

Spring report

DIGITAL

ECOSYSTEM DIGEST

2023

CHALLENGES OF INTERNATIONAL EXPANSION

OF LOCAL TECHNOLOGY STARTUPS – OVERVIEW

OF DIGITAL MARKETS IN THE REGION



INTRODUCTION

International borders are slowly disappearing and discoloring in the technological field, especially against the background of rapid globalization. Therefore, the acquisition of international markets has become the focus of long-term development for almost all technological startups. One of the important components for achieving these goals is finding international financial funds and partners. These issues are even more interesting and full of challenges for a small developing economy like Georgia. The target audience of the presented report is quite wide and can include all persons interested in the international development of the startup ecosystem. Specifically, the report will address the following main components:

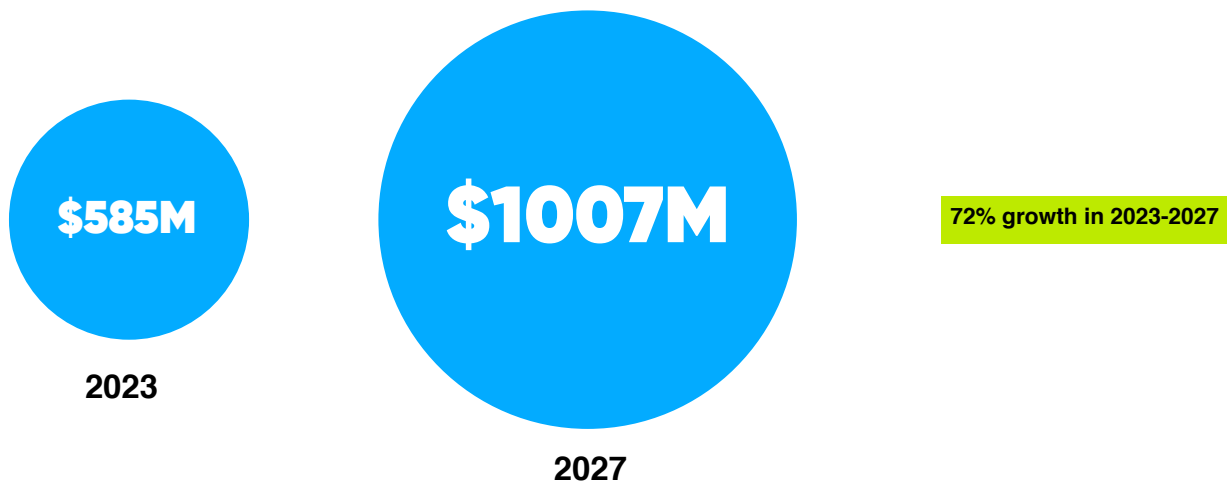
- Overview of interesting digital markets for local tech startups from our geographic region, with a focus on countries where examples of success are recorded;
- The experience of those local technological startups that have entered and operated in specific foreign markets;
- Analysis of the structure of international investments attracted by local technological startups and relevant problems.

Digital ecosystem Digest will return to the topic of international markets in the future and offer a comparative analysis of investment markets.



DIGITAL MARKETS PROFILE – ARMENIA

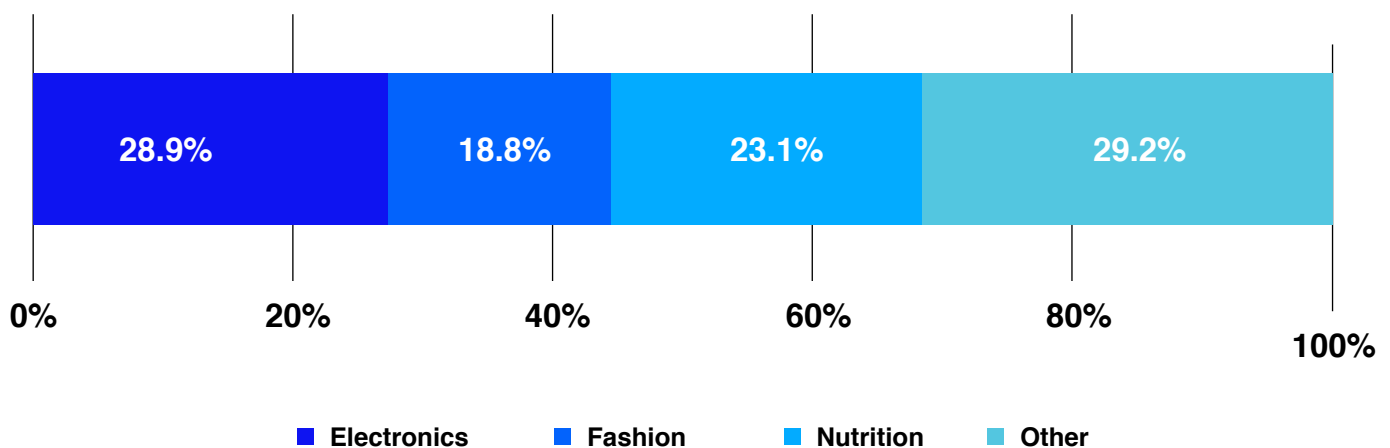
E-commerce market volume * (mln. USD)



* Income earned when selling a physical product to an end user through digital channels in the B2C sector.

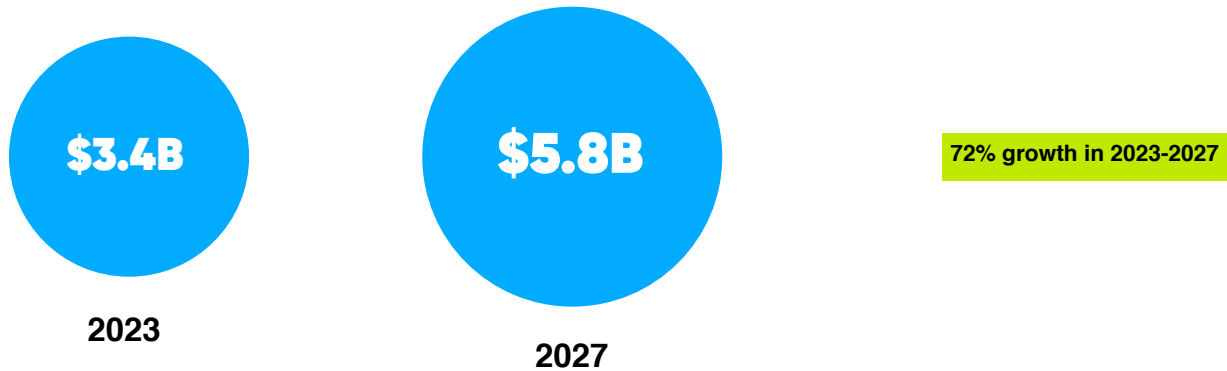
According to preliminary forecasts, in 2023, the e-commerce market in Armenia will grow by 23%, and by 2027 it will reach the \$ 1 billion mark. Among them, particularly high growth is expected in the food sector (with an annual rate of 20%), which, along with electronics products, is one of the leading directions in e-commerce.

E-commerce market structure (2023)



DIGITAL MARKETS PROFILE - ARMENIA

mPOS payments * volume of fintech market (billion. USD)



* Includes e-wallet payments (e.g. ApplePay, Google Pay). Payments made by physical card are not taken into account.

According to preliminary forecasts, in 2023, the mPOS payments market in Armenia will grow by 28%, and until 2027, additional growth will reach 72%. It should be noted that mPOS payments already have a dominant share in the digital payments market, in particular, 3/4 of all consumer transactions carried out by internet technologies.

Digital markets profile - Armenia

Advantages to enter the digital market

Workforce qualifications	High proportion of STEM sector graduates.
Role of the global diaspora	The international diaspora is an important contributor to strengthening technological ties.
Growing ICT sector	The ICT sector grew by 32% in 2022, including an abundance of technological startups.

Challenges in entering the digital market

Market size	The population of the country is less than 3 million, and therefore there are also small digital markets, including the volume of the e-commerce market is only up to half a billion US dollars.
Digital payments infrastructure	The level of development of digital payments infrastructure is relatively low. Apple Pay entered the market in 2022.
Economic and political instability	Military conflicts have a significant impact on the process of sustainable development.

Example of local startup expansion

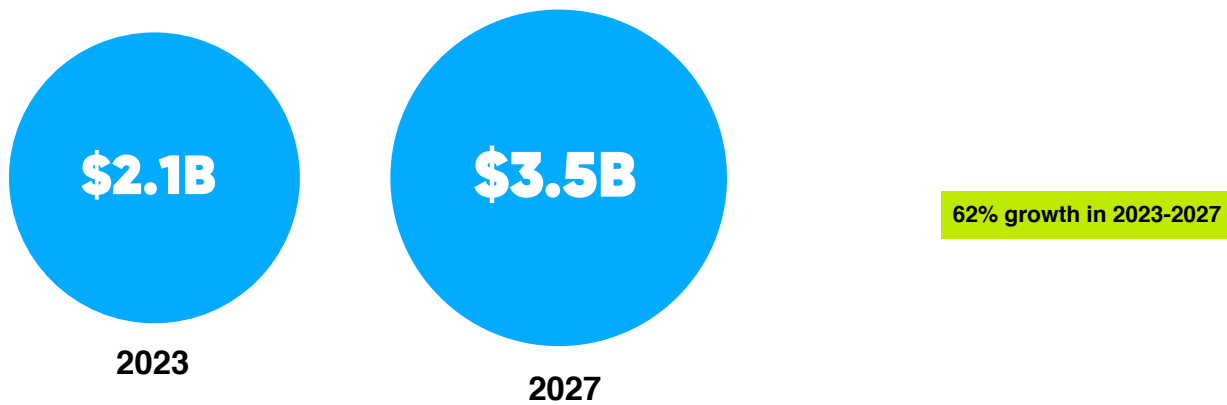
Local sustainable fashion platform Phubber starts its expansion towards Armenia. After entering the Ukrainian market, Armenia became the second country in the region where the company operates.

Unlike the Ukrainian market, the Armenian market is smaller and more concentrated, therefore, orienting on market with small budget is possible. In the case of the fashion industry, the level of local competition is low, and Phubber tries to position itself with premium quality products.

Same as Georgia, the local population in Armenia is actively trained in digital operations, which simplifies the provision of new services to the market. For Phubber either, bureaucratic procedures did not present significant resistance.

DIGITAL MARKETS PROFILE - AZERBAIJAN

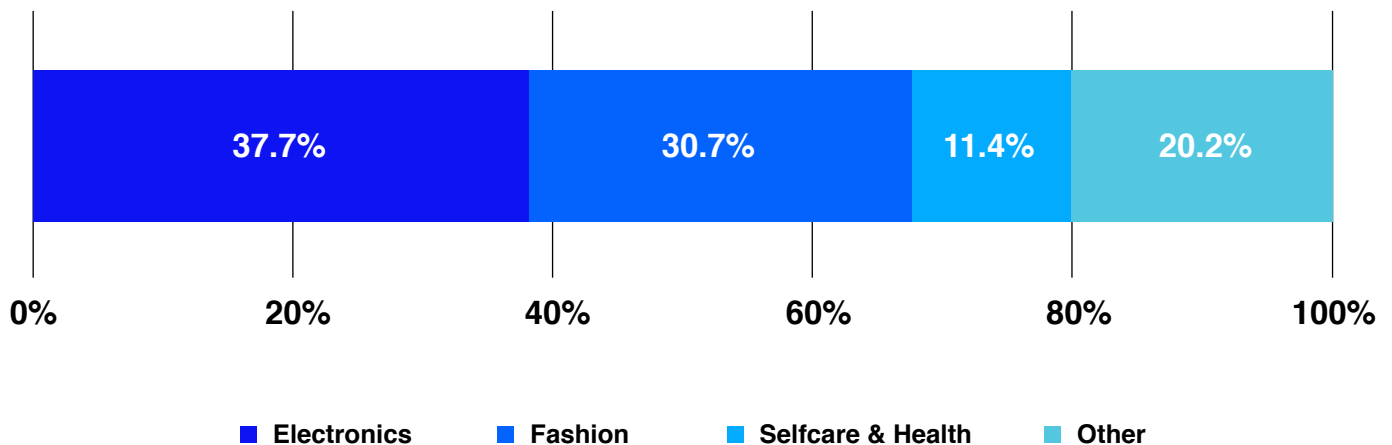
E-commerce market volume * (bln. USD)



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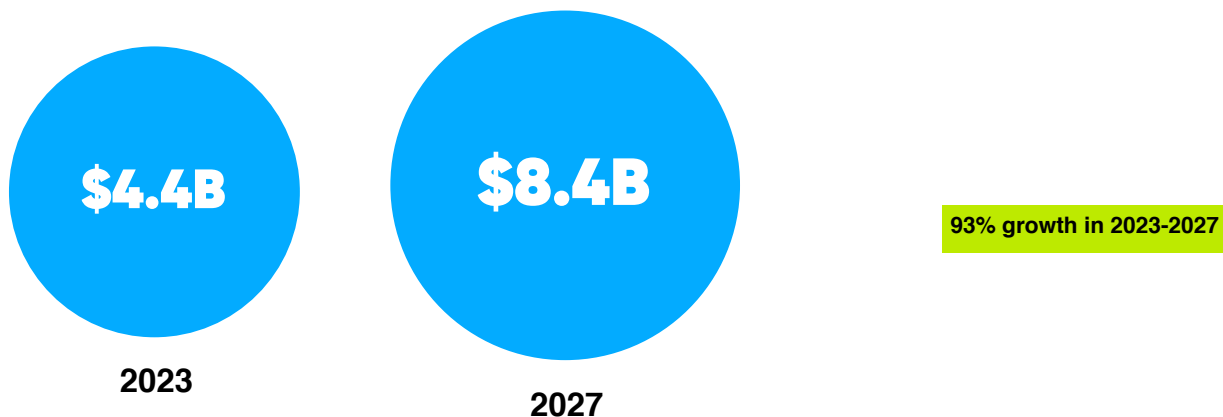
According to preliminary forecasts, in 2023, the e-commerce market in Azerbaijan will grow by 20.5%, and by 2027 it will reach 3.5 billion. It should be noted that one of the largest shares in Azerbaijan's e-commerce is occupied by the electronics industry (28 mln. USD for 2023).

E-commerce market structure (2023)



DIGITAL MARKETS PROFILE - AZERBAIJAN

mPOS payments * volume of fintech market (billion. USD)



* Includes e-wallet payments (e.g. ApplePay, Google Pay). Payments made by physical card are not taken into account.

According to preliminary forecasts, the mPOS payments market, which already plays an important role in the digital payments market of Azerbaijan, will grow in 2023 by 29%, and almost double until 2027.

Digital markets profile - Azerbaijan

Advantages to enter the digital market

Wide internet audience	More than 9 mln internet users.
Digital media products	The digital media products market size will reach \$136 million by 2023.
State politics	Growing interest in the IT sector, including tax benefits for startups working on innovative technologies.

Challenges in entering the digital market

Language and cultural barrier	Customers prefer to communicate directly with local suppliers, the level of digital trust is low.
Diversification of the e-commerce market	The e-commerce sector mainly involves trading only basic products.
Role of the cash	Cash transactions continue to have a high proportion in various industries.

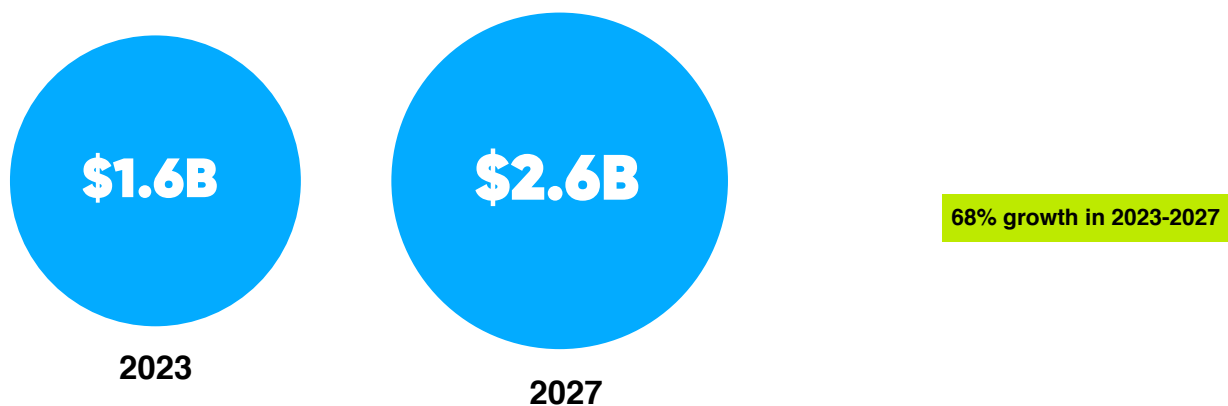
Example of local startup expansion

Local e-commerce platform B2C.GE, which offers its customers the service of creating an online store, entered the Azerbaijani market in 2022, while currently plans to expand towards Uzbekistan. Attitudes and interest in e-commerce in Azerbaijan have increased rapidly since the pandemic. In terms of startup activity, it can be said that customers trust locally available players more than large global companies that only operate remotely. Similar trends were noticed by the company in the Uzbek market.

One of other recommendations of B2C.GE for other technological startups that are going to expand in these markets is to collect information by observing real customers. In similar developing markets, real consumer behavior can differ significantly from General Statistics.

DIGITAL MARKETS PROFILE - UZBEKISTAN

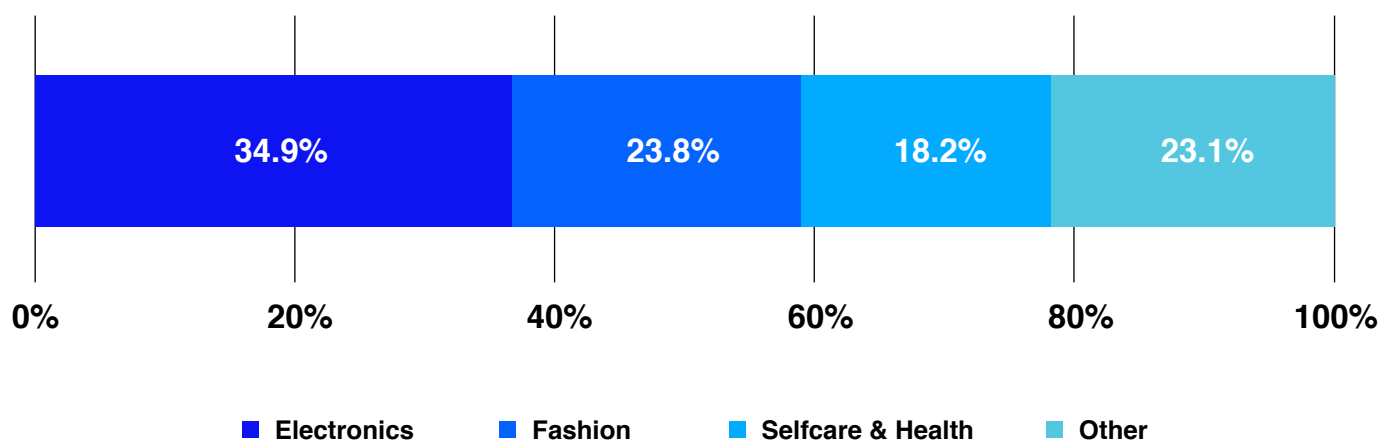
E-commerce market volume * (bln. USD)



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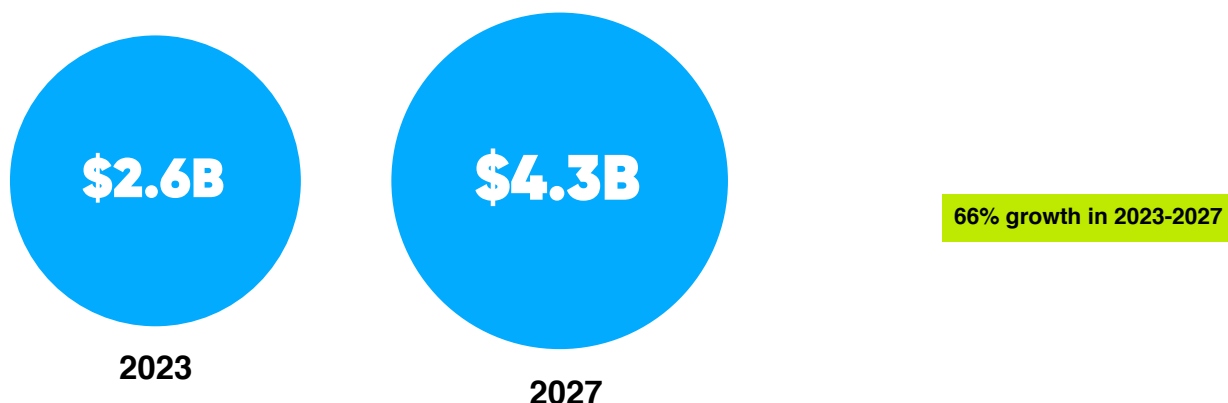
According to preliminary forecasts, in 2023 the e-commerce market in Uzbekistan will grow by 17%, and by 2027 it will reach US \$ 2.6 billion. The food industry, which is still a relatively small segment of e-commerce, will expand to US \$ 246 million over the next 5 years. Currently, the leading direction is trade in electronics and fashion products.

E-commerce market structure (2023)



DIGITAL MARKETS PROFILE - UZBEKISTAN

mPOS payments * volume of fintech market (billion. USD)



* Includes e-wallet payments (e.g. ApplePay, Google Pay). Payments made by physical card are not taken into account.

According to preliminary forecasts, in 2023 the mPOS payments market in Uzbekistan will grow by 22%. It is worth noting that the volume of mPOS payments already exceeds the volumes of other consumer transactions carried out over the internet.

The indicators on this page are based on calculations based on Statista's forecast indicators.

Advantages to enter the digital market

Growing indicators of internet use	As of 2023, 76.6% of the population uses the internet (400 thousand new internet users in one year).
Young and technology-interested population	The median age of the population was 29 years as of 2022.
Smartphone usage levels	The vast majority of the population uses smartphones.
Preferential tax system	Full or partial exemption of IT park companies from taxes.

Challenges in entering the digital market

Inefficient banking sector	The banking sector is mainly dominated by state-owned banks.
Business transparency and competition	There is a lack of transparency in local businesses and a high level of competition, including for international players.
Use of banking and payment services	Only 3.8% of the population owned a payment card in 2021, and 44% - a bank account.
Digital infrastructure	Digital infrastructure is inadequate in a number of non-urban settlements

Example of local startup expansion

Georgian fintech company Payze, which received a payment organization license from the Central Bank of Uzbekistan in 2022, has started cooperation with B2B clients in the relevant market.

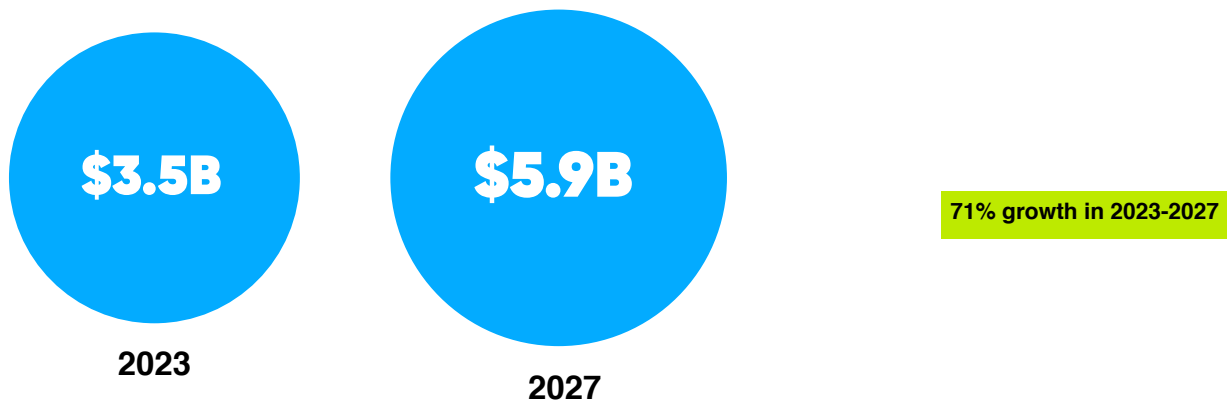
The young population of Uzbekistan is positive about technological innovations, which is an opportunity for innovative companies. One surprise for the company was the popularity of e-wallets among local users.

One of the challenges that the startup noticed in the Uzbek market is the dependence of local companies on the disclosure of finances. The company's recommendation for other technology startups is to test services online before entering similar markets, at minimal costs (if possible in the relevant field).

Payze is also considering entering the Kazakh market, where there is a relatively closed space for competition in this direction.

DIGITAL MARKETS PROFILE – KAZAKHSTAN

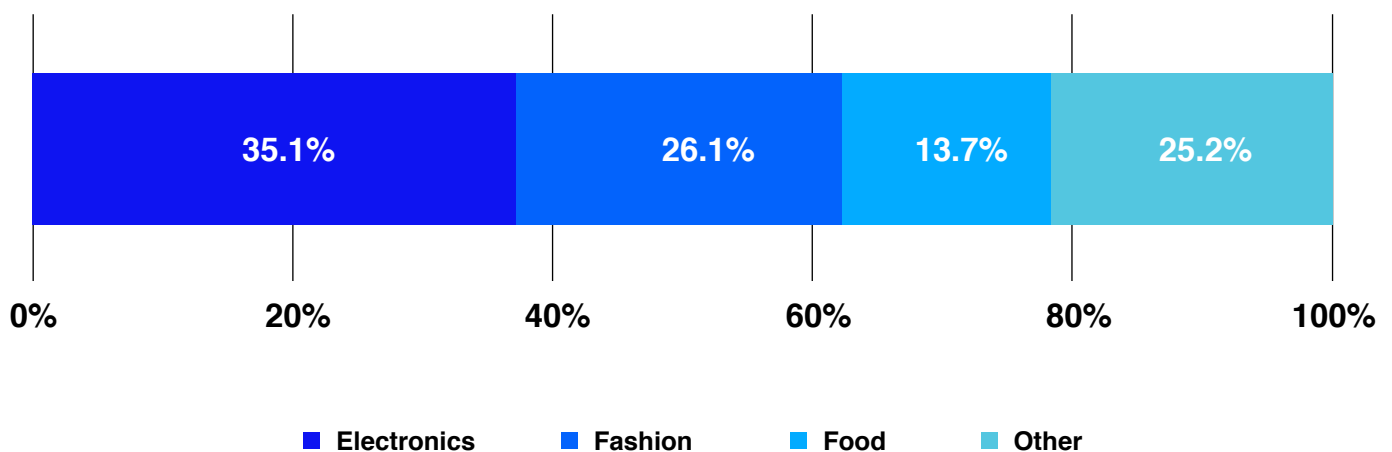
E-commerce market volume * (bln. USD)



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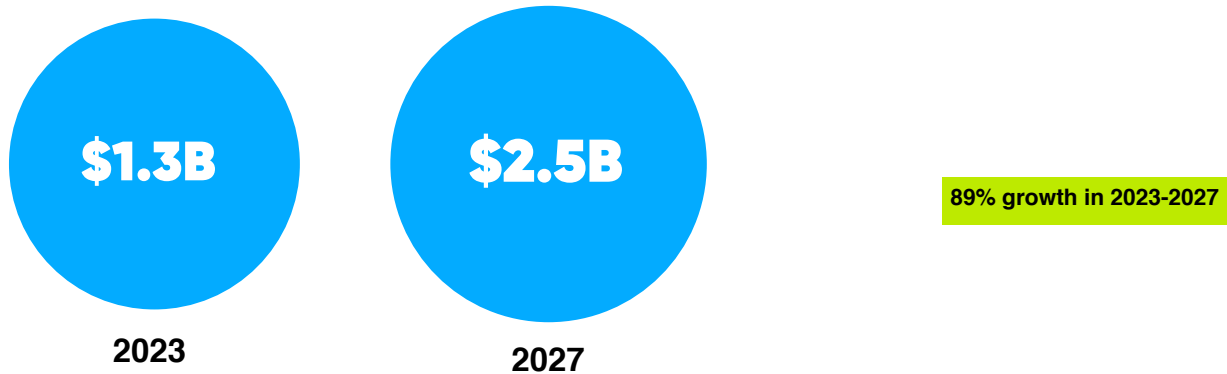
According to preliminary forecasts, in 2023 the e-commerce market in Kazakhstan will grow by 20%, and by 2027 it will reach almost US \$ 6 billion. The food sector, which is already an important segment of the market, will be one of the main contributors to the growth of e-commerce and will grow by about 20% annually until 2027.

E-commerce market structure (2023)



DIGITAL MARKETS PROFILE - KAZAKHSTAN

mPOS payments * volume of fintech market (billion. USD)



* Includes e-wallet payments (e.g. ApplePay, Google Pay). Payments made by physical card are not taken into account.

According to preliminary forecasts, in 2023 the mPOS payments market in Kazakhstan will grow by 25%, and by 2027 it will reach 2.5 billion. the share of mPOS payments is so far small relative to other digital payment categories.

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Digital markets profile - Kazakhstan

Advantages to enter the digital market

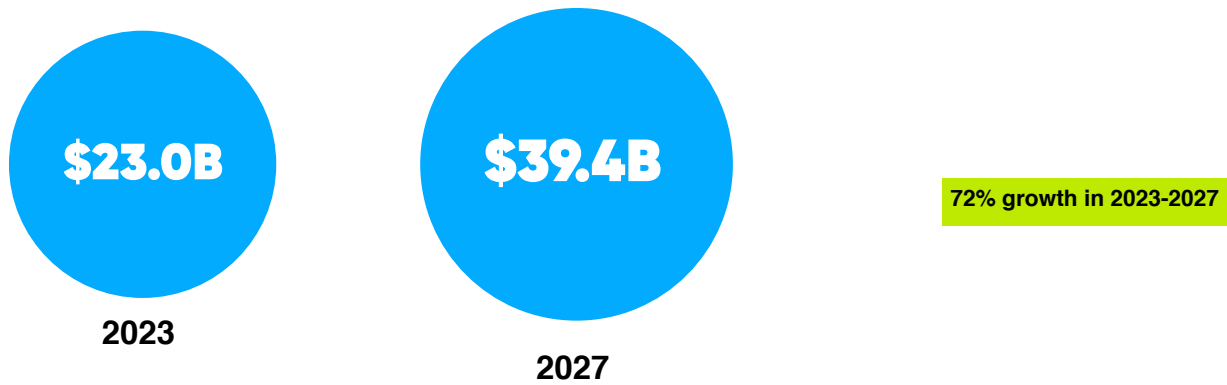
Digital advertising market	The digital advertising market is growing at a high rate within the country, which speaks of the growing interest in digital industries.
Level of bank account ownership	The level of bank account holdings is the highest in the region, with 81% of the population holding a bank account.
Development of payments infrastructure	With the rapid development of payments infrastructure, the number of POS devices in 2020-2023 increased 4 times.
Preferential tax system	IT hub member companies receive tax benefits and are free from income tax.

Challenges in entering the digital market

Legislative base of regulations	The legislative framework for regulating innovative technologies has not yet been fully developed, which creates challenges for technologies such as AI, blockchain, IOT, etc.
Limited opportunities for competitiveness	There is a high level of competition for new firms, including from large local players.
Use of social media	The level of users of traditional social media, specifically, 18% of internet users use Facebook, while 12% use Instagram.

DIGITAL MARKETS PROFILE – TURKEY

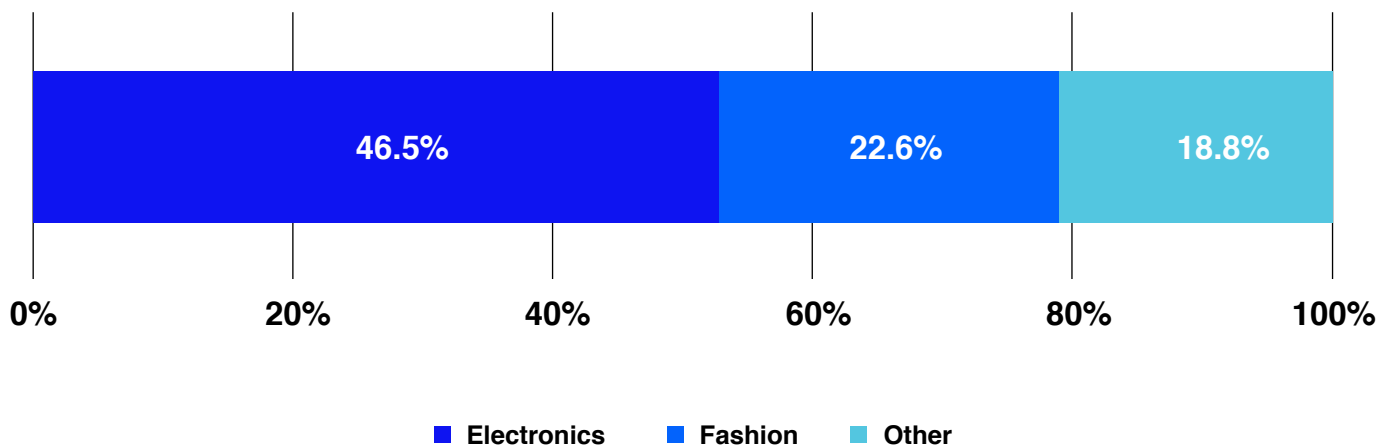
E-commerce market volume * (bln. USD)



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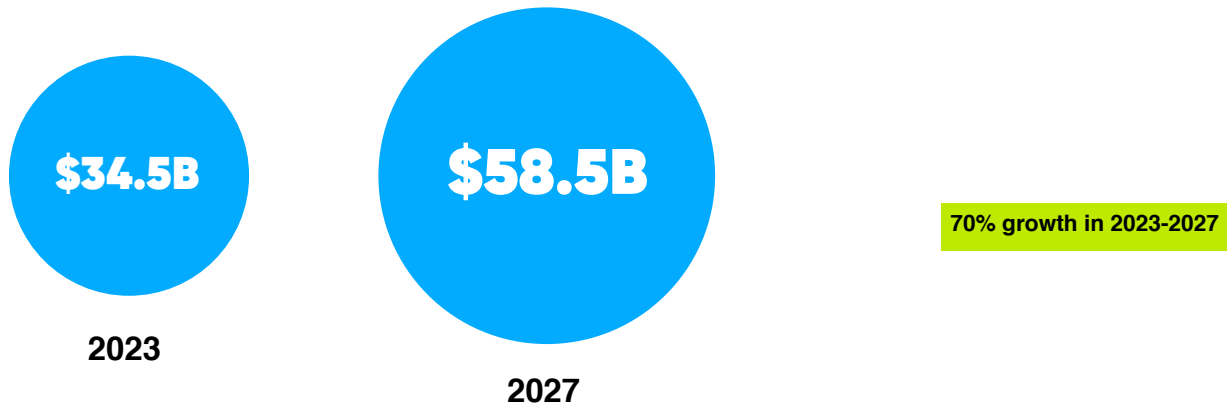
According to preliminary forecasts, in 2023, the e-commerce market in Turkey will grow by 40.9%. It is expected that in the following years, the electronics and fashion industries will maintain dominance in this market, in these 2 sectors, more than 4/5 e-commerce sales fall.

E-commerce market structure (2023)



DIGITAL MARKETS PROFILE - TURKEY

mPOS payments * volume of fintech market (billion. USD)



* Includes e-wallet payments (e.g. ApplePay, Google Pay). Payments made by physical card are not taken into account.

According to preliminary forecasts, in 2023, the mPOS payments market in Turkey will grow by 21%, and until 2027 it will expand further, along with the growth of digital markets in the country as a whole.

The indicators on this page are based on calculations based on Statista's forecast indicators.

Digital markets profile - Turkey

Advantages to enter the digital market

Young population	Half of the population is less than 31 years old and there is potential for technology uptake.
Market volume	70 million internet users by 2022.
Use of social media	High share of social media use among Internet users (Instagram Facebook - 78%, Instagram - 62%).
Startup hub	Positioning Istanbul technological startups as a hub is undergoing.

Challenges in entering the digital market

Local competition	Major local players are found in most digital industries.
Market volume	The volume of the market requires significant segmentation, including the level of development of digital infrastructure in a number of Regions is relatively low.
Internet regulation	There are examples of state regulation of the internet.
Inflation rate	High inflation levels increase uncertainty for businesses with an international profile.

Example of local startup expansion

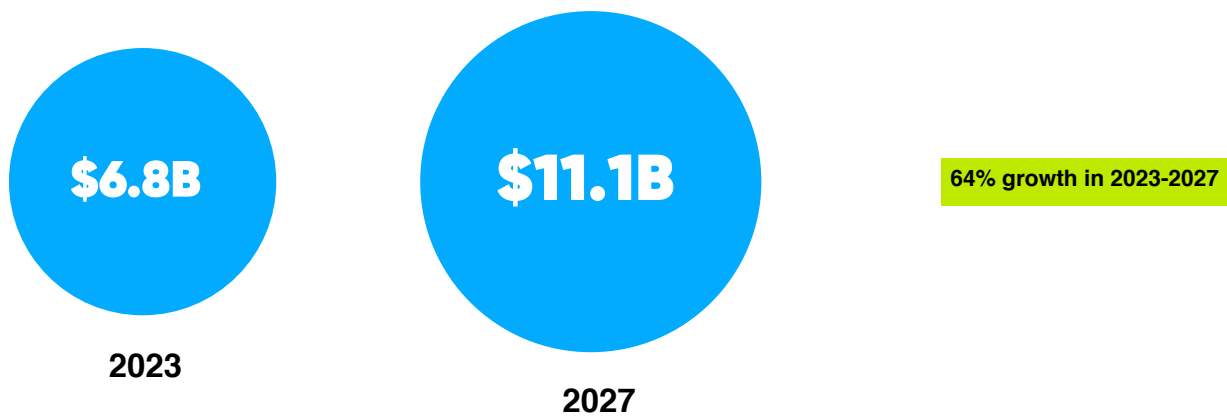
Georgian crypto payment company Citypay.io, remotely serves clients from around the world, and one of the important markets for it at this stage is Turkey.

A fairly significant part of the Turkish population owns cryptoactives, which makes a good investment area for cryptocurrency companies. Turkey's digital economy is quite developed, which is both a challenge and an opportunity for technology startups. Overall, Turkish digital markets are dominated by local players.

One of the recommendations of Citypay.io for technology startups whose profile allows to operate remotely is to expand geographically as much as possible and try to penetrate different markets.

DIGITAL MARKETS PROFILE - ROMANIA

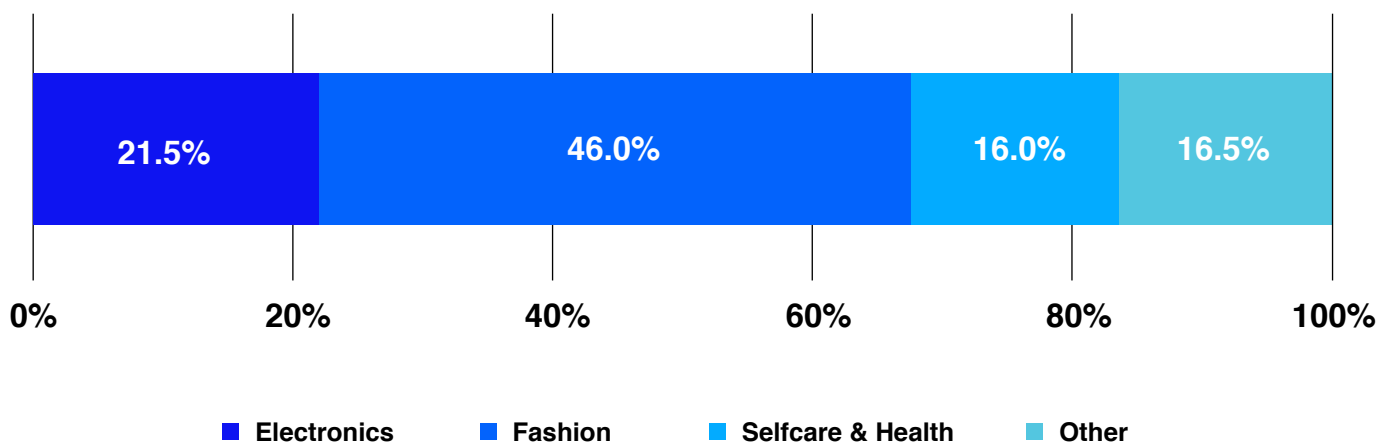
E-commerce market volume * (bln. USD)



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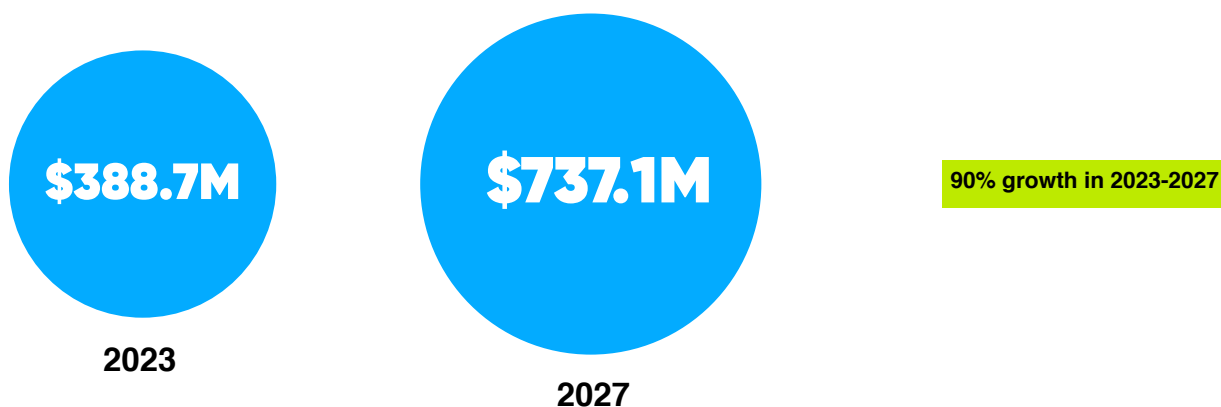
According to preliminary forecasts, in 2023, the e-commerce market in Romania will grow by 28%, and by 2027 it will exceed the 11 billion mark (USD). Almost half of e-commerce sales belong to the fashion industry, which is expected to continue to expand with an average annual growth of 13%.

E-commerce market structure (2023)



DIGITAL MARKETS PROFILE - ROMANIA

mPOS payments * volume of fintech market (mln. USD)



* Includes e-wallet payments (e.g. ApplePay, Google Pay). Payments made by physical card are not taken into account.

According to preliminary forecasts, in 2023, the mPOS payments market in Romania will grow by 17%, and by 2027 it will almost double. Overall the frequency of mPOS payments in Romania is very low compared to other countries.

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Digital markets profile - Romania

Advantages to enter the digital market

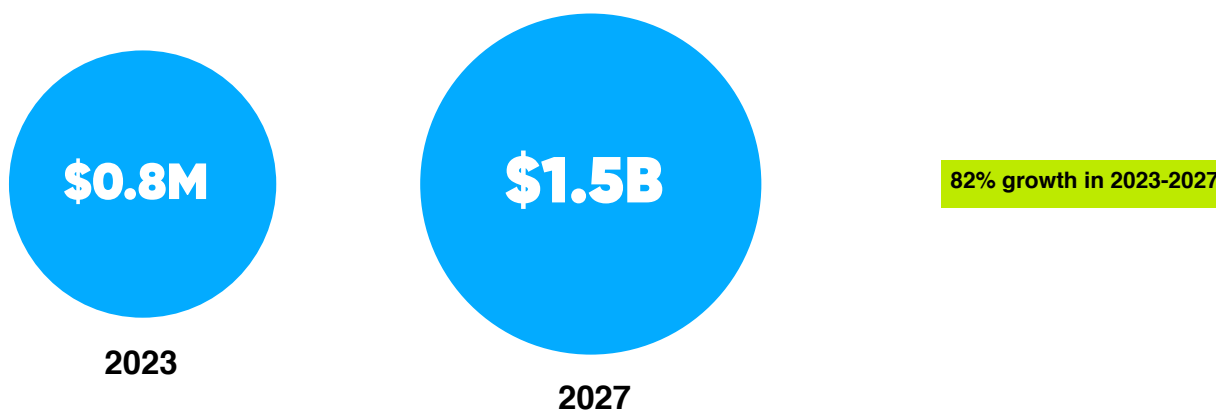
Growing digital economy	The country's digital economy is one of the most growing in Europe, including \$7.4 billion in ICT exports in 2021.
Workforce qualifications	More than 100,000 certified IT specialists.
Operating expenses	Business operating expenses are cheap by European standards - including labor force, office space, etc.
IT infrastructure	One of the fastest internet in the world (4th place according to Ooklas).

Challenges in entering the digital market

High competition	High competition in digital markets, including 8 large IT companies with more than 1000 software engineers.
Fragmented digital market	In e-commerce, small platforms occupy a large market share. Also, 8,000 companies work in software.
Logistical problems	The level of development of roads, transport and warehouses is not adequate to the geographical scale of the country. And this is a challenge for e-commerce.
Bureaucracy	Romania's performance in terms of administrative procedures and bureaucracy is one of the worst in the European region.

DIGITAL MARKETS PROFILE - MOLDOVA

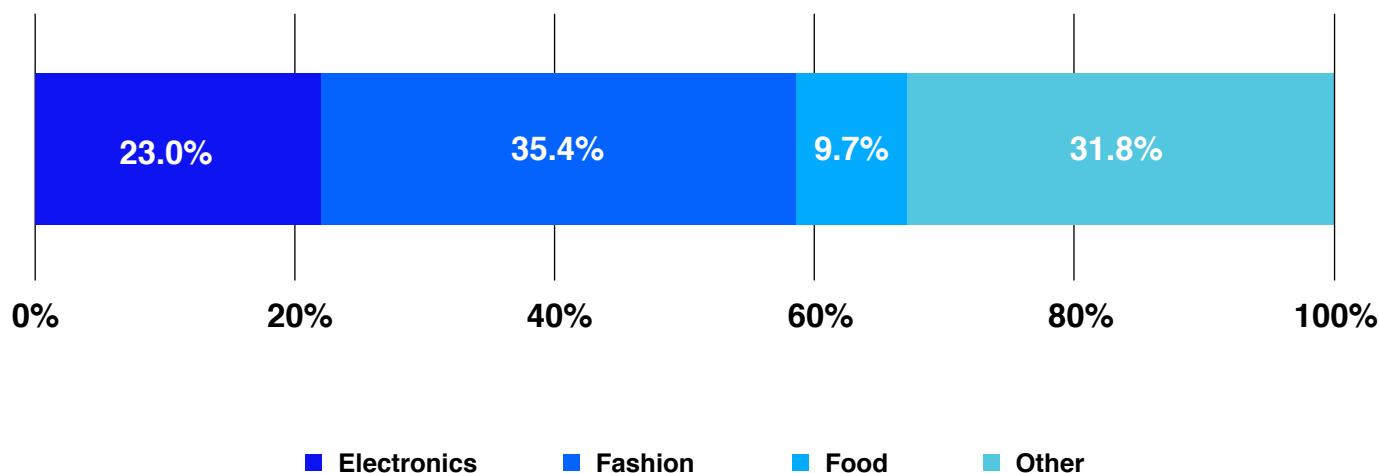
E-commerce market volume * (bln. USD)



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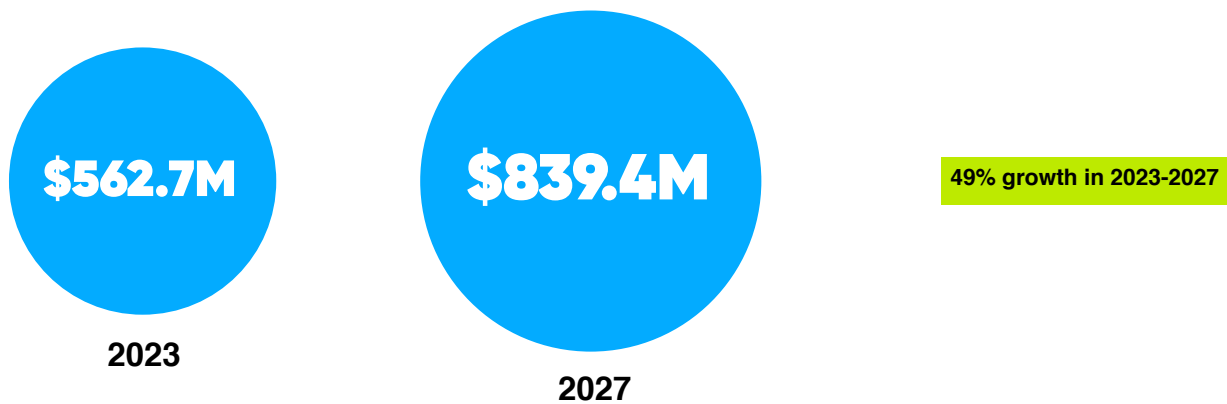
According to preliminary forecasts, in 2023 the e-commerce market in Moldova will grow by 21%. More than a third of e-commerce belongs to fashion products. Also, sharp growth in the food industry is expected in the future, which by 2027 will reach US \$ 166 million.

E-commerce market structure (2023)



DIGITAL MARKETS PROFILE - MOLDOVA

mPOS payments * volume of fintech market (mln. USD)



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According to preliminary forecasts, in 2023, the mPOS payments market in Moldova will grow by 20%. It should be noted that mPOS payments already occupy an important role in the structure of payments.

The indicators on this page are based on calculations based on Statista's forecast indicators.

Digital markets profile - Moldova

Advantages to enter the digital market

Cheap human resource	The average salary in the IT sector is up to \$1,500 per month, which is much lower than the European rate.
Growing labor market	1,500 new IT specialists enter the labor market every year.
Ease of market entry	Moldova is considered one of the interesting startup hubs in eastern Europe.
Tax preferences	There is a unified 7% sales tax rate for IT companies.

Challenges in entering the digital market

Market size	The e-commerce market is only \$816 million by 2023.
Level of development of digital infrastructure	By 2022, only 75% of the population had access to and used the internet, which means that 1 million people are still "offline".
Economic and political instability	Moldova's GDP per person (\$ 5671) is one of the lowest in the region.
Limited investment ecosystem	In addition to state grant programs, there are no developed venture capital funds, and the capital market is also at a lower stage of development.

PROBLEMS OF LOCAL STARTUPS IN TERMS OF ATTRACTING INTERNATIONAL INVESTMENTS

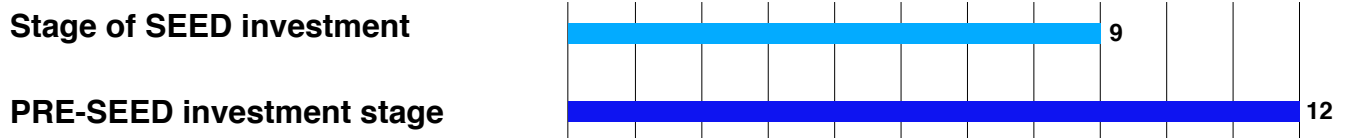
Access to international markets requires significant resources (both financial and human), which is not easy for start-up companies. In addition, doing business in a foreign country also requires the presence of local partners who well understand the characteristics of the behavior of the local market, taking into account cultural, institutional or legislative details.

The key issue for any startup is finding the necessary financial resources. In general, traditional financial institutions are less likely to trust start-up companies because they lack a credit history and/or a sufficient volume of turnover. Therefore, the main sources of funding for startups are:

- Angel investors - who invest in startups at an early stage in exchange for an ownership share in the company. Usually, these people possess great business experience, which is also an additional benefit for startups.
- Venture capital funds - which, like angel investors, invest in exchange for a certain share. These funds are more interested in companies with high return potential, which is often accompanied by counterbalance risk.
- Crowdfunding - means mobilizing small amounts of funds from a large group of people. Basically various online platforms are used for this.
- Grants - mainly state or other international organizations give out financial resources for a specific purpose (for example, product prototyping, etc).
- Accelerators and incubators - which are intended for the exchange of financial resources, as well as mentorship and other resources with startups in exchange for a profit or a certain share in the future.

PROBLEMS OF LOCAL STARTUPS IN TERMS OF ATTRACTING INTERNATIONAL INVESTMENTS

Number of local technological startups, according to the types of international non-grant funding received



The majority of local tech start-ups are in similar stages of development and seek seed or pre-seed type international funding. The amount of funding received for a number of startups already amounts to several million dollars.

We can consider a number of challenges for startups to "freeze" on the pre-seed stage, however, one of the key issues is limited resources - since pre-seed is the earliest stage of the startup life cycle, during which virtually all startups are funded by their own resources and it becomes difficult for them to cover the costs arising from unforeseen circumstances in the process. Obviously, because of this, often the pre-seed stage is stretched in time.

Difficulties in fundraising in international markets are also mainly related to the lack/scarcity of sufficient, relevant and reliable information about startups and their activities.

The data provided on this page is based on crunchbase database, requested information and other public information.

Entering international markets is associated with many difficulties not only for startups, but also for companies already firmly established and positioned in local markets. However, both in this regard have certain advantages and disadvantages. The advantages seen through the prism of startups are mainly related to the cheapness of making mistakes, which brings them more experience and knowledge about their company and product.

If we look at the existing examples of the expansion of Georgian technological startups into international markets, we encounter a tendency that startups prefer to go to neighboring countries. Especially if they present the sectors that are not/can't be fully remote. In this case, in addition to geographical location, strong economic ties with these countries are considered an advantage. Due to the fact that Georgian digital markets are quite developed in the footsteps of a developing country, this creates an interesting experience for local startups. This experience, on the one hand, is useful, and on the other hand, it turns into a contradiction when entering the emerging market of another, different country.

In addition, a number of startups, depending on their profile, serve customers remotely in any region of the world, without significant additional investment. Also, we have experience with technological startups being interested in the markets of countries outside our region (eg: Kernel entering the markets of India and the Philippines). Accordingly, the next stages of the study may concern the discussion of the problems of international expansion, already in a narrow sectoral direction.

WHAT IS DIGITAL ECOSYSTEM DIGEST?

Digital Ecosystem Digest is a quarterly electronic research report issued by the BTU Centers for entrepreneurship and research initiative.

The report reviews current technological and innovative trends in various sectors of the digital economy of Georgia and covers topics such as: startups in digital business, e-commerce markets, digital platforms (B2B, B2C or C2C), Fintech technologies, etc.

The purpose of the report is both to consolidate existing information and to generate new practical knowledge about the digital economy. Each research report will be co-authored by different researchers.

Authors of the current edition are BTU affiliated academic staff- Tsotne Zhgenti and Vakhtang Chkareuli, BTU students - Leso Imedashvili and Lika Khanikashvili.



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