

An evaluation framework for government support in Tehran's urban entrepreneurial ecosystem, a Qualitative Approach

Arameh Pazhoom¹, Jahangir Yadollahi Farsi^{2*}, Davood kia kojoori³, Mohammadjavad Taghipourian³

¹PhD Condidate, Department of Management, Chalous branch, Islamic Azad University, Chalous, Iran

²Faculty of Entrepreneurship, University of Tehran, Tehran, Iran

³Department of Management, Chalous branch, Islamic Azad University, Chalous, Iran

Abstract

The world stands on the brink of Industry 5.0, driven by advanced technologies such as artificial intelligence, the Internet of Things, and biotechnology. Technology transfer plays a pivotal role in this transformation, requiring an in-depth analysis of the factors influencing its success. This study, using a qualitative meta-synthesis approach, analyzed 28 relevant articles on technology entrepreneurship and Industry 5.0. The findings identified 55 components across five key dimensions affecting technology transfer: (1) innovation ecosystems, (2) agile business models, (3) collaborative partnerships, (4) digitalization of processes, and (5) regulatory frameworks. The results emphasize the importance of entrepreneurial strategies in facilitating technology transfer, highlighting the necessity of an integrated innovation ecosystem. This study provides practical insights for policymakers and technology entrepreneurs, offering guidance to enhance technology transfer processes and steer innovation-driven initiatives in the era of Industry 5.0.

Keywords: Technology, technology transfer, entrepreneurship, technological entrepreneurship, Industry 5.0.

1- Introduction

Governmental support for entrepreneurship, which is the most crucial type of support in Tehran's urban entrepreneurial ecosystem, is vital for its optimal performance. Consequently, urban policymakers are determined to enhance and expand the city's entrepreneurial ecosystem to boost economic activity (Kerr & Lincoln, 2010: 473). Understanding and evaluating the dimensions of

* Corresponding Author

ISSN: 1735-8272, Copyright © 2025 JISE. All rights reserved

governmental support provide a clear picture of the current state and the gap between the existing and desired conditions, leading to more informed decision-making for urban stakeholders. Governmental and private entrepreneurial support programs play a significant role in offering education and resources to entrepreneurs and new investors who would otherwise lack access to them (Spigel, 2016: 141).

According to Isenberg, entrepreneurial ecosystems cannot be replicated from one another, and therefore, the development of entrepreneurship in each region or country should focus on its competitive advantages rather than imitating successful ecosystems elsewhere (Isenberg, 2010: 40). Accordingly, it is essential to develop a specific framework for evaluating governmental entrepreneurial support tailored to each city. Governmental support for entrepreneurship serves as a driving force for other resources to develop innovative businesses. Despite the crucial role of support programs in entrepreneurial ecosystems, their contribution to the success of such ecosystems has been weakly addressed with limited conceptual and empirical research (Spigel, 2017: 49), and effective measurement and evaluation tools are lacking (Audretsch & Belitski, 2017).

Research on entrepreneurship and economic development has shown that studies of entrepreneurial ecosystems in major cities indicate that thriving ecosystems share common characteristics. Therefore, the framework designed for Tehran can largely be applied to other cities. However, the existing knowledge about claiming and benefiting from governmental support in Tehran's urban entrepreneurial ecosystem is insufficient, negatively affecting the optimal allocation of resources to real needs. This research aims to design a tool to enhance the effectiveness of governmental entrepreneurial support and contribute to the success of Tehran's urban entrepreneurial ecosystem.

2- Foundations and Literature Review

The entrepreneurial ecosystem consists of various factors such as leadership, culture, venture capital, and forward-thinking customers, which are intricately combined in complex ways (Isenberg, 2010:41). It includes a set of actual and potential entrepreneurial factors, entrepreneurial organizations such as companies, venture capitalists, business angels, and banks, institutions including universities, public sector agencies, and economic entities, entrepreneurial processes such as business birth rates and the number of high-growth companies, and serial entrepreneurs who formally and informally connect, mediate, and govern performance in the local entrepreneurial environment (Mason & Brown, 2014: 77). The entrepreneurial ecosystem is a set of interconnected actors and factors that facilitate productive entrepreneurship (Stam, 2018:173). From the perspective of Mack & Mayer (2016: 2119), the entrepreneurial ecosystem is defined as the interactive components of entrepreneurial systems that lead to the emergence of new firms in a specific regional context (Mack & Mayer, 2016: 2118). Furthermore, the entrepreneurial ecosystem can be described as a dynamic, institutionally embedded interaction between entrepreneurial attitudes, abilities, and aspirations, which leads to the allocation of resources through the creation and exploitation of new investments (Plummer & Acs, 2014:121).

More specifically, entrepreneurship at the city level provides the appropriate social, economic, and institutional context within the entrepreneurial ecosystem (Audretsch & Belitski, 2017). The local nature of startups is best demonstrated by the fact that most companies are established in or near the founders' residential or work locations (Stam, 2018:17). Naturally, city policymakers seek to expand entrepreneurship to further stimulate regional economic activity. Therefore, understanding the factors that influence entrepreneurship will lead to more effective economic development policies at both urban and national levels (Kerr & Lincoln, 2010:473). Given that, according to Isenberg (2010:564), entrepreneurial ecosystems are not replicable, the development of entrepreneurship in any region or country should focus on its competitive advantages rather than imitating successful ecosystems in other regions. Research in Iran regarding the entrepreneurial ecosystem has been conducted by Davari et al. (2017:101), and another study has examined the dimensions and components of Iran's technological entrepreneurial ecosystem (Maysami et al., 2018:9). Policymakers and researchers today have adopted a more comprehensive approach, recognizing the significance of systematic support mechanisms in fostering an entrepreneurial culture, increasing access to information, networks, and financial resources, and improving entrepreneurial infrastructure (Audretsch & Belitski, 2017:1030; Isenberg, 2010:41).

According to the Entrepreneurial Ecosystem (EE) theory, clusters of businesses emerge in regions with competitive advantages, benefiting from various environmental resources, such as information, networks, and labor markets (Audretsch & Belitski, 2017). Studies on entrepreneurial ecosystems in large urban areas show that successful ecosystems share common characteristics. For example, thriving entrepreneurial cultures support entrepreneurship as a legitimate and prestigious activity, promote the social status of entrepreneurs, and encourage risk-taking and innovation in business efforts, thereby rewarding entrepreneurial activities (Audretsch & Belitski, 2017:1030, Fallah & Nozari, 2021).

Governmental support refers to the policies and regulations designed to assist startups before their establishment and in their early development stages, aiming to encourage more individuals to create new businesses (Lundström & Stevenson, 2005:41). By fostering a conducive environment, governments can stimulate investment, attract talent, and pave the way for job creation—key elements for sustainable and inclusive economic growth (Ajayi-Nifise et al., 2024:352). Theoretical contributions emphasize that governmental support through policy discourse influences how institutions shape the emergence and growth of new businesses (Minniti, 2008:779). Entrepreneurial policies pursued by governments vary in objectives, ranging from promoting new investments to supporting alliances and collaborations among companies, which may take the form of infrastructure investments (Audretsch & Belitski, 2015:33) or startup financing (Cowling & Sugden, 1998:59; Rothwell, 1985:79).

Entrepreneurial policy objectives differ at various levels: At the national level, they may seek to address historical economic weaknesses, implement global best practices, and accelerate economic integration. At the regional level, they take on a multidimensional nature, driven by socioeconomic factors (Hall et al., 2012:785; Huggins & Williams, 2011:907). It has been argued that governments emphasizing individual rights promote entrepreneurship by enhancing innovation diffusion (Spencer et al., 2005:123), justifying state intervention and support (Michael & Pearce, 2009:285).

Moreover, Ven (1993) argues that infrastructure development provides public knowledge and a pool of skilled labor for new firms and aspiring entrepreneurs. These strategic networks significantly enhance business performance and growth (Gulati et al., 2000:302). Various studies highlight mechanisms of technology transfer in different regions, such as Saudi Arabia (Alshumaimri et al., 2012:648), Russia (Klochikhin, 2012:1620), and Croatia (Švarc, 2006:144). Advanced economies also actively promote entrepreneurship by facilitating technology diffusion (Vekstein, 1999), funding R&D (Gallaher, 2006:611), and investing in emerging industries such as nanotechnology (Mowery, 2012:1703).

Regulatory policies play a crucial role in new business formation. However, empirical studies suggest that high taxation and excessive government intervention may paradoxically strengthen the economic impact of entrepreneurship (Murdock, 2012:879). The availability of infrastructure can significantly influence entrepreneurial activity in specific industries. For example, in Germany, broadband internet has been shown to have a greater impact on technology startups than transportation infrastructure like highways or railways (Audretsch et al., 2015:219).

Government-led programs that support R&D in emerging technology sectors facilitate entrepreneurial venture growth, as seen in nanotechnology in the U.S. (Woolley & Rottner, 2008:791) and biotechnology in Taiwan. Since startups often migrate to more developed ecosystems to access better support, less developed regions should consider governmental intervention to enhance ecosystem attractiveness (Pustovrh et al., 2020:119892).

Although mainstream literature does not always support direct government intervention, entrepreneurial ecosystems are multi-actor and multi-scalar phenomena, necessitating policy interventions (Brown & Mason, 2017:11). Government policies encompass regulatory agencies responsible for designing and implementing incentives for business startups and reducing barriers to entrepreneurial development (Zajkowski & Domańska, 2019:359). Surveys among entrepreneurs reveal that securing adequate capital remains a major obstacle to business creation and growth. Given the crucial role of entrepreneurship in economic development, reducing financial constraints for potential entrepreneurs remains a priority for policymakers worldwide (Kerr & Nanda, 2011:88).

Entrepreneurial promotion is a core governmental goal, and researchers must provide policymakers with a unified framework for integrating different studies and best practices. The government's role in fostering entrepreneurship through financial incentives, funding mechanisms, and regulatory frameworks is well-documented (Mehmood et al., 2019:1528; Ughulu, 2022:78). Government support for intellectual property, including registration, trading, and securitization, has become increasingly vital. As a result, policymakers should strengthen intellectual property markets and protection frameworks to attract entrepreneurs and innovators to Tehran's entrepreneurial ecosystem.

3- Research Methodology

This research is qualitative, exploratory, and employs grounded theory methodology. The data collection tool used in this study was semi-structured interviews, and the sampling method was purposive sampling. The target population of this research included experts in urban

entrepreneurship, with participants selected from experienced municipal entrepreneurship officials from various districts of Tehran, as well as prominent entrepreneurs within the city.

After conducting 15 interviews, the researcher reached theoretical saturation. Based on the grounded theory approach, data analysis was performed using open coding, axial coding, and selective coding. To validate the findings, the results were examined using the Content Validity Ratio (CVR) table with feedback from five additional urban entrepreneurship experts.

4- Research Steps

To achieve the objective of this study—designing a framework for evaluating governmental support for entrepreneurship in Tehran's urban entrepreneurial ecosystem through semi-structured interviews—the following steps were undertaken:

Step 1: Formulation of Research Questions

Main Research Question:

- What forms of governmental support are necessary for Tehran's urban entrepreneurial ecosystem?

Sub-questions:

To guide the participants within the research scope and ensure comprehensive responses, the following sub-questions were considered:

1. Among the following dimensions of governmental support in Tehran's urban entrepreneurial ecosystem, which are the most important?
 - Financial support, human resource provision, legal enforcement and oversight, intellectual property protection, infrastructure development, educational support, and wealth creation mechanisms.
2. What constructs shape these dimensions?

Step 2: Data Collection and Qualitative Analysis

At this stage, the researcher first explained the research title and objective to the participant and obtained verbal consent for audio recording under confidentiality terms. The main research question was asked, and if needed, follow-up sub-questions were used to direct the discussion toward the core research theme.

Each interview session lasted an average of 1.5 hours. The recorded interviews were later transcribed and coded by the researcher.

Step 3: Coding Process

The interviews were analyzed using three levels of coding:

- **Open Coding** – Extracting key concepts from raw data

- **Axial Coding** – Identifying relationships between categories
- **Selective Coding** – Integrating and refining the core themes

Table 1. Coding Structure of Expert Interviews

Open Coding (Raw Concepts)	Axial Coding (Thematic Categories)	Selective Coding (Main Constructs)
The necessity of entrepreneurial education from primary school	Educational Support (Technical, Vocational, and Higher Education)	Education & Promotion
Establishing business incubators and startup accelerators	Infrastructure Development (Physical & Digital Infrastructure)	Provision
Government facilitation of business licensing processes	Regulatory Frameworks & Oversight	Legal Enforcement & Supervision
Funding mechanisms for startups and SMEs	Entrepreneurial Financing (Grants, Venture Capital)	Provision
Supporting intellectual property (IP) rights	IP Protection (Patents, Copyrights, Commercialization)	Intellectual Property
Reducing bureaucratic barriers for entrepreneurs	Government Efficiency & Policy Reform	Legal Enforcement & Supervision
Establishing a database of investors	Information Access & Resource Mobilization	Provision
Encouraging collaboration between universities and industries	Workforce Development & Knowledge Transfer	Education & Promotion
Promoting youth engagement in entrepreneurship	Cultural Promotion & Awareness	Education & Promotion
Facilitating technology transfer from R&D centers	Innovation Support & Technology Adoption	Provision
Enabling monetization of intellectual assets	IP Valuation & Commercialization	Intellectual Property

Through this coding process, four main dimensions of governmental support in Tehran’s urban entrepreneurial ecosystem were identified:

1. Provision (Infrastructure, Financial & Human Capital Support)
2. Education & Promotion (Entrepreneurial Training, Awareness, and Technical Skills Development)
3. Intellectual Property (IP Registration, Protection, Commercialization, and Market Development)
4. Legal Enforcement & Supervision (Policy Reform, Legal Oversight, and Institutional Efficiency)

Step 4: Validation of Findings

In this stage, the findings were validated by consulting five additional urban entrepreneurship experts using the CVR (Content Validity Ratio) method to assess the significance and relevance of the identified factors.

Step 5: Presentation of Results

Following validation, the study confirmed four primary dimensions of governmental support for entrepreneurship in Tehran’s urban ecosystem, with 22 associated constructs, as presented in Table 2.

Table 2. Dimensions and Constructs of Governmental Support for Entrepreneurship in the Urban Entrepreneurial Ecosystem

Governmental Support Dimensions	Entrepreneurial Ecosystem Constructs
Provision	Financial support, workforce provision, information access, business licensing, physical infrastructure development, public service support, resource mobilization, technology transfer
Education & Promotion	Primary and secondary education, vocational and technical training, higher education and research, mentorship, awareness campaigns, wealth creation mechanisms
Intellectual Property	Intellectual property registration, copyright protection, asset securitization, importance of public innovation ideas, support for elite entrepreneurs
Legal Enforcement & Supervision	Oversight of government performance, monitoring private sector engagement, adequacy of legal frameworks

The findings indicate that governmental support for intellectual property, including registration, transactions, securitization, and wealth creation, has gained increasing importance. Experts believe that entrepreneurs are more attracted to ecosystems where intellectual property is prioritized, supported, and protected.

To enhance Tehran’s urban entrepreneurial ecosystem, policymakers must consider intellectual property as a vital economic asset and take steps to strengthen its registration, facilitate market development, and ensure legal protections.

Economic growth is regarded as a key policy objective for governments, as higher economic growth reduces unemployment rates and improves societal welfare. Both outcomes are critical in times of economic crises. Thus, identifying the factors that drive economic growth is essential, and entrepreneurship is widely recognized in academic literature as a crucial factor in economic development (Acs et al., 2004:1; Alshumaimri et al., 2012:648).

Today, entrepreneurial development and national economic growth are closely linked to the dynamics of urban entrepreneurial ecosystems, as cities host more than half of the global

population. Naturally, policymakers seek to expand entrepreneurship as a strategy to stimulate regional economies. Therefore, understanding the key factors that influence entrepreneurship leads to more effective economic development policies at both the urban and national levels (Ellison et al., 2010:1195).

Governmental support refers to policies and regulations designed to assist startups before their establishment and in their early development stages, aiming to encourage more individuals to create new businesses (Lundström & Stevenson, 2005:41). This qualitative study was conducted to develop an evaluation framework for governmental support for entrepreneurship in Tehran's urban ecosystem. Based on a review of previous studies and theoretical foundations, the research formulated semi-structured interview questions, conducted expert interviews, and analyzed the data using the grounded theory approach (open, axial, and selective coding). The findings were then validated through expert review using the Content Validity Ratio (CVR) method.

The final results indicate that governmental support for entrepreneurship in urban ecosystems consists of four main dimensions and 22 constructs, as presented in Table 2.

5- Discussion

Compared to previous studies, this research specifically focuses on governmental support in urban entrepreneurial ecosystems. While previous studies primarily examined entrepreneurial ecosystems in general, this study uniquely addresses the urban context and develops a framework for its evaluation. Given Tehran's significant impact on Iran's economic growth and the insufficient research in this field, this study builds upon prior research on governmental support for entrepreneurial ecosystems and urban entrepreneurship. By integrating findings from both domains, it formulates research questions, conducts expert interviews (with professors, policymakers, and successful entrepreneurs in Tehran), identifies key dimensions and constructs, and validates the results through expert reviews, ultimately presenting a structured framework for understanding governmental support for urban entrepreneurship.

The findings highlight that governmental support for intellectual property (IP), including registration, transactions, securitization, and wealth creation, has become increasingly important. Experts believe that entrepreneurs are more inclined to operate in ecosystems that prioritize, support, and protect intellectual property. This conclusion provides valuable insights for policymakers in Tehran, emphasizing the necessity of strengthening IP protection mechanisms, fostering IP market development, and ensuring comprehensive legal safeguards to attract and retain entrepreneurs.

6- Conclusion and Recommendations

As illustrated in the proposed model, governmental support for intellectual property—encompassing registration, commercialization, and securitization of intellectual assets—has gained greater significance. Experts suggest that entrepreneurs are more drawn to ecosystems

where intellectual property is highly valued, supported, and protected. This insight is critical for policymakers, who should integrate intellectual property support into Tehran's urban entrepreneurial ecosystem strategy.

For future research, it is recommended to first assess the proposed framework in Tehran as Iran's capital city and subsequently extend the study to other cities for comparative analysis. Additionally, further in-depth research on intellectual property is encouraged, particularly through quantitative studies to validate these findings.

Moreover, methodologies such as system dynamics modeling can be utilized to analyze the impact of different forms of governmental support on various components of the urban entrepreneurial ecosystem. By employing scientific approaches, policymakers can determine the most effective interventions to enhance entrepreneurial success in Tehran.

References

ACS, Z. J., Audretsch, D. B., Braunerhjelm, P., & Carlsson, B. (2004). The missing link: The knowledge filter and entrepreneurship in endogenous growth. Available at SSRN 667944. <https://ssrn.com/abstract=667944>

Ajayi-Nifise, A. O., Tula, S. T., Asuzu, O. F., Mhlongo, N. Z., Olatoye, F. O., & Ibeh, C. V. (2024). The role of government policy in fostering entrepreneurship: a USA and Africa review. *International Journal of Management & Entrepreneurship Research*, 6(2), 352-367. DOI: <https://doi.org/10.51594/ijmer.v6i2.775>

Ajayi-Nifise, A. O., Tula, S. T., Asuzu, O. F., Mhlongo, N. Z., Olatoye, F. O., & Ibeh, C. V. (2024). The role of government policy in fostering entrepreneurship: a USA and Africa review. *International Journal of Management & Entrepreneurship Research*, 6(2), 352-367. DOI: <https://doi.org/10.51594/ijmer.v6i2.775>

Ajayi-Nifise, A. O., Tula, S. T., Asuzu, O. F., Mhlongo, N. Z., Olatoye, F. O., & Ibeh, C. V. (2024). The role of government policy in fostering entrepreneurship: a USA and Africa review. *International Journal of Management & Entrepreneurship Research*, 6(2), 352-367. DOI: <https://doi.org/10.51594/ijmer.v6i2.775>

Alshumaimri, A., Aldridge, T., & Audretsch, D. B. (2012). Scientist entrepreneurship in Saudi Arabia. *The Journal of Technology Transfer*, 37, 648-657.

Alshumaimri, A., Aldridge, T., & Audretsch, D. B. (2012). Scientist entrepreneurship in Saudi Arabia. *The Journal of Technology Transfer*, 37, 648-657. <https://doi.org/10.1007/s10961-011-9230-y>

Audretsch, D. B., & Belitski, M. (2017). Entrepreneurial ecosystems in cities: establishing the framework conditions. *The Journal of Technology Transfer*, 42, 1030-1051. <https://doi.org/10.1007/s10961-016-9473-8>

Audretsch, D. B., Belitski, M., & Desai, S. (2015). Entrepreneurship and economic development in cities. *The annals of regional science*, 55, 33-60.

Audretsch, D. B., Belitski, M., & Desai, S. (2015). Entrepreneurship and economic development in cities. *Ann Reg Sci*, 55, 33-60. <https://doi.org/10.1007/s00168-015-0685-x>

- Audretsch, D. B., Heger, D., & Veith, T. (2015). Infrastructure and entrepreneurship. *Small Business Economics*, 44, 219-230. DOI <https://doi.org/10.1007/s11187-014-9600-6>
- Baporikar, N. (2017). Entrepreneurship in Sultanate of Oman: A case approach. In *Entrepreneurship: Concepts, methodologies, tools, and applications* (pp. 1852-1864). IGI Global.
- Bjørnskov, C., & Foss, N. (2013). How strategic entrepreneurship and the institutional context drive economic growth. *Strategic Entrepreneurship Journal*, 7(1), 50-69. <https://doi.org/10.1002/sej.1148>
- Brown, G. W., Kenyon, S., & Robinson, D. (2020). Filling the us small business funding gap. Frank Hawkins Kenan Institute of Private Enterprise Report. UNC Kenan Institute of Private Enterprise.
- Brown, R., & Mason, C. (2017). Looking inside the spiky bits: a critical review and conceptualisation of entrepreneurial ecosystems. *Small business economics*, 49, 11-30. DOI 10.1007/s11187-017-9865-7
- Cheng, H., Hu, D., Xu, C., Zhang, K., & Fan, H. (2017). Does government paternalistic care promote entrepreneurship in China? Evidence from the China employer-employee survey. *China Economic Journal*, 10(1), 61-75. <https://doi.org/10.1080/17538963.2016.1274004>
- Cowling, K., & Sugden, R. (1998). The essence of the modern corporation: markets, strategic decision-making and the theory of the firm. *The Manchester School*, 66(1), 59- 86 <https://doi.org/10.1111/1467-9957.00089>
- Davari, A., Sefidbari, L., & Baghersad, V. (2017). The factors of entrepreneurial ecosystem in Iran based on Isenberg's model. *Journal of Entrepreneurship Development*, <https://doi.org/10.22059/JED.2017.62306> [In Persian].
- Ebner, A. (2005). Entrepreneurship and economic development: From classical political economy to economic sociology. *Journal of Economic Studies*, 32(3), 256-274. <https://doi.org/10.1108/01443580510611047>
- Ellison, G., Glaeser, E. L., & Kerr, W. R. (2010). What causes industry agglomeration? Evidence from coagglomeration patterns. *American Economic Review*, 100(3), 1195-1213. DOI: 10.1257/aer.100.3.1195
- Fallah, M., & Nozari, H. (2021). Quantitative analysis of cyber risks in IoT-based supply chain (FMCG industries). *Journal of Decisions and Operations Research*, 5(4), 510-521.
- Ford, C. M., O'Neal, T., & Sullivan, D. M. (2010). Promoting regional entrepreneurship through university, government, and industry alliances: Initiatives from Florida's high tech corridor. *Journal of Small Business & Entrepreneurship*, 23(sup1), 691-708. <https://doi.org/10.1080/08276331.2010.10593510>
- Gallaher, M. P., & Petrusa, J. E. (2006). Innovation in the US service sector. *The Journal of Technology Transfer*, 31, 611-628. <https://doi.org/10.1007/s10961-006-0018-4>
- Glaeser, E. L., Kerr, W. R., & Ponzetto, G. A. (2010). Clusters of entrepreneurship. *Journal of urban economics*, 67(1), 150-168. <https://doi.org/10.1016/j.jue.2009.09.008>
- Gulati, R., Nohria, N., & Zaheer, A. (2000). Strategic networks. *Strategic management journal*, 21(3), 203-215. [https://doi.org/10.1002/\(SICI\)1097-0266\(200003\)21:3%3C203::AID-SMJ102%3E3.0.CO;2-K](https://doi.org/10.1002/(SICI)1097-0266(200003)21:3%3C203::AID-SMJ102%3E3.0.CO;2-K)

- Hall, J., Matos, S., Sheehan, L., & Silvestre, B. (2012). Entrepreneurship and innovation at the base of the pyramid: a recipe for inclusive growth or social exclusion?. *Journal of management studies*, 49(4), 785-812. <https://doi.org/10.1111/j.1467-6486.2012.01044.x>
- Hsu, Y. G., Shyu, J. Z., & Tzeng, G. H. (2005). Policy tools on the formation of new biotechnology firms in Taiwan. *Technovation*, 25(3), 281-292. [https://doi.org/10.1016/S0166-4972\(03\)00078-6](https://doi.org/10.1016/S0166-4972(03)00078-6)
- Huggins, R., & Williams, N. (2011). Entrepreneurship and regional competitiveness: the role and progression of policy. *Entrepreneurship & regional development*, 23(9-10), 907-932. <https://doi.org/10.1080/08985626.2011.577818>
- Hyder, S., & Lussier, R. N. (2016). Why businesses succeed or fail: a study on small businesses in Pakistan. *Journal of Entrepreneurship in emerging economies*, 8(1), 82-100. <https://doi.org/10.1108/JEEE-03-2015-0020>
- Isenberg, D. J. (2010). How to start an entrepreneurial revolution. *Harvard business review*, 88(6), 40-50.
- Isenberg, D. J. (2011). Entrepreneurship ecosystem strategy as a new paradigm for economic policy: Principles for cultivating entrepreneurship. In *Presentation at the Institute of International and European Affairs*. 1(3)3: 21-38. <https://dorl.net/dor/20.1001.1.24767735.1393.1.3.2.1>
- Isenberg, D. J. (2016). Applying the Ecosystem Metaphor to Entrepreneurship: Uses and Abuses. *The Antitrust Bulletin*, 61(4), 564–573. <https://doi.org/10.1177/0003603X16676162>.
- Kerr, W. R., & Lincoln, W. F. (2010). The supply side of innovation: H-1B visa reforms and US ethnic invention. *Journal of Labor Economics*, 28(3), 473-508. <https://doi.org/10.1086/651934>
- Kerr, W. R., & Nanda, R. (2011). Financing constraints and entrepreneurship. *Handbook of Research on Innovation and Entrepreneurship*. Cheltenham: Elgar, 88-103. <https://doi.org/10.4337/9781849807760>
- Klochikhin, E. A. (2012). Russia's innovation policy: Stubborn path-dependencies and new approaches. *Research Policy*, 41(9), 1620-1630. <https://doi.org/10.1016/j.respol.2012.03.023>
- Lundström, A., & Stevenson, L. A. (2005). Entrepreneurship policy—Definitions, foundations and framework. *Entrepreneurship policy: Theory and practice*, 41-116. <https://link.springer.com/chapter/10.1007/0>
- Mack, E., & Mayer, H. (2016). The evolutionary dynamics of entrepreneurial ecosystems. *Urban studies*, 53(10), 2118-2133. <https://doi.org/10.1177/0042098015586547>
- Mason, C., & Brown, R. (2013). Creating good public policy to support high-growth firms. *Small business economics*, 40, 211-225. <https://link.springer.com/article/10.1007>
- Mason, C., & Brown, R. (2014). Entrepreneurial ecosystems and growth oriented entrepreneurship. *Final report to OECD, Paris*, 30(1), 77-102.
- Maysami, A., Mohammadi Elyasi, G., Mobini Dehkordi, A., & Hejazi, S. R. (2018). The dimensions and components of technological entrepreneurship ecosystem in Iran. *Journal of Technology Development Management*, 5(4), 9-42.
- Mehmood, T., Alzoubi, H. M., & Ahmed, G. (2019). Schumpeterian entrepreneurship theory: Evolution and relevance. *Academy of Entrepreneurship Journal*, 25(4). <https://www.abacademies.org/articles/Schumpeterian-entrepreneurship-theory-evolution-and-relevance-1528-2686-25-4-301.pdf>

- Michael, S. C., & Pearce, J. A. (2009). The need for innovation as a rationale for government involvement in entrepreneurship. *Entrepreneurship and Regional Development*, 21(3), 285-302. [https:// doi.org/ 10.1080/ 08985620802279999](https://doi.org/10.1080/08985620802279999)
- Minniti, M. (2008). The role of government policy on entrepreneurial activity: productive, unproductive, or destructive?. *Entrepreneurship theory and Practice*, 32(5), 779-790. [https:// doi.org/ 10.1111/ j.1540-6520.2008.00255.x](https://doi.org/10.1111/j.1540-6520.2008.00255.x)
- Mowery, D. C. (2012). Defense-related R&D as a model for “Grand Challenges” technology policies. *Research policy*, 41(10), 1703-1715. <https://doi.org/10.1016/j.respol.2012.03.027>
- Murdock, K. A. (2012). Entrepreneurship policy: Trade-offs and impact in the EU. *Entrepreneurship & Regional Development*, 24(9-10), 879-893. [https:// doi.org/ 10.1080/ 08985626.2012.742324](https://doi.org/10.1080/08985626.2012.742324)
- Oskounejad, M. M., & Nozari, H. (Eds.). (2024). *Advanced Businesses in Industry 6.0*. IGI Global.
- Pickernell, D., Senyard, J., Jones, P., Packham, G., & Ramsey, E. (2013). New and young firms: Entrepreneurship policy and the role of government—evidence from the Federation of Small Businesses survey. *Journal of Small Business and Enterprise Development*, 20(2), 358-382. [https:// doi.org/ 10.1108/ 14626001311326770](https://doi.org/10.1108/14626001311326770)
- Plummer, L. A., & Acs, Z. J. (2014). Localized competition in the knowledge spillover theory of entrepreneurship. *Journal of Business Venturing*, 29(1), 121-136. [https:// doi.org/ 10. 1016/ j. jbusvent. 2012. 10. 003](https://doi.org/10.1016/j.jbusvent.2012.10.003)
- Pustovrh, A., Rangus, K., & Drnovšek, M. (2020). The role of open innovation in developing an entrepreneurial support ecosystem. *Technological forecasting and social change*, 152, 119892. [https:// doi. org/ 10.1016/j.techfore.2019.119892](https://doi.org/10.1016/j.techfore.2019.119892)
- Rothwell, S. (1985). Is management a masculine role?. *Management Education and Development*, 16(2), 79-98. <https://doi.org/10.1177/135050768501600202>
- Saberi, M., & Hamdan, A. (2019). The moderating role of governmental support in the relationship between entrepreneurship and economic growth: A study on the GCC countries. *Journal of Entrepreneurship in Emerging Economies*, 11(2), 200-216. [https:// doi.org/ 10.1108/ JEEE-10-2017-0072](https://doi.org/10.1108/JEEE-10-2017-0072).
- Smallbone, D., & Welter, F. (2010). Entrepreneurship and government policy in former Soviet republics: Belarus and Estonia compared. *Environment and Planning C: Government and Policy*, 28(2), 195-210. [https:// doi.org/10.1068/c0834b](https://doi.org/10.1068/c0834b)
- Sokari, H., Van Horne, C., Huang, Z. Y., & Awad, M. (2013). *Entrepreneurship: an Emirati perspective*. Zayed University Institute for Social and Economic Research.
- Spencer, J. W., Murtha, T. P., & Lenway, S. A. (2005). How governments matter to new industry creation. *Academy of Management Review*, 30(2), 321-337. [https:// doi.org/ 10.5465/ amr. 2005. 16387889](https://doi.org/10.5465/amr.2005.16387889)
- Spigel, B. (2016). Developing and governing entrepreneurial ecosystems: the structure of entrepreneurial support programs in Edinburgh, Scotland. *International Journal of Innovation and Regional Development*, 7(2), 141-160. <https://doi.org/10.1504/IJIRD.2016.077889>
- Spigel, B. (2017). The relational organization of entrepreneurial ecosystems. *Entrepreneurship theory and practice*, 41(1), 49-72. <https://doi.org/10.1111/etap.12167>

Stam, E. (2018). Measuring entrepreneurial ecosystems. *Entrepreneurial ecosystems: Place-based transformations and transitions*, 173-197. DOI https://doi.org/10.1007/978-3-319-63531-6_9

Švarc, J. (2006). Socio-political factors and the failure of innovation policy in Croatia as a country in transition. *Research policy*, 35(1), 144-159. <https://doi.org/10.1016/j.respol.2005.09.002>

Ughulu, J. (2022). Entrepreneurship as a major driver of wealth creation. *International Journal of Economic Behavior and Organization*, 13(2), 78-82. [10.11648/j.ijebo.20221003.11](https://doi.org/10.11648/j.ijebo.20221003.11)

Van de Ven, H. (1993). The development of an infrastructure for entrepreneurship. *Journal of Business venturing*, 8(3), 211-230. [https://doi.org/10.1016/0883-9026\(93\)90028-4](https://doi.org/10.1016/0883-9026(93)90028-4)

Vekstein, D. (1999). Defense conversion, technology policy and R & D networks in the innovation system of Israel. *Technovation*, 19(10), 615-629. [https://doi.org/10.1016/S0166-4972\(99\)00066-8](https://doi.org/10.1016/S0166-4972(99)00066-8)

Woolley, J. L., & Rottner, R. M. (2008). Innovation policy and nanotechnology entrepreneurship. *Entrepreneurship theory and practice*, 32(5), 791-811. <https://doi.org/10.1111/j.1540-6520.2008.00256.X>

Zajkowski, R., & Domańska, A. (2019). Differences in perception of regional pro-entrepreneurial policy: does obtaining support change a prospect?. *Oeconomia Copernicana*, 10(2), 359-384.