

INNOVATION SCIENCE AND TECHNOLOGY



Scopus || Electronic journal specializing in Scopus

ISSUE 5

 Acceptance of papers **May, 2026**



**Acceptance of
papers**

Published monthly



Topics

economics,
technology, social
sciences

ISSN 3060-5229



Digital
Object
Identifier



Visit the website
t.me/scopus_IST2100



EDITOR-IN-CHIEF:

Mirzaliyev Sanjar Makhmatjon ugli

DEPUTY EDITOR-IN-CHIEF:

Makhmudov Nosir Makhmudovich
DSc., Prof., Academician

DEPUTY EDITOR-IN-CHIEF:

Ochilov Bobur Bakhtiyor ugli – Senior
lecturer at TSUI

THE SCIENTIFIC-POPULAR ELECTRONIC
JOURNAL **"INNOVATION SCIENCE AND
TECHNOLOGY"** HAS BEEN REGISTERED
UNDER THE NUMBER **C-5669633** BY THE
AGENCY FOR INFORMATION AND MASS
COMMUNICATIONS (AOKA) OF THE
REPUBLIC OF UZBEKISTAN, EFFECTIVE
FROM OCTOBER 9, 2024.

CONTACTS

Phone: **+998 50 737 87 88**

Website: <https://ist-journal.uz>

Email: innovationist2025@gmail.com

The scientific electronic journal "Innovation Science and Technology" has been included in the list of scientific publications recommended for the publication of main scientific results of dissertations for the award of PhD and DSc degrees in economics and technical sciences, in accordance with the Resolution No. 370 of the Presidium of the Higher Attestation Commission of the Republic of Uzbekistan, dated May 8, 2025.

Editorial board:



Sharipov Kongiratbay Avezimbetovich,
Doctor of Technical Sciences (DSc), Professor



Abdurakhmanova Gulnora Kalandarovna, Doctor of
Economic Sciences (DSc), Professor



Cham Tat Huei,
Doctor of Philosophy (PhD), Professor (Malaysia)



Muhammad Imran Sadiq
Doctor of Philosophy in Economics (PhD), Professor,
Malaysia



Ahmed Aziz Ismail
Doctor of Technical Sciences (DSc),
Professor (Egypt)



Lee Chin
Doctor of Philosophy in Economics (PhD), (Malaysia)



Asongu SImplice
Doctor of Philosophy in Economics (PhD), Cameroon



Rui Dang
Doctor of Chemistry (DSc), Professor, China



Zahoor Ahmed
Doctor of Philosophy in Economics (PhD), Turkey



Shujaat Abbas
Doctor of Philosophy in Economics (PhD), Russia



Tina A Coffelt
Doctor of Philosophy in Educational Sciences (PhD),
USA



Abdikarimova Dinara Rustamxanovna
Doctor of Economic Sciences (DSc), Professor

Kurbonbekova Mohichehra Turobjonovna
Doctor of Economic Sciences (DSc), Professor

Alimardonov Ilkhom Muzrabshokovich
Doctor of Economic Sciences (DSc), Professor



Razakova Barno Sayfiyevna
Doctor of Philosophy in Economics (PhD)



Khasanov Sarvar Ulugbek ugli
Doctor of Philosophy in Economics (PhD)



Kholikova Rukhsora Sanjarovna
Associate Professor (PhD)

CONTENTS

MECHANISMS FOR FORMING AND IMPLEMENTING INVESTMENT POLICY OF COMMERCIAL BANKS... 8 Abduvaliyev Sanjar Abdurahmanovich	8
EVALUATION OF MANAGEMENT EFFICIENCY BASED ON BUDGETING IN ENERGY ENTERPRISES (A FACTOR ANALYSIS CASE OF "HUDUDGAZTA'MINOT" JSC)..... 17 Sobirov Shoyadbek Kurbonaliyevich	17
PORTFOLIO OF POSTAL SERVICES AND THE ECONOMIC EFFICIENCY OF ITS DIGITALIZATION23 Mamatkulov Gulom Rustamovich	23
OPTIMIZING THE BALANCE BETWEEN LIQUIDITY AND CREDIT RISKS IN ENSURING BANKING STABILITY 30 Anvarov Asliddin Nabijon ugli	30
ECONOMIC EFFICIENCY OF RENEWABLE ENERGY DEPLOYMENT IN UZBEKISTAN.....34 Hamroyeva Sabina Ismoil qizi, Dilshod Anvarjonovich Ismailov	34
MODERN TRENDS AND EFFICIENCY OF LENDING TO AGRICULTURAL PRODUCERS IN UZBEKISTAN..39 Shamshetova Gulraushan Sarsenovna	39
ANALYSIS OF THE RELATIONSHIP BETWEEN YOUTH EMPLOYMENT AND CRIME (CASE OF UZBEKISTAN) 42 Khusniddinova Gulnoza	42
PRIORITY DIRECTIONS FOR IMPROVING THE INFRASTRUCTURE OF UZBEKISTAN'S FINANCIAL SYSTEM 47 Qobilova Nodira Qayumjon qizi, Normurodov Kh.E.	47
FOREIGN EXPERIENCE OF INCREASING THE EXPORT CAPACITY OF THE REGION AND SPECIFIC FEATURES OF ITS APPLICATION IN UZBEKISTAN 52 Mamadzhanova Tuygunoy Akhmadzhanovna	52
INSTITUTIONAL APPROACH TO WASTE MANAGEMENT AND ITS ECONOMIC EFFICIENCY 56 Otbosarov Abrorbek Adhamjon o'g'li	56
LOSS MANAGEMENT MATRIX (LOSS MANAGEMENT MATRIX) MODEL IN POWER GRID ENTERPRISES.. 61 Khojimurodov Zukhriddin Shukurullo oglu	61
MICROPROJECTS AS A MEANS OF INCREASING THE FINANCIAL ACTIVITY AND LITERACY OF THE POPULATION 67 Irgashev Anvar Farxodovich	67
INSTITUTIONAL VA TEXNOLOGIK O'ZGARISHLAR SHAROITIDA INNOVATION BANK XIZMATLARINI JORIY ETISH METODOLOGIYASINI TAKOMILLASHTIRISH..... 74 Azlarova Aziza Axrorovna	74
PROBLEMS OF FORMATION AND DEVELOPMENT OF REGIONAL CLUSTERS IN THE LIGHT INDUSTRY OF UZBEKISTAN 80 Umarkulov Kodirjon Maxamadaminovich	80
DIGITAL FINANCIAL INCLUSION AS A DRIVER OF SUSTAINABLE DEVELOPMENT: EVIDENCE FROM GLOBAL TRENDS AND IMPLICATIONS FOR EMERGING ECONOMIES..... 84 Sabitov Oybek Abduganievich, Sattoriy Fayzullokh Abdijabbor ugli	84
PROPERTIES OF HEAVY CONCRETE DISPERSEDLY REINFORCED WITH NON-METALLIC FIBERS AND SPECIFIC FEATURES OF CALCULATING CONCRETE STRUCTURES BASED ON THEM 90 Usmonova Durdona, Gulomova Dilnura	90
THE EFFECT OF STABLE AND DYNAMIC PRICING ON CONSUMER BEHAVIOR 98 Anvar DEBERDIYEV	98
ECONOMIC MECHANISMS FOR IMPROVING PRODUCTION EFFICIENCY IN INDUSTRIAL ENTERPRISES.. 102 M.O. Yo'ldoshova	102

PEDAGOGICAL EFFECTIVENESS OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN TEACHING POLITICAL SCIENCE AT HIGHER EDUCATION INSTITUTIONS	106
Rasulev Bobirjon Atkhamovich	
IMPROVING THE ORGANIZATIONAL AND ECONOMIC MECHANISM FOR REGULATING NON-STANDARD EMPLOYMENT IN THE DEVELOPMENT OF SMALL BUSINESSES	110
Fayzullayev Nurulla Bakhromovich	
PRIORITIES FOR IMPROVING THE HEALTHCARE FINANCING SYSTEM IN UZBEKISTAN	117
Gulira'no Atabekovna Ruzmetova	
FACTORS AFFECTING TAX PAYMENT SYSTEMS, EXISTING PROBLEMS, AND THEIR CAUSES	124
Tangirqulov Gulom Baxtiyorovich	
EFFECTIVENESS OF ENVIRONMENTAL TAXES IN REDUCING CARBON EMISSIONS IN UZBEKISTAN: AN ECONOMETRIC APPROACH.....	129
Kuziboev Bekhzod Hamidovich	
WAYS TO DEVELOP QUALITY MANAGEMENT IN THE SILK INDUSTRY OF UZBEKISTAN'S ECONOMY	134
Bahriddinov Asror Rakhmatovich, Boltaev Nazarbek Narzullaevich	
STATE OF LENDING TO SMALL BUSINESS PROJECTS IN COMMERCIAL BANKS AND ITS ECONOMIC-STATISTICAL ANALYSIS.....	138
Nargiza Norqobilova Abdiqodirovna	
CONCEPTUAL DIRECTIONS FOR IMPROVING THE MECHANISMS OF ENSURING FINANCIAL STABILITY IN ENTERPRISES.....	143
Asomidinova Mohigulbonu Oybek kizi	
ORGANIZATION OF MANAGEMENT ACCOUNTING IN NON-STATE HIGHER EDUCATION INSTITUTIONS .	148
Xojiboyev Muxiddin Shodimuxamedovich	
THE NATURE AND ESSENCE OF DIGITAL TRANSFORMATION PROCESSES IN MASS MEDIA ORGANIZATIONS.....	151
Sharipova Shahlo Istamovna	
COMPARATIVE ANALYSIS AND EXPERIMENTAL EVALUATION OF ALGORITHMS FOR RECOVERING MISSING (NAN) VALUES IN INFORMATION SYSTEM DATA	156
Yarmatov Sherzodjon Shokir oglu, Orifov Oxunjon Fazliddinzoda	
ANALYSIS OF THE STATE OF MARKETING MANAGEMENT IN MANUFACTURING ENTERPRISES	167
Musayeva Shoirazimovna	
IMPROVING LOAN PORTFOLIO QUALITY AND CREDIT RISK MANAGEMENT MECHANISMS	173
Turgunov Nodirbek Muminjanovich	
INNOVATION CAPABILITIES AND EXPORT PERFORMANCE: THE MEDIATING ROLES OF SUPPLY CHAIN INNOVATION AND ENTREPRENEURIAL ORIENTATION — EVIDENCE FROM UZBEKISTAN	177
Mukhammadyaminova Shakhzoda	
URBAN PLANNING OF TRANSPORT INTERCHANGE HUBS NEAR TUBERCULOSIS CARE FACILITIES IN UZBEKISTAN	183
Gabibova Irina Vagifovna, Abdumuminova Diyora Gayratovna	
ADAPTING INTERNAL AUDIT STANDARDS IN BUDGET ORGANIZATIONS TO PUBLIC PROCUREMENT PRACTICES.....	192
Meliboyev Askar Eshmuratovich	
ECONOMETRIC EVALUATION OF INVESTMENT EFFICIENCY IN KHOREZM REGION	197
Otajanov Umid Abdullayevich	
SCIENTIFIC AND PRACTICAL SIGNIFICANCE OF MODERN RECLAMATION AND GIS TECHNOLOGIES ON SALINE SOILS IN KARAKALPAKSTAN.....	205
Tajibaev Berdakh	
ISSUES REGARDING THE IMPLEMENTATION OF THE “TOLLING OPERATIONS” MODULE IN THE GOODS MOVEMENT MANAGEMENT SYSTEM UNDER THE CUSTOMS TERRITORY PROCESSING REGIME	212
Lutpullaev Shukrullo Kudratullaevich	

THE ROLE OF DIGITAL MARKETING IN ENHANCING TOURISM-RELATED BUSINESSES IN UZBEKISTAN Akmaljon Odilov	218
INTERNATIONAL TRENDS OF DIGITALIZATION IN CUSTOMS MANAGEMENT Radjapova Latofat Sardarovna	222
THE ROLE OF TAX POLICY IN THE TRANSITION TO A GREEN ECONOMY Dexkanova Shodiyona Kaxramon qizi	230
PRACTICES IN ENTERPRISE COST STRUCTURE MANAGEMENT AND DIRECTIONS FOR IMPROVEMENT Aymukhammedova Amina Kakajanovna	236
IMPROVING THE ECONOMIC EFFICIENCY OF CLOTHING MANUFACTURING ENTERPRISES IN UZBEKISTAN THROUGH DIGITAL TRANSFORMATION Axmedova Gaziza Azim kizi	242
RECONCEPTUALIZING BUSINESS INCUBATORS IN STARTUP ECOSYSTEMS: THEORETICAL FOUNDATIONS AND INSTITUTIONAL MECHANISMS Gafujon Usmanov	246

RECONCEPTUALIZING BUSINESS INCUBATORS IN STARTUP ECOSYSTEMS: THEORETICAL FOUNDATIONS AND INSTITUTIONAL MECHANISMS

Gafujon Usmanov

Independent Researcher,
The Graduate School of Business and Entrepreneurship
under the Cabinet of Ministers of the Republic of Uzbekistan
ORCID: 0009-0009-1378-694X

Abstract. This study conceptualizes business incubators as pivotal institutional actors within startup ecosystems and examines their evolving role in supporting innovation-driven entrepreneurship.

The study employs a qualitative conceptual approach that combines systematic literature analysis, comparative evaluation, and theoretical synthesis. The analysis explores the functional roles of business incubators, their interaction mechanisms with startups, and their evolutionary development within entrepreneurial support infrastructures.

Building on established theoretical perspectives, including institutional theory, the resource-based view, ecosystem theory, and network theory, the study develops a multidimensional framework that systematizes the role of business incubators across key functional domains. In addition, a theoretical matrix is proposed to map core incubator functions to corresponding scientific perspectives, enabling a more structured interpretation of their systemic impact.

The findings contribute to a more integrated understanding of business incubators as hybrid institutional mechanisms that simultaneously operate as resource providers, knowledge intermediaries, and ecosystem coordinators. This study advances the academic literature by proposing a consolidated conceptual model that clarifies the position of business incubators within startup ecosystems and highlights their role in facilitating innovation-driven development.

Keywords: business incubators, startup ecosystems, innovation systems, entrepreneurial ecosystems, institutional theory, resource-based view, network theory.

Annotatsiya. Ushbu tadqiqot biznes-inkubatorlarni startap ekotizimlarining muhim institutsional subyektlari sifatida konseptuallashtiradi hamda ularning innovatsiyalarga asoslangan tadbirkorlikni qo'llab-quvvatlashdagi o'zgarib borayotgan rolini tahlil qiladi.

Tadqiqotda tizimli adabiyotlar tahlili, qiyosiy baholash va nazariy sintezni birlashtirgan sifatli konseptual yondashuv qo'llanildi. Tahlil biznes-inkubatorlarning funksional vazifalari, ularning startaplar bilan o'zaro hamkorlik mexanizmlari hamda tadbirkorlikni qo'llab-quvvatlovchi infratuzilmalar doirasidagi evolyutsion rivojlanishini qamrab oladi.

Institutsional nazariya, resurslarga asoslangan yondashuv, ekotizim nazariyasi va tarmoq nazariyasi kabi shakllangan ilmiy yondashuvlarga tayangan holda, tadqiqot biznes-inkubatorlarning asosiy funksional yo'nalishlardagi rolini tizimlashtiruvchi ko'p o'lchovli konseptual modelni ishlab chiqadi. Shuningdek, inkubatorlarning asosiy funksiyalarini tegishli ilmiy yondashuvlar bilan bog'lovchi nazariy matritsa taklif etilib, ularning tizimli ta'sirini yanada strukturaviy talqin qilish imkonini beradi.

Tadqiqot natijalari biznes-inkubatorlarni bir vaqtning o'zida resurs ta'minotchisi, bilim vositachisi va ekotizim koordinatori sifatida faoliyat yurituvchi gibrid institutsional mexanizmlar sifatida chuqurroq anglashga xizmat qiladi. Ushbu tadqiqot biznes-inkubatorlarning startap ekotizimidagi o'rini va innovatsion rivojlanishni rag'batlantirishdagi rolini izohlovchi yagona konseptual modelni taklif etish orqali ilmiy adabiyotlarni boyitadi.

Kalit so'zlar: biznes-inkubatorlar, startap ekotizimlari, innovatsion tizimlar, tadbirkorlik ekotizimlari, institutsional nazariya, resurslarga asoslangan yondashuv, tarmoq nazariyasi.

Аннотация. В данном исследовании бизнес-инкубаторы рассматриваются как ключевые институциональные участники стартап-экосистем и анализируется их эволюционирующая роль в поддержке инновационно-ориентированного предпринимательства.

В исследовании применяется качественный концептуальный подход, объединяющий систематический анализ литературы, сравнительную оценку и теоретический синтез. Анализ охватывает функциональные роли бизнес-инкубаторов, механизмы их взаимодействия со стартапами, а также их эволюционное развитие в структуре инфраструктуры поддержки предпринимательства.

Опираясь на институциональную теорию, ресурсный подход, теорию экосистем и сетевую теорию, исследование формирует многомерную концептуальную модель, систематизирующую роль бизнес-инкубаторов по ключевым функциональным направлениям. Кроме того, предлагается теоретическая матрица, сопоставляющая основные функции инкубаторов с соответствующими научными подходами, что позволяет более структурированно интерпретировать их системное влияние.

Полученные результаты способствуют более целостному пониманию бизнес-инкубаторов как гибридных институциональных механизмов, одновременно выступающих поставщиками ресурсов, посредниками в передаче знаний и координаторами экосистем. Исследование вносит вклад в развитие научной литературы посредством разработки интегрированной концептуальной модели, уточняющей место бизнес-инкубаторов в стартап-экосистемах и их роль в обеспечении инновационного развития.

Ключевые слова: бизнес-инкубаторы, стартап-экосистемы, инновационные системы, предпринимательские экосистемы, институциональная теория, ресурсный подход, сетевая теория.

INTRODUCTION

Sustainable economic growth in contemporary economies increasingly depends on the capacity to generate, scale, and commercialize innovation through entrepreneurial ventures. In this context, startup ecosystems have emerged as important institutional arrangements that facilitate the transformation of early-stage ideas into scalable and market-oriented solutions. These ecosystems function as complex networks of interdependent actors, including public institutions, venture capital firms, angel investors, universities, research organizations, technoparks, business incubators, accelerators, large corporations, and specialized advisory entities.

Within this ecosystem configuration, business incubators occupy a strategically significant position. Their role extends beyond providing basic support for early-stage startups and includes facilitating access to resources, supporting capability development, and strengthening institutional linkages between emerging ventures and broader innovation markets. By reducing market-entry barriers and mitigating uncertainty, incubators contribute to improving the sustainability and growth potential of startups, thereby supporting the overall dynamism of the innovation economy.

The present study examines the role of business incubators within startup ecosystems through a multi-theoretical perspective. Specifically, the study aims to:

- analyse the functional positioning of business incubators within innovation ecosystems;

- identify the mechanisms through which incubators interact with key ecosystem actors;

- develop an integrated conceptual framework that synthesizes the roles of incubators as institutional mediators, resource integrators, and innovation catalysts.

By addressing these objectives, the study contributes to a more coherent theoretical understanding of incubator-driven ecosystem development and provides practical implications for innovation policy design and entrepreneurial support systems, particularly in emerging economies such as Uzbekistan.

LITERATURE REVIEW

A substantial and continuously growing body of research has examined the role of business incubators and accelerators in supporting entrepreneurial ventures operating under conditions of high uncertainty and limited resources. This literature is grounded in the recognition that early-stage startups often face a significant “valley of death,” characterized by restricted access to financing, insufficient organizational capabilities, and elevated risks of business failure. In this context, incubators and accelerators are widely regarded as structured support mechanisms that help reduce startup mortality rates and improve the likelihood of venture survival and sustainable growth.

Within the innovation and entrepreneurship literature, business incubators are commonly positioned as essential components of innovation infrastructure. They operate alongside related institutional arrangements such as science and technology parks, innovation hubs, and industrial clusters, all of which are designed to facilitate knowledge commercialization and support regional economic development [1]. At the same time, the literature emphasizes an important conceptual distinction: whereas science and technology parks primarily support already established or scaling firms, business incubators focus on the earliest stages of venture

creation, thereby bridging the gap between entrepreneurial intention and successful market entry.

The contribution of business incubators extends beyond firm-level performance. Existing studies highlight their systemic role in strengthening innovation ecosystems through facilitating knowledge transfer, stimulating entrepreneurial activity, and reinforcing linkages between small and medium-sized enterprises (SMEs), universities, investors, and large corporations. Furthermore, incubators are frequently discussed within the framework of the Triple Helix model, where they function as intermediary institutions connecting universities, industry, and government in the co-creation and commercialization of knowledge.

From a policy and institutional perspective, the UK Business Incubation Association conceptualizes incubation as a dynamic mechanism aimed at accelerating business growth, improving investment readiness, and contributing to regional economic development [2]. Extending this perspective, Ayatse et al. [3] propose a multidimensional evaluation framework in which incubator effectiveness is determined by three interrelated dimensions: the operational model, strategic objectives, and the characteristics of the target entrepreneurial cohort.

Functionally, business incubators are increasingly understood as environments that help mitigate structural capability gaps within early-stage ventures. Empirical research consistently demonstrates that startup founders often possess strong technical or scientific competencies while lacking managerial, financial, and market-oriented skills. This phenomenon is frequently described in the literature as “managerial deficiency” or the “organizational liability of newness.” Business incubators address these limitations by providing structured access to managerial training, shared infrastructure, advisory support, mentoring networks, and professional services, thereby facilitating capability development and reducing early-stage vulnerability.

Despite broad consensus regarding their importance, a persistent conceptual ambiguity remains concerning the ontological status of business incubators. The academic literature is generally divided between two dominant interpretations: incubators as organizational entities that provide bundled support services to startups, and incubators as broader entrepreneurial environments embedded within regional innovation systems.

Elia et al. [5] emphasize the service-oriented logic of incubation, highlighting training, infrastructure access, mentoring, and financing support as core incubator functions. In contrast, the National Business Incubation Association (NBIA) conceptualizes incubators as strategic instruments of economic development aimed at strengthening innovation capacity and improving entrepreneurial outcomes at the systemic level [6].

The evolution of business incubation demonstrates a gradual transition from static infrastructure provision toward dynamic ecosystem orchestration. Since their emergence in the late 1950s, incubators have passed through five analytically distinguishable stages of development.

The first stage (1950s–1980s) was characterized by a real estate-oriented model focused primarily on providing shared office facilities and basic administrative services [8].

The second stage (1980s–1995) introduced structured advisory support, formal training programs, and the initial development of institutional support mechanisms for startups.

The third stage (1995–2005) reflected a shift toward sectoral specialization, particularly in high-technology industries such as biotechnology and information and communication technologies (ICT), often developed in close collaboration with universities and research institutions.

The fourth stage (2005–2015) was characterized by the integration of incubators into broader startup ecosystems, including the emergence of accelerator models and stronger relationships with venture capital markets.

The fifth and current stage (2015–present) is defined by digitalization, platformization, and globalization. Modern incubators increasingly operate as digitally enabled platforms that facilitate international market access, cross-border collaboration, and global entrepreneurial scaling [9].

In response to this need, the present study develops a multi-theoretical conceptualization of business incubators, positioning them as hybrid institutional actors that simultaneously function as mediators of knowledge flows, integrators of heterogeneous resources, and catalysts of innovation-driven entrepreneurship within startup ecosystems (Table 1).

Table 1
Evolutionary Development Stages of Business Incubators

Development stages	Target audience	Key characteristics	Core services
The first stage (1950s–1980s): Emergence period	SMEs in traditional industries, startup enterprises and local businesses	Ensuring employment, supporting regional economies and increasing the number of SMEs	Office space leasing, technical infrastructure services and administrative support
The second stage (1980s–1995): Institutionalization period	Aspiring entrepreneurs, small innovative enterprises, researchers and university graduates	Integration with government and universities and enhancing innovation	Business skills training, support services and advisory/consultancy services
The third stage (1995–2005): Program-based period	Startups in ICT, biotechnology and engineering	Establishment of incubation programs, development of mentorship systems and formation of venture models	Professional business services, technology services and venture capital attraction
The fourth stage (2005–2015): Ecosystem-driven period	Early-stage startups, university-based startup teams and tech entrepreneurs	Formation of a startup ecosystem, emergence of accelerators and integration with venture capital	Acceleration programs, investment facilitation and scaling-up support
The fifth and current stage (2015–present): Globalization and digitalization period	High-tech startups (AI, FinTech, BioTech) and globally oriented ventures	Digitalization, platformization, integration into global innovation networks, and corporate incubation programs	International market entry, global mentorship, investment platform integration and virtual incubation

Source: Prepared by the author

Empirical research provides substantial evidence that business incubators play an important role in both the creation and scaling of innovative entrepreneurial ventures. For instance, data from the Madrid incubator network indicate that approximately 130 new firms were established annually between 2011 and 2019 [4]. Beyond demonstrating output volume, these findings suggest that incubators function as structured institutional mechanisms that increase regional entrepreneurial density and reduce market-entry barriers for early-stage ventures. Nevertheless, the existing literature has not yet fully explained the causal mechanisms through which such entrepreneurial outcomes are systematically generated across different institutional environments.

At the supranational level, particularly within the European Union, incubator policy increasingly emphasizes technology transfer, knowledge diffusion, and the commercialization of research outputs as central policy objectives [10]. Within this framework, incubators operate as intermediary institutions inside broader innovation systems by linking scientific knowledge production with market-oriented applications. However, academic literature remains fragmented in explaining how incubators operationalize these intermediary functions in practice, especially regarding knowledge absorption capacity, inter-organizational coordination, and alignment with market demand.

Wei, Zhang and Chen [11] argue that business incubators are currently undergoing a structural transformation from infrastructure-oriented support providers into network-based orchestration platforms. This transformation reflects a broader shift in innovation governance, where value creation increasingly depends not only on resource provision but also on the ability to configure, coordinate, and manage multi-actor knowledge networks. Despite its conceptual significance, the “platformization” perspective remains insufficiently theorized, particularly concerning its institutional drivers, governance mechanisms, and contextual limitations across economies with different levels of development.

From a functional perspective, Hakim et al. [12] identify five core dimensions of incubator activity:

- access to financial capital;
- business development support;
- networking facilitation;
- mentoring services;
- infrastructural provision.

Although this classification provides a useful descriptive taxonomy, it offers limited explanation regarding how these dimensions interact with one another or whether they function as complementary or substitutive mechanisms during different stages of venture development. In particular, the literature lacks sufficient clarity

on whether these service bundles generate linear or non-linear effects on startup performance and long-term entrepreneurial sustainability.

In addition to qualitative support mechanisms, empirical studies consistently report substantial cost-related efficiencies associated with incubation programs. Research findings indicate that incubated startups may reduce initial setup costs by up to 40 percent and achieve operational cost savings of approximately 50 percent [13]. While these results highlight the economic rationale for business incubation, they remain largely outcome-oriented and provide limited insight into the structural mechanisms through which such efficiencies are generated, including shared resource utilization, network externalities, institutional legitimacy, and trust-based coordination effects.

RESEARCH METHODOLOGY

This study employs a qualitative multi-method research design that combines a systematic literature review, comparative analysis, conceptual synthesis, and theoretical generalization. The methodological approach is intended to ensure analytical rigor and support the development of a structured theoretical framework for understanding the role of business incubators within startup ecosystems.

The systematic literature review was conducted using a purposive sampling strategy. More than 40 peer-reviewed academic articles published between 2020 and 2025 were selected for analysis. The literature search was carried out through internationally recognized academic databases, including Google Scholar, OpenAlex, and the Bielefeld Academic Search Engine. The search process was guided by predefined keywords such as “business incubator,” “accelerator,” “startup ecosystem,” and “innovation infrastructure.”

To ensure methodological consistency and academic reliability, strict inclusion criteria were applied. Only peer-reviewed journal articles written in English were included in the analysis. Conference proceedings, editorials, non-peer-reviewed publications, and grey literature sources were excluded. Priority was given to studies published in high-impact academic journals demonstrating strong scholarly relevance, conceptual clarity, and methodological transparency.

Building on established theoretical perspectives in innovation and entrepreneurship research, a comparative analysis was conducted to examine the positioning of business incubators within startup ecosystems. The analysis focused on the functional roles of incubators, their interaction mechanisms, and their relational dynamics with key ecosystem stakeholders, including startups, universities, investors, government institutions, and industry actors. The comparative approach enabled the identification of both convergent and divergent perspectives within the literature, as well as the classification of the evolutionary trajectories of business incubators.

Furthermore, through processes of theoretical generalization and conceptual synthesis, the study integrates fragmented findings into a coherent analytical structure. This process facilitates the systematization of the evolution of business incubators and their influence on startup development across different stages of ecosystem maturity.

Finally, based on the synthesized theoretical and empirical evidence, the study develops an integrated conceptual framework that interprets business incubators through multiple analytical perspectives. Within this framework, business incubators are conceptualized as hybrid institutional entities that simultaneously perform several interconnected functions, including mediating knowledge flows, integrating ecosystem resources, and catalyzing innovation-driven entrepreneurial activity.

ANALYSIS AND RESULTS

The multifaceted significance of business incubators within startup ecosystems requires evaluation through multiple theoretical perspectives. It is widely recognized that the primary strategic objective of business incubators is to create a supportive environment for the establishment, acceleration, and sustainable growth of early-stage ventures. In this capacity, business incubators function as important institutional service providers that directly contribute to the expansion and resilience of startup ecosystems. By offering tailored support mechanisms — including infrastructure, mentorship, training, networking opportunities, and advisory services — incubators stimulate innovation, improve business capabilities, and facilitate the integration of technology-oriented firms into the broader national economy.

As innovation-driven reforms continue to accelerate worldwide, many countries have prioritized the development and expansion of business incubators as a central component of entrepreneurial infrastructure. Empirical evidence clearly demonstrates this global trend. According to the United Nations Economic

Commission for Europe, the global number of business incubators exceeded 7,000 by 2019 [14]. More recent statistics further confirm the rapid expansion of incubation systems: by 2023, the Republic of Korea reported 461 active business accelerators, while France and Singapore hosted approximately 400 and 250 incubators respectively [15].

Recognizing the strategic importance of startups in promoting disruptive innovation, technological modernization, and the diversification of goods and services, both developed and emerging economies continue to strengthen and expand their incubator networks. These developments indicate that business incubators are increasingly viewed not only as support institutions for individual startups, but also as systemic instruments for enhancing national innovation capacity, entrepreneurial dynamism, and long-term economic competitiveness (Figure 1).

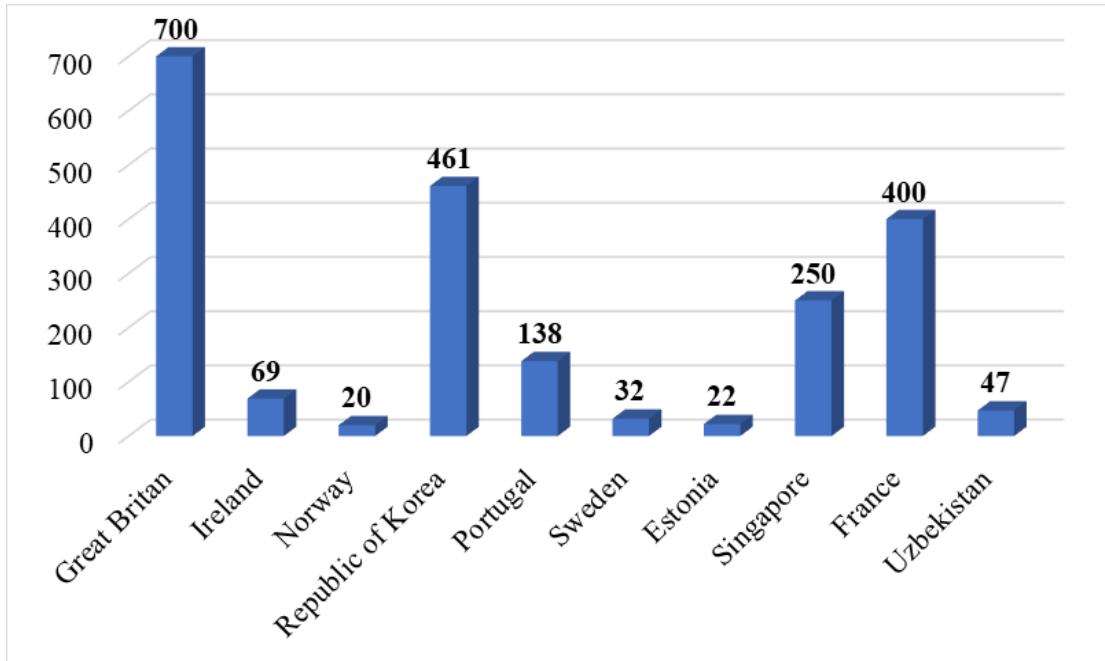


Figure 1. Data on the number of business incubators in selected countries for 2023

Source: The table is prepared by the author based on multiple data sources.

Concurrently, evidence from advanced economies indicates that business incubators are increasingly evolving into pivotal institutional frameworks that play a critical role in supporting the full lifecycle of innovative enterprises and high-growth startups (Table 2).

Table 2
Business incubator support for startups in developed countries (2023)

#	Country	Startup Blink Ranking	Global Innovation Index Ranking	Number of Business incubators	Number of Startups Supported
1	Portugal	26	30	138	4983
2	Sweden	5	2	32	300
3	Republic of Korea	20	10	461	6240
4	Singapore	6	5	250	2700
5	Uzbekistan	111	82	47	140

Source: The table is prepared by the author based on multiple data sources.

The data presented in Table 2 underscore the substantial level of institutional penetration achieved by business incubators in advanced economies, demonstrating their effectiveness in scaling startup initiatives and fostering innovation-driven entrepreneurship. These findings indicate that incubators increasingly serve not only as support mechanisms for individual ventures but also as strategic instruments for strengthening national innovation systems and entrepreneurial ecosystems.

In the transition toward an innovation-driven economy, business incubators in Uzbekistan are increasingly emerging as an important component of the national startup ecosystem. Recent years have witnessed a quantitative expansion of infrastructure supporting innovative entrepreneurship, reflected in the systematic growth of the national incubator network.

The analysis suggests that the development of business incubators in Uzbekistan can be classified into three distinct evolutionary stages.

This period was characterized by the establishment of the initial institutional foundations for incubation activity, including the creation of the Yashnobod Innovation Technopark and the C.A.T. Science Accelerator. During this stage, activities were primarily focused on stimulating innovative activity among small enterprises and supporting the commercialization of research and development outputs.

The second stage was marked by the emergence of industry-oriented incubation systems. In particular, the establishment of IT Park Uzbekistan introduced specialized support programs targeted at the information technology sector [16]. From the perspective of network theory, this transition reflects a strategic orientation toward the development of startups within concentrated technological and industrial clusters.

The third stage is characterized by the rapid expansion of the incubator network through integration with higher education institutions. By 2023, 42 incubation centers had been established within universities in cooperation with IT Park [17]. From the standpoint of institutional theory, this development reflects the progressive formalization of organizational and regulatory mechanisms necessary to support academic entrepreneurship and university-based innovation activity.

Despite this rapid quantitative expansion, empirical evidence indicates that the operational effectiveness of these incubators remains relatively constrained. According to the Ministry of Digital Technologies of Uzbekistan, only 75 startups received support through five major incubation programs in 2024 [18]. Furthermore, data from the Innovation Development Agency reveal that out of 990 evaluated projects, only 65 projects — approximately 6.5 percent — obtained funding support [19].

The operational effectiveness of business incubators in supporting startups within innovation ecosystems depends on a complex interaction of both direct and indirect factors. Accordingly, the role, influence, and evolutionary development of business incubators should be examined through the perspectives of established economic and management theories.

Through comparative and conceptual analysis, this study evaluates the strategic positioning of business incubators, their interactions with ecosystem stakeholders, and their influence on venture development. These theoretical approaches help explain the core objectives, functional capacities, and relational dynamics of incubators within startup ecosystems.

Institutional theory explains the development of business incubators through three interconnected pillars of the institutional environment: regulatory, normative, and cultural-cognitive dimensions [20].

The regulatory pillar includes legal frameworks, state policies, and governmental support mechanisms related to entrepreneurship and innovation.

The normative pillar reflects professional standards, accepted practices, and societal expectations regarding incubation activities.

The cultural-cognitive pillar represents the shared beliefs, perceptions, and legitimacy of incubators within the entrepreneurial ecosystem.

From this perspective, incubators derive their effectiveness not only from operational capabilities but also from institutional legitimacy and alignment with broader socio-economic structures.

While institutional theory focuses on the external environment, the Resource-Based View emphasizes the internal value-creation functions of incubators. According to RBV, business incubators operate as resource intermediaries that provide startups with access to both tangible and intangible strategic resources [21].

These resources include:

physical infrastructure and office facilities;

managerial and technical expertise;

tacit knowledge;

social capital and professional networks;

entrepreneurial and organizational capabilities.

Thus, incubators function as mechanisms for resource mobilization, coordination, and strategic orchestration, enabling startups to overcome capability constraints during early development stages.

Stakeholder theory provides a framework for analyzing the complex interdependencies between incubators and ecosystem participants, including government agencies, universities, venture capital investors, private firms, and startups themselves [22].

Within this framework, business incubators are required to manage diverse stakeholder interests, resource dependencies, and institutional expectations. As noted by stakeholder theory researchers [23], incubators often

operate in environments where strategic alignment among actors with differing objectives becomes essential for sustainable ecosystem development.

From the perspective of ecosystem theory, business incubators are viewed as systemic orchestrators within entrepreneurial ecosystems. Their primary function is to connect startups with key ecosystem participants while facilitating collaboration, resource exchange, and value co-creation [24].

In this role, incubators help reduce structural gaps within innovation systems by strengthening connectivity among entrepreneurs, investors, academic institutions, industry actors, and public organizations.

Network theory highlights the role of incubators in the development and management of social capital. Business incubators facilitate both:

strong ties, based on trust, long-term cooperation, and repeated interaction;

weak ties, which are particularly valuable for accessing new information, innovative ideas, and diverse market opportunities [25].

Through these network relationships, incubators enhance information diffusion, partnership formation, and entrepreneurial learning processes.

Entrepreneurship theory emphasizes the role of incubators in opportunity recognition, entrepreneurial capability formation, and resilience development among startup founders [26].

Complementing this perspective, the Knowledge-Based View (KBV) conceptualizes business incubators as platforms for knowledge transfer and the commercialization of research and development outcomes [27]. From this viewpoint, incubators facilitate the integration of fragmented knowledge streams into commercially viable innovations and market-oriented solutions.

Cluster theory introduces a spatial and regional dimension to incubator analysis. According to this approach, incubators located within regional innovation clusters accelerate knowledge spillovers, technological diffusion, and collaborative interactions among ecosystem actors [28].

This perspective also reinforces the concept of the “triple helix” relationship among universities, industry, and government institutions, where incubators serve as coordinating mechanisms for innovation-driven regional development.

The synthesis of these theoretical perspectives provides a comprehensive understanding of business incubators as multifunctional institutional actors operating across multiple dimensions simultaneously. Their diverse roles, interaction mechanisms, and contributions to startup ecosystem development are systematized in Table 3.

Table 3

Description of Business Incubators in the Startup Ecosystem Based on Advanced Scientific Theories and Approaches

Scientific theory	Influence on Business Incubators	Interaction with Startups	Role of Business Incubators
Institutional Theory	Establishing regulatory and normative frameworks	Aligning with normative frameworks	Institutional broker
Resource-Based View	Resource development	Providing resources	Resource integrator
Stakeholder Theory	Coordinating interests of participants	Balancing interests	Stakeholder intermediary
Ecosystem Theory	Building networks	Ecosystem participant	Connecting element
Network Theory	Developing internal and external networks	Providing access to resources	Networking broker
Entrepreneurship theory	Creating business opportunities	Reducing risks and uncertainties	Entrepreneurial catalyst
Knowledge-Based Views	Facilitating knowledge exchange	Facilitating knowledge flow	Knowledge transfer source
Cluster Theory	Regional cooperation	Fostering innovation	Cluster driver

Source: Prepared by the author

The synthesis of the theoretical frameworks examined in this study demonstrates that business incubators constitute one of the fundamental pillars of the startup ecosystem. Within this context, the incubator network can be understood as a multifaceted institutional system that simultaneously promotes innovative entrepreneurship by establishing supportive institutional infrastructure, facilitating the implementation of technology-driven ventures, and strengthening network formation and knowledge dissemination processes.

These theoretical perspectives are largely complementary and collectively provide a multidimensional understanding of business incubators. In particular:

institutional theory and cluster theory explain the external macro-environmental and systemic conditions influencing incubator development;

the resource-based view and knowledge-based view reveal the internal functional mechanisms and value-creation processes of incubators;

network theory and ecosystem theory emphasize the relational dynamics, collaboration patterns, and connectivity among ecosystem participants;

stakeholder theory focuses on the strategic coordination and balance of interests among different institutional actors involved in entrepreneurial support systems.

At the same time, it is important to recognize that although these theoretical approaches provide substantial analytical insights, none of them independently captures the full complexity of business incubator operations. Each framework inherently prioritizes specific operational dimensions and analytical assumptions. Therefore, a more integrated conceptual approach is required to comprehensively understand the evolving functions, institutional diversity, and strategic complexity of modern business incubation practices within contemporary startup ecosystems.

CONCLUSION AND RECOMMENDATIONS

This study presents a systematic theoretical synthesis of business incubators within startup ecosystems and demonstrates that their institutional role cannot be comprehensively explained through a single analytical perspective. Instead, business incubators function as multidimensional institutional actors whose activities simultaneously encompass institutional development, resource orchestration, knowledge transfer, and ecosystem coordination.

One of the principal contributions of this research is the proposed dual-level theoretical classification that differentiates between core and complementary theoretical frameworks. Core theories — including institutional theory, the resource-based view, ecosystem theory, network theory, and entrepreneurship theory — explain the foundational logic underlying the existence of business incubators and their functional role in supporting startup formation and entrepreneurial growth. Collectively, these theories conceptualize incubators as institutional intermediaries that reduce uncertainty, mobilize and allocate strategic resources, and facilitate venture emergence within innovation-driven economies.

Complementary perspectives — including stakeholder theory, the knowledge-based view, and cluster theory — extend this analytical understanding by incorporating relational, cognitive, and spatial dimensions of incubation processes. Specifically, these frameworks explain how incubators manage competing stakeholder interests, facilitate knowledge spillovers, strengthen collaborative interactions, and reinforce geographically embedded innovation systems (Table 4).

Table 4
Matrix of scientific theories applied to key functions of Business incubators

BUSINESS INCUBATOR FUNCTIONS	SCIENTIFIC THEORIES	BUSINESS INCUBATOR FUNCTIONS
INSTITUTIONAL	Institutional, Stakeholders, Ecosystem, Cluster	RESOURCES
NETWORKING	Entrepreneurship, Ecosystem, Networking, Knowledge	KNOWLEDGES

Source: Prepared by the author

These theoretical relationships are systematically synthesized in Table 4, which presents a matrix linking incubator functions with the corresponding theoretical perspectives. The matrix demonstrates that each theoretical lens explains only a particular dimension of incubator activity, whereas their integration provides a more comprehensive and coherent explanatory framework. In particular, the findings confirm that business incubators simultaneously operate as institutional enablers, resource coordinators, knowledge intermediaries, and network orchestrators within startup ecosystems.

From a broader conceptual perspective, the results indicate that business incubators should not be viewed as passive support infrastructures, but rather as active system-level coordinators that shape the dynamics of entrepreneurial

ecosystems. This interpretation aligns with contemporary developments in innovation studies, where analytical attention has increasingly shifted from linear support mechanisms toward interactive, collaborative, and multi-actor ecosystem models.

The findings of this study generate several important implications for both academic research and innovation policy design, particularly within emerging and transition economies.

First, in developing countries, including Uzbekistan, strengthening business incubator systems requires moving beyond simple infrastructure expansion toward improving institutional maturity and operational effectiveness. This process includes establishing standardized evaluation systems, implementing outcome-oriented Key Performance Indicators (KPIs), and ensuring transparency in startup selection and funding allocation procedures.

Second, the study highlights the importance of developing diversified incubation architectures that include public, private, corporate, and university-based incubation models. Excessive dependence on a single institutional form may reduce ecosystem resilience and limit the capacity to address the heterogeneous needs of startups operating across different sectors and stages of development.

Third, strengthening triple-helix collaboration among universities, industry, and government institutions remains essential for improving startup survival rates and research commercialization outcomes. In the context of Uzbekistan, this requires formalized cooperation mechanisms between universities, IT Park Uzbekistan structures, industrial partners, and venture capital institutions. Priority should be given to joint acceleration programs, applied research commercialization platforms, and co-investment initiatives.

Fourth, addressing resource fragmentation is critically important. Empirical findings suggest that startups within early-stage ecosystems frequently encounter difficulties related to access to financial capital, mentoring support, and market intelligence. Consequently, business incubators should evolve into integrated resource platforms capable of combining physical infrastructure with intangible strategic assets, including expert networks, intellectual property support services, and investment-readiness programs.

Fifth, internationalization and global connectivity represent major strategic priorities for emerging innovation ecosystems. For Uzbekistan and similar economies, integration into global innovation networks through partnerships with international accelerators, venture funds, research institutions, and technology-transfer organizations can substantially improve startup scalability and international market-entry opportunities.

From a theoretical perspective, this study contributes to the existing literature by integrating fragmented analytical perspectives on business incubators into a unified conceptual framework. The proposed classification of core and complementary theories provides a structured analytical foundation for future research on incubation systems and entrepreneurial ecosystem development.

Nevertheless, the study also has several limitations. The research is primarily conceptual in nature and is based mainly on secondary literature analysis. Future studies should therefore incorporate empirical validation through panel-data analysis, case-study methodologies, and comparative cross-country research designs in order to test the proposed theoretical relationships more rigorously.

In particular, longitudinal studies examining incubator performance within emerging economies would provide valuable insights into the causal mechanisms underlying startup survival, scaling, and innovation performance.

Overall, the findings suggest that the effectiveness of business incubators is not determined by any single factor in isolation, but rather by the interaction among institutional design, resource availability, knowledge flows, and network embeddedness. Strengthening these dimensions simultaneously is essential for developing resilient, sustainable, and innovation-driven startup ecosystems.

REFERENCES

1. Bergek, A., & Norrman, C. (2008). *Incubator best practice: A framework*. *Technovation*, 28(1–2), 20–28. <https://doi.org/10.1016/j.technovation.2007.07.008>
2. Clarysse, B., Wright, M., Lockett, A., Van de Velde, E., & Vohora, A. (2005). *Spinning off new ventures: A typology of incubation strategies from European research institutions*. *Journal of Business Venturing*, 20(2), 183–216.
3. Ayyash, S., McAdam, M., & O’Gorman, C. (2022). *Towards a new perspective on the heterogeneity of business incubator-incubation definitions*. *IEEE Transactions on Engineering Management*, 69(4).
4. Lin-Lian, C., De-Pablos-Heredero, C., Montes-Botella, J. L., & Lin, S. (2022). *The influence of entrepreneurial motivation on the valuation of socioeconomic benefits of business incubator functions*. *Economies*, 10(11), 281. <https://doi.org/10.3390/economies10110281>
5. Elia, G., Alessandro, M., Enrico, C., & Karim, M. (2021). *Digital Society Incubator: Combining exponential technology and human potential to build resilient entrepreneurial ecosystems*. *Administrative Sciences*, 11, 96. <https://doi.org/10.3390/admsci11030096>
6. Bøllingtoft, A., & Ulhøi, J. P. (2005). *The networked business incubator—Leveraging entrepreneurial agency?* *Journal of Business Venturing*, 20(2), 265–290.
7. Aerts, K., Matthyssens, P., & Vandenbempt, K. (2007). *Critical role and screening practices of European business*

- incubators*. *Technovation*, 27(5), 254–267. <https://doi.org/10.1016/j.technovation.2006.12.002>
8. Bosques-Brugada, G., Mendoza-del Villar, L. A., & López, E. O. (2019). *Specialized business incubators as a strategy for small and medium-sized enterprises in the Industry 4.0 era – A systemic approach*. In Proceedings of the 7th International Conference on Innovation and Entrepreneurship (ICIE 2019) (pp. 106–114).
 9. OECD. (2021). *International policy approaches to digitalising the delivery of business incubator services – Lessons for Thailand* (OECD SME and Entrepreneurship Papers, No. 26). OECD Publishing. <https://doi.org/10.1787/76059c16-en>
 10. Cruz, C. B., O'Loughlin, T., & Loreto, A. B. (2016). *Technology business incubation in a Philippine State University: Lessons learned from a South Australia-based leading technology business incubator*. *International Journal of Business and Social Science*, 7(2), 195–202.
 11. Wei, S., Zhang, Z., & Chen, X. (2021). *How does business incubator motivate start-ups based on super-network: A dynamic capability perspective*. *Journal of Intelligent & Fuzzy Systems*, 40, 11131–11144.
 12. Hakim, A. I., Sukimi, M. F., & Ab Rahman, A. H. (2022). *Exploring the role of business incubators in sustainable startups: A systematic literature review*. *International Journal of Academic Research in Business and Social Sciences*, 12(11), 1198–1215. <http://dx.doi.org/10.6007/IJARBS/v12-i11/15147>
 13. Cao, Z., Cunningham, L. F., Gao, W., & Liu, Y. (2020). *The downsides of specialization: The impact of business incubator specialization on startups' R&D efficiency and venture capital financing*. *Technovation*, 96–97, 102143. <https://doi.org/10.1016/j.technovation.2020.102143>
 14. UNECE. (2021). *Business Incubators for Sustainable Development in the SPECA Subregion*. Geneva, p. 15.
 15. OECD. (2024). *Start-Up Globalization through Incubation and Acceleration*. Paris: OECD Publishing, p. 10.
 16. [IT Park Uzbekistan](#). *Ўзбекистон IT соҳасининг локомотиви*.
 17. [IT Park Uzbekistan: итоги трёхлетия](#).
 18. [Ministry of Digital Technologies of Uzbekistan](#). Official website.
 19. [Innovation Development Agency of Uzbekistan](#). Official website.
 20. Dutt, N., Hawn, O., Vidal, E., Chatterji, A., McGahan, A., & Mitchell, W. (2016). *How open system intermediaries address institutional failures: The case of business incubators in emerging-market countries*. *Academy of Management Journal*, 59(3), 818–840.
 21. Somsuk, N., Laosirihongthong, T., & McLean, M. W. (2012). *Strategic management of university business incubators (UBIs): Resource-based view (RBV) theory*. In 2012 IEEE International Conference on Management of Innovation & Technology (ICMIT) (pp. 611–618). Bali, Indonesia. <https://doi.org/10.1109/ICMIT.2012.6225876>
 22. Liu, Y. et al. (2020). *The micro-foundations of global business incubation: A stakeholder perspective*. *Technological Forecasting and Social Change*, 161.
 23. Alsos, G. A., Hytti, U., & Ljunggren, E. (2011). *Stakeholder theory approach to technology incubators*. *International Journal of Entrepreneurial Behaviour & Research*, 17(6), 607–625.
 24. Марахина, И. В. (2020). *Теоретические аспекты функционирования стартап-экосистемы*. *Цифровая трансформация*, 3(12), 31–38. <https://doi.org/10.38086/2522-9613-2020-3-31-38>
 25. Eveleens, C. P., van Rijnsoever, F. J., & van Weele, A. J. (2017). *How network-based incubation helps start-up performance: A systematic review*. *The Journal of Technology Transfer*, 42(3), 677–713. <https://doi.org/10.1007/s10961-016-9538-z>
 26. Li, C., Hassan, M. S., Ayyash, S. A., Parveen, R., & Ali, K. (2020). *Role of business incubators as a tool for entrepreneurship development: The mediating and moderating role of business incubation and professional networks*. *Sustainability*, 12(5), 1822. <https://doi.org/10.3390/su12051822>
 27. Redondo, M., Galcuera, C., & Galindo, M. (2022). *Exchange of knowledge in protected environments: The case of university business incubators*. *Journal of Innovation & Knowledge*, 7(1), 100168. <https://doi.org/10.1016/j.jik.2022.100168>
 28. Romein, A., & Trip, J. J. (2017). *The role of business incubators in the development of creative and cultural industries clusters*. *WIT Transactions on Ecology and the Environment*, 226, 805–814. <https://doi.org/10.2495/SDP170691>

Proofreader: Zokir ALIBEKOV
Layout and Designer: Oloviddin Sobir ugli

2026. № 5

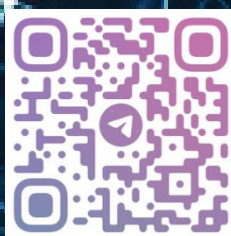
© When materials are reproduced, the INNOVATION SCIENCE AND TECHNOLOGY journal must be cited as the source. Authors are responsible for the accuracy of the information in materials and advertisements published in the journal. Editorial opinions may not always align with those of the authors. Submitted materials will not be returned to the editorial office.

To publish articles in this journal, you may submit articles, advertisements, stories, and other creative materials through the following links. Materials and advertisements are published on a paid basis.

You may subscribe to the journal at any time using the following details. Once subscribed, please send a screenshot or photo of your payment confirmation to our Telegram page @iqtisodiyot_77. Based on this, we will send the latest issue of the journal to your address each month.

“The journal “INNOVATION SCIENCE AND TECHNOLOGY” has been registered by the Agency for Information and Mass Communications under the Administration of the President of the Republic of Uzbekistan from 09.10.2024 under the registration number №390637. License number: C-5669633. PNFL: 30407832680027

Our address: Tashkent city, Yunusobod district, 19th block,
House 17.



Acceptance of articles
Published every
monthly



Directions
Social, economic, political,
technological, scientific

 **Scopus** || Scientific electronic journal specializing in Scopus


CERTIFICATE NUMBER: №390637

**ORDER NUMBER ACCORDING TO
THE LICENSE REGISTER: C-5669633**

CONTACT:

 Contact us
+998 50 737 87 88

 Telegram channel
t.me/scopus_IST2100

 Journal official website
<https://ist-journal.uz/index.php/IST>