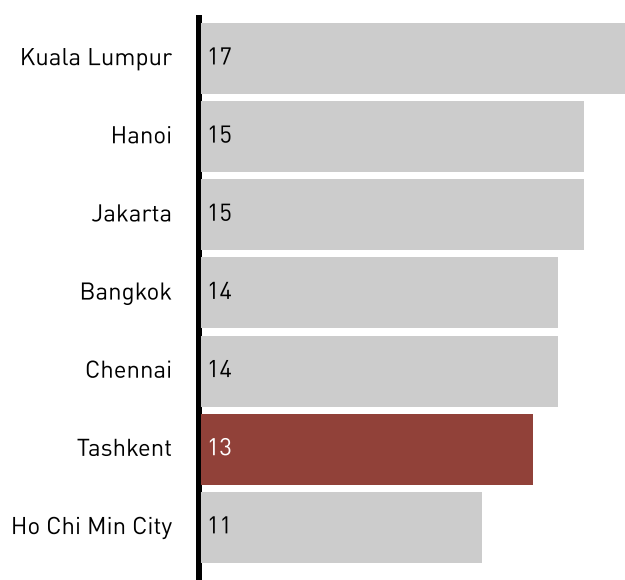
Ranked scores of all Asian SFI cities in the number of startups indicator

A growing number of events involving global startup support organisations

Signifying the potential of the start-up ecosystem is the growing number of events that also involve global partners:

- Garage48 jointly with GroundZero has conducted a hackathon for start-ups in Tashkent.
- Techstars in collaboration with GroundZero conducted the Startup Weekend Tashkent.
- In September 2019, Seedstars will host SSWTashkent19 jointly with GroundZero. The winning team will have the chance to participate in the regional Seedstars Summit at the end of 2019 in Kazakhstan.
- StartupFactory.uz in cooperation with several organisations among others the Union of Youth and the Center for Advanced Technologies, is conducting the Technovation Challenge in Uzbekistan, that was initiated by Technovation, a global NGO empowering girls and families.
- SartupFactory.uz with ClimateLaunchpad, a global competition for green businesses, have conducted the program in Tashkent in 2019. The winners from Uzbekistan will participate in the Global Grand Final in Amsterdam in November 2019.
- IT Park jointly with Unbound held an elimination round for an international IT contest in Tashkent.

Not only have the number of events with global partners surged, there are also many local events coming up. Examples of larger local events are the Startup Mix Conference, the Inno Week and the Central Asia Women in Tech & Science Week Conference. Startup Grind, a global startup community, actively educating, inspiring and connecting entrepreneurs through events, was recently established in Tashkent. Many universities have also started conducting smaller scale competitions or start-up events to encourage entrepreneurship among their students. Given the increase in events, Tashkent ranks on a par with other Asian cities that are significantly bigger than Tashkent.



Number of events per year

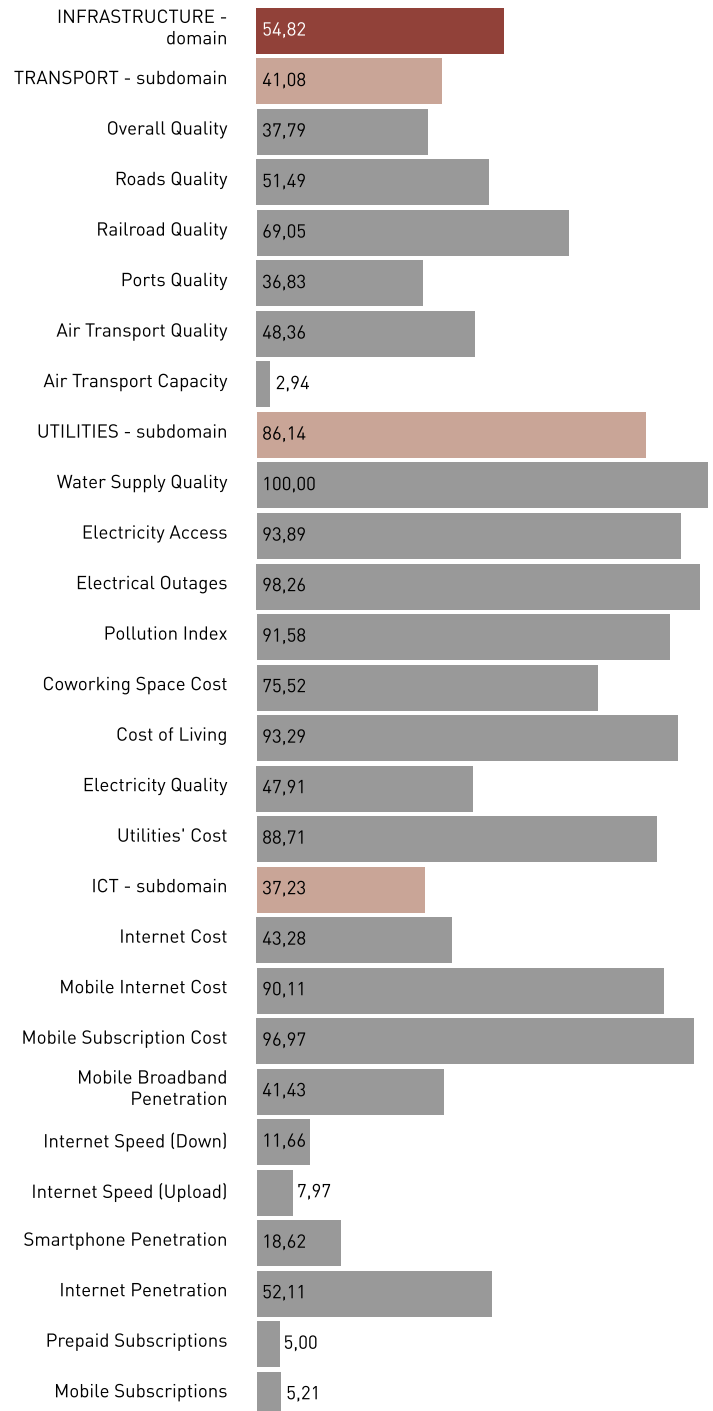
5.5 Infrastructure

High quality infrastructure, from basic necessities such as roads and consistent access to water and electricity, to ICT and internet penetration, is an important foundation from which startups can build. The infrastructure domain is assessed by analysing a city's quality of transportation, utilities, and IT factors such as the spread of internet and smartphone penetration. In particular, this domain measures the costs associated with infrastructure, and whether there are structural or cost barriers to doing business. For this purpose, the Infrastructure domain is composed of three subdomains, namely Transport, Utilities and ICT.

The Transport subdomain considers the quality of transportation, including roads, railroads, ports and air transport. Given the national nature of much of the transit infrastructure and data limitations, this subdomain is entirely measured from a country-level perspective.

The Utilities subdomain on the other hand, considers quality indicators for electricity and water supply, access to electricity, frequency of outages, air pollution levels, costs associated with co-working spaces, general living expenses and utilities. The Electricity Quality indicator is the single measure from a country-level, while the rest are assessed from a city-level.

The ICT subdomain measures the availability and affordability of internet and mobile connections.



Indicator scoring in the infrastructure domain
 SFI scores relative to the global SFI. Scores range from 0 - 100



**Out of 37 cities
represented by the
SFI, Tashkent ranks
13th in the
Infrastructure domain**

Infrastructure development is a key priority for the Uzbek government in the years to come and the government has already initiated several key projects that positively reflect in the overall SFI ranking. While Tashkent scores highly in the Utilities subdomain and ranks first in the global SFI, the country significantly loses ground in the Transport subdomain (rank 18) and the ICT subdomain (rank 24).

Since the opening of the economy, several multilateral organisations have committed funds to supporting the infrastructure development of Uzbekistan. For the first time after decades, EBRD in 2018 committed €333 million to support infrastructure projects in the area of water, power supply and district heating.[25]

Around the same time, the World Bank approved the 'Medium-Size Cities Integrated Urban Development Project', which is supplemented by a \$100 million USD loan from the International Bank for Reconstruction and Development (IBRD). [26]

Other funds in the sector come from the Asian Development Bank, Islamic Development Bank and the Saudi Fund for Development among others.[27] Despite recent efforts, large disparities in the infrastructure development between rural and urban areas remain.

Transport

Subdomain of Infrastructure

New wave of infrastructure projects

Following the adoption of a new country strategy for Uzbekistan, the republic is seeing a new wave of infrastructure projects targeting the transportation sector. While Uzbekistan's infrastructure is extensive, decades of isolation have left the country in dire need of modernisation. However, high quality infrastructure is important for entrepreneurs, since it can impact many aspects of their business, from importing supplies to commuting to work and delivering goods to customers. Improving the transportation system in Uzbekistan would likely help improve the overall situation for Uzbek entrepreneurs.

Uzbekistan's railroad is among the best in Central Asia

Uzbekistan is a landlocked country with the closest seaport being in Pakistan or Iran. Thus, Uzbekistan is heavily dependent on its rail transport system for passengers as well as freight transport. In 2018, more than 60% of freight was transported via railways.[28] While Uzbekistan has a relatively widespread rail network compared to other regional counterparts, modernisation has been slow. An analysis by ADB in 2017 indicates that 90% of the wagon fleet needs replacement between 2017 to 2026.[29]

Realising the importance of the railway network, the government is seeking to strengthen the role of the Joint Stocking Company (JSC) O'zbekiston temir yo'llari that was founded by a presidential decree in 1994.[30]

The JSC development strategy outlines several points to improve the overall railway sector, such as (although not limited to):

- Improvement and update of the fixed assets of the railway transport system
- Uniform development of the railway transport infrastructure and an increase in crossing and carriage capacity of all railway lines
- Improvement of framework conditions to attract investments in the sphere of railway transportation and to grow the volume of transit freight traffic
- Increase in the length of electrified lines
- Development of a system of multimodal transport and logistics centres for implementation of a system of transport corridors, etc.

Given these efforts, Uzbekistan scores highly on the railroad quality indicator, 69th out of 100, placing them at fourth position along with India

Several projects address Uzbekistan's need for modernizing roads

The road infrastructure has been on the decline in the last two decades. Stakeholders highlighted that especially outside of Tashkent the road infrastructure needs modernization. To address this issue, the program on 'Developing and Modernizing of Engineering Communications and Road Infrastructure for 2015-2019' was adopted seeking to expand and modernize highways and roads.[31] In addition, the State Committee of the Republic of Uzbekistan for Roads was established in 2017 responsible for developing policies, creating and implementing state programs for the development of the road network, developing international transit corridors, monitoring infrastructure projects and introducing innovative technologies and modern standards in the organisation of scientific research, design, construction, repair and maintenance of highways among other things.[32]

Several road infrastructure programs are currently being jointly implemented with international partners (selection):

- Regional Roads Development Project (2015-2021) supported by the World Bank with \$200 million USD
- Third CAREC Corridor Road Investment Program (2018-2020) supported by ADB with \$2,25 million USD
- East-West Highway (Khevi-Ubisa Section) Improvement Project (2018-2024) supported by ADB (\$300 million USD), the World Bank (\$140 million USD), European Investment Bank (\$560,55 million USD), Japan International Cooperation Agency (\$348,71 million USD) and the Government of Georgia (\$130 million USD)[33] [34]

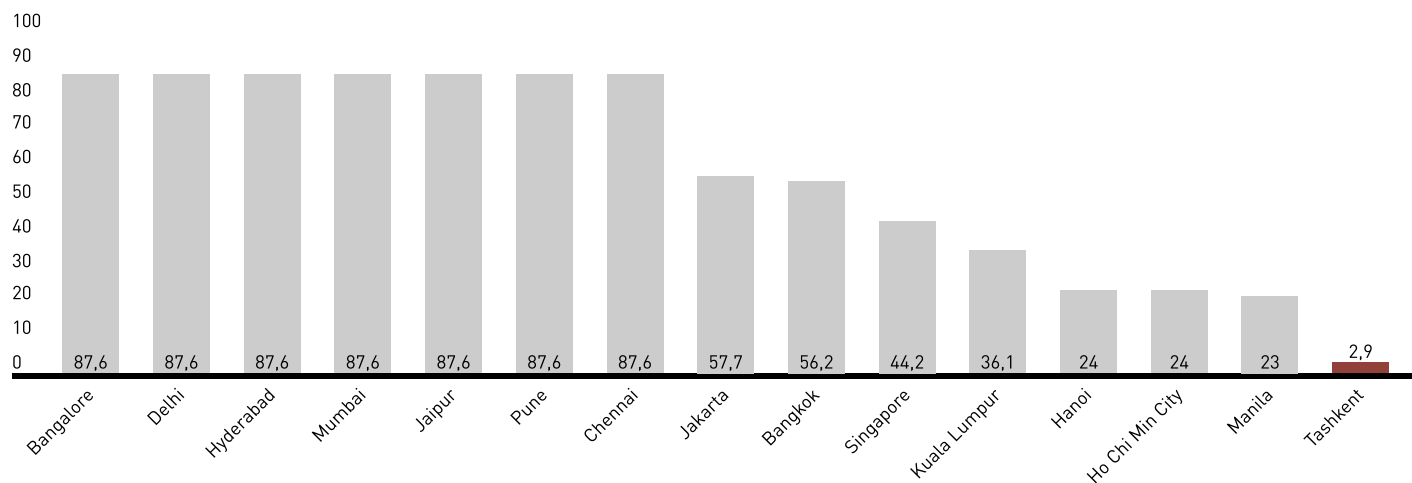
The road quality indicator fares slightly worse than the railroad indicator with a score of 51,49, positioning Uzbekistan at rank 16.

No seaports due to Uzbekistan being double landlocked

Double landlocked Uzbekistan does not have any seaports, thus scoring 0,00 in the SFI. The only option accessing the sea is through cooperation from neighbouring countries who have access and have built dry ports that are connected to the sea via the railway system. The Uzbek government understands the importance of connecting with other regional economies as trade partners. An international logistics centre was built in Navoi and Angren serving as dry ports.[35] In addition, in mid 2018 the local news reported the development of a dry port between Uzbekistan and Kazakhstan.[36]

Civil aviation sector in its infancy

Finally, the Air Transport Capacity indicator measured the availability of airline seats in millions of km per week. Uzbekistan has a low average score of 2,9% out of 100 and ranks lowest among all Asian cities.

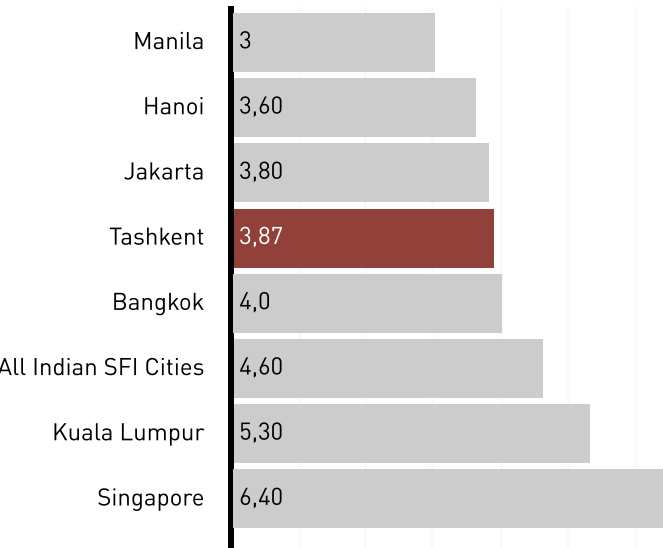


Ranked scores of all Asian SFI cities in the air transport capacity indicator

Uzbekistan’s local air travel sector is dominated by the state-owned Uzbekistan Airlines. Analysts of the World Bank report that Uzbekistan’s aviation sector has been among the slowest growing in the region. Only a few international airlines such as Turkish Airlines and Aeroflot service Uzbekistan, making general ticket prices very high for passengers. With Uzbekistan’s ambition to develop as a major tourist spot in the region, access to Uzbekistan for tourists via air has to be eased and improved. For this purpose, the government in 2018 signed a ‘Reimbursable Advisory Services Agreement’ with the World Bank to reform Uzbekistan’s civil aviation sector. The agreement envisions support from the World Bank Group to draft recommendations for the development of a civil aviation sector policy. In addition, the support includes advisory on attracting private sector participation in the aviation sector and on sector operations, including institutional and financing.[37]

Asked about the overall state of infrastructure (transport, communications and energy) in the country, survey respondents gave an average score of 3,87 with 1 being extremely underdeveloped and 7 being extensive and efficient.

This indicates that the foundational infrastructure requirements are in place in Uzbekistan but need significant improvement. Being landlocked, Uzbekistan faces disadvantages in building its international trade routes. However, several reforms and infrastructure/transportation projects have either been proposed or are underway with both local and regional partners.



Overall state of infrastructure rating of all SFI Asian cities

Utilities

Subdomain of Infrastructure

Uzbekistan scores best in the utilities subdomain

In contrast to the lower score in the Transport subdomain, Tashkent scores best in the Utilities subdomain with 81,6% in the global SFI. However, all cities analysed, score relatively well in this subdomain, with 25 countries recording between 70-86%.

Climate change will contribute to an increasing water scarcity

Tashkent entrepreneurs report zero water shortages in a typical month (without considering rare climate conditions). However, a study by the World Bank found that access to water is significantly more challenging outside of Tashkent.[38] With a changing climate, the situation may deteriorate further. Central Asia overall is poor with regards to water supply and the Aral lake is almost depleted of its resources. The agricultural sector and in particular the water-intensive cotton sector has further aggravated this problem. The water challenge can only be solved by a regional approach as most of the currently used water resources come from the Amu Darya and Syr Darya river basins that span across Tajikistan, Kyrgyzstan and Uzbekistan. Realising this, the new president is more receptive in settling regional conflicts that could prevent a joint approach to resolving the water problem.[39]

Stable electricity in Tashkent, rural areas face occasional outages

Electricity outages are also rare in Tashkent, with less than 1,5 times per month on average. However, stakeholders during the interviews reported that the region's, electricity may occasionally present problems as "80% of the electricity infrastructure is still from the soviet time". A report by the World Bank confirms this statement: "Low reliability of electricity supply is a symptom of aging infrastructure as electricity transmission and distribution lines are about 30 years old, on average." [40] As almost all SFI cities score well in this indicator, Tashkent is only at position 17.

In addition, the government's mantra on increasing FDI will also soon show its effects in the electricity sector – positively as well as negatively. It is the government's goal to initiate privatization of the utility sector which will increase competition and modernization. However, this will come at a cost. Households and businesses will reportedly face steeper utility bills. While businesses will pay 36 percent more for electricity, households may face a surge of 18 percent.[41] This will potentially challenge Tashkent's relatively good position, ranking 11th out of 37 cities, in the utility cost for household's indicator in the future.

While politicians keep repeating that utility costs are still low in comparison to other regional counterparts, this hike will put further pressure on living costs for the population that is already faced with a growing inflation. Currently Uzbekistan is at position 15 with regard to cost of living in the overall SFI. The cost of living in Tashkent is \$597,82 USD on an average for a one-person household. In comparison to other SFI Asian cities, Tashkent is still relatively affordable and on a par with all Indian cities.

Average cost for a co-working space per person each month is \$96,10 USD

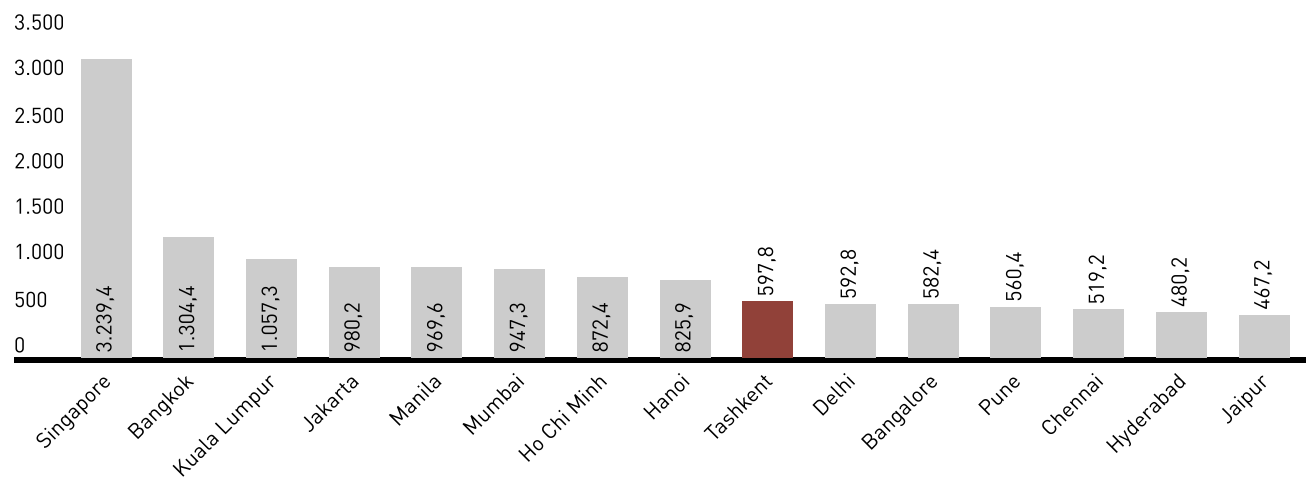
In the cost for co-working spaces indicator, Tashkent is also on a par with almost all Indian cities. The average cost for a space in an open plan co-working space per person each month is \$96,10 USD.

In comparison, Tunis, which has similar living costs as Tashkent, has an average cost of \$68,77 USD per month per person for a space. It is thus not surprising that startups interviewed during the research mentioned that they couldn't afford co-working spaces and perceived them as too pricey. This has resulted in not many startups in Tashkent utilising the provision yet.

Pollution is an insignificant problem in Tashkent

In the pollution indicator, Tashkent is at position 2, indicating lower levels of pollution in the city. However, like many other emerging countries, pollution is a problem. In March 2019, the government amended the law on the 'Protection of Atmospheric Air', determining new standards for maximum permissible emission into the air.[42] Not only air pollution is a challenge in Uzbekistan, industrial waste, the overuse of the water from the Aral lake that has led to the salinization of the ground and the heavy use of fertilizers and pesticides in the agriculture sector have contributed to the pollution of Uzbekistan's rivers and lakes.[43]

While general utility costs are favourable in Uzbekistan, climate change, a high inflation rate, rising energy prices and perceived high prices of co-working spaces pose significant threats for Uzbek entrepreneurs in the future. It is the government's task to continue to work on creating favourable conditions for the entrepreneurship ecosystem to flourish.



Living costs in USD in all Asian SFI cities

ICT

Subdomain of Infrastructure

E-Government Development Program 2013-2020

Uzbekistan's government has realised that a functioning ICT sector will be key to the country's development. **In 2015, Uzbekistan created the Ministry for the Development of Information Technologies and Communications** through a presidential decree, replacing the State Committee for Communications, Information and Telecommunication Technologies (CCITT).

The objective of the Ministry is to implement a unified state policy in the field of information technology and communications, the e-government strategy, accelerate the introduction of modern ICT, modernise infrastructure and monitor the ICT and telecom sector as a whole. Programs under the ambit of the Ministry include the 'E-Government Development Program 2013-2020' that seeks to improve public service delivery and advance digital development in Uzbekistan as well as the 'ICT Infrastructure Development program 2015-2019' that envisions the realisation of nine investment projects.

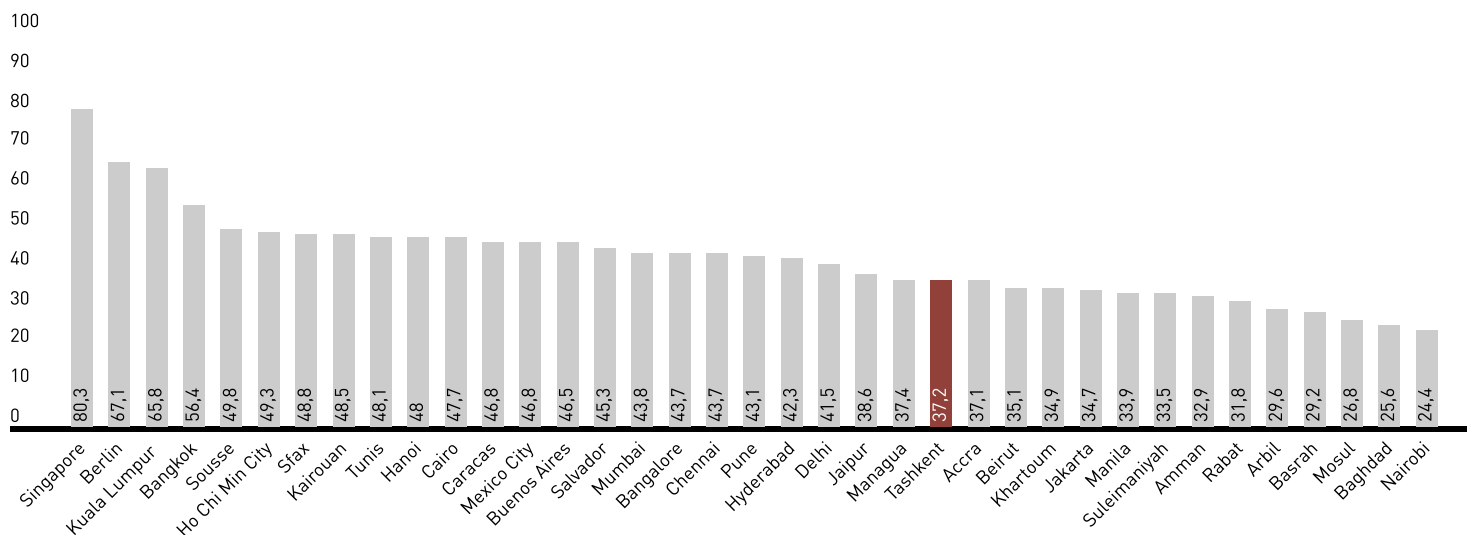
Already, the first initiatives bear fruits. Uzbekistan has launched 265 online services, including a 'One-Stop-Shop' for starting a business by streamlining registration procedures, a platform anchored with the president to collect user feedback on service quality and an electronic system for filing and paying various taxes. [44] [45]

ICT sector is nascent

However, despite recent efforts, the ICT sector remains nascent, both in terms of ICT infrastructure as well as businesses being engaged in the sector. Nevertheless, improvements are evident and Uzbekistan, thus, scores in the lower middle range of the global SFI, ranking 24th out of 37 cities.

The reasons for the slow development of the ICT sector are manifold. While Uzbekistan has made progress in expanding its overall fixed broadband penetration, the internet penetration only stands at 52,31%. This places Uzbekistan among the top 50% (rank 16) in the global SFI, however, is low compared to other regional counterparts such as Kazakhstan that showcases an internet penetration of 76,43%. The reason for this is that Uzbekistan is reliant on terrestrial transit bandwidth with resulting dependence on neighbours, which in turn affects the affordability of internet. [46]

The average cost for an internet plan is \$42,14 USD per month. With a typical graduate salary of \$259,89 USD, this rate is almost unaffordable for an average household. It is hence not surprising that in the Inclusive Internet Index 2018, Uzbekistan ranks 67th out of 86 countries with regard to affordability.



Ranked scores of all SFI cities in the ICT subdomain

In addition, the internet download speed remains slow. In the Speedtest Global Ranking 2019, Uzbekistan ranks 122nd and 119th out of 129 countries in broadband and mobile internet speed respectively. Tashkent is also among the lowest ranking cities in the SFI with regard to download speed. Startups reported that outside of Tashkent and in more rural areas the problem further deteriorates. Reportedly, online training or webinars for aspiring entrepreneurs are not possible due to the low internet speed.

Access to mobile internet is improving fast

In contrast, the mobile network and usage related indicators score fairly better. Mobile bandwidth has grown significantly over the last few years. Mobile broadband penetration stood at 59% in 2017, placing Uzbekistan 13th in the global SFI. In accordance with this, the smartphone penetration stood at approximately 36,7%, with one third of the population having a smartphone. This is a score of 18,6 out of 100 in the SFI and places Uzbekistan at position 20.

Cost for mobile internet is more affordable than fixed internet. 1GB costs approximately \$0,76 USD. Thus, Uzbekistan ranks 13 with a score of 90,1 in the Global SFI. Yet, mobile internet speed remains a problem. According to the latest ITU publication, 3G coverage is spread to 75% of the population and LTE/WiMAX coverage is available to 43% of the population. However, in the Speedtest Global Index, Uzbekistan ranked only 136th out of 144 countries in July 2019. [47] [48] This coincides with descriptions of stakeholders interviewed during the research who highlighted slow mobile internet speed as a challenge. In addition, while the internet serves as an important tool for gaining information, startups as well as the president highlighted that internet is mostly used for social communication rather than obtaining information. [49]

Monopolised telecommunication sector

High prices and slow internet are a result of inadequate competition and low investments in the sector as the ICT infrastructure remains monopolised, and government controlled. The Ministry for the Development of Information Technologies and Communication has the monopoly over Uzbekistan's international gateway, which it operates through UzTelecom, a government-owned company that provides telecommunication services including broadband internet access, fixed and mobile communications, local and international calling, etc.

While in theory, foreign entities can enter the market, long and non-transparent licensing procedures as well as preferential access for connectivity, have scared off foreign operators in the past. Recognising these problems, the government announced a 'Program of transformation of state enterprises and other entities with majority state ownership' which seeks to liberalise the market.[50] [51] However, the realisation of these plans is yet to be seen.

ICT as sector of high potential for startups

Despite these challenges, the ICT sector was highlighted by several stakeholders as a sector of potential for Uzbekistan startups to be engaged. Structures such as the IT Park or the Mirzo Ulugbek Innovation Centre underscore this potential. While the overall ICT sector is small compared to other sectors where small and micro-firms have been created in the last year, a positive trend can be observed. Registrations between January to June 2018 stood at 666 for information and communication companies and increased to 904 over the same time period in 2019.

	Jan-June 2018	Jan-June 2019
Total	25.929	54.007
Agriculture, forestry - fisheries	3.222	4.153
Industry	5.746	12.245
Construction	3.344	5.283
Trade	6.021	21.143
Transportation-storage	1.011	1.696
Accommodation - food services	1.961	3.905
Information communication	666	904
Health social services	654	643
Other types	3.304	4.035

Number of newly created small enterprises and micro-firms by type of economic activity (Source: The State Committee of the Republic of Uzbekistan on Statistics, 2019)

Looking at the structure of information and communication services: 5,5% were publishing services, 0,7% film, video and television production, sound recording services and music publishing, 3,2% programming and broadcasting services, 82,1% telecommunication services and 5,6% computer programming services, consulting and other related services. Due to Tashkent's fairly well-developed ICT infrastructure, computer programming, consulting and other related services stand at 10%, showcasing the area's high potential in Tashkent and also underlining the importance of a functional ICT infrastructure for the development of computer programming and consultancy related ICT businesses.[52]

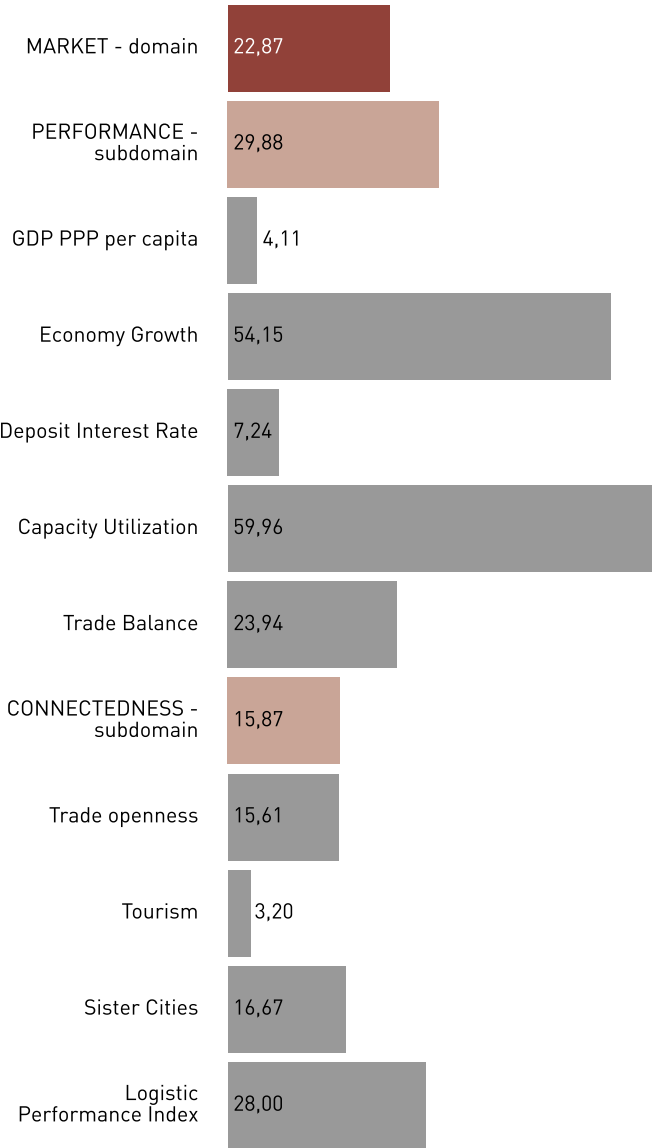
While Uzbekistan has initiated a transformation process in the ICT domain in terms of improving the infrastructure, this development has also set in motion a positive trend of more businesses being engaged in the ICT sector. Continuing to improve the domain will have a significant impact on the country's likelihood of future success, especially given the core role that internet and technological advancement play for many modern startups.

5.6 Market

A thriving economy has a direct effect on entrepreneurs' ability to maximise their potential. An open and connected market with strong growth and logistic performance allows startups to reach a larger audience and thrive.

The Market domain describes macroeconomic conditions in terms of performance and connectedness. The Performance subdomain which measures the overall economic performance in terms of GDP, economic growth, deposit interest rate, capacity utilisation and trade balance considers primarily country-level indicators. The only divergence is on the indicator of capacity utilisation, which is measured at a city-level. The Connectedness subdomain is also on a national level. The domain considers elements such as openness to trade and tourism.

Out of 37 cities represented by the SFI, Uzbekistan ranks 32nd in the Market domain and lowest among all analysed Asian cities



Indicator scoring in the market domain

SFI scores relative to the global SFI. Scores range from 0 - 100

Since leaping on an ambitious transformation process, Uzbekistan's economic outlook has been positive. Rich in natural resources such as gold, copper and gas as well as in history and heritage, Uzbekistan has the fundamentals in place to becoming Central Asia's leading economy.

Along these lines, Uzbekistan has seen a modest growth in recent years. Especially the construction sector, which increased by 9,9% compared to 6% in 2017, as well as the industrial sector, which doubled to 10,6% saw enormous growth.

While tourism is a sector of high potential due to Uzbekistan's rich history with several government decrees for the development of the tourism sector emphasising this priority, Uzbekistan scores low on this indicator in the global SFI. Overall, but especially in the Connectedness Subdomain, there is room for improvement.

Liberalisation and further investments in the tourism sector as well as in other sectors of high potential such as textiles and food processing will be key in supporting Uzbekistan's economic growth process. The ADB's economic assessment in 2019 underlines the importance of investments. According to the analysis, investments have been Uzbekistan's main economic driver in 2018 and will continue to be so.[53]

Performance

Subdomain of Market

Constant credit expansion, growing inflation and an accelerating current account balance deficit are endangering Uzbekistan's economic development process

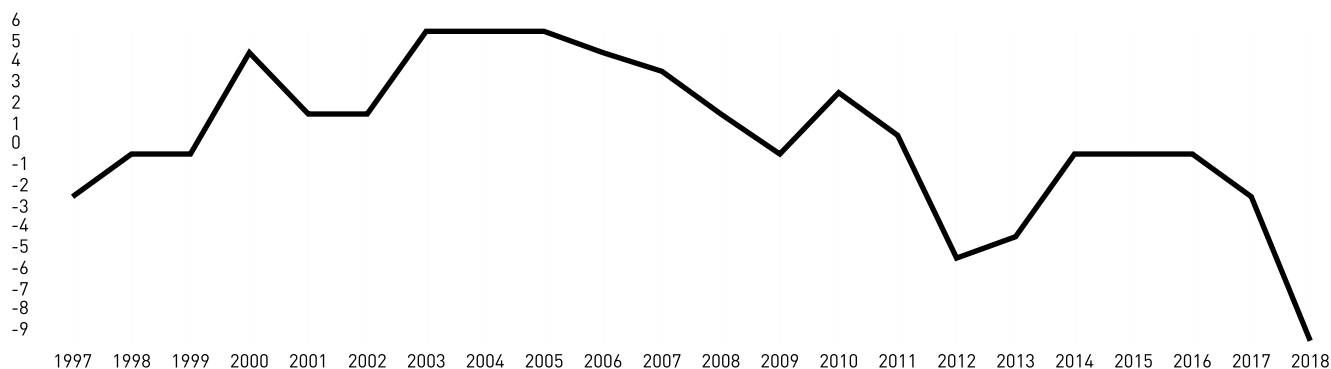
For Uzbekistan the long transition process has just begun. Despite decent economic growth of 13,10%, which ranks Uzbekistan 17th in the global SFI, the country's annual GDP growth dropped from 7,4% in 2015 to 6,4% in 2016 and to 4,5% in 2017. Since 2018, it is on a slow recovery track and stood at 5,1%, expecting to remain stable at those levels in 2019.

While Uzbekistan's GDP per capita, purchasing power parity (PPP) has been growing steadily in recent years and stood at \$7.020,3 USD in 2018; it is still low compared to other SFI countries.

Uzbekistan only ranked 31st out of 37 countries, positioning it on the lower spectrum of the global SFI.

In addition, Uzbekistan ranks slightly lower in this indicator than the lower middle-income average which is \$7.629,7 USD.

The Trade Balance indicator is another weakness for the Uzbek ecosystem, ranking Uzbekistan in the bottom of the global SFI (rank 27) and lowest among all Asian SFI cities. In the past, Uzbekistan has been a trading hub, which has driven economic growth. Rising prices for primary commodities have helped Uzbekistan to sustain a trade surplus. However, with the sharp decline of many commodity prices, Uzbekistan's export earnings have significantly dropped since 2017.



External balance on goods and services (% of GDP) (Source: World Bank, 2018)

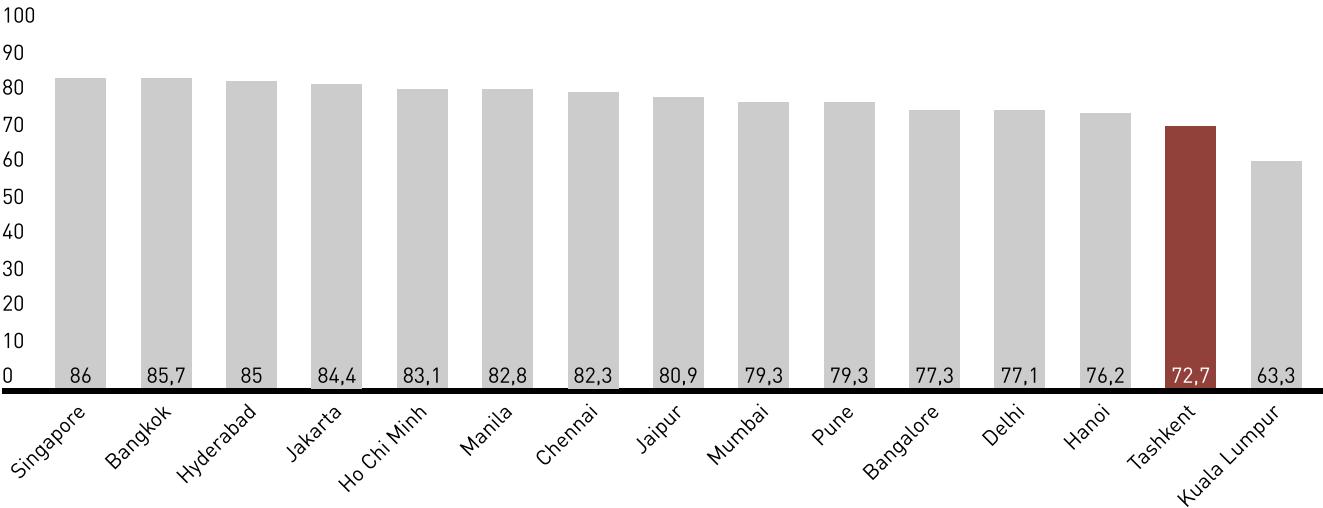
While the outlook for Uzbekistan generally has been positive, the Asian Development Bank, in its 2019 predictions for Uzbekistan, outlined risks associated with the constant credit expansion, growing inflation and an accelerating current account balance deficit.[54]

To decrease the overall current account balance deficit, important substitution as well as export diversification is the need of the hour. Embellishing commodities through innovation and technology will support Uzbekistan to reduce its trade deficit. Startups can play a vital role in this change. However, despite policy improvements, this development will need other perquisition’s in place.

Firstly, the overall capacity utilisation within firms will have to expand. The capacity utilisation is based on the comparison of the current output with the maximum output possible using all the resources available. Currently, Tashkent ranks 21st with 72,7% in the global SFI and second to last in the Asian SFI, leaving significant scope for improvement. Secondly, it will also require a mindset shift on the demand side, orientating customers towards the use of new technologies and innovation. Despite Uzbekistan’s relatively large market size, a startup founder highlighted acceptance problems of new products and challenges in achieving a shift in the mindset of people towards the usage of new products.

It is difficult to find a market for our products in Uzbekistan. Startups thus should look outside of Uzbekistan. But many entrepreneurs miss the vision to think globally.

- Startup Founder



Ranked scores of all SFI cities in the ICT subdomain

Connectedness

Subdomain of Market

Increasing Uzbekistan's international connectedness is key to the country's economic development

To decrease Uzbekistan's trade balance, the country will have to increase its international connectedness by reforming its trade regime and easing cross-border flow of goods. Uzbekistan's trade regime has been characterised by a high level of protection for import-substituting industries and restrictions on exports of a variety of goods. Most of the agricultural goods are still channelled through the state company Uzagroexport, depriving SMEs of the chance to export. Another challenge has been the impermeability of Uzbekistan's borders, characterised by high degree of bureaucracy, lack of information and non-transparent practices among others.[55] In the 'Doing Business' Report 2019, Uzbekistan ranked 165th out of 190 countries in the 'Trading across borders' indicator.

Recognising the importance of internationalisation, Uzbekistan's has eased trading across borders. An electronic application and payment system for several export certificates was introduced recently, which has reduced the time involved for export documentary compliance.[56]

Export facilitation and trade diversification is also recognised in the Development Strategy 2017-2021, which outlines 'liberalisation and simplification of export activities, diversification of the export structure and geography, and the expansion and mobilisation of the export potential of economic sectors and territories'.

Other recent government initiatives include:

- **End of 2018 a presidential decree was released simplifying export of goods and services sales via the internet.** The decree states that the export of goods and services with a ceiling of \$5.000 USD via the internet with online payment does not require entering into a written contract with customers. The decree also liberalised export: goods below \$5.000 USD no longer need a submission of a custom declaration.[57]
- **In October 2018, the president signed a resolution on "Additional measures to improve the efficiency of fruit and vegetable promotion to foreign markets".** The resolution includes provision for fruits and vegetables exporters to export without advance payments, opening a letter of credits, issuing a bank guarantee and having a policy to insure an export contract against political and commercial risks.[58]

- **Also at the end of 2018, the president approved “Measures for further liberalisation of trade and development of competition in commodity markets”,** which includes the abolition of licensing activities to implement the wholesale and special order of the taxation of trading enterprises, requirements to obtain a permit for outbound trade and the restriction on the export of certain types of goods among other things.[59]

Export diversification

While export diversification is needed and the government has stepped up their efforts to invest into sectors that have the potential for export, anecdotes suggest that these interventions are not always strategised. For instance, the government has initiated the development of specialised clusters in areas such as cotton and fruits and vegetable. Yet, according to a stakeholder, regions, where specialised clusters were initiated, are not necessarily conducive for the intended specialisation (for instance cotton), resulting in low outputs of these clusters. In addition, policy makers highlighted that despite recent reforms a sense of protectionism remains.

However, it is not only the policy side that has to be addressed. For many businesses export is new. A study by OECD found that there is only a limited number of service providers offering business support in areas such as export and internationalisation and that many companies lack general skills in the internationalisation process.[60]

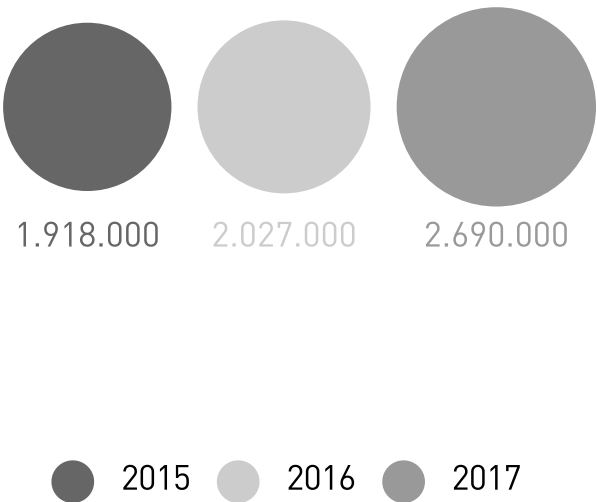
Along with trade facilitation, Uzbekistan will also have to improve its logistical infrastructure as well to compete on the global market. In the ‘Logistics Performance Index’, Uzbekistan currently ranks 99th out of 160 countries, scoring especially low on the sub-indicator’s customs, international shipments and infrastructure. This places Uzbekistan at rank 24 in the global SFI and at the last position in the Asian comparison.

However, notwithstanding persisting challenges, the recent reforms show the first positive effects. The share of trade (import plus exports) of the overall GDP has increased since 2016 from 29,75% to 67,85% in 2018. However, despite these improvements, in the global SFI, Uzbekistan ranks only at position 22 with regard to trade openness.

Uzbekistan’s tourism sector is flourishing

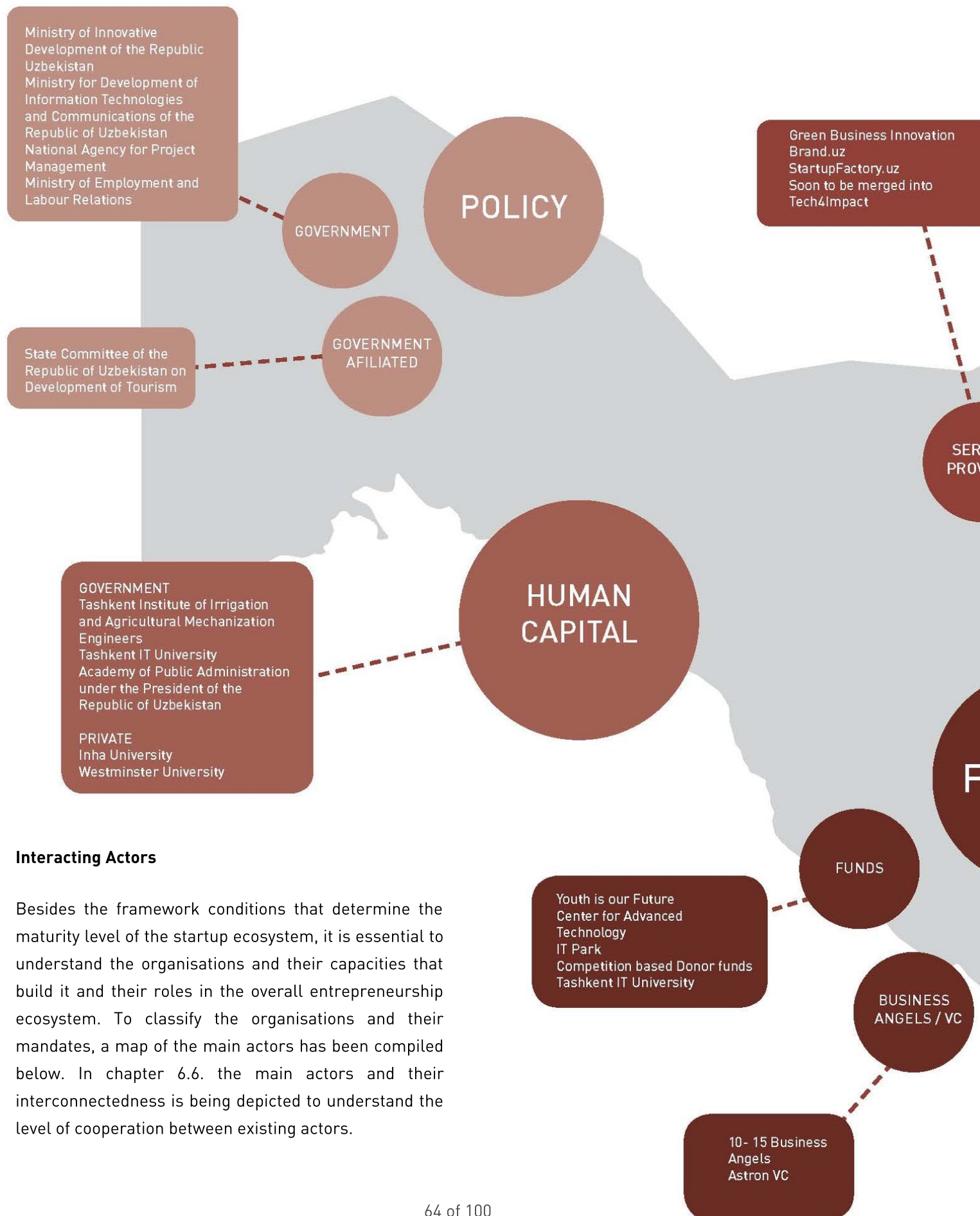
Alongside opening up its economy, Uzbekistan has also started opening its tourism sector. In January 2019, in an attempt to boost tourism, the government introduced 30-day visa-free travel for 85 countries. Furthermore, the State Committee for Tourism Development was established. The objective of the Committee is to develop the tourism sector as a strategic sector for economic development. To enhance the use of ICT in the tourism sector, the Committee also supports startup initiatives in the tourism sector and has allocated a budget to finance these initiatives. In 2018, the Silk Road University of Samarkand was established with the objective to create talent for the growing hospitality sector.

While tourist numbers have steadily grown, Uzbekistan faces challenges in encouraging multiple visits to the country and mostly attracts older generations, according to several stakeholders. To tackle this issue, Uzbekistan is seeking to diversify its tourism offerings and has been actively promoting ecological and geo-tourism. Stakeholders in the State Committee for Tourism Development also highlighted that they were looking into strengthening medical tourism as well. To attract younger people, an employee from the Ministry for Innovative Development said that they were exploring possibilities to create similar formats such as 'Burning Man' in Uzbekistan. Recent efforts to open the tourism sector, show initial results. Uzbekistan is positioned around the middle of the global SFI (position 17th) in number of international tourists. In 2017, 2.690.000 tourists visited Uzbekistan.



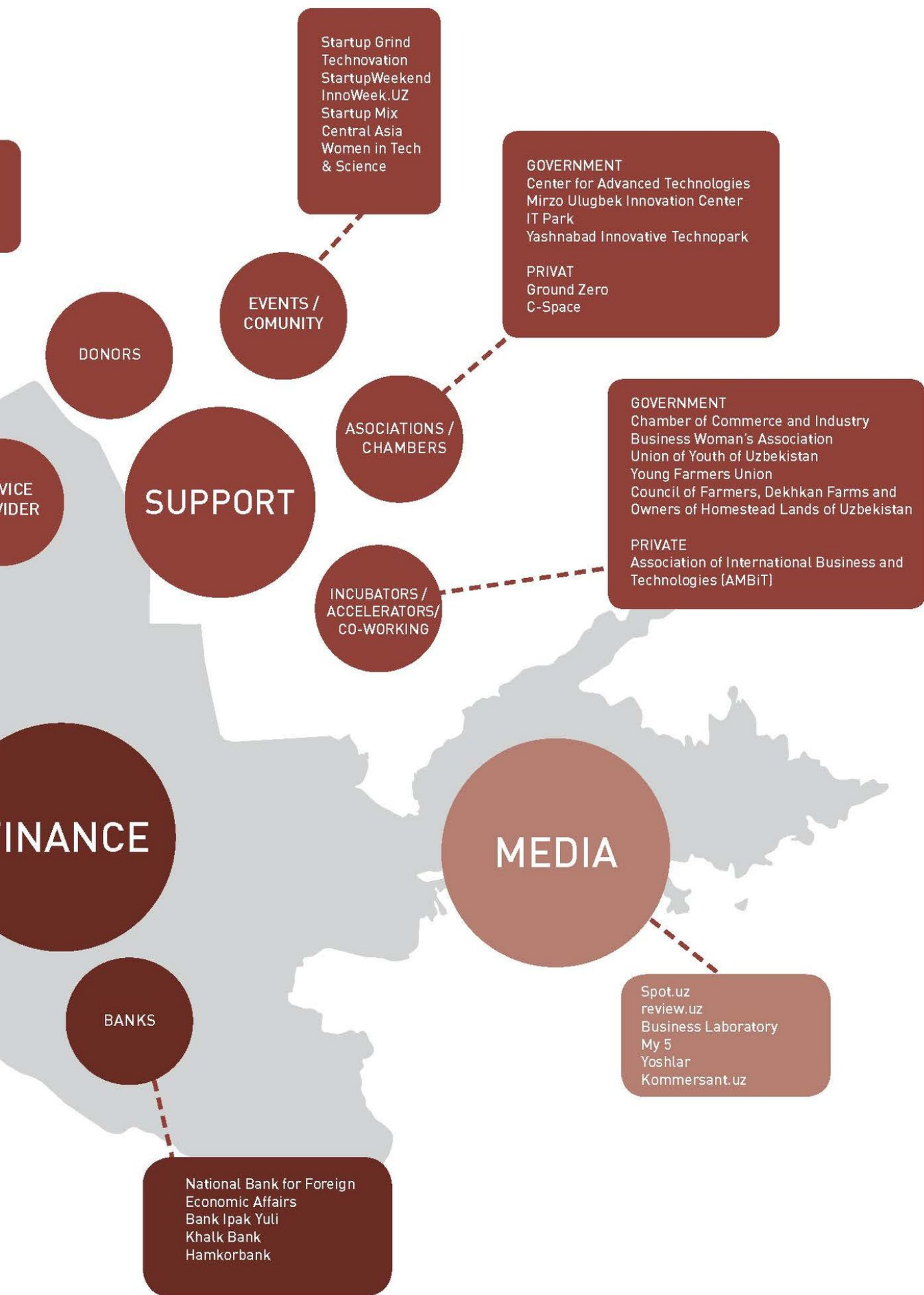
Number of international Tourists
(Source: World Bank, 2018)

6. Interacting Actors



Interacting Actors

Besides the framework conditions that determine the maturity level of the startup ecosystem, it is essential to understand the organisations and their capacities that build it and their roles in the overall entrepreneurship ecosystem. To classify the organisations and their mandates, a map of the main actors has been compiled below. In chapter 6.6. the main actors and their interconnectedness is being depicted to understand the level of cooperation between existing actors.



6.1 Support Organisations and Policy Makers

Interacting actors

Support organisations such as incubators, accelerators and co-working spaces form the cornerstones of a startup ecosystem. However, the incubator and accelerator space in Uzbekistan is fundamentally different from those of other countries that have a high degree of privately driven startup initiatives.

In Uzbekistan, despite recent reforms to open up the economy, startup promotion remains relatively centralised, with the leading support organisation being government owned and run. Private initiatives are still rare and mostly driven by motivated individuals. While usually considered to be composed of two different actor groups, namely support organisations and policy makers, both groups in the Uzbek context are closely interlinked, thus described as one in the following chapter.

The high degree of centralisation in startup promotion can mainly be attributed to a fear of loss of control that has dominated Uzbekistan's policy-making for almost three decades.

Moreover, institutional capacity for policy making, especially with regard to startup promotion are still weak, due to the novelty of the concept in Uzbekistan. This is particularly true since the government still sees itself as an implementer of startup activities rather than an initiator, monitor and a creator of conducive framework conditions. While reforms have seemingly initiated a process of change, a mentality change in those entrusted with startup promotion at the highest level is also needed to develop a competitive startup ecosystem and support more private sector driven initiatives.

During interviews with government stakeholders directly responsible for the implementation of startup activities, struggles in making decision-makers understand sector-specific challenges were highlighted. For instance, that 90% of startups fail. Instead of leveraging private sector funds to mitigate the risks, an adverse reaction can be observed, with government actors exercising extended control to regulate and monitor supported startups, for instance, by taking high equity shares.

Some startups reported they had given 20% of their equity to government owned support organisations for being part of their programs or receiving financial support. Some government organisations even expressed the desire to become co-founders in the startups supported. However, **as long as the government is the main contributor to the promotion of startups, especially in financial terms, accountability issues will persist.** In addition, the strong government influence in startup promotion will send the wrong signal and hamper the emergence of an independent private sector driven innovation ecosystem in the long run.

Some individuals in the government startup support organisations have recognised this problem and are increasingly working with the private sector. One example is the Center for Advanced Technologies that is working closely with several private actors in initiatives such as the C.A.T. Science Accelerator, Startup Mix and InnoWeek. However, cooperation is mostly driven by the initiative of progressives in the government. A change in leadership can alter the outlook and operations of organisations and reverse positive trends. Some interviewees said the Mirzo Innovation Center was earlier one of the active progressive organisations supporting startups. Yet, after a change in leadership, the Center has significantly lost its importance in the startup space.

Further, due to the novelty of the topic, government actors entrusted with the implementation of startup activities have little experience in the field and highlighted significant capacity building needs. During the interviews, they mentioned the need for support and exposure to international best practices to offer the right startup services.

Further, staff of these support organisations also highlighted challenges in evaluating and selecting startups for programs and funds. This can mainly be explained by the lack of specific targets of programs, resulting in a broad mandate with no apparent support focus. During the interviews, startups reported that support organisations lack a systematic approach and provide mostly low-level skills. One startup also highlighted an absence of targeted support programs for more mature and scaling businesses, but also said that the newly established IT Park might address this gap for IT companies.

Nevertheless, with mainly government actors dominating the startup support ecosystem, incentives do not exist for these organisations to introduce more target-oriented programs or act according to economic principles as they hardly face competition and their survival is ensured by the government.

The few private actors that exist have no means to counter this situation by offering competition, and largely depend on the cooperation with government players. The only competition that currently exists and that could drive excellence among government-owned support organisations is the rivalry between ministries entrusted with startup promotions for the frontrunner position in the startup ecosystem. However, this is in stark contrast to the governments' single mandate to enforce a holistic startup strategy.

While a holistic approach for startup promotion is needed, competition within the structures of the government, may have adverse effects on the overall ecosystem and contribute to scattered small-scale initiatives with low impact. The government's own understanding of its role – as being more of a visionary and the creator of conducive framework conditions rather than an implementer – must change fundamentally to develop a holistic startup ecosystem. In addition, it is important to further strengthen private actors with government funds.

The divergence in availability of institutionalised resources can have a significant impact on the future development of the Uzbek startup scene. In addition to providing services for entrepreneurs, incubators and accelerators, co-working spaces also serve as meeting places for networking, community building and learning between peers.

However, with the entrance of new private initiatives by global actors, the outlook for Uzbekistan may fundamentally change. Several foreign startup actors, including Seedstars, Techstars and Unbound to just name a few have started to conduct events in Uzbekistan in cooperation with existing actors. Furthermore, an upgradation and aggregation of private initiatives that till date are rather ad hoc and mostly donor funded is currently underway. As mentioned earlier, Brand.uz, Green Business Innovation and StartupFactory.uz are merging into one organisation, namely Tech4Impact NGO, which will combine all startup activities of these organisations under one umbrella.

However, to encourage a flourishing startup ecosystem, it is important to bring consistency into existing initiatives and to extend services to startups throughout the year. Most programs do not offer continuation and are one-of-a-kind initiatives.

During the interviews it became apparent that there is a general lack of information not only for startups, but also among support organisations on the activities each actor is conducting. Websites are mostly not updated or do not exist. Facebook and Telegram are tools mainly used to reach out to startups, thus only reaching a limited number of entrepreneurs and actors. To address aspiring entrepreneurial needs more effectively, existing institutional players have to market their service portfolio more professionally.

6.2 Academia

Interacting actors

Academic institutions play a key role in an economy. They lay the foundation for the talent base, determine the research outcome and thus contribute to the innovation capacity of a country. Uzbekistan is significantly lacking behind in all three aspects.

Supporting entrepreneurship is a means to supporting job creation, especially in countries with a private sector unable to absorb the influx of jobseekers. Universities are the main actors at the pre-ideation phase where the foundations are laid for an entrepreneurial journey. Depending on the institute and the significance it places on entrepreneurship, universities can also support budding entrepreneurs well into the ideation phase with incubation.

Realising this, there are very nascent initiatives in Uzbekistan's universities to foster entrepreneurship. Private universities are spearheading the process. However, most public universities lack such initiatives. Exceptions are, amongst others, the Tashkent Institute of Irrigation and Agricultural Mechanisation Engineers that recently supported the set-up of an 'Innovation Scientific Research Cluster' on the premises of the university, which is set up as an independent NGO. The cluster was a partner in the Water Solution Innovation Lab Startup Accelerator jointly conducted with StartupFactory.uz, Brand.uz and Green Business Innovation. However, in most public universities the understanding of startup promotion and the importance of it remains limited.

Another striking point is that there seems to be little cooperation between Uzbek universities on the topic of entrepreneurship. While those universities engaged in the startup field cooperate with various private and government organisations on startup events and programs, inter-university cooperation seems limited.

Uzbek universities fare reasonably well with regard to the number of startup events held in universities. However, startups hesitate to access these offerings. Fear of ideas being stolen by academic staff or peer students, information on startup programs only being limited to selected people and difficulties in accessing the infrastructure of universities such as labs, prevent aspiring entrepreneurs from participating in university startup programs. Moreover, startups highlighted a lack of new, updated and action-oriented curricula, equipping students with the right skill set to pursue entrepreneurship, as a challenge. While many universities teach some kind of course on small businesses in the curricula, a dedicated Bachelors or Masters study program on entrepreneurship or innovation does not exist. A public university during the interviews highlighted that till date they have not seen the need for such programs. This statement does not correlate with statistics that indicate a significant lack of skilled people in the industry. While the industrial sector contributes to 33,5% of the overall GDP, only 20,5% of all graduates are from industry-related fields.

Several universities have undertaken infrastructure projects to strengthen their capacity for innovation, research and entrepreneurship. Despite accelerating infrastructure improvements, for instance, through the development of modern computer labs and innovation centres, startups mentioned challenges in accessing these facilities due to a general fear of equipment being damaged by students and startups. In addition, during the interviews it became apparent that these facilities often overlook underlying concepts and strategies to leverage them towards the intended purpose.

Besides limited activities in universities to support aspiring entrepreneurs, there is also a lack of bottom-up initiatives. Entrepreneurship Clubs organised by students do not exist. During the interviews, startups highlighted that such initiatives were generally critically viewed and closely monitored due to academic staff fearing a loss of control. They also stated that they thus exchange ideas and knowledge outside the university, through media such as Telegram and Facebook.

6.3 Financial Actors

Interacting actors

Uzbek startups face significant challenges in accessing funds. Especially for early-stage startups, the problem is profound. As highlighted earlier, there are currently only around 10-15 active business angels in Uzbekistan. But, they are neither organised in an angel network nor are they listed on platforms such as AngelList for startups to quickly identify them.

The issue, however, is not just the small number of angel investors. Startups highlighted significant challenges in negotiating with investors determined by a lack of knowledge on both sides about the investment process and investing in startups in general.

According to several startups, investors raised expectations of up to 50% equity in the first funding round. High equity expectations, according to the stakeholders interviewed, are also the result of a general risk-averse mentality of Uzbek investors, resulting in mostly low numbers of investments by existing angel investors. Support organisations during the interviews highlighted a significant need for capacity building and training of existing and aspiring investors, to create an understanding of how to structure investment deals and the startup sector in general.

The government is seeking to close the investment gap and has set-up several funds to support startups (see chapter 4.3). However, due to the lack of capacity on the side of government stakeholders in selecting and evaluating startups, the novelty of the topic and the final investment decision remaining with higher government authorities, the investment process is perceived as non-transparent, bureaucratic and lengthy by startups.

The insecurity of the government is reflected in extended control mechanisms and high barriers to access these funds. For instance, alongside aspirations by the government to become a co-founder in the startups, startups also cited high equity expectations as a barrier to access government funds. The IT Park operating under the Ministry for the Development of Information Technologies and Communication is trying to address this issue by limiting its equity expectations to 5-10%. However, the IT Park started operating only recently and has not yet disbursed any funds. In general, startups criticised that terms and conditions of funds were not clear. For example, a startup during the interviews said they were under the impression that the fund was a grant.

Building an angel investor network and equipping angel investors with knowledge how to structure their investment deals should be the utmost priority. Building an angel network is far more important than striving for a VC fund as almost none of the startups are ready for VC funding

- Startup ecosystem stakeholder

”

Another challenge highlighted by startups, especially concerning the fund distributed by the Ministry of Innovative Development, is the limited flexible use of the fund that is permitted. A startup mentioned that the fund could only be used for equipment, salaries, operational expenses and office rent; however, not for other startup relevant costs. Furthermore, startups highlighted the long fund disbursement process of several months after the commitment by the Ministry as a critical challenge, potentially disrupting the operations of startups.

Loans, usually a financing option for scaling entrepreneurs are still characterised by state-interference and high collaterals. While interest rates are generally high in Uzbekistan, a recent study of ADB found that government projects often receive subsidised interest rates, limiting the available finance for entrepreneurs. Anecdotal evidence suggests that for entrepreneurs, formal bank loans are usually accessible through informal contacts in the government or by directly reaching out to government stakeholders. This has led to an overall sluggish banking sector that is not operating on economic principles. Official loan criteria are often waved off in the face of unofficial government requests.

Furthermore, the same study found that paperwork for loan applications is one of the main challenges cited by entrepreneurs to accessing formal banking loans. Also, women entrepreneurs have to provide higher collateral to access loans than men.[61] To make loans more accessible to entrepreneurs, the government with the support of the International Finance Corporation (IFC) has developed a collateral registry.[62] While according to the latest World Bank 'Doing Business Report 2019', the collateral registry is operational for both incorporated and unincorporated entities, the coverage is 0%.[63]

Given these challenges, many startups are bootstrapped or are unable to realise their ideas at all. Others pursue their startups in addition to a regular job, significantly limiting the success and the scope of the projects. For the entrepreneurship ecosystem to succeed, it will be elementary to increase access to independent and transparent finance for startups.

We have already gotten the promise for the fund by the Ministry of Innovative Development. However, we do not know when we will get the fund and expect a final disbursement in four months from now

- Startup founder

”

6.4 Startups

Interacting actors

Many Uzbeks pursue entrepreneurship to supplement their income. Despite difficulties in running and operating a business under the old regime, Uzbek entrepreneurs have always been creative in identifying avenues of doing business. However, business activity focuses traditionally on the trading sector and is seen as a side activity rather than a full-time profession. Entrepreneurship as a full-time career option is not yet fully on the agenda of many Uzbeks.

Due to the education system missing curricula and study courses on new topics in high demand by the industry such as ICT, Blockchain, IoT and lacking a pedagogy promoting problem-solving, innovation and creativity, businesses pursuing innovative projects are scarce in Uzbekistan. With the startup term gaining traction, a few people have started their startup projects by localising mostly existing solutions from global players, such as express24.uz, the Uzbek version of Deliveroo, or MyTaxi.uz, the Uzbek counterpart of Uber. However, the majority of Uzbeks are unaware what the startup term entails.

The most commonly used definition being a 'newly founded company with an innovative business idea, having significant potential to scale', distinguishing it from micro-companies, freelancers and simple traders. This was confirmed by various stakeholders during the interviews. According to a support organisation, most of the startup ideas applying for incubation support are either too scientific, lack scalable business models or are existing businesses in search of free grants.

Besides an education system lacking applied teaching, the reasons for low numbers of actual startups are manifold.

While Uzbeks reportedly do not lack a repertoire of ideas to pursue, stakeholders during the interviews highlighted that aspiring entrepreneurs lack business skills to realise and monetise ideas. This statement was further substantiated by a group of startups, who emphasised that potential entrepreneurs lack skills in market and customer research, marketing and team building. They further stated a lack of presentational skills by aspiring entrepreneurs as a reason for being unable to scale and attract investors.

Building an angel investor network and equipping angel investors with knowledge how to structure their investment deals should be the utmost priority. Building an angel network is far more important than striving for a VC fund as almost none of the startups are ready for VC funding

- Startup ecosystem stakeholder

”

As a reason of the absence of appropriate skills to set-up and run a business, startups highlighted a lack of experienced people and mentors in Uzbekistan to support potential and existing entrepreneurs. Indeed, asked on a scale of 1 to 10, how feasible it was to get mentor support, respondents from the survey answered with an average score of 5,23. Besides limited number of mentors, startups also stated a lack of financial and legal support in bookkeeping, accounting and adhering to existing business laws as barriers to doing business in Uzbekistan.

Several startups further stated that an overall discouraging environment prevents them from pursuing ideas, both from academic institutes as well as policy makers, burdening startups with a high degree of bureaucracy. A startup gave an example where academic staff had demoralised a group of aspiring entrepreneurs to develop a 3D printer, pointing out the difficulty in realising such a project. Offering programs in Uzbek, equipping aspiring entrepreneurs with the right skill set to run a business and encouraging an overall entrepreneurship attitude will be key to growing Uzbekistan's startup ecosystem in the future.

6.5 Other actors

Interacting actors

International Organisations

With Uzbekistan opening up its economy, several international organisations have substantially increased their support to the country. Support for private sector development and startup promotion are also gaining traction. UNDP, MASHAV, KOICA, JICA and the World Bank are among those actors, active in the entrepreneurship promotion field.

As highlighted above, UNDP started implementing the 'Startup Initiative' project in 2016 jointly with the Chamber of Commerce and Industry. MASHAV, the Israeli development agency, contributes to the emerging startup ecosystem by bringing experts and mentors from Israel to Uzbekistan. In addition, MASHAV has supported two-week delegation trips of policy makers, incubators and other ecosystem actors to Israel. Due to budget constraints this program is on hold in 2019. On similar lines, the Japanese development organisation, JICA, provides trainings for businesses. GIZ, representing German efforts in the development sector, started an initiative to foster startup support organisations in July 2019, demonstrating GIZ's first efforts in the sector. KOICA, the Korean development agency, seeks to increase its engagement in the startup sector and as of August 2019 was scoping for opportunities to get involved in entrepreneurship activities.

In addition, in July 2019, KOICA with the Ministry of Employment and Labour Relations and the Keimyung College University of South Korea jointly opened a Startup Incubation Center in Samarkand's Vocational Training Center that will support aspiring entrepreneurs based on Korean experience and by involving Korean investors.[64]

Additionally, the World Bank recently initiated a \$240,10 million USD project for entrepreneurship development in the Ferghana Valley. The program seeks to support innovative startups and the set-up of incubators. The two latter projects aim at supporting entrepreneurship in rural regions, bridging the need for initiatives in rural areas. With the growing engagement of international support organisations in the startup field, there is a greater need for coordination and cooperation among donor organisations in order to avoid duplication of efforts and the creation of a startup sector depending on funds from international organisations. While UNDP highlighted their working group in the agriculture field, there is currently no donor coordination in the startup sector. However, actors like UNDP and MASHAV underlined willingness for more cooperation in the startup field.

Another problem, as mentioned earlier, is that most startup activities conducted by donors are offered only in English. While this is not a problem in Tashkent, support organisations highlighted that this is a challenge for aspiring entrepreneurs in rural areas, preventing them from accessing support from donors. **Conducting programs in Uzbek would help to open up the facilities to a greater target group, especially in the context of a growing interest in entrepreneurship among the rural population.** The IT Park reported the receipt of 10% of applications for their incubation program from rural startups. The Center for Advanced Technologies counted even up to 40% of applications for their program from rural areas.

NGOs, Networks & Associations

According to the Bertelsmann Transformation Index, **there are 8,000 registered NGOs and associations in Uzbekistan, several representing the business interests of the country such as the Chamber of Commerce and Industry, the Business Women's Association and the Union of Youths of Uzbekistan.**

Formally guaranteed with rights to represent interest groups, these organisations are in fact Government Organised NGOs [GONGOs]. While almost all organisations interviewed, emphasised their independence, almost all confirmed to be subject to president decrees, outlining their way of operation. A female activist in an interview stressed difficulties in associating and highlighted the need for approval to conduct bigger events. However, unlike the scenario in the previous regime, low-profile NGO activities are now tolerated by the government.[65]

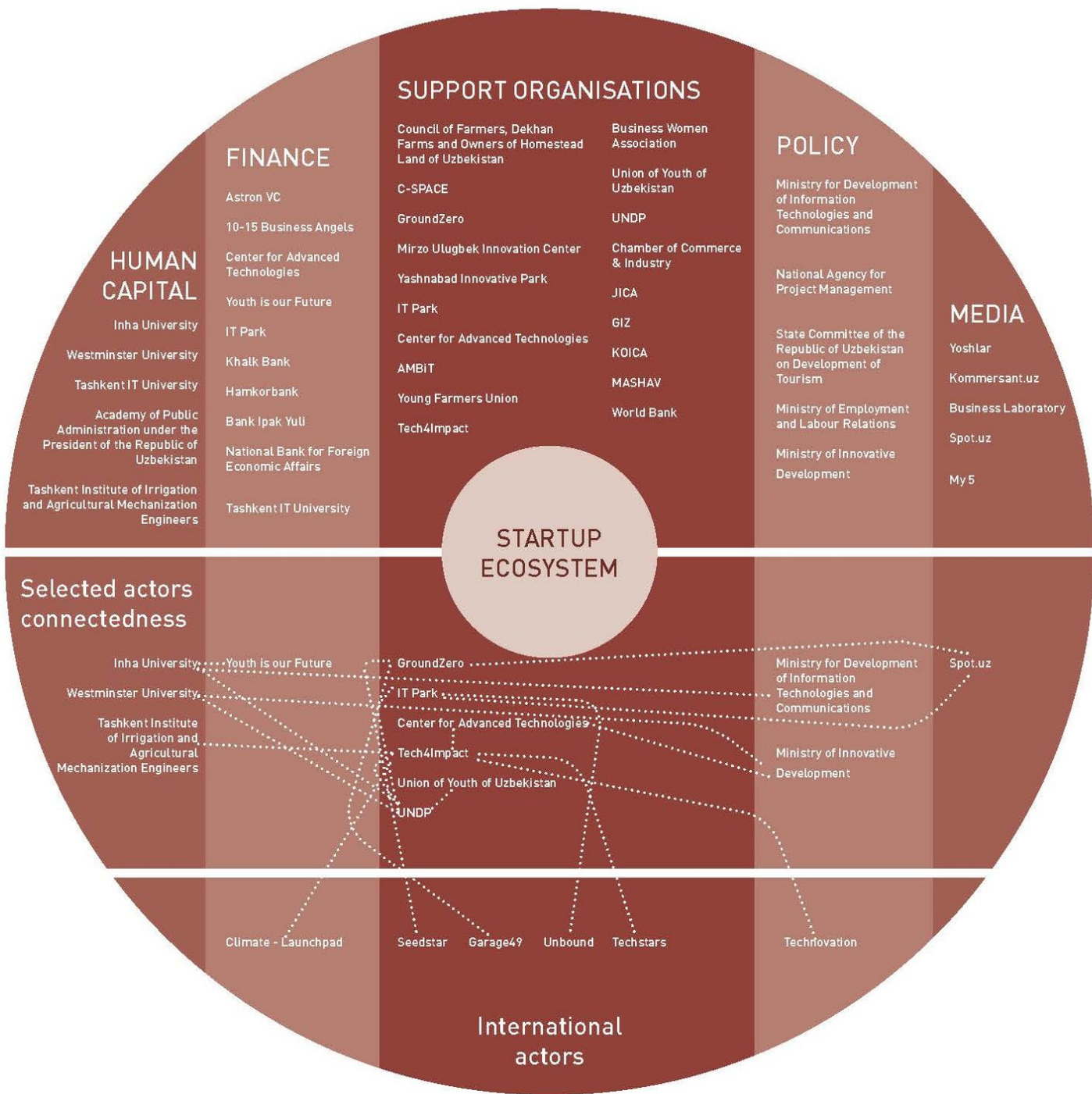
A dedicated association of startups or support organisations currently does not exist. The Chamber of Commerce and Industry along with the Union of Youth and its affiliated fund 'Youth is our Future' are the only associations that support entrepreneurship and startups. The Union of Youth, established with the goal to develop a 'physically healthy, spiritually mature, intellectually developed and independent thinking younger generation', is another association supporting startups. The Union is a regular partner for a variety of startup activities conducted by support organisations.

In addition, besides supporting startups through preferential loans, the association is also supporting the emerging entrepreneurship culture by setting up co-working centres and youth complexes throughout Uzbekistan. 14 centres have been built to date, one in Tashkent in cooperation with GroundZero. To support the development of these centres as well as other infrastructure projects, a Public Private Partnership (PPP) law has been enacted, with an overall contribution by the government of 30%. However, the law has not unfolded its full potential, as according to a government official, the public funding of 30% is too low to encourage private sector investments.

Other business associations such as the Business Women's Association, the Young Farmers Union or the Council of Farmers, Dekhkan Farms and Owners of Homestead Lands of Uzbekistan play little role in the startup field as they mostly support livelihood and small-scale entrepreneurship.

6.6 Connectedness

Interacting actors



Local dimension

As highlighted earlier, inter-governmental cooperation between those ministries and departments entrusted with startup promotion remains weak. There is currently no evidence-based and coordinated strategy of the government to support entrepreneurship. Subordinate government-owned support organisations work in silos or with other line organisations directly reporting to their respective ministry. For instance, the IT Park and the Inha University under the control of the Ministry for the Development of Information Technologies and Communications, are thus mandated to cooperate with each other. While a stakeholder mentioned that they invite representatives from other ministries to their events, cooperation in real terms is de facto absent.

On the bright side, ecosystem events such as the Technovation Challenge see the participation of several ecosystem actors such as the Ministry of Innovative Development along with the Center for Advanced Technologies, the Union of Youth and the consortium of Brand.uz, StartupFactory.uz and Green Business Innovation. There is a good cooperation especially between the Center for Advanced Technologies and private organisations such as Brand.uz, StartupFactory.uz and Green Business Innovation (soon Tech4Impact). In addition, depending on support from international and public actors, private actors such as Brand.uz, StartupFactory.uz and Green Business Innovation are most active in cooperating with a variety of stakeholders.

International dimension

With the opening of the economy, the government of Uzbekistan is actively reaching out internationally for support and has developed and set-up various facilities and Memoranda of Understandings (MoU) with international partners. For instance, JICA has supported the Tashkent State Technical University to set-up the Uzbek Japan Center for Innovation on the premises of the University. However, these facilities often have little substance in terms of strategy and underlying concepts. MoUs are often not implemented and lack depth.

Internationalisation opportunities for students, academic staff and startups have significantly increased in the last few years. However, while many universities are partners in Erasmus Plus projects or have cooperation with foreign universities for student and academic staff exchange, cooperation between Uzbek universities is subject to improvement, especially in the field of startup promotion. In addition, startup cooperation with international universities is still at an early stage.

As highlighted earlier, a few international startup actors are actively looking at engaging in the Uzbek entrepreneurship ecosystem. Techstars and Seedstars are only two international organisations to be named here. Along these lines, international learning opportunities for startups in form of sponsored trips to the Silicon Valley, Israel and other destinations have increased. However, according to several stakeholders, these opportunities lack follow-up activities to ensure startups make use of the knowledge obtained.

7. Entrepreneurship culture and attitudes

7.1 Entrepreneurship Culture & Attitudes

The culture of a society has a large impact on the entrepreneurial ecosystem. It affects individuals' attitudes towards entrepreneurship and therefore the likelihood of becoming an entrepreneur.

While all stakeholders highlighted the entrepreneurial attitude of Uzbeks as being very positive, mainly appreciated and accepted by the society, one interviewed startup put these statements into perspective. He mentioned that entrepreneurship as a side activity is widely accepted, however, as a full-time profession it is less appreciated by the society and failing is seen rather negatively. The startup founder further highlighted that especially parents and older generations prefer stable government or private sector jobs for their children. The survey mirrors these findings. On a scale from 1 to 10 the respondents gave an average score of 6,47, indicating that entrepreneurship as a career choice is somewhat respected.

When I wanted to pursue entrepreneurship as a career choice, people told me to stop playing with computers and find a real job

- Startup founder

”

Reasons for the apprehension surrounding full-time entrepreneurship stem from a lack of transparency and success stories. While a few media outlets such as Spot.uz and Kommersant.uz provide information about successful startups and businesses, and are used by ecosystem stakeholders to spread information, interviewees highlighted a general lack of information both about successful entrepreneurs and events being conducted for aspiring entrepreneurs. Survey respondents rated the frequency of media reporting about successful entrepreneurs with 2,94 on a scale from 1 to 5, with 5 being very often.

The few success stories can be attributed mainly to the small number of successful local startups in Uzbekistan. However, a project appraisal by the World Bank found that the number of digital start-ups is growing.[66]

Besides the lack of successful entrepreneurship stories, the startup ecosystem is facing several transparency issues. An independent platform to share information about startup events, mentors, investors and general startup related information does not yet exist. Aspiring entrepreneurs thus highlighted that they were often unaware about events being conducted in the ecosystem. Some entrepreneurs said that information was deliberately withheld, either by academic staff that informed only selected few or by their own peers, especially when the events include prices such as foreign travel. This has contributed to a relatively low level of trust which in turn prevents innovation, cooperation and co-creation.

Low level of trust is also a result of the strongly centred rule that dominated Uzbekistan for a long time and prevented the emergence of a civil society. While tokens of liberalisation appear since the election of the new president, most activities are mobilised and orchestrated from the top. Bottom-up or civil society driven initiatives are still rare. This is seen as increasingly critical by younger people and expectations of further liberalisation are growing.

While independent people-driven initiatives are still a rare phenomenon and subject to strong control mechanisms of higher authorities, civil society traditions are taking root on the virtual level. Startup founders reported a lively exchange on social media platforms or exchange channels such as Facebook and Telegram. To further strengthen the startup ecosystem and reduce trust barriers, a culture of debate also needs to be endorsed and promoted in physical infrastructures and organisations, especially those that are inherently responsible for entrepreneurship promotion such as universities.

8. Interventions

8.1 Policy Recommendations

Uzbekistan has undergone a significant transition in recent years and made active efforts to support startups. The following recommendations are based on findings from the desk and field research.

Set-up of a startup promotion coordinating unit and development of a startup strategy

Several developing countries are in the process of developing startup policies. Tunisia recently enabled a 'Startup Act' that outlines tax benefits, patenting support, export promotion support and startup scholarships among other provisions. Smaller economies such as Albania are realising the need to support startups through a dedicated policy. The State Minister for the Protection of Entrepreneurship recently invited all local stakeholders to support the drafting of a new startup policy.

Uzbekistan does not have a startup policy in place yet. Moreover, startup promotion is spread over several ministries including the Ministry of Innovative Development, the Ministry for the Development of Information Technologies and Communications, the National Agency of Project Management and their sub-subordinate structures such as the Center for Advanced Technologies, Yashnabad Innovative Technopark, IT Park and the Mirzo Ulugbek Innovation Center. Coordination among these units is currently almost non-existent, as every unit is fighting for the frontrunner place in the startup space. While tax benefits for startups exist, these are only available to startups occupying positions in the structures of these organisations.

In addition, while many Uzbek's are entrepreneurial at heart and run entrepreneurial side activities to eke out a living, the understanding of tech entrepreneurship, full-time entrepreneurship and what exactly running a startup business entails, remains limited. Transforming the mindset of young Uzbeks and creating an awareness of the opportunities of entrepreneurship is crucial to engage young Uzbeks in entrepreneurship. Awareness campaigns or communication campaigns with success stories from Uzbek entrepreneurs can help building an interest and support the growing culture.

To overcome these challenges, foster cooperation and create a startup culture, a coordinating superordinate unit could be established. Besides decision-makers from the individual ministries and the subordinate organisations, this unit should also include other public and private stakeholders from the startup ecosystem. This group encourages a regular public-private dialogue among stakeholders entrusted with startup promotion .

Responsibility of the unit can also be to harmonise activities of the individual structures and to develop a startup strategy outlining the vision and prospects of startup promotion in Uzbekistan with underlying targets and goals. Points that may be covered in the strategy could include/address (although not limited to):

1. There is currently no definition of a startup and the startup development stages. In addition, terms such as incubator, accelerator and co-working space are not widely known. To derive a baseline and a common understanding in the ecosystem about terms and terminologies the startup strategy should outline startup related definitions. These definitions can serve as the baseline for the startup support provided under this scheme.

2. The strategy can also provide an outline of which sectors can be addressed, especially those relevant for startups, underlined with specific targets to be achieved over a certain time frame. The sector findings shall be based on a detailed sector analysis conducted prior to developing the strategy.

3. Most activities in the startup ecosystem in Uzbekistan are currently conducted by public actors, who lack capacity, knowledge and outreach. The strategy can, therefore, also include a roadmap to strengthen public and private actors of the startup ecosystem through financial assistance, capacity building support (e.g. through exposure visits) and PPPs.

The roadmap can, therefore, include provisions on supporting:

- The emergence of an independent service provider market for services such as IP protection, technology and business support, export and internationalisation facilitation, etc.
- Incubators, accelerators, FabLabs, co-working spaces, etc., especially those of private actors
- Programs and events such as Startup Conferences, Hackathons and Bootcamps among other possible event formats, especially those supported by private actors

4. One of the main challenges startups in Uzbekistan are facing is access to finance. Funding support provided by the government has not achieved the intended results as only a few benefit from the support and high regulatory challenges prevent startups from accessing these funds. The strategy, thus, shall outline provisions on improving access to capital for startups by:

- Addressing legal and regulatory barriers, for instance, on crowdfunding, equity and angel investing
- Introducing small competition-based startup grants in the range of \$5.000 - \$6.000 USD, giving aspiring entrepreneurs the flexibility to realise their ideas
- Establishing a 'Fund of Funds' allocated to invest in VC funds interested in the Uzbek startup ecosystem to increase access to private equity funding for startups and leverage foreign and domestic capital
- Introducing milestone-based disbursement of existing bigger and upcoming funds to encourage stepwise development of startups

5. Incentives and concessions currently only exist for the startups located in the structures of the various ministries. Other startups are not eligible to access these benefits. The strategy shall, therefore, also emphasise provisions for incentives and concessions of startups recognised under the scheme such as:

- Commercialisation assistance to support the realisation of ideas by providing financial support to access foreign and domestic technology and business assistance. These could be in form of innovation vouchers, preventing direct financial transaction to startups
- Tax and social security exemptions (e.g. corporate tax and VAT) for all startups recognised under this scheme
- Financial and administrative patenting support for all startups recognised under this scheme
- Skills certification grants to access qualification measures in areas such as entrepreneurship, ICT and technology

6. Gender stereotypes are deeply rooted and prevent women from pursuing their own business ideas. The strategy, therefore, shall address gender issues by promoting women in tech, supporting and generating gender-inclusive programs for women entrepreneurs such as for instance women accelerator programs to allow them to gain skills, develop their ideas and have access to funding, and decreasing barriers for women to get engaged in entrepreneurship through media and information campaigns featuring successful female Uzbek entrepreneurs, workshops and capacity building programs.

7. The role of academia in the overall entrepreneurship ecosystem in Uzbekistan is negligible, despite the common understanding that universities serve as talent benches. Only a few universities have started to support entrepreneurship among their students. To strengthen the role of academia in the entrepreneurship ecosystem, the strategy shall include provisions to:

- Support private and public universities interested to introduce startup activities or set-up an incubator
- Foster the introduction of entrepreneurship of a cross-cutting topic in bachelor's and master's degrees
- Encourage the introduction of Technology, Innovation and Entrepreneurship master programs
- Introduce mandatory schemes of internship/apprenticeship in bachelor and master programs in cooperation with the industry

8. Startup support is mostly focused on Tashkent. A few selected initiatives, mostly conducted by international development agencies, are catering to rural startups. However, language barriers have prevented startups from accessing these facilities. The startup strategy shall, therefore, focus on fostering rural and social entrepreneurship that address development challenges of Uzbekistan by:

- Setting up an 'Impact Fund' targeted at rural and social enterprises
- Conducting awareness raising and information sessions on the opportunities of rural and social entrepreneurship
- Support programs targeting rural and social enterprises, especially those conducted in Uzbek

The above highlighted suggestions are only a selection of areas that could be addressed with the startup strategy and that reflect the most pressing issues identified during field research. For the strategy to be realised it is essential that the unit and the strategy is backed by sufficient financial means. In addition, actors, especially private ones, need to be equipped with sufficient freedom and liberty to use the funds as deemed necessary, not bypassing the intended purpose of the support. The unit may also serve as a single point interface and window for eligible assistance under the suggested strategy and shall also be responsible for monitoring and evaluation of initiatives and the strategy.

Improving existing policies and fostering private initiatives

While the 'Startup Strategy' will outline the main support schemes available for entrepreneurs and actors from the startup ecosystem, there is also a need to modify and adapt existing policies. It should be considered to repeal policy barriers such as high taxes for e-commerce businesses, that have contributed to a high degree of informality in this sector. Difficulties in resolving businesses can be addressed by streamlining the process. In addition, it is suggested to foster private initiatives and reduce the state presence in the overall startup ecosystem.

To encourage entrepreneurship in universities, bottom-up initiatives such as entrepreneurship clubs are a way to create an entrepreneurial culture in universities. It is suggested that the government and universities stimulate and foster such initiatives. NGOs play a vital role in a society. In order to encourage a discussion and exchange culture, NGOs or voluntary associations shall be strengthened and relived from state interference. This would encourage cross-sectoral dialogue and bring together leaders of the startup ecosystem who could function as lobbyists for the interests of the startup ecosystem.

8.2 Recommendations Targeting Support Organisations

Overarching capacity building support

The capacity gap presented by support organisation, government stakeholders, universities and financial actors is a critical challenge to the further development of the startup ecosystem in the country. These stakeholders lack the capacity to support startups and understand sector specific challenges. Capacity building support and training would contribute to bridging this gap. On the part of the **policymakers**, especially those entrusted with decision-making clearance, there is a need for awareness creation of sector specific challenges, for instance that 90% of startups are likely to fail. Given this, private investments are key to mitigating the risk and for the sector to flourish. In addition, there is a need for training and capacity building formats for government officials directly entrusted with supporting and working with startups on diverse topics. These include topics such as market research, customer discovery, team building and marketing among others in order to enable them to support startups effectively.

Beyond supporting policy makers, improving access to financial resources would be a major boon for Uzbek entrepreneurs. For this purpose, **business angels** with an interest in investing in startups need to be familiarised through capacity building and training formats on how to invest in startups and arising opportunities, when investing in startups. Support organisations, international donors or policy makers could potentially support in setting up an angel network that encourages joint investments to mitigate the investment risk for potential investors.

Despite a highly educated population in traditional terms (e.g. high literacy rates), the education system is in dire need of further reforms to adequately prepare graduates to set-up enterprises or meaningfully contribute to the fast-changing global world. Improving and updating curriculum throughout the educational process to focus on new technical and applied innovation enabling skills may help bridge the gap between talent and the skills needed for startups. **Universities have to assume a leading role in this process.** Classes on entrepreneurship should be systematically introduced through different fields to foster entrepreneurship. In addition, there seems to be a lack of executive education, equipping professionals with additional skills.

Executive courses on innovation entrepreneurship, should be introduced by universities to encourage highly qualified professionals with skills to run a startup. This is especially important considering the fact that the IT Park for instance, reported a receipt of 20% of the applications from people above 35. In addition, universities should be supported to systematically introduce startup activities or to build an incubator/accelerator to cater to aspiring entrepreneurs among students. Standard operational procedures, terms as well as criteria to be involved in the program should be clearly defined to increase transparency and bridge the trust gap between aspiring entrepreneurs and the universities. A capacity building format for all stakeholders should include delegation trips to developed startup ecosystems to increase exposure and knowledge.

In addition, **support organisations** active in Uzbekistan should be supported (for example, with the support of international experts or by training and certifying mentors), to increase their capacity to offer services to startups throughout the year to guarantee continued support. Generally, there is a need for continuous incubation support. Currently, most programs are batch-based and run once a year. The consequence is that there is currently no single continuous incubation program which offers admission for startups throughout the year.

Building an information platform & a mentor network

Information relating to the startup ecosystem is currently scarce. Many support organisations do not have functional websites providing information about their programs. Information is scattered over various channels including Facebook, Telegram or media platforms such as Spot.uz. A platform hosting transparent information on funding and program opportunities, as well as practical information for startups on how to set-up a business would address this issue and increase transparency in the ecosystem. Beyond this information, the platform could also contain knowledge on:

- Existing startups in Uzbekistan including details about their products, contact person, funding details, etc.
- Business Angels and VC investors active in Uzbekistan as well as other funding sources
- Online forum for peer-to-peer questions or other questions relevant for the startup ecosystem and
- Mentors including their area of expertise and coordinates

Indeed, there are only a few professional mentors active in Uzbekistan. Several actors and startups highlighted challenges in accessing appropriate advisory support. This issue might be addressed by international development agencies who could support the set-up of an independent mentor network.

Supporting women entrepreneurs

Women assuming traditional roles has seen a comeback after the Soviet era. Hence, empowering women entrepreneurship through support programs is an important window of opportunity for the country. In Uzbekistan, a significant proportion of women are employed in the informal sector or conduct small scale livelihood entrepreneurship. However, women entrepreneurs in technical fields are scarce. Recognising this gap, there are various short-term programs such as the Technovation Girls Global Program and the Central Asia Women in Tech & Science Week Conference addressing women and being conducted by support organisations. Yet, social stigma and traditional social roles continue to play an important role in preventing women from engaging in business activity. **Shifting cultural attitudes towards having a more favourable view of women as entrepreneurs and leaders, perhaps through information campaigns featuring successful female Uzbek entrepreneurs could help address this.**

In addition, a dedicated women accelerator program may improve confidence and support women to build their businesses. Support organisations should offer regular courses on business and entrepreneurship to women, to encourage more women to look at entrepreneurship as a valuable career choice.

Donor coordination

With an increasing number of international development agencies there is a need for more coordination and cooperation. A regular coordination process between donor organisations to achieve complementarity of existing and planned initiatives should be initiated. An additional benefit of increased cooperation is the holistic development of the startup ecosystem from scratch.

8.3 Recommendations

Targeting Startups

Building an entrepreneurship culture

The entrepreneurship culture in Uzbekistan is still nascent with only a few entrepreneurs considering entrepreneurship as a full-time career choice. Transforming this mindset of people is crucial to engage Uzbeks in entrepreneurship. Awareness raising among potential and aspiring entrepreneurs, especially in rural areas, can build an interest and support the growing culture.

A media campaign with regular articles championing local heroes, inspirational videos and live startup competitions broadcasted in TV could be a measure to engage potential entrepreneurs. Universities being responsible for the talent base of a country should assume a greater role in inspiring potential entrepreneurs by offering regular lectures and inspirational talks with local and global successful entrepreneurs.

In addition, the number of ideation formats such as hackathons, bootcamps and other formats that inspire entrepreneurship should be increased. An additional benefit of such activities is increased visibility, which may have spill over effects on would-be startup founders, who may not be aware of the increasing potential and popularity in their city.

9. Acknowledgements

We would like to express our gratitude and appreciation to the entrepreneurs and professionals involved in entrepreneurship projects in Tashkent for taking the time to provide us with the necessary information and knowledge about startup ecosystems in the country.

Abdulahad Kuchkarov, Deputy Director of IT Park

Akbar Gulyamov, International Affairs Manager of IT Park

Allabergenov Anvar Alimbayevich, Head of Development of Science Research for the State Committee of the Republic of Uzbekistan

Avaz Pazilov, Advisor-Project Coordinator GIZ Uzbekistan

Aziz Maksumov, Head of Department for the Further Diversification of Types of Tourism

Bakhrom Mirkasimov, Deputy Rector on Research and Innovation WIUT

Elena Selezneva, Accelerator Director of Startup Factory Uzbekistan

Feruz Dodiev, Deputy Head of International Affairs and Protocol Department

Franziska Tadé, Senior Project Manager GIZ

Jamshid Avloni, PhD, Ministry of Innovative Development of the Republic of Uzbekistan

Karsten Heinz, High-Level Advisor Ministry of Innovative Development of the Republic of Uzbekistan

Mirzakhmedov Miryakub, Head of Division Student Affairs, Toshkent Shadridagi Inha Universiteti

Nematkhon Ya Khamrakhudjaev, Academy of Public Administration under the President of the Republic of Uzbekistan

Nizom Kadirov, Deputy Rector on Social Affairs WIUT

Saida Yusupova, CEO and Founder, Technovation Regional Ambassador

Sattarov Tulqin Abdixalilovich, Executive Director of Supporting Fund of the Council of Farmer Dehkan farms and owners of homestead land of Uzbekistan

Shahlo Turdikulova, PhD Sr. Sci Director of the Center for Advanced Technologies

Shakhobiddin Sharifov, Ministry of Innovative Development of the Republic of Uzbekistan

Timur Allamuratov, Deputy Head of Division International Cooperation, Toshkent Shadridagi Inha Universiteti

Timur G Abdullaev, Head of the Department for International Relations for the Academy of Public Administration

10. References

- [1] For further methodology details, see: www.startup-meter.org/methodology/
- [2] Bertelsmann. (2018). BTI 2018 | Uzbekistan Country Report. Retrieved September 08, 2019, from <https://www.bti-project.org/de/berichte/laenderberichte/detail/itc/uzb/ity/2018/itr/pse/>
- [3] Institute for Economics & Peace. (2019, June). Global Peace Index. Retrieved September 08, 2019, from <http://visionofhumanity.org/app/uploads/2019/06/GPI-2019-web003.pdf>
- [4] Bertelsmann. (2018). BTI 2018 | Uzbekistan Country Report. Retrieved September 08, 2019, from <https://www.bti-project.org/de/berichte/laenderberichte/detail/itc/uzb/ity/2018/itr/pse/>
- [5] World Bank. (2018, December 18). Cities in Uzbekistan to Gain Better Municipal Services and Urban Infrastructure, with World Bank Support. Retrieved September 08, 2019, from <https://www.worldbank.org/en/news/press-release/2018/12/18/cities-in-uzbekistan-to-gain-better-municipal-services-and-urban-infrastructure>
- [6] *ibid*
- [7] World Bank. (2018, September 05). Digital Casa Uzbekistan. Retrieved September 08, 2019, from <http://documents.worldbank.org/curated/en/270591537301798557/pdf/Concept-Project-Information-Documents-Integrated-Safeguards-Data-Sheet-Digital-CASA-Uzbekistan-P166615.pdf>
- [8] World Bank. (2018, September 05). Digital Casa Uzbekistan. Retrieved September 08, 2019, from <http://documents.worldbank.org/curated/en/270591537301798557/pdf/Concept-Project-Information-Documents-Integrated-Safeguards-Data-Sheet-Digital-CASA-Uzbekistan-P166615.pdf>
- [9] World Bank. (2018, September 05). Digital Casa Uzbekistan. Retrieved September 08, 2019, from <http://documents.worldbank.org/curated/en/270591537301798557/pdf/Concept-Project-Information-Documents-Integrated-Safeguards-Data-Sheet-Digital-CASA-Uzbekistan-P166615.pdf>
- [10] World Bank. (2018, September 05). Digital Casa Uzbekistan. Retrieved September 08, 2019, from <http://documents.worldbank.org/curated/en/270591537301798557/pdf/Concept-Project-Information-Documents-Integrated-Safeguards-Data-Sheet-Digital-CASA-Uzbekistan-P166615.pdf>
- [11] UNDP. (2018, August 22). Sustainable employment in Uzbekistan: the status, problems and solutions. Retrieved September 08, 2019, from <http://www.uz.undp.org/content/uzbekistan/en/home/library/poverty/unsustainable-employment-in-uzbekistan--the-status--problems-and.html>
- [12] Asian Development Bank. (2014). Uzbekistan Country Gender Assessment. Retrieved September 08, 2019, from <https://www.adb.org/sites/default/files/institutional-document/42767/files/uzbekistan-country-gender-assessment.pdf>

- [13] Asian Development Bank. (2014). Uzbekistan Country Gender Assessment. Retrieved September 08, 2019, from <https://www.adb.org/sites/default/files/institutional-document/42767/files/uzbekistan-country-gender-assessment.pdf>
- [14] UNDP. (2018, August 22). Sustainable employment in Uzbekistan: the status, problems and solutions. Retrieved September 08, 2019, from <http://www.uz.undp.org/content/uzbekistan/en/home/library/poverty/unsustainable-employment-in-uzbekistan--the-status--problems-and.html>
- [15] World Bank. (2018, September 06). World Bank Group Signs First Reimbursable Advisory Services Agreement with Uzbekistan to Support Civil Aviation Sector Reform. Retrieved September 08, 2019, from <https://www.worldbank.org/en/news/press-release/2018/09/06/uzbekistan-ras-to-support-civil-aviation-sector-reform>
- [16] Buketow, K. (2018, October 09). The democratic future of Uzbekistan doesn't depend on the politicians, but whether workers can mobilise. Retrieved September 08, 2019, from <https://www.opendemocracy.net/en/odr/the-democratic-future-of-uzbekistan/>
- [17] EBRD. (2018, September 19). Uzbekistan Country Strategy 2018-2023. Retrieved September 08, 2019, from <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKEwj3p-3EILzjAhVP6qQKHSSKDLEQFjAAegQIBRAC&url=https%3A%2F%2Fwww.ebrd.com%2Fdocuments%2Fstrategy-and-policy-coordination%2Fstrategy-for-uzbekistan.pdf&usg=AOvVaw2VWrz4yj>
- [18] OECD. (2017, December). Boosting SME Internationalisation in Uzbekistan through Export Promotion Policies. Retrieved September 08, 2019, from http://www.oecd.org/eurasia/competitiveness-programme/central-asia/Uzbekistan_Peer_review_note_dec2017_final.pdf
- [19] Asian Development Bank. (2014). Uzbekistan Country Gender Assessment. Retrieved September 08, 2019, from <https://www.adb.org/sites/default/files/institutional-document/42767/files/uzbekistan-country-gender-assessment.pdf>
- [20] Fletcher, L. (2019, March 08). Uzbekistan: why investors are propelled to 'frontier' markets. Retrieved September 08, 2019, from <https://www.ft.com/content/6bd7f5ee-4106-11e9-9bee-efab61506f44>
- [21] World Bank. (2017). GLOBAL FINDEX. Retrieved September 08, 2019, from https://globalfindex.worldbank.org/#data_sec_focus
- [22] Kadyrova, E. (2019, February 04). Uzbekistan takes steps to encourage FDI inflow and foreign trade. Retrieved September 08, 2019, from <http://www.newscentralasia.net/2019/02/04/uzbekistan-takes-steps-to-encourage-fdi-inflow-and-foreign-trade/>
- [23] Santander. (2019). Uzbekistan: Foreign Investment. Retrieved September 08, 2019, from <https://en.portal.santandertrade.com/establish->

- [24] Aris, B. (2019, August 23). FUNDS: Asia Frontier Capital pioneering foreign investments into Uzbek stocks. Retrieved September 08, 2019, from <https://www.intellinews.com/funds-asia-frontier-capital-pioneering-foreign-investments-into-uzbek-stocks-166616/>
- [25] EBRD. (2018, September 19). Uzbekistan Country Strategy 2018-2023. Retrieved September 08, 2019, from <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKEwj3p-3ELzjAhVP6qQKHSSKDLEQFjAAegQIBRAC&url=https%3A%2F%2Fwww.ebrd.com%2Fdocuments%2Fstrategy-and-policy-coordination%2Fstrategy-for-uzbekistan.pdf&usg=AOvVaw2VWrz4yj>
- [26] World Bank. (2018, September 06). World Bank Group Signs First Reimbursable Advisory Services Agreement with Uzbekistan to Support Civil Aviation Sector Reform. Retrieved September 08, 2019, from <https://www.worldbank.org/en/news/press-release/2018/09/06/uzbekistan-ras-to-support-civil-aviation-sector-reform>
- [27] Uzbekistan's Investment Promotion Agency, 2019
- [28] JSC O'zbekiston temir yo'llari, 2018
- [29] Asian Development Bank. (N/A). Sector Assessment (Summary): Railway Transport. Retrieved September 08, 2019, from <https://www.adb.org/sites/default/files/linked-documents/48025-003-ssa.pdf>
- [30] Asian Development Bank. (N/A). Sector Assessment (Summary): Railway Transport. Retrieved September 08, 2019, from <https://www.adb.org/sites/default/files/linked-documents/48025-003-ssa.pdf>
- [31] Ministry of Foreign Affairs of the Republic of Uzbekistan. (2016, July 27). Results of socio-economic development of the Republic of Uzbekistan for the first half-year 2016. Retrieved September 08, 2019, from https://mfa.uz/en/press/release/8014/?sphrase_id=4196499
- [32] Uzbekistan's Investment Promotion Agency, 2019
- [33] CAREC. (N/A). Project List. Retrieved September 08, 2019, from https://www.carecprogram.org/?page_id=1726
- [34] World Bank. (2019, February 28). Ferghana Valley Rural Enterprise Development Project. Retrieved September 08, 2019, from <http://documents.vsemirnyjbank.org/curated/ru/530031553479227746/pdf/Uzbekistan-Ferghana-Valley-Rural-Enterprise-Development-Project.pdf>
- [35] UNECE. (2013, April 04-05). Development of dry ports to facilitate intermodal transport in SPECA countries. Retrieved September 08, 2019, from https://www.unece.org/fileadmin/DAM/trans/main/speca/docs/18th_session/18.3_Item_4.4.pdf
- [36] Aliyeva, K. (2018, June 07). Uzbekistan, Kazakhstan to create joint venture to develop Tashkent - Shymkent transport corridor. Retrieved September 08, 2019, from <https://www.azernews.az/region/133151.html>

- [37] World Bank. (2018, December 18). Cities in Uzbekistan to Gain Better Municipal Services and Urban Infrastructure, with World Bank Support. Retrieved September 08, 2019, from <https://www.worldbank.org/en/news/press-release/2018/12/18/cities-in-uzbekistan-to-gain-better-municipal-services-and-urban-infrastructure>
- [38] World Bank. (2015, November). The Case of Uzbekistan. Retrieved September 08, 2019, from <http://documents.worldbank.org/curated/en/860101467994584583/pdf/97832-REVISED-Box394849B-ENGLISH-report-en-ebook.pdf>
- [39] European Parliament. (2018, September). Water in Central Asia. Retrieved September 08, 2019, from [http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/625181/EPRS_BRI\(2018\)625181_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/625181/EPRS_BRI(2018)625181_EN.pdf)
- [40] World Bank. (2016, May 20). Systematic Country Diagnostic for Uzbekistan. Retrieved September 08, 2019, from <http://documents.worldbank.org/curated/en/304791468184434621/pdf/106454-REVISED-PUBLIC-SecM2016-0167-1.pdf>
- [41] Eurasianet. (2019, August 2019). Uzbekistan: Utilities prices to go up as lure to investors. Retrieved September 08, 2019, from <https://eurasianet.org/uzbekistan-utilities-prices-to-go-up-as-lure-to-investors>
- [42] UZDaily. (2019, March 14). Uzbekistan introduces amendments and additions to Law “On Atmospheric Air Protection”. Retrieved September 08, 2019, from <http://www.uzdaily.uz/en/post/48527>
- [43] United Nations. (2017, May 16). Problems of the Aral Sea and water resources of Central Asia. Retrieved September 08, 2019, from <https://www.un.int/uzbekistan/news/problems-aral-sea-and-water-resources-central-asia>
- [44] World Bank. (2019). Doing Business Uzbekistan. Retrieved September 08, 2019, from <https://www.doingbusiness.org/content/dam/doingBusiness/country/u/uzbekistan/UZB.pdf>
- [45] World Bank. (2018, September 05). Digital Casa Uzbekistan. Retrieved September 08, 2019, from <http://documents.worldbank.org/curated/en/270591537301798557/pdf/Concept-Project-Information-Documents-Integrated-Safeguards-Data-Sheet-Digital-CASA-Uzbekistan-P166615.pdf>
- [46] World Bank. (2018, September 05). Digital Casa Uzbekistan. Retrieved September 08, 2019, from <http://documents.worldbank.org/curated/en/270591537301798557/pdf/Concept-Project-Information-Documents-Integrated-Safeguards-Data-Sheet-Digital-CASA-Uzbekistan-P166615.pdf>
- [47] International Telecommunication Union. (2018). Measuring the Information Society Report Volume 2. Retrieved September 08, 2019, from <https://www.itu.int/en/ITU-D/Statistics/Documents/publications/misr2018/MISR-2018-Vol-2-E.pdf>

- [48] Speedtest. (2019, July). Speedtest Global Index. Retrieved September 08, 2019, from <https://www.speedtest.net/global-index/uzbekistan#mobile>
- [49] UZDaily. (2018, January 09). Development of ICT sector in Uzbekistan discussed. Retrieved September 08, 2019, from <https://www.uzdaily.uz/en/post/42266>
- [50] World Bank. (2018, September 05). Digital Casa Uzbekistan. Retrieved September 08, 2019, from <http://documents.worldbank.org/curated/en/270591537301798557/pdf/Concept-Project-Information-Document-Integrated-Safeguards-Data-Sheet-Digital-CASA-Uzbekistan-P166615.pdf>
- [51] EBRD. (2018, September 19). Uzbekistan Country Strategy 2018-2023. Retrieved September 08, 2019, from <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKEwj3p-3ELzjAhVP6qQKHSSKDLEQFjAAegQIBRAC&url=https%3A%2F%2Fwww.ebrd.com%2Fdocuments%2Fstrategy-and-policy-coordination%2Fstrategy-for-uzbekistan.pdf&usg=AOvVaw2VWrz4yj>
- [52] The State Committee of the Republic of Uzbekistan on Statistics. (2019). <https://stat.uz/>. Retrieved September 08, 2019, from <https://stat.uz/uploads/doklad/2019/yanvar-iyun/en/10.pdf>
- [53] Asian Development Bank. (2019, April 03). Uzbekistan Growth to Improve Further to 5.2% in 2019 — ADB. Retrieved September 08, 2019, from <https://www.adb.org/news/uzbekistan-growth-improve-further-52-2019-adb>
- [54] Asian Development Bank. (2019, April 03). Uzbekistan Growth to Improve Further to 5.2% in 2019 — ADB. Retrieved September 08, 2019, from <https://www.adb.org/news/uzbekistan-growth-improve-further-52-2019-adb>
- [55] OECD. (2017, December). Boosting SME Internationalisation in Uzbekistan through Export Promotion Policies. Retrieved September 08, 2019, from http://www.oecd.org/eurasia/competitiveness-programme/central-asia/Uzbekistan_Peer_review_note_dec2017_final.pdf
- [56] World Bank. (2019). Doing Business Uzbekistan. Retrieved September 08, 2019, from <https://www.doingbusiness.org/content/dam/doingBusiness/country/u/uzbekistan/UZB.pdf>
- [57] The Tashkent Times. (2018, October 31). Mirziyoyev signs decree simplifying sales via Internet. Retrieved September 08, 2019, from <http://tashkenttimes.uz/business/3115-mirziyoyev-signs-decree-simplifying-internet-sales>
- [58] UZDaily. (2018, October 31). President signs decree on further trade liberalization in Uzbekistan. Retrieved September 08, 2019, from <https://www.uzdaily.uz/en/post/46375>
- [59] UZDaily. (2018, October 18). Measures taken to improve the efficiency of exports of fruits and vegetables. Retrieved September 08, 2019, from <https://www.uzdaily.uz/en/post/46211>

- [60] OECD. (2017, December). Boosting SME Internationalisation in Uzbekistan through Export Promotion Policies. Retrieved September 08, 2019, from http://www.oecd.org/eurasia/competitiveness-programme/central-asia/Uzbekistan_Peer_review_note_dec2017_final.pdf
- [61] Asian Development Bank. (2019, April 03). Uzbekistan Growth to Improve Further to 5.2% in 2019 — ADB. Retrieved September 08, 2019, from <https://www.adb.org/news/uzbekistan-growth-improve-further-52-2019-adb>
- [62] Corporation, I. F. (N/A). Collateral Registry Makes Uzbekistan Loans More Accessible. Retrieved September 08, 2019, from https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/collateral+registry+makes+uzbekistan+loans+more+accessible
- [63] World Bank. (2019). Doing Business Uzbekistan. Retrieved September 08, 2019, from <https://www.doingbusiness.org/content/dam/doingBusiness/country/u/uzbekistan/UZB.pdf>
- [64] UZDaily. (2019, July 16). Startup Incubating Center launched in Samarkand. Retrieved September 15, 2019, from <https://www.uzdaily.uz/en/post/50804>
- [65] Bertelsmann. (2018). BTI 2018 | Uzbekistan Country Report. Retrieved September 08, 2019, from <https://www.bti-project.org/de/berichte/laenderberichte/detail/itc/uzb/ity/2018/itr/pse/>
- [66] World Bank. (2019). Doing Business Uzbekistan. Retrieved September 08, 2019, from <https://www.doingbusiness.org/content/dam/doingBusiness/country/u/uzbekistan/UZB.pdf>

11. Indicators and Sources

Indicator Name	Source
Workforce Constraint	World Bank, Enterprise Survey
Skilled workers	World Bank, Enterprise Survey
University Score	TopUniversity.com; 4icu.org; Own Research For the Missing Data
University Students	TopUniversity.com; 4icu.org; Own Research For the Missing Data; Berlin Business Location Center.
Tertiary Education	World Bank - Gross enrollment ratio, tertiary, both sexes
R&D Expenditure	World Bank - Research and Development Expenditure / OECD Database
Labour Regulation Constraint	World Bank, Enterprise Survey
Graduates' salaries	Own Research, Berlin Startup Survey
Software Developers' Salaries	Payscale.com, Averagesalarysurvey.com
Female Participation	World Bank, Modeled on ILO estimate
Unemployment Rate	International Labour Organization, ILOSTAT database.
Female Entrepreneurship	World Bank, Enterprise Survey
Bank Loan	Own Research - Enpact Survey
Business Angels	Own Research - Enpact Survey
Accelerators and Incubators	Own Research - Enpact Survey
VC Funds	Own Research - Enpact Survey
Public Funding	Own Research - Enpact Survey
Funding Constraint	World Bank, Enterprise Survey
Loans Rejected	World Bank, Enterprise Survey
Collateral Required	World Bank, Enterprise Survey
Total VCs / PEs	MENA PEA, Adapted through own research
FDIs Net Inflow	World Bank
Business Angels (total number)	Angel List
Accelerators	Own Research, Expert Consultation
Incubators	Own Research, Expert Consultation
Co-working Spaces	Own Research, Expert Consultation
Technology parks	Own Research, Expert Consultation
Startup Events	Own Research - Enpact Survey
Total Startups	Crunchbase Pro

High Equity Funding Startups (over \$5 mil USD)	Crunchbase Pro
High Equity Funding Startups (over \$1 mil USD)	Crunchbase Pro
Transport Overall Quality	World Economic Forum
Roads Quality	World Economic Forum
Railroad Quality	World Economic Forum
Ports Quality	World Economic Forum
Air Transport Quality	World Economic Forum
Air Transport Capacity	World Economic Forum
Water Supply Quality	World Bank, Enterprise Survey
Electricity Access	World Bank, Enterprise Survey
Electrical Outages	World Bank, Enterprise Survey
Pollution Index	Numbeo
Co-working Space Cost	Coworker
Cost of Living	Numbeo
Electricity Quality	WeForum
Utilities' Cost	Numbeo
Internet Cost	Numbeo
Mobile Internet Cost	Own Research
Mobile Subscription Cost	Numbeo
Mobile Broadband Penetration	GSMA intelligence
Internet Speed (Download)	Startup Meter Survey and testmynet.com
Internet Speed (Upload)	Startup Meter Survey and testmynet.com
Smartphone Penetration	Multiple sources; see country comments for more details.
Internet Penetration	ITU
Prepaid Subscriptions	GSMA intelligence
Mobile Subscriptions	ITU
Stability	World Bank
Effective Governance	World Bank
Regulatory Quality	World Bank
Democracy Level	The Economist Intelligence Unit's Democracy Index
VAT	World Bank Doing Business Report
Corporate Tax	KPMG Corporate income tax tables

Contract Enforcement	World Bank Doing Business 2017
Resolving insolvency	World Bank Doing Business 2017
Business registration (time)	World Bank Doing Business 2017
Business registration (cost)	World Bank Doing Business 2017
Violent Crime	Economic Intelligence Unit (EIU) analysts
Crime as a constraint	World Bank, Enterprise Survey
Informality as a constraint	World Bank, Enterprise Survey
Bribery Depth	World Bank, Enterprise Survey
Corruption Perception	Transparency International
Corruption Control	Worldwide Governance Indicators
GDP PPP per capita	World Bank
Economy Growth	World Bank
Deposit Interest Rate	World Bank
Capacity Utilization	World Bank, Enterprise Survey (under Performance)
Trade Balance	World Bank
Trade openness	World Bank
Tourism	World Bank
Sister Cities	Multiple Sources
Logistic Performance Index	World Bank, Logistic Performance Index

About enpact

enpact is a Berlin-headquartered non-profit organisation empowering entrepreneurs, ecosystems and international cooperation.

enpact is one of the world leaders in the cultivation of startup ecosystems as a means to promote international cooperation and development. Through a variety of products and services, enpact supports founders and startups in Europe, Africa, Asia, Latin America and the Middle East. The goal is to create a global network of startup ecosystems that facilitates the exchange of ideas, solutions and support. At present, enpact's network consists of 600+ startups, 200+ mentors and 50+ support organisations in 20+ countries. 2500+ jobs have been created as a result of enpact's work with startups.

