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INSTITUTIONAL FACTORS OF STARTUP COMMERCIALIZATION IN UZBEKISTAN: EVIDENCE FROM THE 2024-2026 STARTUP SURVEYS

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Abstract

The article examines institutional factors influencing startup commercialization in Uzbekistan under the conditions of digital transformation. The empirical basis consists of comparative evidence from Startup Survey 2024 Uzbekistan and Startup Survey 2026 Uzbekistan, which covered 310 startups and 400 startup founders respectively. The analysis shows that the Uzbek startup ecosystem is becoming more structured: the share of full-time founder involvement increased, two-member teams became more common, venture fund participation expanded, and trust in investors improved. At the same time, most projects remain at the idea and MVP stages, while only a limited share reaches sales. The article argues that the key development problem is not the shortage of entrepreneurial ideas, but the weak conversion of ideas into validated products, customers, revenue and investment readiness. The proposed institutional response is a coordinated support pipeline combining incubation, mentoring, legal and accounting services, customer validation, MVP testing, investor-readiness programs and regional startup infrastructure. The article also proposes an econometric logic for assessing startup development outcomes through founder characteristics, team capacity, sector, region, access to finance, mentoring, legal support and investor trust.

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Keywords: startup ecosystem, youth entrepreneurship, digital transformation, commercialization, institutional support, venture financing, Uzbekistan, econometric model.

INTRODUCTION

Digital transformation is changing the structure of economic sectors, the organization of markets and the mechanisms through which entrepreneurial ideas are converted into economic value. For emerging economies, the development of startups is becoming an important channel for technological modernization, job creation and diversification of business activity. In Uzbekistan, youth entrepreneurship is especially relevant because young founders are generally more open to digital platforms, experimental business models, online cooperation, rapid product testing and technology-based services.

However, startup development cannot be explained only by the personal qualities of founders. Early-stage projects face uncertainty, weak market validation, lack of collateral, shortage of management experience, limited access to investors and insufficient legal and accounting capacity. Therefore, new institutions - incubators, accelerators, technoparks, mentoring networks, digital platforms, university innovation centers, venture funds and public-private support mechanisms - become decisive for the transition from idea to market.

The purpose of this article is to identify the main institutional factors that influence startup commercialization in Uzbekistan and to formulate recommendations for strengthening the startup support system. The article is based on the analytical logic of the second and third chapters of the dissertation devoted to the comparative assessment of the 2024 and 2026 startup surveys, econometric interpretation of startup factors and practical recommendations for institutional support until 2030.

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LITERATURE REVIEW

The theoretical foundations of entrepreneurship are associated with J. Schumpeter, who interpreted entrepreneurs as agents of innovation and structural change. P. Drucker emphasized entrepreneurship as a purposeful and systematic search for innovation opportunities. M. Porter connected competitiveness with the quality of the business environment, while D. North explained institutions as rules that structure economic interaction and reduce uncertainty. These approaches are important for understanding why startups need not only ideas, but also institutional conditions that reduce transaction costs and support market entry.

The startup ecosystem literature also emphasizes the interaction of policy, finance, culture, human capital, markets and support organizations. D. Isenberg considered entrepreneurial ecosystems as complex systems in which isolated instruments are not sufficient. E. Ries developed the Lean Startup approach based on hypothesis testing, MVP development and validated learning. S. Blank and B. Dorf showed that startups search for repeatable and scalable business models rather than simply copying the logic of established firms. B. Spigel and E. Stam highlighted the regional and relational nature of entrepreneurial ecosystems.

For Uzbekistan, these theoretical approaches mean that youth startups should be studied as part of an institutional system. A startup may have a strong technological idea, but without customer discovery, legal readiness, financial planning, access to mentors, seed capital and pilot customers, it is unlikely to become a sustainable business. Therefore, the effectiveness of startup policy should be measured not by the number of events or participants, but by the ability of support institutions to move startups toward MVP launch, first customers, revenue and investment readiness.

RESEARCH METHODOLOGY

The article applies comparative statistical analysis, grouping, systematization and institutional interpretation. The empirical base consists of Startup Survey 2024 Uzbekistan, conducted among 310 startups, and Startup Survey 2026 Uzbekistan, based on a survey of 400 startup founders. The comparison focuses on founder profile, location, team structure, time commitment, startup development stage, sectoral distribution, financing sources, investment readiness and barriers.

Changes between 2024 and 2026 are interpreted in percentage points. This method is appropriate because the indicators represent shares of respondents within each survey. The basic comparative formula is:

Delta X = X2026 - X2024,

where Delta X is the change in the share of a selected category, X2026 is the indicator value in the 2026 survey and X2024 is the value of the same indicator in the 2024 survey. A positive value shows expansion of the category, while a negative value shows contraction.

For econometric interpretation, startup development may be assessed through ordered and binary dependent variables. If startup stage is coded as idea, MVP, first sales and growth, an ordered logit or ordered probit model may be used. If the research focuses on whether a startup has reached market validation, a binary dependent variable may be created where 1 indicates first sales or growth and 0 indicates idea or MVP stage.

EMPIRICAL RESULTS AND DISCUSSION

The comparison of the 2024 and 2026 surveys shows that the Uzbek startup ecosystem is moving from a broad awareness stage toward a more structured development stage. The ecosystem generates many ideas and prototypes, but the transition to commercialization remains slow. In 2024, 56 percent of startups

were at the idea stage, 31 percent at the MVP stage and 13 percent at the sales stage. In 2026, the corresponding shares were 58 percent, 27 percent and 15 percent. The increase in sales-stage projects by two percentage points is positive, but it also shows that the commercialization gap remains a key structural problem.

Table 1. Selected indicators of startup ecosystem dynamics in Uzbekistan, 2024-2026

Indicator	2024	2026	Change	Economic interpretation
Founders aged 20-30	60%	44%	-16 p.p.	Founder age profile became broader; youth dominance remains, but other groups increased.
Tashkent share	42%	52%	+10 p.p.	Capital concentration strengthened.
Fergana Valley share	24%	14%	-10 p.p.	Regional imbalance remains an important policy issue.
Two-member teams	15%	24%	+9 p.p.	Compact team model strengthened.
Full-time startup involvement	9%	18%	+9 p.p.	Startup activity became more professional.
Startups with sales	13%	15%	+2 p.p.	Commercialization improved slowly.
Venture fund financing	3%	9%	+6 p.p.	Institutional financing began to expand.
Trust in investors	50%	68%	+18 p.p.	Investor-founder confidence improved.

Source: compiled by the author based on Startup Survey 2024 Uzbekistan and Startup Survey 2026 Uzbekistan.

The geographical distribution of startups indicates that Tashkent is strengthening its role as the main startup center. This concentration may create positive agglomeration effects because investors, mentors, universities, incubators, accelerators and corporate clients are more accessible in the capital. At the same time, excessive concentration reduces the inclusiveness of innovation policy and limits the participation of regional youth. Therefore, regional startup infrastructure should be developed not as a mechanical copy of the capital model, but as a localized system connected with universities, local business demand and digital mentoring.

Operational indicators show signs of maturation. The share of two-member teams increased, and the share of founders devoting all 40 hours per week to their startup doubled from 9 percent to 18 percent. This means that entrepreneurship is gradually becoming not only a side activity but a professional choice for a growing group of founders. Remote work also expanded, which confirms the increasing role of digital infrastructure. Support institutions should therefore combine physical coworking and laboratories with online mentorship, virtual investor meetings and cloud-based product development tools.

Sectoral dynamics confirm the connection between startups and digital transformation. EdTech remained the largest sector in 2026, but its share decreased from 21 percent to 15 percent. Creative industries also declined in relative terms. At the same time, GreenTech increased from 8 percent to 11 percent, SaaS from 6 percent to 11 percent and FinTech from 7 percent to 10 percent. This shift indicates that the ecosystem is gradually moving from a concentration in several consumer-oriented digital services toward a more diversified technology structure.

Table 2. Sectoral changes and institutional implications

Sector	2024	2026	Change	Institutional implication
EdTech	21%	15%	-6 p.p.	Still important, but ecosystem diversification reduced relative dominance.
Creative industries	19%	11%	-8 p.p.	Need stronger monetization and export channels.
GreenTech	8%	11%	+3 p.p.	Requires links with sustainability programs and industrial partners.
SaaS	6%	11%	+5 p.p.	Needs cloud infrastructure, B2B pilots and recurring revenue support.
FinTech	7%	10%	+3 p.p.	Requires regulatory clarity and partnerships with financial institutions.
AgroTech	6%	8%	+2 p.p.	Should be connected with regional agriculture and pilot farms.
GovTech	2%	4%	+2 p.p.	Needs public-sector pilot demand and procurement mechanisms.

Source: compiled by the author based on Startup Survey 2024 Uzbekistan and Startup Survey 2026 Uzbekistan.

Financing remains the most important barrier. Personal savings increased from 36 percent in 2024 to 41 percent in 2026, while family and friends increased from 14 percent to 19 percent. This shows that internal and informal sources still dominate. Venture funds increased from 3 percent to 9 percent, which is a positive signal, but institutional capital has not yet become the main source of early-stage finance. The size of attracted investment also changed: investment rounds between USD 100,000 and USD 300,000 increased from 7 percent to 20 percent. This suggests that a segment of more investment-ready startups is gradually emerging.

The structure of barriers confirms that the main development problem is not a shortage of ideas. The problem lies in the weak conversion of entrepreneurial

intention into investable, legally prepared and commercially validated businesses. In 2026, attracting investment, finding customers, hiring qualified staff, entering foreign markets, accounting and legal support, and workspace costs remained the most important constraints. These barriers are interconnected: weak customer validation reduces investor readiness; lack of legal documentation prevents investment; insufficient team capacity slows product development; and regional isolation limits access to mentors and early customers.

Table 3. Startup barriers and recommended institutional responses

Barrier	Policy response	Expected effect
Attracting investment	Seed funds, investor-readiness programs, Demo Days, standardized pitch decks and financial models.	Higher probability of external financing and venture cooperation.
Finding customers	Corporate pilots, public procurement pilots, market validation programs and customer discovery mentoring.	Faster transition from MVP to first sales.
Hiring qualified staff	University talent pools, internship programs, co-founder matching and project-based teams.	Stronger team capacity and product execution.
Legal and accounting difficulties	Startup legal clinics, tax consultation, contract templates and IP support.	Higher investment readiness and lower transaction risks.
Regional inequality	Regional startup hubs, online incubation, mobile mentor networks and local business pilots.	Broader participation of youth outside Tashkent.
Weak commercialization	One-month incubation with weekly traction monitoring and post-program acceleration.	Measurable increase in MVP launches, customers and partnerships.

Source: compiled by the author based on Startup Survey 2024 Uzbekistan and Startup Survey 2026 Uzbekistan.

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ECONOMETRIC INTERPRETATION OF STARTUP DEVELOPMENT FACTORS

The empirical findings can be formalized through an econometric framework. The dependent variable may represent startup development stage or commercialization status. The explanatory variables should include founder education, team size, time devoted to the startup, sector, region, access to finance, mentoring, legal and accounting support, investor trust and the year dummy for 2026. The basic model can be expressed as follows:

Stage_i = beta_0 + beta_1 Education_i + beta_2 Team_i + beta_3 Time_i + beta_4 DigitalSector_i + beta_5 Region_i + beta_6 Finance_i + beta_7 Mentoring_i + beta_8 LegalSupport_i + beta_9 InvestorTrust_i + beta_10 Year2026_i + epsilon_i.

This specification allows the researcher to evaluate whether institutional factors are associated with progress from idea and MVP stages toward sales and growth. A positive coefficient for mentoring would support the argument that incubators and expert networks improve startup development. A positive coefficient for external finance would justify the expansion of seed funds, grant instruments and venture capital mechanisms. A negative regional distance effect would confirm the need for regional startup hubs and digital support platforms outside the capital.

The econometric logic is especially important for policy because it transforms general startup problems into measurable relationships. If legal and accounting support increases investment readiness, then startup programs should include standardized legal templates and financial reporting assistance. If investor trust increases the probability of commercialization, then transparent investor-founder communication mechanisms should be developed. If time commitment and team

size are significant, then support programs should prioritize teams that demonstrate real capacity to execute the project.

PRACTICAL RECOMMENDATIONS

The analysis leads to the conclusion that startup support in Uzbekistan should move from event-based policy toward pipeline-based policy. Event-based support measures the number of trainings, competitions or participants. Pipeline-based support measures whether a startup moves from idea to validated problem, from validation to MVP, from MVP to first customers, and from first customers to investment readiness and growth.

A practical solution is a one-month incubation model for youth startup projects. This model should combine application collection, selection, onboarding, customer validation, MVP development, mentoring, legal and accounting consultation, investment pitch preparation, Demo Day and post-program support. The main value of the model is not the short duration itself, but the requirement that each team produce measurable outputs every week: customer interviews, willingness-to-test evidence, MVP launch, first users, partnerships, revenue assumptions and investment need.

Regional implementation is necessary. In Tashkent, incubation programs may focus on technology-intensive projects, investor readiness and corporate pilots. In the Fergana Valley and other regions, the model should include stronger market-access support, cooperation with local enterprises, university-based laboratories and online mentoring. Universities should become sources of student startups, research commercialization and entrepreneurial teams. Investors should participate mainly at Demo Day and post-incubation stages, when teams already have validated problems, MVPs and first market evidence.

By 2030, Uzbekistan should form a coordinated national startup support system that combines regional infrastructure, university innovation centers, seed funding, mentor networks, investor cooperation, digital public services and standardized monitoring. Such a system would help transform youth entrepreneurship from a collection of separate initiatives into a measurable component of digital economic transformation.

CONCLUSION

The article shows that Uzbekistan's startup ecosystem is becoming more diverse and structured, but it remains dominated by early-stage projects. The increase in full-time founder involvement, compact teams, venture financing and investor trust indicates positive maturation. However, commercialization improves slowly, and most startups remain at the idea or MVP stage.

The main institutional task is to strengthen the conversion chain from idea to market. Financing alone is not sufficient. It should be combined with mentoring, customer validation, MVP testing, legal and accounting readiness, investor communication and regional infrastructure. The proposed econometric framework can be used to measure which factors most strongly influence startup development, commercialization and investment readiness. The practical recommendation is to develop a coordinated pipeline of incubation, acceleration, seed funding and post-program support with standardized monitoring indicators. This approach can increase the economic productivity of youth entrepreneurship and support the digital transformation of economic sectors in Uzbekistan.

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