

What Lies in ‘Business Incubation and SMEs’ Research? A Literature Review and Roadmap for Future Research

IMIB Journal of Innovation and
Management
3(1) 58–74, 2025
© The Author(s) 2024
DOI: 10.1177/jim.241245806
jim.imibh.edu.in



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Abstract

The concept of ‘Business Incubation and SMEs’ has recently received a lot of interest in academic research and real-world business settings. Business incubator is a critical instrument for promoting entrepreneurial ecosystems and the growth of small and medium-sized enterprises (SMEs). Business incubation is a process that nurtures and promotes the growth of start-ups and early-stage companies. The aim of this article was to examine the existing literature on business incubators and SMEs in order to identify and highlight major as well as relevant themes and trends that can influence future research. The Scopus database was used to extract the data file. To develop network structures biblioshiny package of RStudio and VOSviewer was used. The results from the literature survey show some key observations highlight business incubators’ changing nature, challenges, and impact on economic and entrepreneurship development. In addition, SMEs can be better served if incubation programmes are tailored to specific industries or technologies, for this, governments should encourage the establishment of specialised incubation centres.

Keywords

Business incubation, SMEs, innovation, start-ups, entrepreneurship

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Introduction

In recent years, business incubators have become the fundamental blocks to inject innovation and technology development into the country's economy. These are the indispensable components of economic development and tools for a nation's innovation policy (Caiazza, 2014). The business incubator has evolved over time into a mechanism for supporting a diverse industrial base and supports the local dimension of entrepreneurship through small and medium-sized enterprises (Lesakova, 2012). In general, business incubators help train small enterprises with their expertise, resources, and network connections, strengthening them to compete in the modern business ecosystem (Akpoviro et al., 2021). In order to survive SMEs in today's global market, business incubation (BI) programmes were introduced that provide assistance, guidance and nurturing to SMEs for survival (Adegbite, 2001). It tries to reduce the chances of failure in small enterprises and provide support so that they can become independent ventures. The main goal of the business incubators is to promote innovation and technology transfer with the help of small and medium-sized ventures. SMEs are not only regarded as an innovation tool for country's industrial base development and vehicles to drive entrepreneurship (Mohammed Shameem, 2023), but also as a mechanism which contribute to reduce poverty and unemployment of the nation. Particularly in emerging economies nations, small and medium-sized businesses are regarded as engines of the economy because SMEs create a greater number of jobs and contribute to the gross domestic product (GDP) as well as the socio-economic development of a nation (Munkongsujarit, 2016).

Business incubators now serve as vital homes for entrepreneurs and start-ups because they help them prepare business proposals, facilitate networks and connections with other businesses, and provide direct or indirect funding, legal advice and other resources (Dhiman & Arora, 2024a). These are the effective tools, which look after SMEs and overall entrepreneurship, which subsequently foster technology innovation within the entrepreneurial ecosystem. SMEs play an essential role in boosting national economic growth and employment creation. In order to improve national economy, all nation's government, academician, practitioners and policy makers are highly interested in effective implementation of business incubation industry that fosters SMEs (Bismala et al., 2020), which would subsequently result in regional, national development and improves the wellbeing of all citizens. Business incubators play a crucial role in creating novel solutions to economic, technological (Wonglimpiyarat, 2016), and social issues of the 21st century worldwide. Therefore, their demand has increased drastically in recent years, and there are massive investments done by the government and industry for its growth and development, especially in emerging nations such as India, China, Brazil, Russia and many more.

According to the NASSCOM (2020) report (as shown in Figure 1), China is the world's leading country that has the highest number of active incubation and accelerators programme (3000+) in the world followed by the USA (1500+) and India has the third rank in the active programme for incubators and accelerators, that is, 520+. Out of these top three countries, two are emerging economies that is



Figure 1. Holders of Highest Incubation Centers From Emerging Economies.

Source: NASSCOM Database, Zinnov CoNXT Research & Analysis.

China and India. With special reference to India, the total number of programmes includes 200+ incubators and accelerators supported by the Ministry of Micro, Small and Medium Enterprises (MSME) for the development and growth of SMEs. Earlier, business incubators were formed to provide basic services and assistance to new venture to generate business ideas and work on its implementation. But nowadays landscape of business incubation is changing rapidly due to high demand of technological, sustainable and innovative start-ups and SME sector is responsible for creating such ventures.

Objective of the Study

The objective of the study was to review the literature on ‘Business Incubation and SMEs’ research to understand future research directions and identify the emerging trends and major themes of the said research area.

Therefore, this article has conducted a literature survey using Scopus database papers to provide understanding regarding ‘Business Incubation and SMEs’ to identify major themes, trends, and directions for future research. The next section provides the details of the data collection strategy, followed by results and discussion, which were based on extracted data from Scopus. The last section summarises the conclusion of the study.

Data Collection Strategy

In order to analyse and find the literature on BI and SMEs a Scopus search was performed. The search process uses the term ‘business incubation’ AND ‘SME’ OR ‘small and medium enterprises’ OR ‘small and micro enterprises’ as of 17 May 2023 within the Scopus database. In the refinement process, before filtration, the results developed in the database a total of 30 documents only. During

refinement of the result, five papers were found inappropriate and excluded. A final set of 25 papers have been reviewed in order to understand the literature and its contributions in terms of ‘business incubation’ AND ‘SME’ OR ‘small and medium enterprises’. Further, network analysis software, that is, Bibliometrix package of RStudio software and VOSviewer, has been applied to identify the thematic links and emerging trends for future research.

The search string used is as follows: TITLE-ABS-KEY (*‘business incubation’ AND ‘SME’ OR ‘small and medium enterprises’ OR ‘small and micro enterprises’*)

Results and Discussion

The papers mentioned in Table 1 were studies from 1992 to 2022, showing a progression in research focus from understanding the dynamics of BI in the context of SMEs, evaluating their effectiveness, addressing challenges, exploring regional variations, and examining the intersections with various industries and policies. 1992–1998 reflects a foundational understanding of a growing interest in incubation models and their effectiveness in supporting SME development. Paper from 2004 to 2005 shows the focus on support mechanisms provided by incubators to enhance the competitiveness of SMEs. The year 2009 describes the integration with the national innovation system. From 2012 to 2014, the authors talked about the importance of financial support and entrepreneurial activities for SMEs in their early stages. From 2015 to 2017, the authors’ paper discussed about sustainability and challenges. The next years (2018–2020) addressed the regional and industry-specific focus. Recent papers (2021–2022) focused on diversification and adaptation of incubation frameworks to diverse economic landscapes.

Literature Survey of Table 1 Papers

The success of a business incubator depends upon the degree of fit between the offering of incubator services and the needs of the tenants and the local market (Autio & Klofsten, 1998). There is a great value of having a good ‘fit’ between the needs of tenants and the services of a business incubator that an incubator can offer. But the BI’s role has changed from a traditional incubator of a service and facility providers into a consultant organisation that provides resources, knowledge, and policy coordination for both companies and national innovation systems. It now offers services to help tenant firms on their way to becoming successful business ventures that can efficiently and independently manage their business activities and bring social change and technological development (Tsai et al., 2009). Despite the benefits of BI programmes and the rising interest in them, the path towards entrepreneurship is full of obstacles and challenges. Lose and Tenge (2015) focused on challenges faced by business incubators in assisting their incubatee start-ups. The findings showed that the challenges faced by incubators were lack of sponsorship, growth into other locations, cutting-edge technology, manufacturing space, development into new markets, and goal of

Table 1. Literature Extracted From Scopus Database on Topic 'Business Incubation and SMEs'

Rank	Document Title	Authors	Cited By	Source	Year
1	'Small and Medium Enterprises: Technology Policies and Options'	A. S. Bhalla	3	<i>Small and Medium Enterprises: Technology Policies and Options</i>	1992
2	'A Comparative Study of Two European Business Incubators'	E. Autio, M. Klofsten	142	<i>Journal of Small Business Management</i>	1998
3	'Support to Small and Medium Enterprises: Business Incubators in Slovakia'	O. Kašjaková	0	<i>Journal of Business Economics and Management</i>	2004
4	'Promoting Business Incubation for Improved Competitiveness of Small and Medium Industries in Korea'	H. Kim, Y.-J. Lee, M. D. Ames	7	<i>International Journal of Technology Management</i>	2005
5	'The Co-evolution of Business Incubation and National Innovation Systems in Taiwan'	F.-S. Tsai, L. H. Y. Hsieh, S.-C. Fang, J. L. Lin	73	<i>Technological Forecasting and Social Change</i>	2009
6	'Business Incubation and Its Connection to Venture Capital'	D. Klonowski, D. J. Cumming	2	<i>Venture Capital: Investment Strategies, Structures, and Policies</i>	2012
7	'Business Incubator as a Tool of Support of Small and Medium Size Enterprises'	P. T. Prochazkova	10	<i>E a M: Ekonomie a Management</i>	2012
8	'Entrepreneurship and Incubation Activities in Praxis: Benchmarking Observations'	P. T. Prochazkova	3	<i>Vision 2020: Sustainable Growth, Economic Development, and Global Competitiveness: Proceedings of the 23rd International Business Information Management Association Conference, IBIMA 2014</i>	2014
9	'The Sustainability and Challenges of Business Incubators in the Western Cape Province, South Africa'	T. Lose, R. K. Tengeh	33	<i>Sustainability (Switzerland)</i>	2015
10	'Synthesising TBI-Relevance In India Through Six Sigma Approach'	S. S. Singh, B. J. Singh, D. Khanduja	3	<i>International Journal of Entrepreneurship and Innovation Management</i>	2015
11	'An Evaluation of the Effectiveness of Business Incubation Programs: A User Satisfaction Approach'	T. Lose, R. K. Tengeh	5	<i>Investment Management and Financial Innovations</i>	2016
12	'Business Incubators and Challenges: Evidences From Pakistan'	N. Mahmood, F. Jamil, H. Munir, N. Yasir, C. Jianfeng	1	<i>Advanced Science Letters</i>	2017

(Table 1 continued)

(Table 1 continued)

Rank	Document Title	Authors	Cited By	Source	Year
13	'Business Incubation Model for Startup Company and SME in Developing Economy: A Case of Thailand'	S. Munkongsujarit	8	PICMET 2016: Portland International Conference on Management of Engineering and Technology: Technology Management for Social Innovation, Proceedings	2017
14	'An Empirical Analysis of the Effect of Business Incubation Process on Firm Performance in Nigeria'	A. S. Iyortsuun	18	Journal of Small Business and Entrepreneurship	2017
15	'Mapping Knowledge Management for Technology Incubation'	J.-S. Suroso, A. S. Girsang, F. L. Gaol	2	Advances in Intelligent Systems and Computing	2018
16	'Issues and Challenges of Technology Business Incubators in The Philippines'	F. D. Esponilla, J. P. Alinsunod, H. T. Ignacio ... K. C. Dela Cruz, I. C. Valenzuela	1	International Journal of Emerging Trends in Engineering Research	2019
17	'Internationalisation of Small and Medium Enterprises in Indian Business Incubators'	L. Gomathi, N. Gopinathan	3	International Journal of Recent Technology and Engineering	2019
18	'Enhancing Small and Medium Enterprises Performance Through Innovation in Indonesia: A Framework for Creative Industries Supporting Tourism'	R. Prima Lita, R. Fitriana Faisal, M. Meuthia	18	Journal of Hospitality and Tourism Technology	2020
20	'Applying the Ecosystem Model in a New Context? The Case of Business Incubation in Oman'	N. Al-Baimani, N. Clifton, E. Jones, R. Pugh	8	Growth and Change	2021
21	'Dark Side of the Family Business: An Exploratory Perspective'	O. J. Montiel Mendez, A. Soto Maciel	3	Journal of Family Business Management	2021
22	'Business Incubation: Understanding the Process'	P. Manniledam, T. Radha Ramanan	0	Entrepreneurship and Skill Development in Horticultural Processing	2021
23	'Business Incubators in Russia: 2020 Survey in International Comparative Perspective'	M. A. Slesarev	0	Vestnik MGIMO-Universiteta	2022
24	'Urbanisation and SME Growth in a Developing Economy: Implications for Policy'	M. Boman, E. Derera, M. Mashingaizhe	3	Corporate Governance and Organizational Behavior Review	2022
25	'Performance of Spice-based Enterprises Facilitated Through AgriBusiness Incubators (ABI)'	T. Ashwini, S. Lokesh, B. P. Bonny	0	Journal of Tropical Agriculture	2022

self-sufficiency, which were identified as major issues. Another research on SMEs was conducted by Prima Lita et al. (2020) in which they investigated how organisational culture and entrepreneurial attitude influence the success of SMEs in Indonesia's cutting-edge tourist sector. According to the study's findings, corporate culture and an entrepreneurial mindset have a significant impact on innovation, which in turn influences how well SMEs succeed. Authors argued that to enhance the future success of SMEs, businesses and the government should collaborate with business incubators, and counselling institutes to increase technology transfer and innovation.

As per Iyortsuun (2017), SMEs are recognised as economic development tools, and governments all over the world construct organisations to help them expand and flourish. Business incubators serve as critical building blocks for entrepreneurship promotion and SME development. To solve the issues faced by SMEs, Prochazkova (2012) analyses the concept of business incubators, which provide early-stage firms with a wide range of resources and services from their inception. The study focused on the use of business incubators to boost SMEs, which are an important part of the global economy but confront numerous challenges. The purpose of the research is to assess the efficiency of business incubators as a tool for aiding SMEs. Al-Baimani et al. (2021) investigated the extension of Oman's entrepreneurial ecosystem, focusing on BI activities as a policy instrument for developing local, regional, and national institutions for supporting entrepreneurship and SME expansion. The authors mentioned that in the modern business world, an increasing number of new start-up businesses are emerging and entering to the market, that are making the business landscapes more complex. In developing nations, the start-up firms, which begin as SMEs, are viewed as the engine for economic growth and development. However, new start-up ventures struggle to flourish in the extremely competitive industry without a strong business plan and support. One of the systems that emerged to support these new businesses is the business incubator that is why its relevance is highly increased in today's world (Munkongsujarit, 2016). Kim et al. (2005) surveyed the business incubator's operation and found that they were providing office space, management skills, legal, technical, and funding assistance to their tenants. The findings suggested that the Korean economy is growing fast by creating new ventures, and the government made a significant contribution to fostering entrepreneurship and promoting new ventures and SMEs with the help of business incubators.

Lose and Tengeh (2016) illustrated that getting funding assistance was the major obstacle faced by entrepreneurs. The findings of the study reported a large section of entrepreneurs have achieved their objectives by participating in an incubation programme. Also, young founders participate more in the incubation programmes, and there is a high chance of failure in the first three years of business initiation. So, incubators assist ventures mostly for the initial years and help in increasing the chance of survival. Bomani et al. (2022) investigated the challenges faced by SMEs and government assistance provided to urban SMEs in Zimbabwe. The findings showed that urban SMEs confront a number of challenges, including difficulty in accessing finance, whereas lack of technical

and managerial skills and strict governmental rules pose further challenges. Although the government introduced some policies in favour to assist SMEs, these policies and programmes were insufficient. The government should allocate more funds to the sector's support, including encouraging SMEs for clusterisation of and building more business incubators to speed up the transfer of technology and skills. To achieve sustainable growth, the government ought to find a balance between regulatory requirements and the expansion of the SME sector. Montiel Mendez and Soto Maciel (2021) investigated and established a link between potential elements known as the 'dark side' of family businesses (DSFB), which can be both productive and destructive. This unique and novel perspective on the 'dark side' contributes to the fields of entrepreneurship and family business (FB) research. Using the 'dark side' approach, the research methodology included a thorough evaluation and analysis of pertinent literature on entrepreneurship and FB. The study's findings indicate that there are various areas within this topic that merit additional investigation. One critical issue is the need for a more exact definition of the DSFB construct itself, as well as a deeper understanding of the motivations or forces that drive this dark side. These impacts may come from the entrepreneur/founder, the FB entity, or the larger milieu in which they operate. A systemic approach is essential, considering the context's major and decisive influence.

Gomathi and Gopinathan (2019) investigated internationalisation of SMEs in Indian business incubators. The authors explored how BI might aid in the globalisation of SMEs. By supporting their growth and development in international trade, business incubators primarily aim to increase the survival rate of start-up businesses, ultimately nurturing their success in promoting the expansion of entrepreneurship. International business operations are indispensable to protect companies from resource shortages in light of the growing globalisation of the business environment. The economy of developing nations like India have been rattled by the potential and challenges of economic liberalisation and the global market. The significant political and economic developments present difficult problems for the public sector, private industry, and international emerging nations. However, many new businesses fail in both industrialised and developing nations, and of the few that do survive and expand, there are various issues and challenges they face. In order to make traditional methods more effective in terms of cost for small businesses and related international assistance programmes in the current competitive market presents a problem and is a difficult objective to achieve. Technical business incubation (TBI) is one of the most cutting-edge tools supporting the development of small businesses globally (Singh et al., 2015).

Prochazkova (2014) stated that BI models assist in nurturing the young start-ups and contribute to the entrepreneurial activities. In recent times, start-up founders or entrepreneurs are viewed as a key source of future economic development and growth, and these aspirants need business development support and services to flourish. The sector of small and middle-sized businesses (SMEs) has emerged as the most active agents in the country's economy and has proven to be essential to both national and international competitiveness. As a result, the

SMEs' entrepreneurial activity became the centre of attraction of incubation. Bhalla (1992) offered a thorough review of the possibilities available to SMEs in developed and developing nations, as well as urban and rural settings. The policies and programmes that affect small and medium-sized firms, the innovation potential of these companies, and the institutions and infrastructure that are most supportive towards their development in emerging and developed economies are the major themes explored by the author. The approach of knowledge management assists the organisations to reuse the knowledge for the success and growth of the organisation. Technology and Business incubator is one of the different business growth methods that might assist to start and expand businesses by entrepreneurs. In the article of Suroso et al. (2018), knowledge management for business and technology incubators has been mapped out using Tegal regency in Central Java, Indonesia, as a case study. The findings indicated that knowledge management for business and technology incubators can assist entrepreneurs in outpacing their competitors in their respective fields and gain competitive advantage in market. The business incubators have established their existence as a mechanism for fostering the growth of innovative SME-based companies. Business incubators provide abundance of knowledge resources to founders of start-up companies. They offer a wide range of services designed to lower a company's failure rate and raise its chances of long-term viability. Klonowski and Cumming (2010) found that the relationship between venture capitalists and business incubators has shifted in recent years. When the Internet bubble burst, venture investors appeared to lose interest in start-ups and did not like to participate in BI activities. As a result, there came a gap in the market where entrepreneurial ventures from the SME sector find it increasingly difficult to find financial partners. In this situation, business incubators have played a significant role, to support the SME sector in the absence of appropriate access to capital.

TBIs are currently the popular trend for enabling SMEs or start-up firms. Esponilla et al. (2019) have investigated the challenges and issue faced by TBI in nurturing and fostering the SMEs. The study found that insufficient finances, lack of policy framework, problems with operational activities, lack of cooperation and awareness among team members, slow procurement of equipment's in the laboratory, and lack of skills professional were common issues in all the business incubators. Despite the increased interest in BI programmes because of numerous support and facilities they offer to their clients, business incubators face a number obstacles and challenges, which were the focus of (Mahmood et al., 2017) article. Some of the major challenges of business incubators have been identified as the lack of modern and appropriate ICT facilities, the lack of sponsorship programmes for entrepreneurs, the lack of production space for facilitating BI programmes, and the failure of business incubators to expand to new locations due to financial constraints. According to Slesarev (2022), entrepreneurial and small innovative firms face considerable financial and managerial challenges in the early phases of their development. Therefore, it is important to give them enough support from the beginning that is why incubators were developed as a major component of local entrepreneurial ecosystems and as a potential driver of SME support infrastructure in Russia throughout the 2010s. The results indicated that a number

of positive changes have been done for beneficial improvements to business incubators in Russia, including a rise in annual funding, increased square fit area, average yearly resident count, staff size, etc. The overall number of business incubators also dramatically decreased at the same time, indicating that all of the aforementioned positive improvements were not reflect the expended market size of BI or the most efficient structures being scaled up; rather, they were the result of effective optimisation. There is another type of incubators, that is, agri-business incubators (ABI) have been established by many agricultural institutes to foster agricultural venture creation. The performance of spice businesses marketed through ABI was examined in the article. The findings indicated that most ventures were in their infancy and need financial and technical support to grow. Regardless of the size of the business, the data imply that the entrepreneurs who successfully completed the BI programme witnessed greater success. Authors have suggested policy recommended that ABIs should be promoted as technology enablers for agricultural entrepreneurship growth (Ashwini et al., 2022).

Manniledam and Radha (2021) stated that SMEs are the backbone of an entrepreneurial ecosystem and play a pivotal role in a country's economic growth. SMEs are established to support the start-up industry of a nation. Globalisation and industrialisation has stated a new era of systematic innovation and entrepreneurship that ensures the sustainability of SMEs. The concept of business incubators emerged in the late 1950s, to support small-scale start-up units that overcome their challenges for scarce resources. These start-ups are nurtured by business incubators so that they can develop technology-based products. It was found that in the majority of start-up business models, physical infrastructure is required for office space and the process of developing and producing products. In conclusion, it is admitted that BI is a mechanism that has been used to support SMEs for the last two decades. Both developed and developing nations are more progressive to foster SMEs as they are the tools to promote social and economic growth. Business incubators provide a variety of support programmes such as technical aid, financing assistance, an easy regulatory system, training programmes, and innovation support that helps them to grow and survive (Kašjaková, 2004).

Major Themes, Patterns & Findings from Literature Survey

A comprehensive review of the literature on business incubators and their role in supporting SMEs also shows several major themes, patterns and findings. Here are some key highlights from the literature survey:

1. **Business incubators transformation:** Business incubators have evolved substantially over time to accommodate transforming economic settings, technical innovations, and the changing needs of entrepreneurs and start-ups. They have evolved from basic workspace providers to full-service start-up support platforms. By providing a full set of shared resources, knowledge transfer, networking, training and mentoring to assist their tenants to become an independent succeeding business.

2. Significance of fit: The success and effectiveness of a business incubator is well related to its capacity to customise its support and resources to fit the unique needs of the tenants they host as well as the dynamics of the local market.
3. Face challenges: It is well acknowledged that business incubators provide every possible support to make a start-up independent but with this support provider, they face various issues, such as lack of modern technology facilities, difficulty growing to new regions and financial constraints. These difficulties may limit their ability to foster businesses.
4. Facilitates economic development: For economic development, business incubator plays a significant role by fostering SMEs and start-ups because they ultimately contributes to economic development, particularly in emerging or failing economies. SMEs are responsible for innovation, GDP, creating employment, and reduce poverty.
5. Policy and government assistance: Government action and assistance are frequently required for the success of BI programmes. Only government incentives and money may in many situations persuade private organisations to participate in incubation efforts.
6. Internationalisation: From the existing literature business incubators are increasingly being viewed as enablers of SMEs' internationalisation. They provide assistance and coaching to start-ups as they expand into global markets, thereby contributing to economic growth and employment creation.
7. Knowledge transfer: Knowledge transfer and management is critical to the efficacy and profitability of business incubators as these organisations expand and provide full support to entrepreneurs. Effective knowledge exchange and dissemination can provide a competitive advantage and drive innovation in start-ups.

Emerging Trends for Future Research

Word cloud is used to visualise the available literature on BI in relation to SMEs. It determines which topics or themes receive the majority of attention. The words, which are bigger in size, present that the literature is highly concentrated on those keywords, while the words in smaller size indicate future directions or opportunities of research. With the use of word cloud, the text data are transformed into tags, which are often single words whose relative value can be seen in the size.

It is evident from Figure 2 that BIs, SMEs, Entrepreneurial Skills, Small Business, and Incubation are the most frequently occurring keywords. These keywords are of high relevance and received great attention in the literature. The Business incubator denotes a major emphasis on the assistance and nurturing of nascent enterprises through incubation programmes. The emphasis on SMEs reflects a focus on the function of small and medium-sized firms in the economy. These businesses frequently generate innovation, create jobs, and make substantial contributions to economic development. The emphasis on entrepreneurial skills demonstrates the importance of providing individuals with the information and talents required for starting and managing successful businesses.

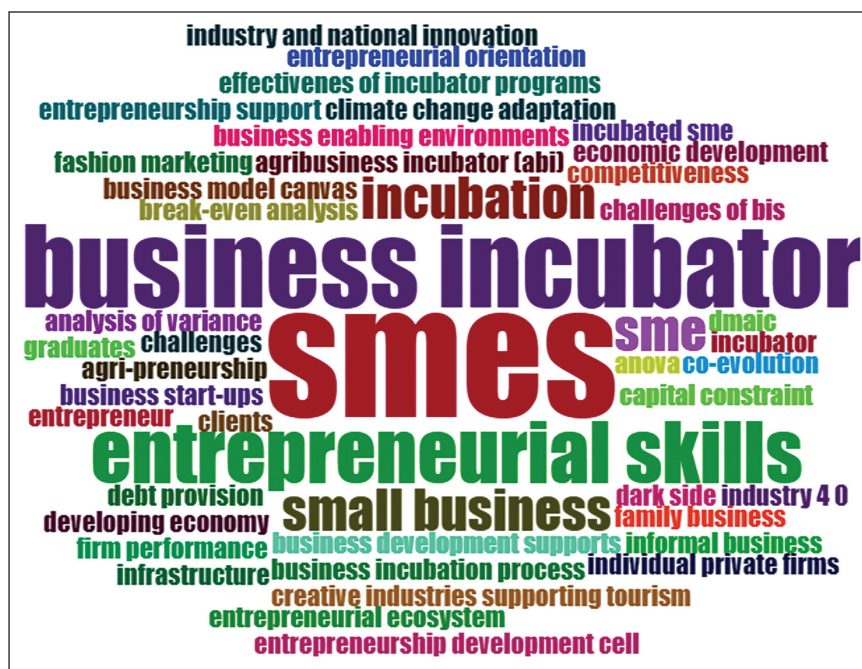


Figure 2. Word Cloud.

Source: Extracted from RStudio.

The least frequently occurring keywords are entrepreneurship development cell, sustainability, creative industries, and national innovation. The less frequent occurrence of ‘entrepreneurship development cell’ could indicate a more specific focus should be given on organisational units or projects inside educational or institutional contexts geared to creating entrepreneurial spirit and skills. Another least occurring keyword ‘sustainability’ shows that discussions may not be as focused on the long-term environmental, social, and economic sustainability elements within business firms. The keyword ‘national innovation’ low frequency suggests that discussions may not centre on national initiatives to foster innovation and technological progress. By combining most prominent words with least prominent words, a new scope for future research can be generated.

Co-occurrences Analysis

The co-occurrences of keywords are used to represent the conceptual relationships among the research constituents. This analysis helps to identify core and major themes of the research area (Dhiman & Arora, 2024b). Co-occurrence analysis also trace the current knowledge structure of the field of study chosen for research (Rani & Salanke, 2023).

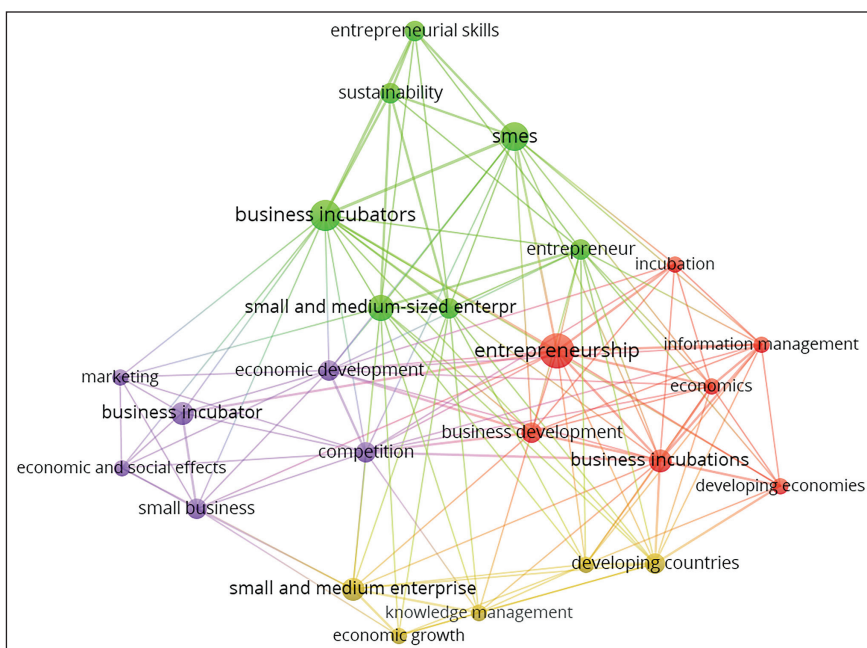


Figure 3. Co-occurrence of All Keywords.

Source: Extracted from VOSviewer.

By running the co-occurrences analysis in the VOSviewer software, four clusters are formed, as shown in Figure 3. The first big cluster is red in colour having 7 items and the biggest node was 'entrepreneurship' with occurrence of 9, followed by 'business incubations', 'business development', 'economics', 'developing economies', and 'information management'. This cluster emphasises the importance of these keywords in establishing and sustaining entrepreneurial endeavours. The terms 'business incubations' and 'business development' highlight the importance of enabling infrastructure and strategic growth activities for businesses. This clustering implies a comprehensive view of entrepreneurship, including support systems, strategic development, economic ramifications, and successful organisational information practices.

Second big cluster is green in colour having six items with the biggest node 'business incubators', 'SMEs', 'Small and medium-sized enterprise', 'sustainability' and 'entrepreneurial skill'. These keywords represent a thematic connection at the intersection of business development, environmental morality, and skill acquisition and the cluster shows these are the components of entrepreneurial ecosystem that intertwines support networks, economic contributors, environmental considerations, and individual skill development. Third cluster is purple in colour with six items, 'economic development', 'business incubator', 'small business', 'competition', and 'economic and social effect'. This cluster demonstrates an integrated approach to promoting regional growth

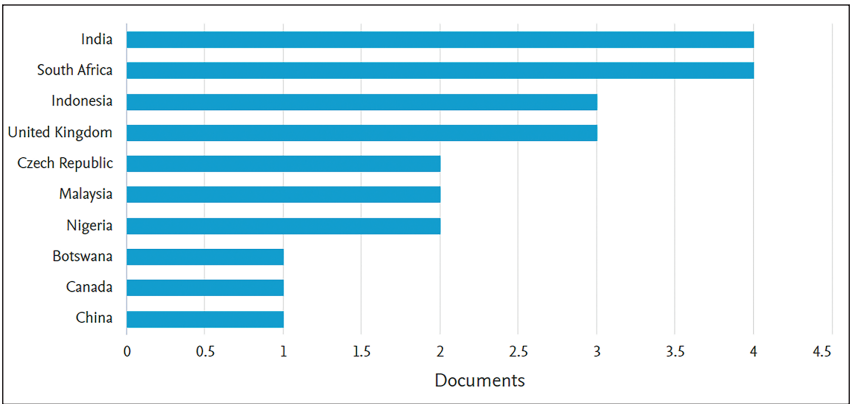


Figure 4. Most Productive Countries.

Source: Extracted from Scopus.

and sustainability and community-oriented growth with the help of incubators and small businesses. Small business support becomes critical, as they are essential drivers of job creation, economic variety, and innovation, contributing greatly to the general wellbeing of a community or area. Finally, a small yellow cluster has four items with the biggest circle of ‘small and medium enterprise’, ‘knowledge management’, ‘developing countries’, and ‘economic growth’.

Major Contributing Countries to the Topic

In Figure 4, India is found to be a highly productive country in terms of paper production according to the Scopus database. Emerging countries such as India, South Africa and Indonesia are more progressive toward the concept of BI and SMEs. Because SMEs and business incubators are the major contributing factors for economic development, knowledge transfer, internationalisation and innovation. These countries are more focused to enhance their economic development and sustainability with business incubators and SMEs and hence conducting more research on the said topic.

Conclusion, Future Research Opportunities, and Limitations

This literature survey underscores the critical role that business incubators play in nurturing entrepreneurship, promoting economic development, and supporting SMEs. Also, reveals several significant trends in the transformation of business incubators, particularly emphasising the importance of aligning incubator offerings with the needs of tenants, innovation, knowledge exchange, technology transfer and internationalisation of small businesses. Their evolution into comprehensive support systems reflects the changing landscape of entrepreneurship. However, they face challenges, including financial constraints and the need for government support.

Despite these challenges, business incubators continue to be instrumental in fostering innovation, job creation, and economic growth in both developed and developing nations.

Future research on BI in the context of SMEs holds huge potential to further understand how BI programmes can effectively support and foster the growth of SME. To accomplish this future research can focus on developing specialised or tailored BI programmes for different SMEs. The keywords, entrepreneurship development cell, national innovation, creative industries, sustainability, information and knowledge management, have the lowest occurring frequency which may indicate an unexplored territory in the current literature, opening up new avenues for future research and investigation. Furthermore, a comprehensive examination of the challenges and opportunities confronting SMEs in developing countries, with a focus on their relationships with incubators, might give significant insights for policymakers and practitioners. Along with this, a cross-country comparative study can provide nuanced perspectives on how cultural, economic, and legal variables influence the effectiveness of BI projects and SME development. To sustain SME's growth, post-incubation services must be provided to incubated SME's. Developing a fertile innovation ecosystem that complements the role of incubation centres is essential for policymakers. This involves fostering collaboration between academic institutions, research institutes, and the private sector in order to create an environment conducive to innovation and entrepreneurship.

The significant limitation of this study underling in fact that this literature survey solely relies on a single database, that is, Scopus. Therefore, this study may suffer from lack of comprehensiveness because Scopus may not include all the relevant journals or sources. There is a chance that relevant literature published and indexed in other sources and databases (WoS, ProQuest, EBSCO, etc.) might missed in this study. So future studies can combine two or more sources to improve the comprehensiveness of this type of literature survey. The research field is dynamic, and new studies can either contradict or enhance current knowledge. A review of the literature may not capture ongoing claims or novel developments in real time.

Acknowledgements

The authors are grateful to the anonymous referees of the journal for their extremely useful suggestions to improve the quality of the article.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The authors received no financial support for the research, authorship and/or publication of this article.

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References

- Adegbite, O. (2001). Business incubators and small enterprise development: The Nigerian experience. *Small Business Economics*, 17(3), 157–166.
- Akpoviroro, K. S., Oba-Adenuga, O. A., & Akanmu, P. M. (2021). The role of business incubation in promoting entrepreneurship and SMEs development. *Management and Entrepreneurship: Trends of Development*, 2(16), 82–100.
- Al-Baimani, N., Clifton, N., Jones, E., & Pugh, R. (2021). Applying the ecosystem model in a new context? The case of business incubation in Oman. *Growth and Change*, 52(2), 663–686.
- Ashwini, T., Lokesh, S., & Bonny, B. P. (2022). Performance of spice-based enterprises facilitated through Agri-Business Incubators (ABI). *Journal of Tropical Agriculture*, 59(2). <https://jtropag.kau.in/index.php/ojs2/article/view/1022>
- Autio, E., & Klofsten, M. (1998). A comparative study of two European business incubators. *Journal of Small Business Management*, 36(1), 30.
- Bhalla, A. (1992). *Small and medium enterprises: Technology policies and options*. Intermediate Technology Publications.
- Bismala, L., Andriany, D., & Siregar, G. (2020). Development strategy analysis of technology business incubator in small medium enterprises accompaniment. *Journal of Critical Review*, 7(1), 221–225.
- Bomani, M., Derera, E., & Mashingaidze, M. (2022). Urbanisation and SME growth in a developing economy: Implications for policy. *Corporate Governance and Organizational Behavior Review*, 6(2), 123–133.
- Caiazza, R. (2014). Benchmarking of business incubators. *Benchmarking: An International Journal*, 21(6), 1062–1069.
- Dhiman, V., & Arora, M. (2024a). Exploring the linkage between business incubation and entrepreneurship: Understanding trends, themes and future research agenda. *LBS Journal of Management and Research*. <https://www.emerald.com/insight/content/doi/10.1108/LBSJMR-06-2023-0021/full/pdf?title=exploring-the-linkage-betweenbusiness-incubation-and-entrepreneurship-understanding-trends-themes-and-futureresearch-agenda>
- Dhiman, V., & Arora, M. (2024b). How foresight has evolved since 1999? Understanding its themes, scope and focus. *Foresight*, 26(2), 253–271.
- Esponilla, F., Alinsunod, J., Ignacio, H., de Guzman, H., de Guzman, E., Dela Cruz, K., & Valenzuela, I. (2019). Issues and challenges of technology business incubators in the Philippines. *International Journal of Emerging Trends in Engineering Research*, 7(9), 2347–3983.
- Gomathi, L., & Gopinathan, N. (2019). Internationalization of small and medium enterprises in Indian business incubators. *International Journal of Recent Technology and Engineering*, 8, 971–980.
- Iyortsuun, A. S. (2017). An empirical analysis of the effect of business incubation process on firm performance in Nigeria. *Journal of Small Business and Entrepreneurship*, 29(6), 433–459.
- Kašjaková, O. G. (2004). Support to small and medium enterprises-business incubators in Slovakia. *Journal of Business Economics and Management*, 5(3), 155–163.
- Kim, H., Lee, Y. J., & Ames, M. D. (2005). Promoting business incubation for improved competitiveness of small and medium industries in Korea. *International Journal of Technology Management*, 32(3/4), 350–370.
- Klonowski, D., & Cumming, D. J. (2010). Business incubation and its connection to venture capital. In D. Cumming (Ed.), *Venture capital: Investment strategies, structures, and policies* (pp. 111–129).

- Lesakova, L. (2012). The role of business incubators in supporting the SME start-up. *Acta Polytechnica Hungarica*, 9(3), 85–95.
- Lose, T., & Tengeh, R. K. (2015). The sustainability and challenges of business incubators in the Western Cape Province, South Africa. *Sustainability*, 7(10), 14344–14357.
- Lose, T., & Tengeh, R. K. (2016). An evaluation of the effectiveness of business incubation programs: A user satisfaction approach. *Investment Management and Financial Innovations*, 13(2), 370–378.
- Mahmood, N., Jamil, F., Munir, H., Yasir, N., & Jianfeng, C. (2017). Business incubators and challenges: Evidences from Pakistan. *Advanced Science Letters*, 23(9), 8479–8483.
- Manniledam, P., & Radha, R. T. (2021). Business incubation—understanding the process. In K. P. Sudheer & V. Indira (Eds), *Entrepreneurship and skill development in horticultural processing* (pp. 29–41). CRC Press.
- Shameem Mohammed, P. (2023). Implications of Schumpeter's and Kirzner's economic models of entrepreneurship for Indian women. *IMIB Journal of Innovation and Management*, 1, 9.
- Mendez Montiel, O. J., & Soto Maciel, A. (2021). Dark side of the family business: An exploratory perspective. *Journal of Family Business Management*, 11(4), 386–401.
- Munkongsujarit, S. (2016, September). *Business incubation model for start-up company SME in developing economy: A case of Thailand* [Paper presentation]. 2016 Portland International Conference on Management of Engineering and Technology (PICMET) (pp. 74–81). IEEE Publications.
- Prima Lita, R., Fitriana Faisal, R., & Meuthia, M. (2020). Enhancing small and medium enterprises performance through innovation in Indonesia: A framework for creative industries supporting tourism. *Journal of Hospitality and Tourism Technology*, 11(1), 155–176.
- Prochazkova, P. T. (2012). Business incubator as a tool of support of small and medium size enterprises/Podnikatelsky inkubator jako nastroj podpory maleho a stredniho podnikani. *E + M Ekonomie a Management*, 15(3), 91–108.
- Prochazkova, P. T. (2014). Vision 2020: Sustainable growth, economic development, and global competitiveness. In *Proceedings of the 23rd International Business Information Management Association Conference (IBIMA 2014)* (Vol. 1, pp. 2140–2148).
- Rani, A., & Salanke, P. (2023). A bibliometric analysis on business and management research during COVID-19 pandemic: Trends and prospects. *IMIB Journal of Innovation and Management*, 1(2), 233–246.
- Singh, S. S., Singh, B. J., & Khanduja, D. (2015). Synthesizing TBI-relevance in India through Six Sigma approach. *International Journal of Entrepreneurship and Innovation Management*, 19(3–4), 256–283.
- Slesarev, M. A. (2022). Business incubators in Russia: 2020 survey in international comparative perspective. *MGIMO Review of International Relations*, 15(4), 102–129.
- Suroso, J. S., Girsang, A. S., & Gaol, F. L. (2018). Mapping knowledge management for technology incubation. In T. Theeramunkong, A. M. Skulimowski, T. Yuizono & S. Kunifuji (Eds), *Recent advances and future prospects in knowledge, information and creativity support systems: Selected revised papers from the tenth international conference on knowledge, information and creativity support systems (KICSS 2015), 12–14 November 2015, Phuket, Thailand 10* (pp. 179–187). Springer International Publishing.
- Tsai, F. S., Hsieh, L. H. Y., Fang, S. C., & Lin, J. L. (2009). The co-evolution of business incubation and national innovation systems in Taiwan. *Technological Forecasting and Social Change*, 76(5), 629–643.
- Wonglimpiyarat, J. (2016). The innovation incubator, university business incubator and technology transfer strategy: The case of Thailand. *Technology in Society*, 46, 18–27.