Nanotechnology Perceptions
ISSN 1660-6795
www.nano-ntp.com

Pragmatic Analysis on Relationship Between Innovation and Finance – A Study Related to Selected Startup Entrepreneurs

Malashree S[1], Dr. Ruchi Gupta[2]

[1]*Research Scholar and Assistant Professor, REVA Business School, REVA University, Kattigenahalli, India, malashree.s@reva.edu.in*
[2]*Associate Professor, REVA Business School, REVA University, Kattigenahalli, India, ruchigupta@reva.edu.in*

The study focuses to examine the associations between internal and external financing with product and process innovation in selected start-ups by adopting a web-based survey among startup entrepreneurs. A total of 102 valid responses were received from a sample of 300 randomly selected startup firms. The analysis of the collected data revealed that there exists a positive association between internal sources of finance and the extent of firm innovativeness. Firms which depend on internal sources are more likely to innovate than those who do not prefer internal sources substantially. The findings of this paper hold significant importance for all stakeholders, including policymakers, educators, researchers, entrepreneurs, and aspiring entrepreneurs. Overall, this study contributes to the existing literature by highlighting the critical role of internal financing in enhancing the innovativeness of start-ups, providing valuable insights for both practice and policy.
Keywords: Financial sources, Startup firms, Product innovation, Process innovation.

1. Introduction

In an era of globalization, the potential for innovation is abundant, yet many brilliant ideas remain unrealized, particularly among grassroots entrepreneurs who often lack access to sufficient funding. It is crucial to ensure that every promising idea, regardless of its origin, receives the opportunity to thrive. To achieve this, there's a persistent need to establish a robust mechanism for identifying and funding top-tier ideas globally, nurturing them from

conception to market readiness. Furthermore, governments should consider implementing substantial grant programs aimed at supporting high-risk innovations with promising commercial prospects. By embracing these initiatives, we can foster a more inclusive and dynamic innovation ecosystem, empowering entrepreneurs from all corners of the world to contribute to positive societal change (Staff et al., 2020). During past few years entrepreneurs have faced various challenges in incorporating innovation towards improved products and services. Innovation has become a key issue at firm's level which has made the researchers to focus on identifying its various driving forces. Innovation is subjective in nature where some activity qualifies as innovative and some may not (Koellinger, 2008). Whereas from an economic view point a product or process innovation is sufficient if it is new to the market (Guzman et al., 2020). Innovation serves as a valuable benchmark for policymakers and entrepreneurs to evaluate the effectiveness of their region's and organization's policies (Low & Isserman, 2015). Innovation becomes a very important factor for firms, but the issues related to it is not discussed thoroughly (Hagedoorn, 1996). Researchers have defined innovation in different ways which deals with the scope of behaviours. Innovation is well-defined as any idea, practice, process, or product that is new to an organization or market. Understanding each dimensions of innovation gives rise to different dimensions, which further propose to be a multidimensional concept (Cooper, 1998). Diverse innovation processes results in diverse outputs, some in the form of tangible products some in the form of services. If organizations have to survive they should focus on investing in different kinds of innovation which will contribute towards organisation in different ways (Mitchelmore & Rowley, 2010). Entrepreneurs often perceive debt financing as a source of financial strain for their startups. The obligation to repay loans within specified time frames creates significant pressure. However, the challenges extend beyond timely repayment. Debt holders may impose additional financial constraints, such as upholding a predetermined asset levels in exchange accounts, facing higher risk-adjusted rates of returns, and encountering limitations on acquiring further debt. These constraints add layers of complexity to the financial management of startups and can amplify the burden of debt financing (Gartner et al., 2012). Considering the diverse range of external financial sources and their unique characteristics, each startup may exhibit varying propensities to approach these sources, reflecting the resource heterogeneity among startups. Thus, it is crucial to examine how the specific resource requirements of a startup influence its choice and access to different financial sources. Moreover, understanding how these propensities evolve across different lifecycle stages of a startup represents a notable gap in the existing literature. Additionally, there is a scarcity of empirical studies examining the selection and access of financial sources by startups, particularly within the context of emerging economies, and how these decisions are shaped by the financial needs of the startup (Singh & Mungila Hillemane, 2023). Since the advent of economic reforms, a new wave of startups has emerged in India, attracting attention from researchers. Studies in this domain can generally be categorized into two main areas: those that investigate the factors propelling the growth of startups and those that concentrate on the financial hurdles they face, India has cultivated a policy framework that fosters an environment conducive to innovation. This commitment to innovation is evident in the Global Innovation Index, which, despite experiencing a downturn around the global financial crisis, has seen significant improvement (Ghosh, 2021).

The primary objective of this study is to explore the connections between internal and external financing and the levels of product and process innovation within a curated selection of startup ventures. By investigating these associations, the study seeks to deepen understanding of how different financing sources influence the innovation dynamics within startup firms. This study delves into unravelling the innovation prowess of startup firms, scrutinizing the various factors and variables that constitute this capability through a comprehensive review of existing literature. Furthermore, it evaluates the reliability of these constructs. The central inquiry of this research revolves around investigating the potential relationship between financial sources and the innovation capabilities of such startup entities. Through this examination, the study aims to construct a conceptual framework that sheds light on the gap identified within the current body of literature.

The structure of the paper is as follows: Section 1: Sets the stage by providing a focused look at entrepreneurial innovation and the different avenues for financing it, both internally and externally. Section 2: Delves into the conceptual framework of innovation capability, dissecting its key dimensions and their connection to the two financing sources. This section concludes by formulating hypotheses exploring the relationship between innovation capability and both internal and external funding. Section 3: Describes the specific methodology employed for the research, followed by a comprehensive analysis of the collected data and the resulting findings. Section 4: Concludes with insightful discussions on the managerial implications of the research, presents the overall conclusions, and suggests potential areas for further exploration in future studies.

2. Theoretical background and conceptual foundation:

2.1 Entrepreneurs and Innovation:

As rightly said by professor Schumpeter the entrepreneurs are the source of change and with the characteristics of profits, business cycles, etc (Sweezy, 2016), the writings of Schumpeter was mostly on the role of innovation and entrepreneurship, he further states that entrepreneurs are carrying out new combinations, restructuring the outline of production, creating a new product or manufacturing an existing one in a new way, or identifying a new source of supply and so on (Śledzik, 2013). Entrepreneurs harness a narrative toolkit comprising relational, temporal, and performative facets to shape innovation. They weave connections to the past, present, and future to imbue innovation with significance. Yet, the unfolding reality often diverges from their initial vision, prompting entrepreneurs to adapt their narratives accordingly (Garud et al., 2014). Throughout the startup lifecycle, new entrepreneurs can receive support from four primary actor types: incubators, venture capitalists, large corporations, and universities. Effectively managing relationships with these entities is a crucial skill for startup founders. Hence, "networking" should be integrated into all entrepreneur education programs (Spender et al., 2017).

Traditionally, the entrepreneurship literature has predominantly emphasized independent start-ups as the primary organizational mode facilitating entrepreneurial action. Entrepreneurial innovation signifies a profound reshaping of existing industries and the birth of entirely new ones. By delving into the contextual nuances surrounding entrepreneurial

innovation, we believe academia can achieve significant strides. They propose dissecting various contextual influences on entrepreneurial innovation, including industry and technological factors, organizational dynamics, institutional frameworks, policy landscapes, social dimensions, as well as temporal and spatial considerations, all of which are deeply intertwined (Autio et al., 2014). The treatment effect of venture capital (VC) investments often yields significant economic impacts, particularly regarding employment growth. Across various studies, empirical evidence consistently supports the assertion that VC has a positive influence on firm performance, regardless of the geographical location or timing of the analysis (Giraudo et al., n.d.).

2.2: Start-ups, Access to Finance and Innovation:

The correlation between finance and innovation is influenced by the varying institutional quality across different countries. The advancement of the financial sector into a more mature stage will bolster innovation in countries where it occurs. Diverse institutional settings necessitate tailored policies to stimulate innovative endeavour's (Law et al., 2018). Serial entrepreneurship often involves starting multiple businesses over time, each building upon the lessons learned from previous ventures. By being willing to give away more equity in their first startup, entrepreneurs can position themselves to gain valuable experience, networks, and reputation that will make future fundraising efforts easier. With each subsequent venture, entrepreneurs can leverage their experience and credibility to attract investors more easily and negotiate more favourable terms. By aiming to hit singles with their first company, doubles with the next, and home runs with subsequent businesses, entrepreneurs can increase their chances of long-term success and create a legacy of innovation and impact (Broude & Levangie, 2006).

The studies have frequently centered on and utilized various aspects of knowledge acquisition within start-ups, including the origins of knowledge, the mechanisms through which knowledge becomes accessible, and the classifications of knowledge. The subsequent section examines the chosen literature through the lens of these distinctions. Researchers have frequently investigated the correlation between knowledge and innovation by delineating the origins of knowledge. These discerned sources of knowledge are classified into intra-organizational, inter-organizational, market-based, and institutional-based categories (Guckenbiehl et al., 2021). The examination of traditional funding avenues underscored those prevalent institutional options (such as grants, donations, social expenditure, debt financing from financial intermediaries, venture capital, and private equity) exhibit significant shortcomings, hindering their ability to support the scalability of social technology start-ups (Arena et al., 2018).

External equity investors, such as angel investors or venture capital firms, may possess limited information about the founder, especially if they are not a seasoned entrepreneur, or about the enterprise's prospects. Consequently, they might request a significant ownership stake relative to their financial investment. From the perspective of the owner-founder, internal financing is the preferred option, followed by external debt like bank loans. External equity financing, which necessitates relinquishing a considerable ownership stake, is considered a last resort (Mann & Sanyal, 2012). The comprehension of entrepreneurial finance theory through an exploration of the trade-offs inherent in various capital sources for

entrepreneurial ventures and their impact on innovation, a facet that has been under-represented in scholarly inquiry. They concentrate on innovation-driven entrepreneurial endeavour's in emerging markets, emphasizing product/service innovation amid significant risk uncertainties compared with growth potential. Our focus extends to the examination of formal and informal funding trade-offs on innovation performance within entrepreneurial ventures. Additionally, the paper delves into the realm of informal debt, a topic often overlooked, to deepen insights into entrepreneurial finance. Furthermore, they discourse on entrepreneurship by elucidating its association with the utilization of informal capital within emerging economies (Wu et al., 2016). We explore the factors linked to innovation and the firm's boundaries, contemplating whether it will be a solely independent startup or a hybrid model blending characteristics of both a standalone startup and an in-house R&D division within a larger corporation. Our examination encompasses various theoretical frameworks concerning firm boundaries in the context of innovation (Hall, 2015).

Certain contexts, periods, and sectors are conducive to heightened investor experimentation. Investors adjust their investment strategies in response to financing risk, anticipating constrained future funding, by directing their attention towards financing less innovative enterprises. In a state of equilibrium, financing risk disproportionately affects highly innovative ventures with substantial real option value, prompting a delicate balance between shielding the firm from financing risk and maximizing its real option value. We posit that exceptionally novel technologies may require buoyant financial markets to navigate the initial phases of discovery or dissemination effectively (Kerr et al., 2009).

Certain entrepreneurs may seize business opportunities without resorting to patent filings. Notably, data reveals that within the software industry, one-third of startups operate without holding patents. Our model effectively encompasses the financing behaviours of startups, whether they opt to acquire patents or not. Additionally, our model integrates the probability of bankruptcy, a likelihood that escalates with the accumulation of debt. Given the inherent risk of bankruptcy among startups, investors typically demand compensation commensurate with the associated risks (Hahn & Kwon, 2017).

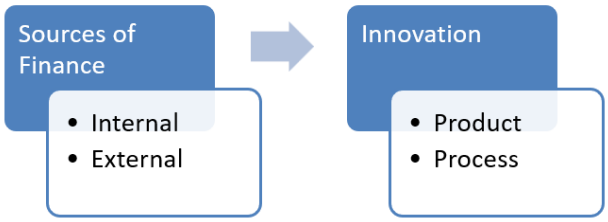
2.3: Internal-Financing Drives Product and Process Innovation:

Access to internal financing influences product and process innovation. However, it adversely affects organizational R&D spending and foreign licensing, suggesting that financial effects differ based on the innovation pattern. Conversely, utilizing finance from financial institutions positively impacts the probability of innovation across all types, although the significant positive effect is observed primarily in organizational innovation (Adegboye & Iweriebor, 2018). Firms try to meet their working capital requirement through internal sources followed by trade credit and later with the bank funds (Fernandez, 2017). The internal financial restrictions have bigger impact on the failure of innovation projects varies by stage: internal factors significantly influence the conception stage, while external constraints have a greater effect during the execution stage. Additionally, it is important to note that the nature of financial sources, whether external or internal, is not neutral in the development stage of innovative projects (García-Quevedo et al., 2018). The internal financing determines financing restrictions of the firms which again differs among industries. Internal funds play a more significant role in investment spending for industries

that produce durable goods compared to those that produce non-durable goods (Ayalew & Xianzhi, 2020).

2.4: Transforming Products and Processes with External Financing:

Other external sources of investment financing have a consistently undesirable impact on the likelihood of innovation among SMEs, particularly concerning R&D spending. Consequently, seeking additional financing from creditors significantly restrains firms' innovation capabilities and constrains funding for R&D. This implies that creditors may preferentially finance enterprises engaged in less innovative activities, reflecting a lower tolerance for risk-taking. Moreover, financial constraints exert a significant negative influence on the adoption of foreign-licensed technology (Adegboye & Iweriebor, 2018). Formal finance is associated with a higher propensity for innovation across various dimensions, including the introduction of new products or services, adoption of new production or supply methods, implementation of new organizational or management practices, utilization of new marketing methods, and enhancement of logistical or business support processes (Ullah, 2019). When firms receive VC investments, they often experience substantial growth opportunities. This injection of capital enables them to expand operations, develop new products or services, penetrate new markets, and invest in innovation. As a result, these firms tend to increase their workforce, leading to higher levels of employment. Furthermore, the positive effects of VC investments extend beyond employment growth. They can also contribute to increased productivity, higher revenues, enhanced competitiveness, and overall economic development. In many cases, VC-backed firms become drivers of innovation and economic dynamism within their respective industries and regions (Giraudo et al., n.d.). The government tends to refrain from financing ventures with low returns or those perceived as inferior. Early-stage ventures, often viewed as high-risk endeavour's, are also less likely to secure government funding. Moreover, the analysis did not reveal any statistical evidence indicating that social concerns significantly influence government venture capital (GVC) funding decisions (Sharma, 2024). For entrepreneurs facing urgent financial needs, obtaining a series of informal loans from a single source can significantly expedite the process compared to navigating the paperwork and review procedures associated with formal financial channels. This expedited approach can be crucial in swiftly securing the necessary funds, allowing entrepreneurs to address pressing financial challenges without delay (Wu et al., 2016).



Conceptual Framework: Author's Own Work

Hypothesis:

H1. Internal sources of funds have positive impact on product innovation.

H2. External sources of funds have positive impact on product innovation.

H3. Internal sources of funds have positive impact on process innovation.

H4. External sources of funds have positive impact on process innovation.

Variable and Constructs Selection:

	Variables	Constructs
Dependent Variable	Product Innovation	Introduction of new or significantly improved products or services during the last three years.
		Introduction of the new or significantly improved products or services new for the establishment's main market.
		Spent on research and development activities in the past three years either.
	Process Innovation	Introduction of new or significantly improved process for producing or supplying products in the last three years.
		Uses e-mail to communicate with clients or suppliers at present.
		Has its own website.
Independent Variable	Internal Sources of Finance	Self - financing, Profit Reinvestment
	External Sources of Finance	Debt – Bank Loan,
		Equity – Angel Investors, Venture Capital and Grants or subsidies

Source: World Bank Enterprise Survey, 2022 and Oslo Manual, 2018.

3. Research Methodology:

3.1 Data collection & Sampling

The data is collected from 102 startup entrepreneurs located in Bengaluru city, Karnataka, India, using structured questionnaire. The study is descriptive in nature.

The data was further analysed using the following statistical tools:

a. Descriptive Statistics: This statistic was used to check the normality of the data.

b. Item Reliability test: This statistic was used to know the reliability of the constructs.

c. Spearman's Rank correlation: This is a non-parametric test used to know the relationship between two or more variables.

4. Data analysis and Discussion:

4.1 Descriptive Statistics:

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Gender	102	0	1	.36	.097
Age Group	102	1	3	2.00	.555
Qualification:	102	1	3	1.50	.760
Type of enterprise	102	1	3	2.07	.829
Sector	102	1	2	1.50	.519
Valid N (listwise)	102				

The sample consist of 102 observations, where the mean value of Gender, Qualification, age Group and Sector is comparatively higher than standard deviation. Therefore, the data seems to be normal in nature.

4.2 Item Reliability Test:

Reliability test for Innovation & Finance Construct.

	No. of Items	Cronbach's Alpha
Product Innovation	6	.876
Process Innovation	6	.856
Internal Source of Finance	3	.801
External Source of Finance	7	.878

All four constructs have Cronbach's Alpha values well above the acceptable threshold of 0.70, indicating that the items within each scale are reliable and consistently measure their respective constructs. The high reliability of these scales suggests that the constructs measured in the research paper are consistent and reliable. This enhances the validity of any conclusions drawn from analysis using these scales.

4.3 Spearman's Rank Correlation of Co-efficient.

			Prod_Inn	Proc_Inn	Int_Source	Ext_Source
Spearman's Rank Correlation	Prod_Inn	Correlation Coefficient	1.000	-.634*	.673**	.719
		Sig. (2-tailed)	.	.000	.001	.000
		N	102	102	102	102
	Proc_Inn	Correlation Coefficient	.673**	-.268	1.000	.506
		Sig. (2-tailed)	.	.000	.001	.000
		N	102	102	102	102
	Int_Source	Correlation Coefficient	.719	.069	.506	1.000
		Sig. (2-tailed)	.	.000	.001	.000
		N	102	102	102	102
		N	102	102	102	102
	Ext_Source	Correlation Coefficient	-.634*	1.000	-.268	.069
		Sig. (2-tailed)	.	.000	.001	.000
		N	102	102	102	102

(*Prod_Inn = Product Innovation; Proc_Inn = Process Innovation; Int_Source = Internal Source of Finance and Ext_Source = External Source of Finance)

From the above table it could be inferred that:

- There is a very strong, positive correlation (rho = 0.719) between Product Innovation and Internal Source of Finance. This indicates that greater product innovation is associated with higher reliance on internal sources of finance. This relationship is statistically significant ($p < 0.01$).

- There is a strong, negative correlation (rho = -0.634) between Product Innovation and External Source of Finance, suggesting that higher levels of product innovation are associated with lower reliance on external sources of finance. This relationship is statistically significant ($p < 0.01$), indicating a meaningful inverse relationship.

- There is a positive correlation (rho = 0.506) between Process Innovation and Internal Source of Finance. This indicates that higher levels of process innovation are associated with

greater reliance on internal sources of finance. This relationship is statistically significant ($p < 0.01$).

- There is a low, negative correlation (rho = -0.268) between Process Innovation and External Source of Finance. This suggests that higher levels of process innovation are somewhat associated with lower reliance on external sources of finance. This relationship is statistically significant ($p < 0.01$).

The correlation analysis reveals significant relationships between innovation types and financial sources. Strong correlations suggest that organizations with high product innovation often have high process innovation and prefer internal financing. Conversely, these organizations are less likely to depend on external financing. These insights are crucial for understanding how innovation strategies align with financial decisions within organizations and can guide further research and strategic planning in these areas.

5. Conclusion:

In an era of globalization, this study highlights the critical role of internal financing in driving both product and process innovation within startups, revealing a strong preference among innovative firms for self-funding over external financial sources. The findings emphasize that higher levels of innovation are associated with greater reliance on internal funds, underscoring the need for robust internal financial resources to support comprehensive innovation strategies. These insights suggest that policymakers and financial institutions should design support mechanisms that align with the innovation needs of firms, fostering a more dynamic and inclusive innovation ecosystem. Further research could be conducted on investigating how these relationships vary across different industries can provide more granular insights and help tailor financial strategies to specific sectors. Longitudinal studies can track changes over time, providing a deeper understanding of how the reliance on different financing sources evolves as startups grow and innovate. Examining how economic conditions influence the relationship between innovation and financing can offer valuable insights for both policymakers and entrepreneurs and finally comparative studies across different countries can reveal how institutional and cultural factors impact these relationships, contributing to a more global understanding of innovation financing. Researchers should improve on survey response rates among the entrepreneurs, study can also adopt panel data and could use more representative measure to examine the relationship between innovative capability and financial sources.

References

1. Adegboye, A. C., & Iweriebor, S. (2018). Does Access to Finance Enhance SME Innovation and Productivity in Nigeria? Evidence from the World Bank Enterprise Survey.
2. Arena, M., Bengo, I., Calderini, M., & Chiodo, V. (2018). Unlocking finance for social tech start-ups: Is there a new opportunity space? Technological Forecasting and Social Change, 127(May), 154–165. https://doi.org/10.1016/j.techfore.2017.05.035
3. Autio, E., Kenney, M., Mustar, P., Siegel, D., & Wright, M. (2014). Entrepreneurial innovation: The importance of context. Research Policy, 43(7), 1097–1108. https://doi.org/10.1016/j.respol.2014.01.015

4. Ayalew, M. M., & Xianzhi, Z. (2020). The effect of financial constraints on innovation in developing countries: Evidence from 11 African countries. Asian Review of Accounting, 28(3), 273–308. https://doi.org/10.1108/ARA-02-2019-0036
5. Broude, P. D., & Levangie, J. E. (2006). Entrepreneurial financing–alternatives for raising capital. New England Journal of Entrepreneurship, 9(2), 55–62. https://doi.org/10.1108/NEJE-09-02-2006-B006
6. Cooper, J. R. (1998). A multidimensional approach to the adoption of innovation. Management Decision, 36(8), 493–502. https://doi.org/10.1108/00251749810232565
7. Fernandez, V. (2017). The finance of innovation in Latin America. International Review of Financial Analysis, 53, 37–47. https://doi.org/10.1016/j.irfa.2017.08.008
8. García-Quevedo, J., Segarra-Blasco, A., & Teruel, M. (2018). Financial constraints and the failure of innovation projects. Technological Forecasting and Social Change, 127, 127–140. https://doi.org/10.1016/j.techfore.2017.05.029
9. Gartner, W. B., Frid, C. J., & Alexander, J. C. (2012). Financing the emerging firm. Small Business Economics, 39(3), 745–761. https://doi.org/10.1007/s11187-011-9359-y
10. Garud, R., Gehman, J., & Giuliani, A. P. (2014). Contextualizing entrepreneurial innovation: A narrative perspective. Research Policy, 43(7), 1177–1188. https://doi.org/10.1016/j.respol.2014.04.015
11. Ghosh, S. (2021). Funding for start-ups in India: what shakes it? Journal of Entrepreneurship in Emerging Economies, 13(5), 1215–1234. https://doi.org/10.1108/JEEE-05-2020-0142
12. Giraudo, E., Giudici, G., & Grilli, L. (n.d.). Entrepreneurship policy and the financing of young innovative companies: evidence from the Italian Startup Act.
13. Guckenbiehl, P., Corral de Zubielqui, G., & Lindsay, N. (2021). Knowledge and innovation in start-up ventures: A systematic literature review and research agenda. Technological Forecasting and Social Change, 172(July), 121026. https://doi.org/10.1016/j.techfore.2021.121026
14. Guzman, J., Oh, J. J., & Sen, A. (2020). What motivates innovative entrepreneurs? evidence from a global field experiment. Management Science, 66(10), 4808–4819. https://doi.org/10.1287/mnsc.2020.3612
15. Hagedoorn, J. (1996). Innovation and entrepreneurship: Schumpeter revisited. Industrial and Corporate Change, 5(3), 883–896. https://doi.org/10.1093/icc/5.3.883
16. Hahn, G., & Kwon, J. Y. (2017). Startup Financing and Capital Structure: A Signaling Approach.
17. Hall, T. (2015). Firm Boundaries and Innovation: Empirical Evidence from Entrepreneurial Finance. International Journal of Innovation and Technology Management, 12(5), 1–33. https://doi.org/10.1142/S0219877015500236
18. Kerr, W., Nanda, R., & Kerr, W. R. (2009). NBER WORKING PAPER SERIES FINANCING CONSTRAINTS AND ENTREPRENEURSHIP Financing Constraints and Entrepreneurship Financing Constraints and Entrepreneurship. http://www.nber.org/papers/w15498
19. Koellinger, P. (2008). Why are some entrepreneurs more innovative than others? Small Business Economics, 31(1), 21–37. https://doi.org/10.1007/s11187-008-9107-0
20. Law, S. H., Lee, W. C., & Singh, N. (2018). Revisiting the finance-innovation nexus: Evidence from a non-linear approach. Journal of Innovation and Knowledge, 3(3), 143–153. https://doi.org/10.1016/j.jik.2017.02.001
21. Low, S. A., & Isserman, A. M. (2015). Where Are the Innovative Entrepreneurs? Identifying Innovative Industries and Measuring Innovative Entrepreneurship. International Regional Science Review, 38(2), 171–201. https://doi.org/10.1177/0160017613484926
22. Mann, C. L., & Sanyal, P. (2012). The Financial Structure of Startup Firms: The Role of Assets, Information, and Entrepreneur Characteristics. SSRN Electronic Journal, 10, 1–29. https://doi.org/10.2139/ssrn.1768099

23. Mitchelmore, S., & Rowley, J. (2010). Entrepreneurial competencies: A literature review and development agenda. International Journal of Entrepreneurial Behaviour & Research, 16(2), 92–111. https://doi.org/10.1108/13552551011026995
24. Sharma, L. (2024). Firm selection for government venture capital funding to youth tech-based startups. Journal of Research in Marketing and Entrepreneurship, 26(1), 25–43. https://doi.org/10.1108/JRME-06-2020-0083
25. Singh, S., & Mungila Hillemane, B. S. (2023). Sources of finance for tech startups over its lifecycle: what determines their approach of sources and its success? International Journal of Emerging Markets, 18(8), 1766–1787. https://doi.org/10.1108/IJOEM-06-2020-0705
26. Śledzik, K. (2013). Schumpeter's View on Innovation and Entrepreneurship. "tradução nossa". A VISÃO DE SCHUMPETER SOBRE INOVAÇÃO E EMPREENDEDORISMO. SSRN Electronic Journal, 89–95. http://www.ssrn.com/abstract=2257783
27. Spender, J. C., Corvello, V., Grimaldi, M., & Rippa, P. (2017). Startups and open innovation: a review of the literature. In European Journal of Innovation Management (Vol. 20, Issue 1, pp. 4–30). Emerald Group Publishing Ltd. https://doi.org/10.1108/EJIM-12-2015-0131
28. Staff, W. I. P. O., Staff, C. U., & INSEAD. (2020). Global Innovation Index 2020 - Executive version Who Will Finance Innovation?.
29. Sweezy, P. M. (2016). Professor Schumpeter ' s Theory of Innovation Author (s): Paul M . Sweezy Source : The Review of Economics and Statistics , Vol . 25 , No . 1 (Feb ., 1943), pp . 93-96 Published by : The MIT Press Stable URL : http://www.jstor.org/stable/1924551 Acces. 25(1), 93–96.
30. Ullah, B. (2019). Firm innovation in transition economies: The role of formal versus informal finance. Journal of Multinational Financial Management, 50, 58–75. https://doi.org/10.1016/j.mulfin.2019.04.004
31. Wu, J., Si, S., & Wu, X. (2016). ENTREPRENEURIAL FINANCE AND INNOVATION: INFORMAL DEBT AS AN EMPIRICAL CASE. https://doi.org/10.1002/sej