A Study on Impact of Incubators and Accelerators on Startup Success

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Abstract
This study explores the impact of incubators and accelerators on startup success, analyzing their roles in fostering innovation, enhancing survival rates, and promoting growth. Incubators provide long-term support, offering resources such as office space, mentorship, and networking opportunities, which help startups navigate early challenges. Accelerators, in contrast, offer intensive, time-bound programs aimed at rapid growth and scalability. By examining various models and regional case studies, this research identifies key factors that contribute to startup success, including access to knowledge, financial resources, and strategic partnerships. The study also highlights the challenges and limitations faced by these support structures, such as selection processes and funding sustainability. The findings underscore the critical role of incubators and accelerators in the entrepreneurial ecosystem and suggest future research directions to optimize their effectiveness, particularly in emerging economies and specialized markets. This research provides valuable insights for policymakers, practitioners, and entrepreneurs seeking to leverage these support mechanisms for sustainable development.

Keywords : Startups , Incubators , Accelerators , Innovation, Entrepreneurial Ecosystem.

I. INTRODUCTION

The dynamic landscape of entrepreneurship has seen an unprecedented surge in the establishment of startups across various industries. Startups are often hailed as the engines of innovation and economic growth, driving job creation, technological advancement, and competitive market dynamics. However, despite their potential, startups face significant challenges that threaten their survival and success. High failure rates characterize the startup ecosystem, with many new ventures unable to navigate the complex hurdles of funding, market entry, and sustainable growth. This precarious environment necessitates robust support mechanisms, leading to the evolution of incubators and accelerators as pivotal entities in the entrepreneurial ecosystem.

1.1 The Concept of Incubation and Acceleration

Incubators and accelerators have become integral to the startup ecosystem, providing essential support to nascent ventures. The concept of business incubation can be traced back to ancient Roman and Greek practices, where incubation was initially associated with healing and vision-seeking processes. Over time, this concept evolved to support prematurely born infants in controlled environments, and eventually, it found its way into the business realm. Business incubators offer a protective and nurturing environment where startups can access critical resources, including knowledge, financial aid, technology, and networking opportunities. Incubation aims to support startups during their most vulnerable stages, fostering innovation and entrepreneurship by connecting technology, capital, and expertise.

Accelerators, a relatively newer phenomenon, emerged as an advanced iteration of incubators, designed to fast-track the development of startups. Unlike traditional incubators, which often focus on long-term support, accelerators provide intensive, time-bound programs that combine mentorship, education, and funding to expedite startup growth. The structured nature of accelerator programs, with predefined timelines and milestones, distinguishes them from the more flexible and ongoing support provided by incubators. This distinction has led to the recognition of accelerators as a unique generation of business incubators, catering to the evolving needs of modern startups.

1.2 Importance of Incubators and Accelerators

The significance of incubators and accelerators extends beyond mere support structures; they are catalysts for entrepreneurial success. By offering a conducive environment for innovation, these entities help startups overcome common challenges such as lack of expertise, insufficient funding, and limited market access. Incubators and accelerators provide a comprehensive ecosystem that fosters collaboration, knowledge sharing, and strategic partnerships, enabling startups to leverage collective resources and expertise. This collaborative approach enhances startups' ability to innovate, scale, and compete in dynamic markets.

Moreover, incubators and accelerators contribute to economic development by promoting job creation and technological advancement. Successful startups not only generate employment opportunities but also stimulate economic growth through their innovative products and services. The multiplier effect of startup success, driven by incubators and accelerators, can significantly impact local and national economies, making these support structures crucial for sustainable development.

1.3 Differentiating Incubators and Accelerators:

While incubators and accelerators share a common goal of supporting startups, their operational models and impact mechanisms differ significantly. Incubators typically offer long-term support, providing startups with office space, administrative services, and access to a network of mentors and investors. The incubation period can vary from several months to several years, during which startups receive ongoing guidance and resources to refine their business models and achieve sustainable growth. This extended support period allows incubators to address startups' evolving needs, from early-stage development to market entry and expansion.

In contrast, accelerators operate on a more intensive and time-bound model, typically lasting three to six months. During this period, startups undergo rigorous mentorship, training, and networking activities designed to accelerate their growth trajectory. Accelerators often culminate in a demo day, where startups pitch their business ideas to potential investors. The structured nature of accelerator programs, combined with their emphasis on rapid development and scalability, makes them particularly suited for startups that are ready to scale quickly and attract significant investment.

1.4 The Role of Knowledge and Innovation:

Knowledge and innovation are critical components of startup success, and both incubators and accelerators play a vital role in fostering these elements. Startups require access to cutting-edge knowledge and technologies to develop innovative solutions and maintain a competitive edge. Incubators and accelerators provide startups with valuable insights, industry expertise, and access to advanced technologies, enabling them to innovate and adapt to market demands.

The relationship between innovation and startup success is particularly pronounced in sectors such as technology, healthcare, and clean energy, where continuous advancements are essential for market relevance. Incubators and accelerators facilitate the transfer of knowledge through workshops, training sessions, and mentorship programs, helping startups integrate new knowledge into their business models. This emphasis on knowledge and innovation not only enhances startups' chances of success but also contributes to the broader innovation ecosystem by fostering a culture of continuous learning and improvement.

1.5 Impact on Startup Survival and Growth:

The impact of incubators and accelerators on startup survival and growth is a critical area of research, with studies indicating varying levels of effectiveness. Incubators are often associated with higher survival rates, as their long-term support helps startups navigate initial challenges and establish a solid foundation. By providing a stable environment and continuous resources, incubators reduce the risk of early-stage failures and enhance startups' resilience.

Accelerators, on the other hand, are linked to rapid growth and scalability. The intensive nature of accelerator programs, combined with access to mentorship and funding, enables startups to achieve significant milestones within a short period. Accelerated startups often experience increased visibility, improved investor relations, and enhanced market positioning, all of which contribute to their long-term success. However, the impact of accelerators on startup survival remains a topic of debate, with some studies suggesting that the fast-paced nature of accelerator programs may not suit all startups, particularly those in highly specialized or niche markets.

1.6 Challenges and Limitations:

Despite their benefits, incubators and accelerators face several challenges and limitations that can affect their efficacy. One significant challenge is the selection process, as identifying startups with the highest potential for success is inherently complex. Both incubators and accelerators must balance the need to support diverse ventures with the goal of achieving high success rates. This challenge is compounded by the varying needs of startups across different industries and stages of development.

Another limitation is the sustainability of support structures. Incubators and accelerators often rely on external funding from government agencies, private investors, and corporate sponsors. Ensuring a consistent flow of resources is essential for maintaining high-quality support programs. Economic downturns, changes in funding priorities, and shifts in market dynamics can impact the availability of resources, potentially limiting the effectiveness of incubator and accelerator programs.

1.7 Global Perspectives and Case Studies:

The impact of incubators and accelerators varies across different regions and economic contexts. In developed economies, such as the United States and Europe, these support structures are well-established and integrated into the broader innovation ecosystem. Successful case studies from Silicon Valley, Boston, and Berlin demonstrate the transformative potential of incubators and accelerators in fostering high-growth startups and driving economic development.

In contrast, emerging economies face unique challenges and opportunities in leveraging incubators and accelerators. Countries in Latin America, Africa, and Asia are increasingly recognizing the importance of these support structures in stimulating entrepreneurship and innovation. However, the lack of established ecosystems, limited access to funding, and inadequate infrastructure can hinder the growth and effectiveness of incubators and accelerators in these regions. Case studies from countries like India, Brazil, and Kenya highlight the need for tailored approaches that address local challenges and leverage regional strengths.

1.8 Future Directions and Research Opportunities:

The evolving landscape of entrepreneurship and innovation presents numerous opportunities for future research on the impact of incubators and accelerators. One promising area of investigation is the role of digital technologies in enhancing the effectiveness of support programs. The integration of digital tools, such as artificial intelligence, data analytics, and virtual collaboration platforms, can transform how incubators and accelerators deliver their services, making them more accessible and efficient.

Another important research direction is the exploration of hybrid models that combine the strengths of both incubators and accelerators. Hybrid models can offer startups the benefits of long-term support and rapid growth, addressing the limitations of each approach. Studying the design, implementation, and outcomes of such models can provide valuable insights into optimizing support structures for diverse entrepreneurial needs.

Additionally, there is a need to examine the impact of specialized incubators and accelerators focused on niche markets and social enterprises. As the importance of sustainability and social impact grows, understanding how these specialized support structures operate and their influence on startups' success can inform policies and practices aimed at fostering inclusive and responsible innovation.

II. LITERATURE REVIEW

This study examines how entrepreneurs value business accelerators compared to traditional incubators. Using resource-based theory, the research analyzed data from 205 accelerator users and 66 incubator users. Results show that accelerator users find the programs highly valuable for business outcomes, regardless of business survival. Knowledge and culture-related resources significantly contribute to perceived value, highlighting differences in perceptions between accelerator and incubator users [1].

The study investigates whether business accelerators help startups develop dynamic capabilities and improve performance. Using data from 24 Spanish accelerators and a Canonical discriminant analysis, the research finds that specific accelerator practices enhance startups' dynamic capabilities. Absorption, integration, and innovation capabilities positively affect performance, while market sensing negatively impacts it. Despite limitations, the findings suggest organizational practices for better startup performance [2].

This chapter explores the roles of incubators, accelerators, co-working spaces, mentors, and events in the startup ecosystem through a case study of Oulu's startup ecosystem. Interviews with ecosystem practitioners

reveal the commonalities and differences among these support structures, their focus areas, and their impact on startups. The chapter also discusses the interrelationships between these elements and their influence on different stages of startup development [3].

This research investigates how accelerator programs impact tech startups' business success in Kenya. Using a cross-sectional survey of 42 employees from 7 accelerators, the study finds that seed funding, technical guidance, and strategic guidance positively influence startup success. Regression and correlation analyses support these findings. The study recommends increasing accelerator programs offering these supports to boost startup success and suggests managers focus on these strategies for improved business performance. However, the study is limited to three aspects of accelerator programs, indicating a need for further research [4].

Accelerators are a rapidly expanding component of entrepreneurial ecosystems, differing from traditional incubation models. This study investigates the impact of accelerator participation on firm survival using fuzzy-set qualitative comparative analysis (fsQCA) on 38 accelerated and 38 non-accelerated Italian startups. Results indicate that accelerators are a distinct form of incubators, but participation alone doesn't influence firm survival. Factors such as not exporting and being in the service sector with small teams affect survival differently for accelerated firms compared to incubated firms [5].

This paper aims to better understand accelerators by developing a business model framework. Using a structured literature review and interviews with practitioners from Italy and Slovenia, the study reveals that existing literature on accelerators is fragmented. The proposed framework offers insights into accelerator activities and roles, providing guidance for practitioners and policymakers, and highlighting areas for future research [6].

This chapter discusses the role of incubators and accelerators in the Latin-American entrepreneurial ecosystems, focusing on public, private, and partnership models. It highlights developmental patterns and challenges within the incubation industry, offering insights for academics, university managers, and policymakers. The discussion is based on the diverse incubation mechanisms observed in developing economies like Latin America, Asia, and Africa [7].

This study examines different types of accelerators in the process industries, focusing on their design elements and success factors. Through interviews with accelerator managers, three types of accelerators were identified: corporate, public, and hybrid. The study provides an overview of each type, including their design elements, success factors, challenges, and success measurements, aiding those involved in setting up and managing accelerators in these industries [8].

Start-up accelerators, known for their high selectivity, significantly improve venture survival rates. This paper investigates the selection processes of impact accelerators, which support start-ups with economic, social, and environmental goals. By comparing nine European impact accelerators with commercial ones, the study highlights differences in selection criteria, contributing to the understanding of sustainability entrepreneurship [9].

This research focuses on developing critical success criteria for business incubators in Saudi Arabia, particularly university-based ones. Using a survey methodology, the study identifies key success factors such as coaching hours, services offered, and access to funds. The analysis reveals two main clusters: incubator employees and incubatees. The findings provide guidelines for improving incubator performance in Saudi Arabia and beyond [10].

This article investigates how innovation and entrepreneur training influence the success of businesses in Spanish incubators. Data on entrepreneurs' training, business management experience, employment generation, survival rates, and financial performance were collected and analyzed. Results show that 83.3% of incubator entrepreneurs have university training, predominantly in science, with an average of 7.75 years of experience. This background supports business survival and job creation, leading to a competitive, knowledge-intensive business model. However, innovation levels did not significantly impact economic outcomes or management indicators, emphasizing the importance of training and sustainability in incubators [11].

This study examines the efficiency of university business incubators in Mexico from both managerial and startup perspectives, focusing on employment growth and survival. Using Data Envelopment Analysis (DEA) on 25 incubators from 2012 to 2014, the study identifies the most efficient year and the best-performing startups. The findings suggest necessary resource adjustments for maximizing new business

creation and improving management practices. The study provides insights into efficient management for small incubators and startups [12].

This paper reviews the evolution of incubation models, including accelerators, using frameworks like open innovation, social capital theory, and resource-based view. It explores definitions and types of incubators, incubation processes, and their impact on performance. The systematic literature review identifies key researchers, publication outlets, and current themes, offering a comprehensive overview of global research activities and suggesting a future research agenda in the field of incubation [13].

This paper evaluates the role of business accelerators and incubators in the growth of small and medium enterprises (SMEs) in Nigeria, particularly in urban and industrial areas. It highlights the challenges SMEs face, such as inadequate skills, lack of finance, and poor management, and how accelerators and incubators address these issues. Despite their successes in promoting SME development and economic growth, the paper suggests the need for improved follow-up systems to ensure sustainable development. Data were sourced from literature and online resources [14].

The concept of incubation, originating from ancient Roman and Greek practices, has evolved to support startups by providing knowledge, financial resources, technology, and networking. Incubators help new businesses during their vulnerable early stages, promoting entrepreneurship and innovation. Incubation connects technology, capital, and expertise to accelerate business development and technological advancement, creating a nurturing environment for startups [15].

Sustainability-oriented startups play a crucial role in transitioning to a low-carbon society. Social impact accelerators (SIAs) support these startups by providing training, coaching, and funding. This study of the EIT Climate-KIC RIS Accelerator in Europe analyzes how these elements help 63 cleantech startups develop sustainable business models (SBMs). The findings highlight the importance of addressing economic, ecological, and social aspects and suggest improvements to reduce knowledge gaps and enhance the effectiveness of SIAs [16].

Seed accelerators, a new form of business incubators, have grown rapidly, but measuring their performance remains challenging. This study uses surveys to assess the performance of accelerators and their startups. It finds that larger portfolios, higher survival rates, and more employees in accelerated firms lead to more funding. U.S.-based and long-established accelerators have a higher impact on survival rates. Despite limitations, the study contributes valuable insights into accelerator performance [17].

This study examines the influence of incubator resources on startup survival, focusing on the founders' attributes. Based on 59 student startups in an academic incubator, it finds that prior managerial experience enhances the positive effects of mentoring programs on survival rates. The study underscores the interactive role of human capital and incubator resources, expanding the resource-based view theory by highlighting how different types of experience impact startup survival [18].

This paper analyzes the incubation industry in Pakistan using the 5P framework (Purpose, Patrons, Process, Potential, Pitfalls). Through interviews with program managers and secondary data, it assesses over 40 incubation programs, including National Incubation Centers and various university incubators. The study offers recommendations for policymakers, university administrators, and private sector stakeholders, providing lessons for other developing countries [19].

This article examines the evolution and impact of business accelerators in New Zealand over the past decade. Through interviews with mentors, participants, and executives, along with secondary data, the study explores accelerators' role in the innovation ecosystem. Despite over a decade of operations, the long-term benefits and outcomes for New Zealand's innovation community remain unclear, offering a unique context for understanding accelerator success [20].

This paper defines and analyzes incubators that support startups with significant social impact. A 2016 survey of 162 Italian incubators identified three types: Business, Mixed, and Social. Analyzing data from 247 tenants, the study finds that Social Incubators prioritize social impact measurement and ethics training. Despite focusing on social objectives, Social Incubators are as efficient as other types in terms of economic growth, suggesting policymakers should support social entrepreneurship through Social Incubators[21].

Table 1. Review of literature

Ref Nu.	Author Name	Title	Advantage	Disadvantage	Application
1	Lange, G. S., & Johnston, W. J.	The value of business accelerators and incubators and entrepreneurs perspective	Provides entrepreneurs' perspective on value of accelerators and incubators	Limited to entrepreneurs' subjective perspectives	Entrepreneurial support programs
2	Polo GarcÃa-Ochoa, C., De Pablos Heredero, C., & Blanco JimÃ©nez, F. J.	How business accelerators impact startup's performance: Empirical insights from the dynamic capabilities approach	Offers empirical insights on performance impact from dynamic capabilities approach	Focuses primarily on dynamic capabilities, may overlook other factors	Enhancing startup performance through dynamic capabilities
3	Tripathi, N., & Oivo, M.	The roles of incubators, accelerators, co-working spaces, mentors, and events in the startup development process	Covers multiple support structures in startup development process	General overview, may lack depth in specific areas	Startup ecosystem development
4	Mugambi, W. M.	Effect of accelerator programs on business success among technology startups in Kenya	Specific analysis of accelerator impact on tech startups in Kenya	Geographically limited to Kenya	Accelerator programs for tech startups
5	Del Sarto, N., Isabelle, D. A., & Di Minin, A.	The role of accelerators in firm survival: An fsQCA analysis of Italian startups	Explores firm survival related to participation in accelerators	Focuses on Italian startups, may not be generalizable	Improving firm survival strategies
6	Bagnoli, C., Massaro, M., Ruzza, D., & Toniolo, K.	Business models for accelerators: a structured literature review	Comprehensive review of business models for accelerators	Literature review may not capture latest trends	Designing effective accelerator business models
7	Guerrero, M.	The role of incubators and accelerators in the Latin American entrepreneurship and innovation ecosystems	Discusses role in Latin American entrepreneurial and innovation ecosystems	Limited to Latin American context	Developing support structures in Latin America
8	Bergmann, T., & Rothausen, T.	Supporting start-ups in the process industries with accelerator programs: Types, design elements and success measurement	Identifies types, design elements, and success measures for process industry accelerators	Specific to process industries, may not apply broadly	Supporting startups in process industries
9	Butz, H., & MroÅ¼ewski, M. J.	The selection process and criteria of impact accelerators. An exploratory study	Explores selection criteria and process for impact accelerators	Exploratory study, may lack quantitative robustness	Improving selection processes for impact accelerators
10	Siddiqui, K. A., Al-Shaikh,	Identifying critical success factors for university	Identifies critical success factors for	Focused on Saudi Arabia,	Enhancing university

	M. E., Bajwa, I. A., & Al-Subaie, A.	business incubators in Saudi Arabia	university business incubators	results may not be generalizable	incubator performance
11	Del Campo Villares, M. O., MiguÃ©ns-Refojo, V., & Ferreiro-Seoane, F. J.	Business survival and the influence of innovation on entrepreneurs in business incubators	Examines influence of innovation on business survival in incubators	Innovation impact may not be fully explored	Boosting business survival in incubators
12	Zapata-Guerrero, F. T., Ayup, J., Mayer-Granados, E. L., & Charles-Coll, J.	Incubator efficiency vs survival of start-ups	Analyzes incubator efficiency versus startup survival rates	Context-specific to selected incubators	Optimizing incubator efficiency
13	Hausberg, J. P., & Korreck, S.	Business incubators and accelerators: a co-citation analysis-based, systematic literature review	Systematic literature review on business incubators and accelerators	May not address latest developments in incubation	Advancing incubation and acceleration research
14	Ihuoma, C.	The role of business accelerators and incubators in sustainable development	Addresses role in sustainable development	Broad focus, may lack depth in specific areas	Promoting sustainable development through incubation
15	Romero Cristancho, S. A.	How incubators and accelerators are working? Evidence from Spain	Provides evidence from Spain on incubator and accelerator functionality	Limited to Spain, may not be generalizable	Improving incubation and acceleration in Spain
16	Bergmann, T., & Utikal, H.	How to support start-ups in developing a sustainable business model: The case of an european social impact accelerator	Case study of European social impact accelerator supporting sustainable business models	Specific to European context	Supporting sustainable business model development
17	Canovas-Saiz, L., March-ChordÃ , I., & YagÃ¼e-Perales, R. M.	A quantitative-based model to assess seed acceleratorsâ€™ performance	Quantitative model assessing performance of seed accelerators	Quantitative model may not capture qualitative aspects	Assessing performance of seed accelerators
18	Blank, T. H.	When incubator resources are crucial: Survival chances of student startups operating in an academic incubator	Investigates crucial incubator resources for student startup survival	Focused on academic incubator context	Enhancing student startup survival in academic incubators
19	Qureshi, S., Hassan, S. Z., & Mian, S. A.	Business incubation and acceleration in Pakistan: an entrepreneurship ecosystem development	Evaluates incubation and acceleration ecosystem in	Specific to Pakistan, may not be generalizable	Developing incubation ecosystems in developing

		approach	Pakistan		countries
20	Blair, B., Khan, M. S., & Iftikhar, R.	Role of accelerators in innovation ecosystems: The case of New Zealand	Explores role and impact of accelerators in New Zealand	Unique to New Zealand, findings may not apply elsewhere	Improving accelerator impact in innovation ecosystems
21	Sansone, G., Andreotti, P., Colombelli, A., & Landoni, P.	Are social incubators different from other incubators? Evidence from Italy	Compares social incubators with other types in terms of impact	Focuses on Italy, may not be applicable universally	Supporting social entrepreneurship through incubators

III. RESEARCH GAP

Despite the growing understanding of the role of business incubators and accelerators in supporting startups, several research gaps remain. The long-term benefits and specific impacts of accelerator programs, especially in unique contexts such as New Zealand, need further exploration. Additionally, while the influence of incubator resources on startup survival has been studied, the interaction between founder attributes and these resources warrants deeper investigation. The efficacy of social impact accelerators (SIAs) in fostering sustainability-oriented startups also requires more comprehensive analysis, particularly concerning the integration of economic, ecological, and social layers. Moreover, the diverse incubation mechanisms in developing economies like Pakistan and their unique challenges are underexplored. Lastly, there is a lack of consensus on performance measurement for seed accelerators, and more research is needed to understand their long-term effects on startup success. Addressing these gaps will provide a clearer understanding of how incubators and accelerators can optimize their support for diverse entrepreneurial ecosystems.

IV. CONCLUSION

Incubators and accelerators are indispensable components of the startup ecosystem, providing crucial support that enhances the survival and success of new ventures. By offering a conducive environment for innovation, access to essential resources, and opportunities for mentorship and networking, these support structures play a vital role in fostering entrepreneurship and driving economic development. While challenges and limitations exist, the potential benefits of incubators and accelerators far outweigh the drawbacks. Ongoing research and tailored approaches can further optimize their impact, ensuring that startups continue to thrive and contribute to a vibrant and dynamic entrepreneurial landscape.

References

1. Lange, G. S., & Johnston, W. J. (2020). The value of business accelerators and incubators–an entrepreneur's perspective. *Journal of Business & Industrial Marketing*, *35*(10), 1563-1572.
2. Polo García-Ochoa, C., De Pablos Heredero, C., & Blanco Jiménez, F. J. (2020). How business accelerators impact startup's performance: Empirical insights from the dynamic capabilities approach. *Intangible Capital*, *16*(3), 107-125.
3. Tripathi, N., & Oivo, M. (2020). The roles of incubators, accelerators, co-working spaces, mentors, and events in the startup development process. *Fundamentals of software startups: Essential engineering and business aspects*, 147-159.
4. Mugambi, W. M. (2020). *Effect of accelerator programs on business success among technology startups in Kenya* (Doctoral dissertation, Strathmore University).
5. Del Sarto, N., Isabelle, D. A., & Di Minin, A. (2020). The role of accelerators in firm survival: An fsQCA analysis of Italian startups. *Technovation*, *90*, 102102.
6. Bagnoli, C., Massaro, M., Ruzza, D., & Toniolo, K. (2020). Business models for accelerators: a structured literature review. *Journal of business models*, *8*(2), 1-21.
7. Guerrero, M. (2021). The role of incubators and accelerators in the Latin American entrepreneurship and innovation ecosystems. In *Handbook of Research on Business and Technology Incubation and Acceleration* (pp. 335-350). Edward Elgar Publishing.

8. Bergmann, T., & Rothausen, T. (2020). Supporting start-ups in the process industries with accelerator programs: Types, design elements and success measurement. *Journal of Business Chemistry*.
9. Butz, H., & Mrożewski, M. J. (2021). The selection process and criteria of impact accelerators. An exploratory study. *Sustainability*, *13*(12), 6617.
10. Siddiqui, K. A., Al-Shaikh, M. E., Bajwa, I. A., & Al-Subaie, A. (2021). Identifying critical success factors for university business incubators in Saudi Arabia. *Entrepreneurship and Sustainability Issues*, *8*(3), 267.
11. Del Campo Villares, M. O., Miguéns-Refojo, V., & Ferreiro-Seoane, F. J. (2020). Business survival and the influence of innovation on entrepreneurs in business incubators. *Sustainability*, *12*(15), 6197.
12. Zapata-Guerrero, F. T., Ayup, J., Mayer-Granados, E. L., & Charles-Coll, J. (2020). Incubator efficiency vs survival of start-ups. *RAUSP Management Journal*, *55*(4), 511-530.
13. Hausberg, J. P., & Korreck, S. (2021). *Business incubators and accelerators: a co-citation analysis-based, systematic literature review* (pp. 39-63). Edward Elgar Publishing.
14. Ihuoma, C. (2021). The role of business accelerators and incubators in sustainable development. *Renaissance University-Nigeria*.
15. Romero Cristancho, S. A. (2021). *How incubators and accelerators are working? Evidence from Spain* (Doctoral dissertation, Politecnico di Torino).
16. Bergmann, T., & Utikal, H. (2021). How to support start-ups in developing a sustainable business model: The case of an european social impact accelerator. *Sustainability*, *13*(6), 3337.
17. Canovas-Saiz, L., March-Chordà, I., & Yagüe-Perales, R. M. (2021). A quantitative-based model to assess seed accelerators' performance. *Entrepreneurship & Regional Development*, *33*(3-4), 332-352.
18. Blank, T. H. (2021). When incubator resources are crucial: Survival chances of student startups operating in an academic incubator. *The Journal of Technology Transfer*, *46*(6), 1845-1868.
19. Qureshi, S., Hassan, S. Z., & Mian, S. A. (2021). Business incubation and acceleration in Pakistan: an entrepreneurship ecosystem development approach. In *Handbook of Research on Business and Technology Incubation and Acceleration* (pp. 280-298). Edward Elgar Publishing.
20. Blair, B., Khan, M. S., & Iftikhar, R. (2020). Role of accelerators in innovation ecosystems: The case of New Zealand. *journal of general management*, *46*(1), 47-59.
21. Sansone, G., Andreotti, P., Colombelli, A., & Landoni, P. (2020). Are social incubators different from other incubators? Evidence from Italy. *Technological Forecasting and Social Change*, *158*, 120132.