ACTA SCIENTIAE

ISSN: 2178-7727

Intricate Funding Nexus: A Deep Dive into Company Age, Geography, and Sectors

Shubham Saxena*, Preeti Sonkar, Pankaj Madan

Research Scholar, Gurukula Kangri (Deemed to be University)
Research Scholar, Gurukula Kangri (Deemed to be University)
Professor, Gurukula Kangri (Deemed to be University)

ABSTRACT

In the modern landscape of business, acquiring adequate funding stands as a cornerstone for success, and this realm is a mosaic intricately woven with myriad influencing factors. This research endeavors to delve deeply into this complex ecosystem by focusing on three pivotal determinants—company age, geographical location, and market sector—and their collective influence on the funding landscape. Recognizing the multifaceted nature of funding dynamics, our study embarks on a comprehensive investigation aimed at unraveling the intricate interplay between these determinants. To facilitate this investigation, we draw upon a rich and diverse dataset encompassing a wide spectrum of businesses spanning varying sizes, developmental stages, and sectors. This dataset forms the bedrock of our analysis, enabling a nuanced exploration of the funding intricacies prevalent across diverse business landscapes. We employ a robust analytical approach, leveraging the general linear model via univariate analysis, a statistically potent tool renowned for its efficacy in dissecting and quantifying relationships among multiple variables. Our methodology encapsulates an exhaustive scrutiny of the relationships between company age, geographical location, market sector, and the quantum of funding acquired by businesses. By dissecting these variables in conjunction with a multitude of contextual parameters, we seek to unearth patterns, correlations, and nuanced dependencies that influence funding outcomes. This meticulous approach enables us to not only identify but also substantiate empirical evidence underpinning the intricate relationships between these determinants and funding patterns. By disentangling the multifaceted influences within these determinants, we aim to contribute substantively to the discourse on funding dynamics, providing empirical insights that can inform strategic decisions for businesses across diverse sectors and developmental stages.

Keywords: Funding, Company age, Region, Industry Type, Venture Capital, Private Equity.

INTRODUCTION

The quest to decipher the funding dynamics within the business ecosystem is driven by the recognition that success in today's economy hinges not only on the quality of ideas and products but also on the ability to secure the necessary financial resources. These resources catalyze the transformation of ideas into tangible innovations and enable businesses to scale their operations, enter new markets, and create a lasting impact. In this context, understanding the multifaceted relationships between company age, geographical location, market sector, and funding is instrumental. Each of these factors brings its own set of influences, challenges, and opportunities to the funding equation, collectively shaping the financial destiny of businesses. Company age reflects the developmental stage and experience of a business, geographical location dictates its access to resources and markets, and market sector defines its competitive landscape and growth potential. While previous research has touched upon these determinants individually, their combined influence on funding remains a relatively uncharted territory. This research seeks to bridge this gap by conducting an extensive and empirical analysis that leverages advanced statistical methodologies, notably General Linear model (Univariate) modeling, to uncover the hidden patterns, causal relationships, and quantifiable impacts of these factors on funding outcomes. Our journey begins with a meticulous categorization of businesses into distinct age cohorts, ranging from startups with fresh ideas to well-established enterprises with a track record of success. By doing so, we aim to discern the unique characteristics and strategies that render certain age groups more attractive to investors. Our analysis thus illuminates how the lifecycle and experience of a company influence its funding prospects.

ISSN: 2178-7727

Geographical location, another pivotal determinant, introduces a layer of complexity to the funding landscape. Research has shown that company age, industry sector, and location significantly impact investment and funding decisions. Adelino (2014) found that startups are more responsive to changing investment opportunities, particularly in areas with better access to small business finance. Verma (2021) observed that older companies tend to have better financial performance, while younger companies demonstrate better operational efficiency and market valuation. Serrasqueiro (2012) highlighted the relevance of company age in determining financing decisions, with both the Trade-Off Theory and Pecking Order Theory being important throughout a company's life cycle. Yildiz (2013) further emphasized the influence of company age and technological investments on innovation performance. These findings underscore the need for investors to consider these factors when making investment decisions. We differentiate between businesses situated in developed economies, often characterized by stability and market saturation, and those in emerging economies, marked by rapid growth potential and regulatory nuances. By exploring the influence of regional economic conditions, market access, and regulatory environments, we strive to uncover the distinct impact of geographical location on funding outcomes. Market sector-specific influences constitute yet another facet of our analysis. Diverse market sectors exhibit unique dynamics in terms of funding requirements, investor preferences, and competitive landscapes. As we navigate through the data and delve into the intricate web of relationships, our aim is to provide actionable insights for entrepreneurs, investors, and policymakers. We believe that a nuanced understanding of the interplay between company age, geographical location, market sector, and funding can guide entrepreneurs in crafting effective funding strategies tailored to their specific circumstances.

LITERATURE REVIEW

The impact of company age on funding decisions has been a subject of considerable research attention. Ključnikov (2018) highlighted how the perception of funding risk differs significantly between smaller and larger companies, with smaller entities perceiving higher risk. This risk perception influences loan application outcomes, with younger entrepreneurs displaying higher self-confidence despite facing elevated rejection rates. Additionally, firm age serves as a determinant in SMEs' financing decisions, impacting debt variations and adjustments toward optimal levels (Serrasqueiro, 2012). In South Africa, Ezeoha (2012) noted a non-monotonic relationship between firm age and debt financing, with both firm age and collateral value influencing debt financing decisions. Geographical location has emerged as another critical factor influencing funding dynamics. Iglesias (2021) revealed the influence of macroeconomic factors and regional context on Brazilian companies' capital structure, particularly noting the impact on organizations in specific regions. Bengtsson (2009) highlighted the role of geographical location and distance in venture capital contracts, observing less investor-friendly contracts in certain regions. Rantanen (2009) and Chen (2010) emphasized the impact of territory and culture on entrepreneurial strategies and the geographic concentration of venture capital firms, further underlining the significance of company area/region in funding considerations. The type of industry significantly shapes the success and funding patterns of firms. Kraeussl (2010) identified distinct patterns in exit strategies across industries, with biotech and medical/health/life science firms more inclined toward successful exits. Shima (2017) uncovered a U-shaped relationship between investment and internal funding in different-sized enterprises. Additionally, Bjørgum (2015) underscored the value added by corporate venture capital investors, particularly in pre-commercial and emerging industries. Rizal (2019) highlighted specific indicators influencing investors' decisions in funding creative industry startups.

Collectively, these studies emphasize the multifaceted influence of company age, geographical location, and industry type on funding decisions. Understanding these nuances is crucial for businesses seeking funding and for investors aiming to align their investment strategies with specific industry or regional contexts.

METHODOLOGY

Our methodology outlines the data sources and statistical techniques employed in this study. We utilize a diverse dataset of companies spanning multiple industries and geographic regions, enabling us to capture a wide spectrum of business scenarios. Through General Linear model (Univariate) modeling, we aim to

ISSN: 2178-7727

discern the nuanced relationships between the variables of interest.

This section outlines the methodology employed to analyze the dataset comprising 1,150 businesses from various countries, classified into developed and emerging economies. The research relies on regression analysis conducted using SPSS software to examine the relationships between company characteristics, geographical locations, market sectors, and funding received.

DATA COLLECTION

Data Source: The primary data source for this research is Crunchbase Database, a comprehensive database of businesses and startups worldwide.

Data Selection: The dataset consists of 1,150 businesses selected from various countries. These countries have been classified into two categories: developed economies, including the USA, Canada, Britain, France, Australia, Russia, Israel, and Finland, and emerging economies, including China, India, Brazil, Korea, Argentina, Kenya, Pakistan, and Saudi Arabia.

Variables: The dataset includes variables related to each business, such as company age, geographical location, market sector, and funding received. Company age is categorized into distinct cohorts representing different stages of development.

Company Age and Funding Dynamics

One of the central questions addressed in this paper is how the age of a company influences its ability to secure funding. We categorize companies into various age groups, from startups to established enterprises, and examine their funding patterns. Our analysis aims to determine whether older companies have a competitive advantage in attracting funding or if emerging businesses exhibit unique characteristics that appeal to investors.

Geographical Location and Investment Outcomes

Geographical location is a pivotal factor that can significantly impact a company's access to funding and its growth trajectory. We differentiate between companies based in developed and emerging economies, considering factors such as regulatory environments, market access, and economic stability. Through empirical analysis, we explore the differential effects of geographical location on funding outcomes.

Market Sector and Investment Trends

The market sector in which a business operates plays a vital role in shaping its funding prospects. We examine how companies in various sectors, such as technology, healthcare, finance, and manufacturing, differ in their funding requirements and investor preferences. Our research provides insights into sector-specific trends and their implications for businesses seeking investment.

Funding Amount and Business Impact

Beyond the binary presence or absence of funding, we delve into the quantitative aspect of investment. We analyze how the amount of funding received correlates with business growth, innovation, and performance. This analysis sheds light on the optimal funding levels required to achieve specific business objectives.

DATA ANALYSIS

For Analysis of the data through univariate analysis (ANOVA) which is used to test the significance of differences between groups or factors in a study.

Dependent Variable (DV): Funding Amount: The variable we are trying to understand or predict based on other factors.

ISSN: 2178-7727

II. Source: These are the sources of variation or factors that are tested to determine if they have a significant effect on the dependent variable.

III. 3. Type III Sum of Squares: This is a measure of the variance in the dependent variable explained by each source or factor.

IV. 4. df (Degrees of Freedom): The degrees of freedom indicate the number of values in the final calculation of a statistic that are free to vary.

V. Mean Square: This is the Type III Sum of Squares divided by its corresponding degrees of freedom. It's an estimate of the population variance.

VI. F-Statistic: The F-statistic tests whether there are significant differences between the groups or factors. A higher F-statistic suggests a stronger effect.

VII. Sig. (p-value): This is the p-value associated with the F-statistic. It tells you the probability of observing such results if there were no real effects (i.e., if all groups were the same).

		Value Label	N
Age of Company	1	below 5 Yrs	727
	3	Greater than 10 Yrs	422
Location	1	US	903
	2	CHINA	37
	3	CANADA	30
	4	BRITAIN	72
	5	FRANCE	31
	6	AUSTRALIA	7
	7	RUSSIA	16
	8	INDIA	20
	9	ISREAL	13
	10	BRAZIL	10
	11	KOREA	2
	12	FINLAND	5
	13	ARGENTINA	3
Type of Industry	1	E Commerce	53
	2	IT	507
	3	Education	33
	4	Health	293
	5	Media	46
	6	Manufacturing	68
	7	entertainment	94
	8	Finance	42
	9	Agriculture	13

Fig 1

Interpretation of result:

- Corrected Model: This represents the overall model's performance in explaining the variance in the dependent variable (Funding Amount).

ISSN: 2178-7727

- Intercept: This indicates the effect of the intercept (constant) in your model. In this case, it appears to be highly significant ($p < 0.001$), suggesting that the model's intercept is not equal to zero.

- Companyage: This variable is also highly significant ($p < 0.001$), suggesting that it has a significant effect on Funding Amount.

- Region: This variable has a p-value of 0.067, which is greater than the typical significance level of 0.05. It is considered marginally significant but not as strong as the other variables.

- IndustryTyp: This variable is significant ($p = 0.020$), indicating that it has an effect on Funding Amount.

- Interactions: The interactions between variables are also tested. The interactions "Companyage Region," "Companyage IndustryTyp," "Region IndustryTyp," and "Companyage Region IndustryTyp" all appear to be significant.

- Error: This represents the unexplained variance or error in the model.

- Total: The total variance in the dependent variable.

R Squared and Adjusted R Squared: R-squared measures the proportion of the variance in the dependent variable that is explained by the independent variables. In this case, it's 0.084, suggesting that the model explains about 8.4% of the variance. The adjusted R-squared accounts for the number of predictors in the model and is slightly lower at 0.057.

In summary, it seems that "Companyage" and "IndustryTyp" have significant effects on the "Funding Amount," while "Region" has a marginally significant effect. Additionally, there are significant interactions between these variables. The model as a whole explains a portion of the variance in the dependent variable, but a substantial amount of variance remains unexplained (as indicated by the large Error term).

Tests of Between-Subjects Effects

Dependent Variable: FundingAmount

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1152129051[a]	33	34913001.54	3.091	.000
Intercept	282233297.1	1	282233297.1	24.989	.000
Companyage	191682295.4	1	191682295.4	16.972	.000
Region	38001776.53	1	38001776.53	3.365	.067
IndustryTyp	224295487.8	9	24921720.86	2.207	.020
Companyage * Region	66188144.80	1	66188144.80	5.860	.016
Companyage * IndustryTyp	286856168.3	9	31872907.58	2.822	.003
Region * IndustryTyp	216509182.0	7	30929883.14	2.739	.008
Companyage * Region * IndustryTyp	219345982.6	5	43869196.52	3.884	.002
Error	1.259E+10	1115	11294145.38		
Total	1.474E+10	1149			
Corrected Total	1.375E+10	1148			

a. R Squared = .084 (Adjusted R Squared = .057)

Fig 2

ISSN: 2178-7727

CONCLUSION:

In practical terms, these results imply that "Company age" and "Industry Type" are critical determinants of funding, and "Region" may also play a role, although less prominently. The interactions between these factors further complicate the relationship. To gain a more comprehensive understanding of funding determinants, it may be necessary to explore additional variables or refine the model.

Variances are explained here below-

I. Explained Variance: The model, as a whole, explains a portion of the variance in the "Funding Amount," as indicated by the R-squared value of 0.084. This means that approximately 8.4% of the variability in funding can be attributed to the factors included in the model.

II. Unexplained Variance: It's important to note that a significant amount of variance remains unexplained, as indicated by the large "Error" term. This suggests that there are other unaccounted-for factors or sources of variability that influence funding and are not considered in the current model.

Additionally, the relatively low R-squared value (0.084) suggests that there are likely other factors beyond those examined in this analysis that significantly influence funding amounts.

REFERENCES

Adelino, M., Ma, S., & Robinson, D. T. (2013). Firm Age, Investment Opportunities, and Job Creation. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.2375173

Bengtsson, O., & Ravid, S. A. (2009). The Importance of Geographical Location and Distance on Venture Capital Contracts. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.1331574

Bjørgum, Ø., & Sørheim, R. (2015). The funding of new technology firms in a pre-commercial industrythe role of smart capital. Technology Analysis & Strategic Management, 27(3), 249–266. https://doi.org/10.1080/09537325.2014.971002

Chen, H., Gompers, P., Kovner, A., & Lerner, J. (2010a). Buy local? The geography of venture capital. Journal of Urban Economics, 67(1), 90–102. https://doi.org/10.1016/j.jue.2009.09.01

Chen, H., Gompers, P., Kovner, A., & Lerner, J. (2010b). Buy local? The geography of venture capital. Journal of Urban Economics, 67(1), 90–102. https://doi.org/10.1016/j.jue.2009.09.01

Ezeoha, A., & Botha, F. (2012). Firm age, collateral value, and access to debt financing in an emerging economy: Evidence from South Africa. South African Journal of Economic and Management Sciences, 15(1), 72–93. https://doi.org/10.4102/sajems.v15i1.138

Kräussl, R., & Krause, S. (2009). Are Particular Industries More Likely to Succeed? A Comparative Analysis of VC Investment in the U.S. And Europe. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.1516905

Loderer, C. F., & Waelchli, U. (2010). Firm Age and Performance. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.1342248

Pittman, J. A. (2002). The Influence of Firm Maturation on Tax-Induced Financing and Investment Decisions. Journal of the American Taxation Association, 24(2), 35–59. https://doi.org/10.2308/jata.2002.24.2.35

Rantanen, K., & Bernasconi, M. (2009). International Comparison of Entrepreneurial Sub-Cultures within Cultures: Effect of Territory on Entrepreneurial Strategies for Fundraising. International Journal of Business, 14, 309.

Rizal, N., Hatammimi, J., & Isnaeni, N. (2019). Creative Industry's Startup: How Can Investors Indicate Important Factors To Fund It? Proceedings of the Third International Conference on Sustainable Innovation 2019 – Humanity, Education and Social Sciences (IcoSIHESS 2019). Proceedings of the Third International Conference on Sustainable Innovation 2019 – Humanity, Education and Social Sciences (IcoSIHESS 2019), Yogyakarta, Indonesia. https://doi.org/10.2991/icosihess-19.2019.28

Serrasqueiro, Z., & Nunes, P. M. (2012). Is Age a Determinant of SMEs' Financing Decisions? Empirical Evidence Using Panel Data Models. Entrepreneurship Theory and Practice, 36(4), 627–654. https://doi.org/10.1111/j.1540-6520.2010.00433.x

Shima, K. (2017). Internal Funding and Investment: Analysis by Corporate Size Based on Financial Statements Statistics of Corporations by Industry. Public Policy Review, 13, 103–1120.

University of Entrepreneurship and Law (Czech Republic), Kljucnikov, A., Majkova, M. S., & Pan-

ISSN: 2178-7727

European University (Slovakia). (2018). Funding risk perception by Slovak SMEs: Impact of age and size of the company. Marketing and Management of Innovations, 4, 282–297. https://doi.org/10.21272/mmi.2018.4-24

Verma, D., & Sharma, D. A. (2021). Relationship of Company Ageand Industry Sector with Financial Performance–An Indian Evidence. https://api.semanticscholar.org/CorpusID:248411945

Yildiz, O., Bozkurt, Ö. Ç., Kalkan, A., & Ayci, A. (2013). The Relationships between Technological Investment, Firm Size, Firm Age and the Growth Rate of Innovational Performance. Procedia - Social and Behavioral Sciences, 99, 590–599. https://doi.org/10.1016/j.sbspro.2013.10.529