

Entrepreneurial Education and Its Influence on Academic Startups and Innovation

Entrepreneurial Education and Its Influence on Academic Startups and Innovation: A Review and Critical Analysis

Parul Sharma¹, Gagan Deep Sharma²

¹Research Scholar, University School of Management Studies, Guru Gobind Singh Indraprastha University, Dwarka sector 16C, New Delhi 110078, India, shr.parul@gmail.com, ORCID id- <https://orcid.org/0009-0009-3097-2322>

²Professor, University School of Management Studies, Guru Gobind Singh Indraprastha University, Dwarka sector 16C, New Delhi 110078, India, angrishgagan@gmail.com, ORCID id- <https://orcid.org/0000-0001-5379-0761>

Entrepreneurial Education and Its Influence on Academic Startups and Innovation: A Review and Critical Analysis

Abstract

Entrepreneurial education is essential for cultivating academic startups and promoting innovation in universities. This review emphasizing especially individual-level partnerships among university researchers, but we also pay attention to university researchers' interactions with researchers in other sectors, including industry. This study examines the impact of entrepreneurial education on knowledge commercialization, company formation, and technical development. This is accomplished via a comprehensive examination that integrates analysis, including publication and citation metrics, keyword assessment, and thematic mapping. The study identifies critical elements influencing entrepreneurial success, including curriculum design, mentorship programs, and university-industry relationships, through a review of existing literature. The results indicate that organized entrepreneurship training improves the capacity of students and researchers to initiate successful enterprises, thereby connecting academics with industry. Furthermore, concerns such as financial constraints, legislative restrictions, and institutional roadblocks are investigated. This research provides important information for academics, educators, and policy makers that want to improve academic entrepreneurial ecosystems.

Keywords- Entrepreneurial Education, Academic Startups, Innovation Knowledge Commercialization, University Entrepreneurship, Technology Transfer, Academic Spin-offs, Entrepreneurial Ecosystem, University-Industry Collaboration, Startup Incubation.

Track: Entrepreneurship

1. Introduction

Academic entrepreneurship is a dynamic intersection between business and academia, whereby individuals with academic backgrounds utilize their knowledge to address challenging social, environmental, and industrial problems. These business owners develop companies, spin-offs,

Entrepreneurial Education and Its Influence on Academic Startups and Innovation

and industry alliances by turning forward-looking research into creative ideas (Toole and Czarnitzki, 2009). Their efforts translate fresh ideas into commercially viable goods and services, therefore bridging the gap between scholarly research and practical application (Bozeman, Fay and Slade, 2013).

Universities play a pivotal role in nurturing academic entrepreneurship by providing the necessary resources and infrastructure to support research commercialization. Through incubation centres, technology transfer offices, mentorship programs, and funding opportunities, they create an environment where ideas can flourish and be translated into impactful ventures (Zou *et al.*, 2019). This ecosystem ensures that breakthroughs in academic research do not remain confined to journals but are actively applied to solve real-world problems. The exemplars of Stanford University and Silicon Valley in the and Cambridge University in the UK (Burrage, Dasgupta and Ganguli, 2025) are often held as the models to emulate. However, within the UK there is a perception that the entrepreneurial potential within universities needs to be more actively stimulated (Corbo, Mahassel and Ferraris, 2020). UK policy makers have demonstrated their interest with targeted interventions (e.g. the University Challenge Fund and the Science Enterprise Challenge) aimed at encouraging and promoting academic entrepreneurship.

Academic entrepreneurs can produce complete and creative answers by merging knowledge from science, engineering, social sciences, and beyond. Academic entrepreneurship makes contributions well beyond small businesses. Macroeconomically, it is critical in promoting economic growth by means of job creation, technological innovation enhancement, and creative and problem-solving culture development. Driving investment and creating knowledge-intensive businesses, academic entrepreneurs sometimes act as engines of regional growth.

Recent developments in the scenario of digital transformation call for a revision and the advancement of the academic entrepreneurship concept towards a digital focus, i.e. digital academic entrepreneurship recently coined (Secundo, Rippa and Cerchione, 2020). The possible combinations of digitalization in the university ecosystem results in a diversity of phenomena with significantly different characteristics and socio-economic impacts (Giones, Kleine and Tegtmeier, 2022), overhauling the traditional mission of commercializing academic research (Kalar and Antoncic, 2015; Holley and Watson, 2017; Hossinger *et al.*, 2023).

Entrepreneurial Education and Its Influence on Academic Startups and Innovation

Despite these benefits, academic entrepreneurship comes with its share of challenges. Navigating intellectual property rights is a common hurdle, as academic entrepreneurs must balance protecting their innovations with promoting their accessibility (Nielsen, 2015). Examining the rationales behind a company's foundation can help one to monitor both its performance and the actual influence on its area. From sponsoring projects to creating innovative ecosystems (Jain, George and Maltarich, 2009), these endeavours seek to close the distance between academics and business, thereby supporting sustainable development and tackling worldwide issues (Yusof and Jain, 2010). This approach fits the increasing worldwide attention on innovation as a means of reaching objectives related to sustainable development. Therefore, academic entrepreneurship is a necessary road towards using knowledge and creativity to build a better future (Halilem *et al.*, 2017).

2. Theoretical Underpinnings

The theoretical underpinnings of academic entrepreneurship draw from Theories such as Open Innovation, the Quintuple Helix Model, the Entrepreneurial University Model, Resource-Based View (RBV), and Institutional Theory provide essential insights into how HEI-based incubators foster such entrepreneurial activities. Open Innovation Theory explains how incubators act as bridges for knowledge flows across university-industry boundaries. The Quintuple Helix Model situates HEIs within broader innovation ecosystems involving government, industry, civil society, and the environment. The Entrepreneurial University Model focuses on institutional transformation toward entrepreneurship. RBV allows for evaluating incubator resources, funding, mentoring, networks, as strategic assets. Institutional Theory helps assess how regulatory norms and cultural expectations shape incubator performance. Together, these theories help construct a comprehensive framework to investigate the structures, practices, and outcomes associated with academic entrepreneurship.

Theoretical Foundations for HEI-Based Incubators and Academic Entrepreneurship

S.NO.	THEORIES	INSIGHTS
1	Open Innovation Theory	Open Innovation Theory explains how HEI incubators facilitate both inbound and outbound knowledge flows between academia and industry. It highlights the importance of collaborative networks.

Entrepreneurial Education and Its Influence on Academic Startups and Innovation

2	Quintuple Helix Model	This model expands upon the Triple and Quadruple Helix by integrating the natural environment into the innovation system, making it highly relevant for sustainable academic entrepreneurship.
3	Entrepreneurial University Model	This model, developed by Etzkowitz, illustrates the transformation of universities into entrepreneurial institutions that integrate research, education, and commercialization. HEI incubators are central to this model, serving as interfaces that foster entrepreneurial culture, promote spin-offs, and support knowledge transfer.
4	Resource-Based View (RBV)	RBV highlights that the internal capabilities and resources of HEI incubators such as infrastructure, human capital, seed funding, mentorship, and institutional networks serve as strategic assets. RBV helps assess how the uniqueness and quality of these assets contribute to entrepreneurial success and knowledge-based value creation.
5	Institutional Theory	Institutional Theory explains how norms, rules, and institutional environments shape incubator practices. It helps analyze the external pressures and regulatory structures influencing HEIs, such as accreditation bodies, government mandates, and societal expectations.

Table-1 Theoretical underpinnings

3. Data methodology

2.1 Criteria for inclusion/exclusion

For the purpose of literature review, we employ integrative analysis to assess qualitative as well as quantitative trends in the field of academic entrepreneurship. The “Web of Science” database, which gives data on scientific research output to enable and provide data on distribution, collaboration, and impact, is utilized to perceive the required data. Advanced Search is utilized in the WoS Core Collection database to narrow down our search to a specified

Entrepreneurial Education and Its Influence on Academic Startups and Innovation

criterion. In the search bar using Boolean operators, field tags and parentheses, keyword used academic entrepreneurship, entrepreneurship, innovation, incubation ecosystem, economic growth, and sustainable academic entrepreneurship which displayed 2573 results. We were left with N=1646 after narrowing the document type to articles and review articles. We further screened topic area to business, management, economics, and social sciences and left with N=574. Continuing that, we further narrowed the papers by applying filters to limiting our language to English, yielding N=558. The file was then analyzed on the basis of titles, abstract, and keywords criteria, yielding N=337. Finally, as illustrated in the PRISMA diagram, 337 articles were gathered for this systematic literature review (Moher *et al.*, 2009) in Figure 1.

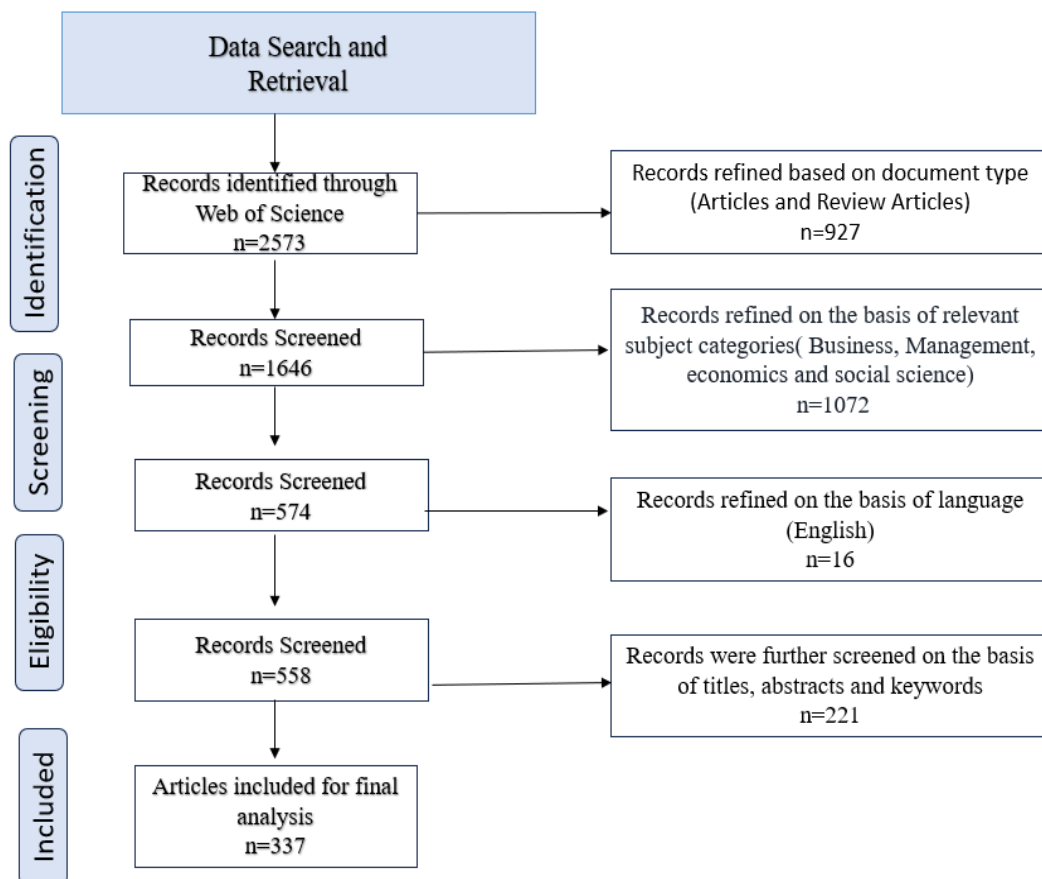


Fig 1. PRISMA framework

4. Results

3.1 A general overview of the work

3.1.1 Document publication and citation

The publishing trend has evolved, as seen in the graph, from 10-12 articles per year from 1998 to 2024 to 305 articles in 2024. Figure 2 displays the total number of publications on academic

Entrepreneurial Education and Its Influence on Academic Startups and Innovation

entrepreneurship that thrives on the exponential rise in research output and its global impact. The dataset reveals key milestones, showcasing a significant increase in the number of publications over time. This growth, coupled with rising cumulative total citations (CTT), reflects enhanced scholarly engagement and societal relevance. Researchers, driven by innovation, leverage interdisciplinary approaches, translating academic findings into impactful ventures.

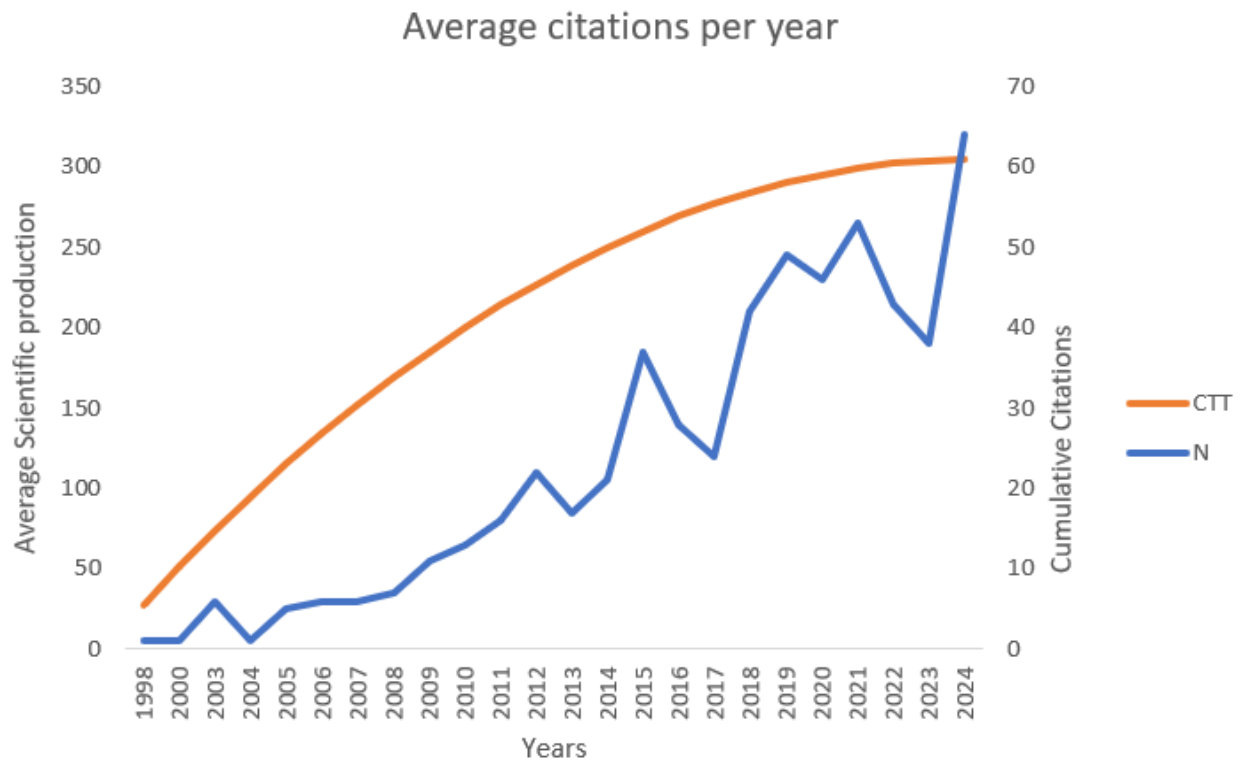


Fig 2. Year-wise publication for academic entrepreneurship

3.2 Conceptual structure of publication

3.2.1. Keywords co-occurrence analysis

Keyword co-occurrence refers to the common existence, frequency of occurrence, and close proximity of similar keywords found in many research. Fig. 3 depicts keyword co-occurrence network of the most common keywords in the extant literature. Each node represents a keyword, each color represents a cluster, and the link between the nodes reflects co-occurrence. As we can see keywords are classified into 8 clusters and many keywords appear frequently based on the thickness of the nodes and the number of connections.

Entrepreneurial Education and Its Influence on Academic Startups and Innovation

Academic entrepreneurship, entrepreneurial orientations, human capital, spin-offs, innovation, knowledge transfers, technology transfer, university-industry collaboration appear to be the most prominent word in the blue cluster (Johnson, Monsen and MacKenzie, 2017). This cluster is mostly concerned with Academic entrepreneur with innovation.

"Academic entrepreneurship" emerges as the most prominent keyword, shown by its large node size and extensive connections to various related terms. The Purple Cluster has prominent keywords entrepreneurship, entrepreneurial education, commercialization, and technology transfer offices. Further, the Red Cluster has Keywords such as collaboration, capabilities, ecosystems, and entrepreneurial universities form this cluster (Knockaert *et al.*, 2015). The other Green Cluster has features terms like networks and entrepreneurial ecosystems (Nielsen, 2015). Keywords such as university spin-offs, entrepreneurship education, ecosystems, and commercialization are also highly co-occurring, indicating the diverse yet interconnected nature of academic entrepreneurship research (Meng, Li and Rong, 2019).

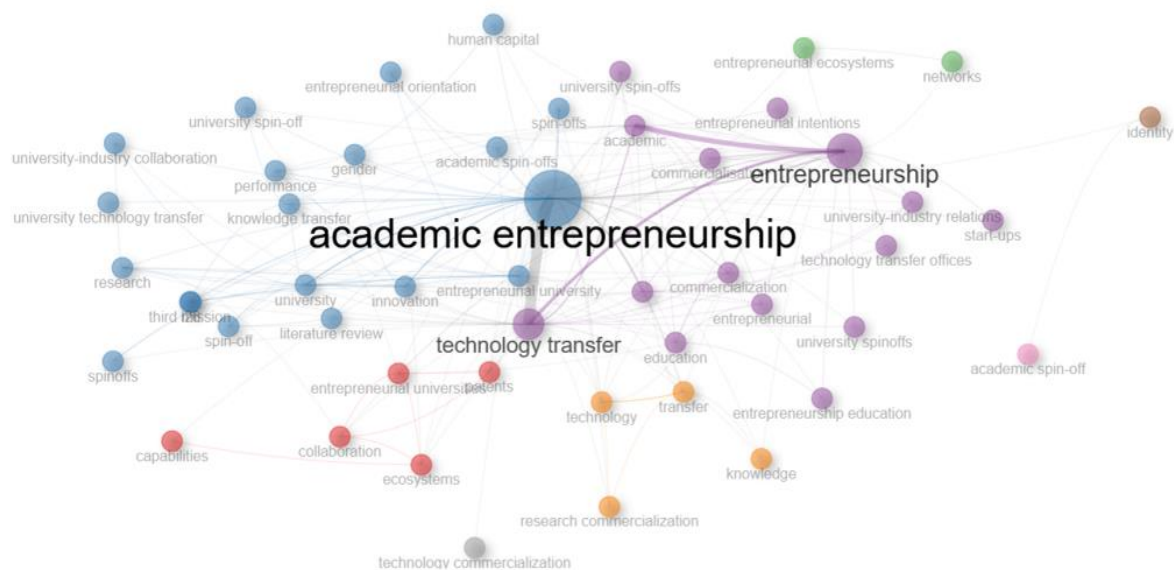


Fig 3. Keyword co-occurrence analysis map

3.2.2. Thematic Map

Strategic diagram of the conceptual structure of concerned field- Thematic evolution

On a Cartesian plane, a thematic map represents relevant themes of a conceptual structure. The two fundamental parameters for understanding thematic maps are centrality and density. The

Entrepreneurial Education and Its Influence on Academic Startups and Innovation

level of connection created by a certain theme with other themes is represented by centrality, while the magnitude of internal ties within the themes is indicated by density

A thematic map displays four quadrants and four themes based on the two concepts.

a) Motor theme (top right quadrant) (high centrality and high density) - are well established and are crucial for the research field structuring.

b) Niche Theme (top left quadrant) (high density and low centrality) - are considered to be only marginally important for the field with well-developed internal ties but not so many external ties.

c) Emerging or Declining Theme (bottom left quadrant) (low density and low centrality) - are regarded as both weakly developed and marginal, representing either emerging or disappearing themes.

d) Basic themes (lower right quadrant) (high centrality and low density) - are vital to the research are but are not fully developed.

Figure 4 depicts motor themes are both well-developed and central to the research field, indicating their mature and significant role in academic entrepreneurship research.

Entrepreneurship appears as a key motor theme with sub-themes like social entrepreneurship, sustainable entrepreneurship, technological entrepreneurship, women entrepreneurship, rural and agripreneurship (Pacheco and Franco, 2024), and educational entrepreneurship. Literature focuses on how entrepreneurship contributes to societal development and innovation through inclusive and sustainable practices (Yusof and Jain, 2010).

Basic themes are central but underdeveloped, representing foundational areas that need further exploration. Innovation emerges as a prominent basic theme with sub-themes. This indicates that innovation is a fundamental element of academic entrepreneurship (Pitsakis, Souitaris and Nicolaou, 2015), but further development is needed to explore advanced trends such as AI and prototype testing.

Niche themes are highly developed but less central to the research field. These themes focus on specific aspects of academic entrepreneurship that are specialized. Sustainability appears as a niche theme. Literature emphasizes the importance of sustainable development through efficient resource use and eco-friendly solutions (Guindalini, Verreynne and Kastle, 2021).

Entrepreneurial Education and Its Influence on Academic Startups and Innovation

Emerging and declining are underdeveloped and less central, indicating that they are either emerging areas with high growth potential or fading issues. One increasingly recurring motif is incubation ecosystems. Entrepreneurship, research commercialization, and innovation are supported by incubation networks through mentorship, funding, and infrastructure (Ebersberger and Pirhofer, 2011). Though less central, this sector has great potential for expansion as more colleges use incubation initiatives to support entrepreneurial environments. The map's academic entrepreneur integrated innovation, economic development, sustainability, collaboration (Buenstorf and Heinisch, 2020), and incubation, highlighting its multifaceted nature (Czarnitzki, Rammer and Toole, 2014).

According to literature, academic entrepreneurs are rather important in linking knowledge creation and practical application, so promoting social and economic development (Johnson, Monsen and MacKenzie, 2017) and sustainable practices are now included into the larger landscape (Ebersberger and Pirhofer, 2011), so enabling universities to not only contribute to economic prosperity but also address global challenges including environmental sustainability and social well-being (Huyghe and Knockaert, 2015).

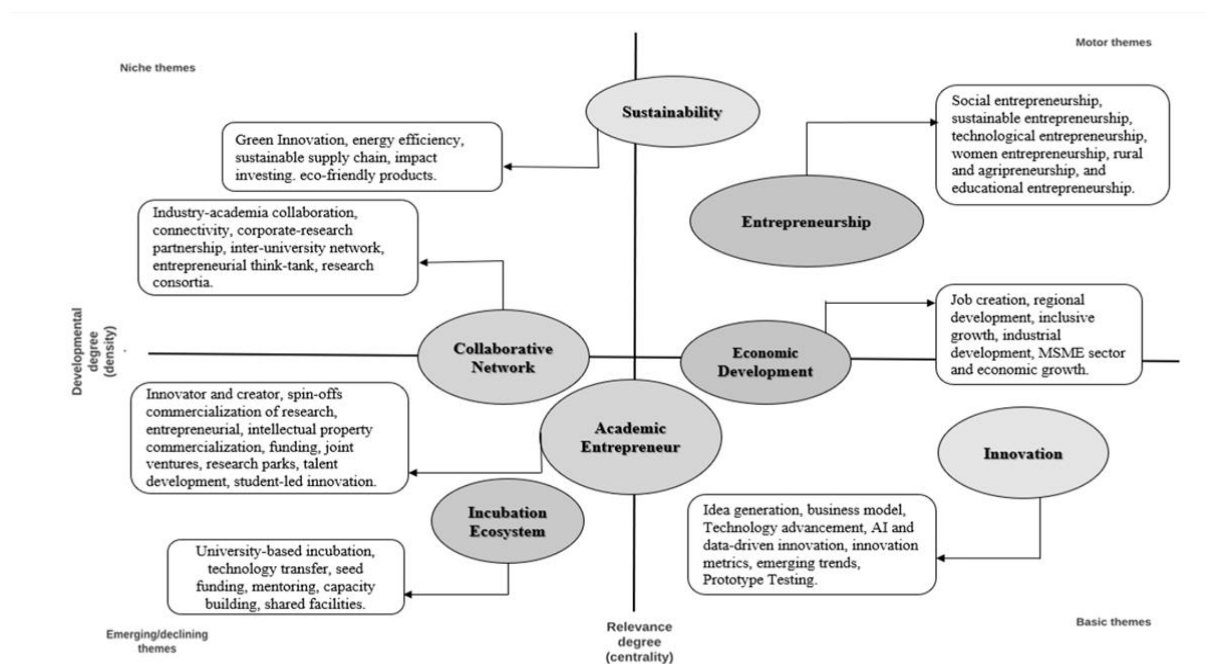


Fig 4. Thematic map

5. Discussion

This review emphasizes the essential function of entrepreneurial education in promoting academic startups and innovation. A meticulously designed curriculum, mentorship initiatives,

Entrepreneurial Education and Its Influence on Academic Startups and Innovation

and partnerships between academia and industry substantially improve students' capacity to initiate successful enterprises. Nonetheless, obstacles such as financial constraints, regulatory limitations, and organizational impediments endure. Enhancing financial assistance, optimizing technology transfer procedures, and promoting interdisciplinary collaborations are crucial for advancing entrepreneurial results (Kobylinska and Lavios, 2020). Furthermore, institutions must incorporate experiential learning, incubators, and accelerator programs to connect academia with industry. Confronting these problems will allow universities to foster a resilient entrepreneurial ecosystem, promoting sustainable innovation and economic development. (Guindalini, Verreyne and Kastle, 2021).

6. Policy Implications and Future Research Agenda

Policymakers should prioritize funding mechanisms, regulatory reforms, and incentive systems to boost academic entrepreneurship (Garcez, Franco and Silva, 2023b). Universities ought to incorporate entrepreneurship teaching throughout many fields, foster industry collaborations, and implement more explicit intellectual property regulations. Future research should examine the enduring effects of entrepreneurial education on startup sustainability (Cooke, 2003), the efficacy of digital learning tools, and cross-cultural analyses of academic entrepreneurship frameworks. Furthermore, exploring gender disparities, social entrepreneurship, and the influence of emerging technologies in education will yield profound insights (Civera and Meoli, 2023). Enhancing worldwide partnerships and governmental legislation can augment academic entrepreneurship and its impact on economic development (Buenstorf and Heinisch, 2020).

7. Conclusion

Entrepreneurial education is essential for transforming universities into innovation centres by promoting academic businesses and connecting research with commercialization. This review highlights the significance of organized training, mentorship, and industry collaboration in improving entrepreneurial results (Lauto, Salvador and Visintin, 2022). Nonetheless, tackling finance issues, legislative limitations, and institutional obstacles is essential for optimizing impact (Cooke, 2003). The literature contains inconsistent definitions, therefore it's crucial to be clear about which university spin-offs require a performance premium. Despite the two topics of Digital technologies and Academic Entrepreneurship have been largely investigated separately, their intersection discloses several areas of deepening by highlighting a still

Entrepreneurial Education and Its Influence on Academic Startups and Innovation

fragmented debate and so requiring holistic and integrated frameworks aimed to comprehend the relevance and implications of Digital technologies on the several forms of Academic Entrepreneurship. Through the implementation of progressive policies and the enhancement of research on academic entrepreneurship, institutions can establish sustainable startup ecosystems (Garcez, Franco and Silva, 2023a). Future initiatives must concentrate on enhancing curricula (Civera, Meoli and Vismara, 2020), fortifying university-industry connections, and incorporating emerging technology to equip the forthcoming generation of academic entrepreneurs for a dynamic global economy (Kobylinska and Lavios, 2020).

References

- Bozeman, B., Fay, D. and Slade, C.P. (2013) 'Research collaboration in universities and academic entrepreneurship: the-state-of-the-art', *JOURNAL OF TECHNOLOGY TRANSFER*, 38(1), pp. 1–67. Available at: <https://doi.org/10.1007/s10961-012-9281-8> WE - Social Science Citation Index (SSCI).
- Buenstorf, G. and Heinisch, D.P. (2020) 'Science and industry evolution: evidence from the first 50 years of the German laser industry', *SMALL BUSINESS ECONOMICS*, 54(2), pp. 523–538. Available at: <https://doi.org/10.1007/s11187-018-0032-6> WE - Social Science Citation Index (SSCI).
- Burrage, A., Dasgupta, N. and Ganguli, I. (2025) 'Gender diversity in academic entrepreneurship: Social impact motives and the NSF I-corps program', *Research Policy*, 54(3). Available at: <https://doi.org/10.1016/j.respol.2024.105169>.
- Civera, A. and Meoli, M. (2023) 'Empowering female entrepreneurs through university affiliation: evidence from Italian academic spinoffs', *SMALL BUSINESS ECONOMICS*, 61(3), pp. 1337–1355. Available at: <https://doi.org/10.1007/s11187-022-00729-z>.
- Civera, A., Meoli, M. and Vismara, S. (2020) 'Engagement of academics in university technology transfer: Opportunity and necessity academic entrepreneurship', *EUROPEAN ECONOMIC REVIEW*, 123. Available at: <https://doi.org/10.1016/j.eurocorev.2020.103376> WE - Social Science Citation Index (SSCI).
- Cooke, P. (2003) 'Economic globalisation and its future challenges for regional development', *INTERNATIONAL JOURNAL OF TECHNOLOGY MANAGEMENT*, 26(2–4), pp. 401–420. Available at: <https://doi.org/10.1504/IJTM.2003.003389> WE - Science Citation Index Expanded (SCI-EXPANDED) WE - Social Science Citation Index (SSCI).
- Corbo, L., Mahassel, S. and Ferraris, A. (2020) 'Translational mechanisms in business model

Entrepreneurial Education and Its Influence on Academic Startups and Innovation

design: introducing the continuous validation framework', *MANAGEMENT DECISION*, 58(9), pp. 2011–2026. Available at: <https://doi.org/10.1108/MD-10-2019-1488>.

Czarnitzki, D., Rammer, C. and Toole, A.A. (2014) 'University spin-offs and the "performance premium"', *SMALL BUSINESS ECONOMICS*, 43(2), pp. 309–326. Available at: <https://doi.org/10.1007/s11187-013-9538-0> WE - Social Science Citation Index (SSCI).

Ebersberger, B. and Pirhofer, C. (2011) 'Gender, management education and the willingness for academic entrepreneurship', *APPLIED ECONOMICS LETTERS*, 18(9), pp. 841–844. Available at: <https://doi.org/10.1080/13504851.2010.503931> WE - Social Science Citation Index (SSCI).

Garcez, A., Franco, M. and Silva, R. (2023a) 'The influence of the pillars of digital academic entrepreneurship on university students' entrepreneurial intention', *EUROPEAN JOURNAL OF INNOVATION MANAGEMENT* [Preprint]. Available at: <https://doi.org/10.1108/EJIM-01-2023-0051>.

Garcez, A., Franco, M. and Silva, R. (2023b) 'The soft skills bases in digital academic entrepreneurship in relation to digital transformation', *Innovation and Management Review*, 20(4), pp. 393–408. Available at: <https://doi.org/10.1108/INMR-07-2021-0135>.

Giones, F., Kleine, K. and Tegtmeier, S. (2022) 'Students as scientists' co-pilots at the onset of technology transfer: a two-way learning process', *JOURNAL OF TECHNOLOGY TRANSFER*, 47(5), pp. 1373–1394. Available at: <https://doi.org/10.1007/s10961-021-09880-3>.

Guindalini, C., Verreyne, M.L. and Kastle, T. (2021) 'Taking scientific inventions to market: Mapping the academic entrepreneurship ecosystem', *TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE*, 173. Available at: <https://doi.org/10.1016/j.techfore.2021.121144>.

Halilem, N. *et al.* (2017) "'To Own, or not to Own?' A multilevel analysis of intellectual property right policies' on academic entrepreneurship', *RESEARCH POLICY*, 46(8), pp. 1479–1489. Available at: <https://doi.org/10.1016/j.respol.2017.07.002> WE - Social Science Citation Index (SSCI).

Holley, A.C. and Watson, J. (2017) 'Academic Entrepreneurial Behavior: Birds of more than one feather', *TECHNOVATION*, 64–65, pp. 50–57. Available at: <https://doi.org/10.1016/j.technovation.2017.07.001> WE - Science Citation Index Expanded (SCI-EXPANDED) WE - Social Science Citation Index (SSCI).

Entrepreneurial Education and Its Influence on Academic Startups and Innovation

Hossinger, S. *et al.* (2023) 'Venture creation patterns in academic entrepreneurship: the role of founder motivations', *JOURNAL OF TECHNOLOGY TRANSFER*, 48(1), pp. 68–125. Available at: <https://doi.org/10.1007/s10961-021-09904-y>.

Huyghe, A. and Knockaert, M. (2015) 'The influence of organizational culture and climate on entrepreneurial intentions among research scientists', *JOURNAL OF TECHNOLOGY TRANSFER*, 40(1), pp. 138–160. Available at: <https://doi.org/10.1007/s10961-014-9333-3> WE - Social Science Citation Index (SSCI).

Jain, S., George, G. and Maltarich, M. (2009) 'Academics or entrepreneurs? Investigating role identity modification of university scientists involved in commercialization activity', *RESEARCH POLICY*, 38(6), pp. 922–935. Available at: <https://doi.org/10.1016/j.respol.2009.02.007> WE - Social Science Citation Index (SSCI).

Johnson, M., Monsen, E.W. and MacKenzie, N.G. (2017) 'Follow the Leader or the Pack? Regulatory Focus and Academic Entrepreneurial Intentions', *JOURNAL OF PRODUCT INNOVATION MANAGEMENT*, 34(2), pp. 181–200. Available at: <https://doi.org/10.1111/jpim.12355> WE - Science Citation Index Expanded (SCI-EXPANDED) WE - Social Science Citation Index (SSCI).

Kalar, B. and Antoncic, B. (2015) 'The entrepreneurial university, academic activities and technology and knowledge transfer in four European countries', *TECHNOVATION*, 36–37, pp. 1–11. Available at: <https://doi.org/10.1016/j.technovation.2014.11.002> WE - Science Citation Index Expanded (SCI-EXPANDED) WE - Social Science Citation Index (SSCI).

Knockaert, M. *et al.* (2015) 'Growth intentions among research scientists: A cognitive style perspective', *TECHNOVATION*, 38, pp. 64–74. Available at: <https://doi.org/10.1016/j.technovation.2014.12.001> WE - Science Citation Index Expanded (SCI-EXPANDED) WE - Social Science Citation Index (SSCI).

Kobylinska, U. and Lavios, J.J. (2020) 'Development of research on the university entrepreneurship ecosystem: trends and areas of interest of researchers based on a systematic review of literature', *OECONOMIA COPERNICANA*, 11(1), pp. 117–133. Available at: <https://doi.org/10.24136/oc.2020.005> WE - Social Science Citation Index (SSCI).

Lauto, G., Salvador, E. and Visintin, F. (2022) 'For what they are, not for what they bring: The signaling value of gender for financial resource acquisition in academic spin-offs', *RESEARCH POLICY*, 51(7). Available at: <https://doi.org/10.1016/j.respol.2022.104554>.

Meng, D.H., Li, X.J. and Rong, K. (2019) 'Industry-to-university knowledge transfer in

Entrepreneurial Education and Its Influence on Academic Startups and Innovation

ecosystem-based academic entrepreneurship: Case study of automotive dynamics & control group in Tsinghua University', *TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE*, 141, pp. 249–262. Available at: <https://doi.org/10.1016/j.techfore.2018.10.005> WE - Social Science Citation Index (SSCI).

Moher, D. *et al.* (2009) 'Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement', *BMJ (Online)*, 339(7716), pp. 332–336. Available at: <https://doi.org/10.1136/bmj.b2535>.

Nielsen, K. (2015) 'Human capital and new venture performance: the industry choice and performance of academic entrepreneurs', *JOURNAL OF TECHNOLOGY TRANSFER*, 40(3), pp. 453–474. Available at: <https://doi.org/10.1007/s10961-014-9345-z> WE - Social Science Citation Index (SSCI).

Pacheco, A. and Franco, M. (2024) 'The Role of Higher Education Institutions (HEI) in Academic Spin-off Creation: A Cooperation Perspective', *JOURNAL OF THE KNOWLEDGE ECONOMY*, 15(2), pp. 7523–7541. Available at: <https://doi.org/10.1007/s13132-023-01390-x>.

Pitsakis, K., Souitaris, V. and Nicolaou, N. (2015) 'The Peripheral Halo Effect: Do Academic Spinoffs Influence Universities' Research Income?', *JOURNAL OF MANAGEMENT STUDIES*, 52(3), pp. 321–353. Available at: <https://doi.org/10.1111/joms.12119> WE - Social Science Citation Index (SSCI).

Secundo, G., Rippa, P. and Cerchione, R. (2020) 'Digital Academic Entrepreneurship: A structured literature review and avenue for a research agenda', *TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE*, 157. Available at: <https://doi.org/10.1016/j.techfore.2020.120118> WE - Social Science Citation Index (SSCI).

Toole, A.A. and Czarnitzki, D. (2009) 'Exploring the Relationship Between Scientist Human Capital and Firm Performance: The Case of Biomedical Academic Entrepreneurs in the SBIR Program', *MANAGEMENT SCIENCE*, 55(1), pp. 101–114. Available at: <https://doi.org/10.1287/mnsc.1080.0913> WE - Science Citation Index Expanded (SCI-EXPANDED) WE - Social Science Citation Index (SSCI).

Yusof, M. and Jain, K.K. (2010) 'Categories of university-level entrepreneurship: a literature survey', *INTERNATIONAL ENTREPRENEURSHIP AND MANAGEMENT JOURNAL*, 6(1), pp. 81–96. Available at: <https://doi.org/10.1007/s11365-007-0072-x> WE - Social Science Citation Index (SSCI).

Entrepreneurial Education and Its Influence on Academic Startups and Innovation

Zou, B. *et al.* (2019) 'Who am I? The influence of social identification on academic entrepreneurs' role conflict', *INTERNATIONAL ENTREPRENEURSHIP AND MANAGEMENT JOURNAL*, 15(2), pp. 363–384. Available at:
<https://doi.org/10.1007/s11365-017-0492-1> WE - Social Science Citation Index (SSCI).