Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 8, No. 6, 5411-5421
2024
Publisher: Learning Gate
DOI: 10.55214/25768484.v8i6.3204

The impact of financial capital on the survival of start-ups in the Mekong delta region, Vietnam

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Abstract: This study investigates the impact of financial capital on the survival of start-ups in Vietnam's Mekong Delta region, where new ventures face unique financial constraints due to limited access to formal funding and high reliance on informal sources. The study aims to determine how various types of financial capital—internal, informal, and formal—affect start-up survival rates and whether human capital factors such as founders' experience and education moderate these effects. Using a Cox Proportional Hazards Model, data were collected from 376 start-ups in the Mekong Delta through structured surveys. The findings reveal that formal financial capital significantly reduces failure risk, while informal and internal sources show limited influence. Human capital factors, especially work experience and education, further enhance survival prospects, underscoring their complementary role to financial capital. Additionally, the COVID-19 pandemic exacerbated financial challenges, highlighting the necessity for resilient funding sources. These results contribute to understanding the critical role of financial capital and human capital in supporting start-up survival, especially in economically constrained regions.

Keywords: *Cox proportional Hazards model, Financial capital, Human capital, Vietnam, Mekong delta, Start-up survival.*
JEL Classification: *D24; G17; P12; Q01; R28.*

1. Introduction

The role of financial capital is widely recognized as a fundamental input in business operations, especially for start-ups, where access to financial resources can be critical to their survival and growth. Unlike established enterprises, start-ups must often allocate substantial upfront costs to establish their market position and build operational capacity, even as they face challenges in generating stable revenue streams to sustain their operations. Given this, sufficient financial capital is crucial not only for launching a business but also for transforming innovative ideas into viable enterprises. This reliance on financial resources has led to a generally positive expectation of a correlation between access to financial capital and business outcomes, such as sustained growth and survival (Cooper et al., 1994; Holtz-Eakin et al., 1994).

However, the assumption of a straightforward relationship between financial capital and business success is underpinned by a fundamental premise: entrepreneurs face liquidity constraints. In the absence of these constraints, access to financial capital might not significantly impact business survival, as viable businesses would presumably begin operations regardless of their ability to obtain sufficient capital. Instead, the impact of financial capital becomes meaningful primarily when liquidity limitations prevent entrepreneurs from securing the resources necessary to maximize profitability. Studies on liquidity constraints (Kerr et al., 2010; Cressy, 1996) suggest that a significant influence of financial capital on start-up survival could indicate the existence of market imperfections and capital market failures that necessitate policy attention.

Empirical research has underscored that initial financial capital is a strong predictor of start-up outcomes. For instance, Cooper et al. (1994) showed that the amount of invested capital at the time of first sales positively influences start-up growth and longevity. Similarly, Holtz-Eakin et al. (1994) found

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that entrepreneurs who received larger inheritances were more likely to remain as sole proprietors, highlighting the liquidity constraints many entrepreneurs face. In more specific investigations, Kerr et al. (2010) demonstrated that angel investor funding significantly impacts start-up growth and survival. Nevertheless, some researchers argue that the observed correlation between financial capital and business survival may not necessarily imply financial scarcity. If financial resources are distributed based on entrepreneurial characteristics, the finance-survival correlation may merely reflect differences in human capital among start-ups (Åstebro & Bernhardt, 2005; Brüderl et al., 1992).

Although Cressy (1996) found that controlling for human capital factors diminishes the positive relationship between financial capital and survival, evidence remains inconclusive. Studies by Brüderl et al. (1992) in Germany and Åstebro & Bernhardt (2003) in the United States have reported significant positive effects of financial capital on survival, even when accounting for various human capital and organizational characteristics. These mixed findings have prompted further investigation into whether financial capital is an endogenous factor influenced by latent human capital characteristics (Bates, 1990; Storey & Wynarczyk, 1996).

Moreover, the COVID-19 pandemic has introduced unprecedented challenges to start-ups, exacerbating existing liquidity constraints and transforming the start-up landscape. The pandemic has underscored the necessity of financial resilience, as many start-ups faced severe cash flow challenges and had to adapt their business models to the new economic conditions (Fairlie, 2020; Bartik et al., 2020). Understanding the role of financial capital in supporting start-up resilience, both during and after such crises, has become more relevant than ever.

In the Mekong Delta region, start-ups face unique financial challenges. With one of the lowest start-up growth rates in the country and a reported start-up "mortality rate" reaching up to 84% in 2022, it is clear that many new businesses in the region struggle to sustain operations (Nguyễn & Vũ, 2023). The region's economy, predominantly agricultural, comprises many small and micro enterprises with low business efficiency, minimal capital accumulation, and high risks, leading to financial vulnerabilities. Furthermore, a strong demand for working capital, especially in agriculture, creates additional obstacles for start-ups seeking access to credit. Although local banks in the Mekong Delta region have offered targeted agricultural lending programs, many businesses continue to rely on high-interest financing from non-banking institutions, often under unstable conditions (State Bank of Vietnam, 2023).

This study aims to examine the impact of financial capital on the survival of start-ups in the Mekong Delta region region. Specifically, it seeks to answer the following research questions: (1) How do different types of financial capital affect the survival of start-ups? (2) Are there significant differences in the impact of financial capital on survival between start-ups with varying levels of human capital? (3) Does the COVID-19 pandemic influence the role of financial capital in start-up survival?

To address these questions, this paper is structured as follows: Section 2 presents a comprehensive literature review on the relationship between financial capital and start-up survival. Section 3 describes the methodology employed in the study, including data collection and analysis techniques. Section 4 provides the research findings and discussion on the impact of financial capital on start-up survival in the Mekong Delta region context. Section 5 discusses managerial implications based on the study's findings. Finally, Section 6 offers conclusions, limitations, and suggestions for future research.

2. Literature Review

Cooper et al. (1994) argue that internal financial capital, such as personal savings invested by founders, is crucial in establishing initial stability and improving growth prospects for start-ups. Similarly, Sirmon & Hitt (2003) emphasize the importance of informal financial capital, which includes funds from family, friends, and acquaintances, in providing liquidity during the initial stages when access to formal financial institutions is limited. This type of capital is especially relevant in emerging markets, as noted by Kim et al. (2006). Gompers & Lerner (2001) also highlight the role of formal financial capital, such as venture capital, in helping start-ups achieve faster growth due to the strategic support provided by venture capitalists.

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H_1: Financial capital, including internal, informal, and formal sources, has a positive influence on start-up survival.

Becker (1964) proposes that human capital investments, such as education and experience, enhance individual productivity and contribute to organizational performance. Bosma et al., (2004) find that older founders often have greater business experience and industry networks, which positively correlate with start-up success. In line with this, Gimeno et al. (1997) demonstrate that industry experience provides founders with valuable insights into market dynamics and customer needs, enabling effective decision-making. Furthermore, Ucbasaran, et al. (2001) observe that general entrepreneurial experience among serial entrepreneur's increases success rates in subsequent ventures. Westhead et al. (2005) support this by showing that founders with prior entrepreneurial experience within the same industry make more informed decisions, enhancing survival prospects.

H_2: Human capital factors, such as age, industry experience, entrepreneurial experience, and education, positively impact start-up survival.

Firm performance metrics are also key indicators of start-up viability. Brealey et al. (2019) argue that Return on Sales (ROS), which measures efficiency in converting sales into profits, is essential for early-stage financial health. Similarly, Return on Equity (ROE) evaluates profitability in relation to shareholder equity, while Return on Assets (ROA) assesses how effectively assets are utilized. Delmar & Shane (2003) suggest that start-ups with high ROS, ROE, and ROA metrics are better positioned to attract investors and skilled personnel, further increasing their chances of survival.

H_3: Performance metrics, including ROS, ROE, and ROA, positively affect start-up survival.

Other environmental factors, such as the number of employees, competitive advantage, intellectual property (IP) ownership, and location, influence the survival rates of start-ups. Bruderl & Schussler (1990) find that larger start-ups benefit from diverse skills and greater operational capacity, contributing to higher survival rates. Porter (1985) emphasizes that competitive advantage, whether through cost leadership or differentiation, is essential for business longevity. Hsu & Ziedonis (2013) observe that start-ups with registered IP, such as patents, have a competitive edge that attracts investors. In terms of location, Feldman & Audretsch (1999) highlight that urban areas offer superior infrastructure and market resources, increasing the likelihood of start-up success.

H_4: Environmental factors, including competitive advantage, IP ownership, and location, influence start-up survival in positive or negative ways depending on specific circumstances.

Finally, the COVID-19 pandemic has introduced unique challenges to start-up survival, exacerbating liquidity constraints and altering market conditions. Donthu & Gustafsson (2020) demonstrate that start-ups with digital capabilities and adaptable business models are better equipped to navigate the disruptions caused by the pandemic. Bartik et al. (2020) add that pandemic-induced changes in consumer spending and supply chain disruptions have increased the financial pressures on many start-ups, highlighting the importance of resilience.

H_5: The COVID-19 pandemic negatively impacts start-up survival.

These hypotheses will be tested through empirical data from start-ups in the Mekong Delta region, contributing to an understanding of how financial and human capital, performance metrics, environmental factors, and pandemic challenges influence start-up longevity.

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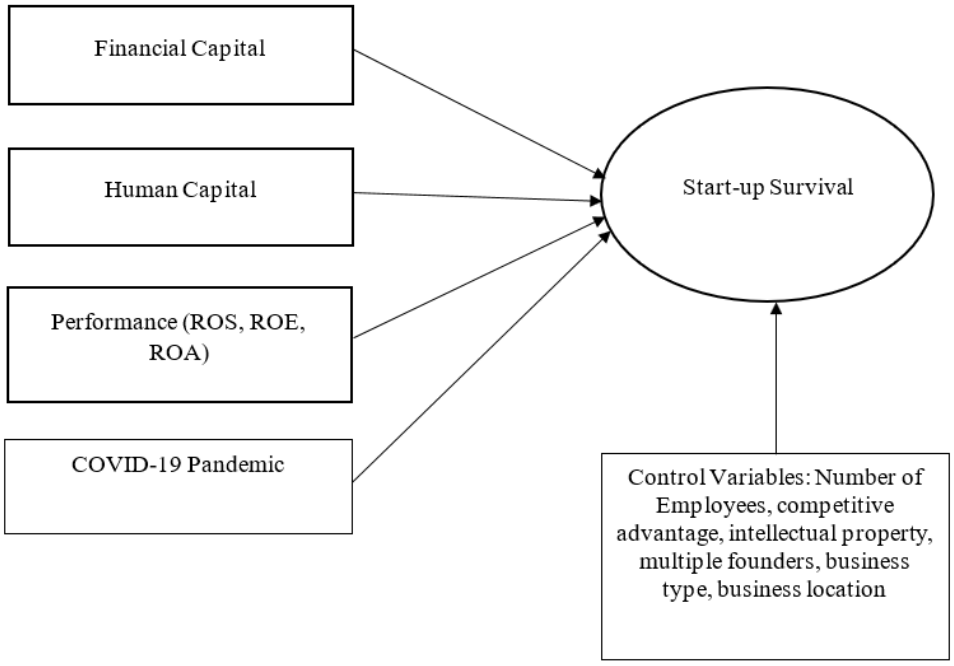

Figure 1.
Proposed research model.

3. Methodology

This research utilizes both primary and secondary data sources to analyze the factors affecting start-up survival in the Mekong Delta. Secondary data were sourced from established entities such as the General Statistics Office, the Vietnam Chamber of Commerce and Industry in Can Tho (VCCI Can Tho), the Fulbright School of Public Policy and Management, the Vietnam Business White Paper, and various reports from the State Bank of Vietnam. Scholarly articles from reputable journals were also reviewed to enhance the robustness of the research foundation.

Primary data were collected through direct surveys targeting start-ups within the Mekong Delta region. Structured questionnaires were employed, covering comprehensive aspects of start-up dynamics, including organizational characteristics, financial capital, human capital, and external factors such as the COVID-19 pandemic's impact.

Data collection involved convenience sampling, focusing on start-up founders in the Mekong Delta. The final sample size comprised 376 respondents, deemed sufficient for statistical analysis.

The analysis of financial capital's impact on start-up survival used the Cox Proportional Hazards Model, which effectively manages censored data and does not assume a specific survival time distribution (Cox, 1972). This model examines how explanatory variables influence the hazard rate of business failure over time. The Cox model's flexibility is particularly valuable for examining varied financial and human capital factors' impact on start-up survival.

In the Cox model, the hazard rate $h_j(t|X)$ of an observation j at time ttt is determined by the following formula::

$$h_j(t|X) = h_o(t)\exp(\beta' X_j)$$

where:

- $h_j(t|X)$ is the hazard rate at time t, conditioned by the explanatory variables X_j.
- $h_o(t)$ is the baseline hazard rate, indicating the underlying risk level unaffected by the explanatory variables and changing over time.
- $\exp(\beta' X_j)$ represents the exponential function of the product of regression coefficients β nd explanatory variables X_j, reflecting the extent of these variables' effects on the hazard rate.

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The Cox model's dependent variable is binary, representing survival (1) or failure (0) within a three- to five-year timeframe. The model analyzes the survival duration using hazard functions, survival functions, and distribution functions. Censored data is included, as businesses still operating at the study's end are censored to maintain data comprehensiveness.

To address the primary research objectives, this study sequentially introduces variables into the model. Initially, financial capital variables are examined concerning start-up survival. If significant, human capital variables are incorporated to observe any moderating effects. Finally, the COVID-19 impact variable is added to determine its influence on the financial capital-survival relationship. Each variable in the model is defined and explained in Table 1, detailing their expected impact based on prior studies.

Table 1.
Detailed explanation of independent variables in the proportional hazards model.

Variable	Definition and measurement	Expected sign	Source
1. Financial capital			
Internal capital (Internal C)	Measured as 1 if the start-up has this capital source, 0 otherwise	-	Christelis et al. (2010), Banks et al. (2010), Smith et al. (2010), Yoong (2011).
Informal capital (IC)	Measured as 1 if the start-up has this capital source, 0 otherwise	-	Cole et al. (2009), Wiklund & Shepherd (2003).
Formal capital (FC)	Measured as 1 if the start-up has this capital source, 0 otherwise	-	Malo & Norus (2009), Robson & Obeng (2008), Coad & Tamvada (2012).
2. Human capital			
Age	Measured as the age of the start-up founder (years)	-	Becker (1965), Morin & Suarez (1983), Lévesque & Minniti (2006), Grenadier & Wang (2007), Van Witteloostuijn (1998).
Work experience (WE)	Measured by the number of years of work experience in the field of the entrepreneur (years)	-	Becker (1965), Morin & Suarez (1983), Lévesque & Minniti (2006), Grenadier & Wang (2007), Van Witteloostuijn (1998).
General start-up experience (GSE)	Binary variable, coded as 1 if the entrepreneur has prior start-up experience, regardless of industry, 0 otherwise	-	Becker (1965), Morin & Suarez (1983), Lévesque & Minniti (2006), Grenadier & Wang (2007), Van Witteloostuijn (1998).
Specific start-up experience (SSE)	Binary variable, coded as 1 if the founder has prior start-up experience in the same industry, 0 otherwise	-	Becker (1965), Morin & Suarez (1983), Lévesque & Minniti (2006), Grenadier & Wang (2007), Van Witteloostuijn (1998).
Working hours (HW)	Indicates the founder's effort towards the start-up, measured by weekly working hours. Coded as: 1 (1–19 hours), 2 (20–35 hours), 3 (36–45 hours), 4 (46–55 hours), 5 (56–65 hours), 6 (>65 hours)	-	Bosma et al. (2004); van der Sluis & van Praag (2008).

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Education	Measured as: 1 (Below 9th grade), 2 (Did not complete high school), 3 (High school graduate), 4 (Vocational diploma), 5 (in college/university), 6 (College graduate), 7 (University graduate), 8 (In master's program), 9 (Master's graduate), 10 (Above master's level)	-	Millán et al. (2012), Grilli (2011)
Gender	Binary variable, coded as 1 if the founder is male, 0 if female	-	Becker (1975), Saridakis et al. (2008), Ganotakis (2012).
Ethnicity	Binary variable, coded as 1 if the founder is of Khmer ethnicity, 0 otherwise	+	Becker (1975), Saridakis et al. (2008), Ganotakis (2012).
3. Business performance indicators			
ROS (Return on sales)	Net profit margin measured by net profit after tax over revenue	-	Champion, 1999; Ghosh và cộng sự, 2000; Hadlock và James, 2002
ROE (Return on equity)	Net profit after tax over total shareholders' equity	-	Champion, 1999; Ghosh và cộng sự, 2000; Hadlock và James, 2002
ROA (Return on assets)	Net profit after tax over total assets	-	Champion, 1999; Ghosh và cộng sự, 2000; Hadlock và James, 2002
4. Other factors			
Number of employees (NE)	Measured by the number of employees hired by the start-up (Individuals)	+/-	Baumohl et al. (2020), Lee & Zhang (2010)
Competitive advantage (CA)	Binary variable, coded as 1 if the start-up has a competitive advantage over competitors, 0 otherwise	-	Cole & Sokolyk (2018), Lee & Zhang (2010)
Intellectual property (IP)	Binary variable, coded as 1 if the start-up has registered intellectual property, 0 otherwise	-	Cole & Sokolyk (2018), Cotei & Farhat (2017), Abdul (2017), Lee & Zhang (2010)
Multiple Founders (MF)	Binary variable, coded as 1 if the start-up has two or more founders, 0 otherwise	-	Baumohl et al., (2020), Cole & Sokolyk (2018), Cotei & Farhat (2017), Lee & Zhang (2010)
Business Type (Private)	Binary variable, coded as 1 if the start-up is a private company, 0 otherwise	+	Cole & Sokolyk (2018)
Business Location (Urban)	Binary variable, coded as 1 if the start-up is located in an urban area, 0 otherwise	-	Hannan & Freeman (1977), Singh & Lumsden (1990), Vaessen & Keeble (1995), Burger et al. (2011), Stephan (2011), Birley & Westhead (1992), Jones-Evans, Thompson & Hill (2008), Santarelli et al. (2009),

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			Williams & Williams (2014).
5. COVID-19 Impact (COVID)	Coded as: 1 (Low impact), 2 (Serious impact), 3 (very serious impact during strict lockdown phases)	+	Gourinchas et al., 2020, Ivanov & Dolgui, 2020, Donthu & Gustafsson, 2020, Bartik et al., 2020, Carletti et al., 2020, Seetharaman, 2020

4. Results and Discussions

The Cox Proportional Hazard Model analysis provided a comprehensive understanding of how financial capital impacts the survival of startups in the Mekong Delta region, even after controlling for human capital and COVID-19 effects. Initially, the model examined the influence of financial capital alone on business survival. Key financial variables, including formal capital (FC), internal capital (InternalC), and informal capital (IC), were incorporated. The analysis revealed that formal capital significantly reduces the hazard rate ($p < 0.01$), indicating that startups with access to formal financial sources experience a reduced risk of failure. Conversely, neither internal nor informal capital demonstrated a statistically significant impact, suggesting that limited financial sources such as personal savings or loans from family and friends may be insufficient to ensure a startup's survival under challenging conditions. Performance indicators such as ROA, ROE, and ROS also significantly contributed to reducing the hazard rate (all $p < 0.10$), affirming the positive role of financial performance on survival chances.

In the second model, human capital variables were introduced to examine whether they affect the relationship between financial capital and startup survival. When controlling for human capital, the influence of formal capital (FC) slightly decreased but remained significant at the 1% level, showing that financial capital continues to play a critical role even when accounting for founders' experience and education. Notably, working experience (WE) and general startup experience (GSE) displayed negative coefficients, indicating that increased experience significantly reduces the failure risk ($p < 0.10$ for both). This finding suggests that founders with industry experience or prior entrepreneurial endeavors can better navigate startup challenges. Similarly, educational attainment (Education) contributed positively to survival ($p < 0.05$), emphasizing that higher education enhances founders' ability to manage their enterprises effectively. The model underscores the importance of human capital in startup survival while highlighting that its addition moderately diminishes, but does not eliminate, the influence of financial capital on reducing failure risks.

In the third model, the impact of COVID-19 was added to further assess its effect on financial capital and startup survival in the Mekong Delta region. Despite the additional challenge posed by COVID-19, formal capital (FC) continued to show a significant influence in reducing failure risk ($p < 0.01$), although its coefficient further decreased. This result suggests that while formal capital remains beneficial, its impact is somewhat mitigated by pandemic conditions. The pandemic variable showed a significant positive effect on the hazard rate, with more severe impacts correlating to increased failure risk, particularly at the high-impact level ($p < 0.01$). The findings align with existing literature on pandemic effects on small businesses, highlighting the vulnerability of startups to external shocks. COVID-19's influence reflects the financial and operational strains experienced by startups during prolonged lockdowns, supply chain disruptions, and fluctuating consumer demand in the region.

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Table 2.
Cox proportional hazards model.

Tên biến	B	Exp(B)	Wald	Sig.
Internal capital (Internal C)	-0.100	0.905	0.044	0.834
Informal capital (IC)	0.265	1.304	1.717	0.190
Formal capital (FC)	-1.001	0.368	18.096	0.000***
Age	0.007	1.007	0.679	0.410
Work experience (WE)	-0.037	0.963	6.238	0.013**
General start-up experience (GSE)	-0.379	0.685	3.573	0.059*
Specific start-up experience (SSE)	-0.006	0.994	0.001	0.973
Working hours (HW)	-0.078	0.925	1.764	0.184
Education	-0.136	0.872	6.708	0.010**
Gender	0.092	1.096	0.261	0.609
Ethnicity	-0.209	0.811	0.400	0.527
ROS	-0.926	0.396	7.579	0.006***
ROE	-0.094	0.910	3.748	0.053*
ROA	-0.572	0.565	6.166	0.013**
Number of employees (NE)	0.000	1.000	0.193	0.660
Competitive advantage (CA)	0.262	1.300	1.974	0.160
Intellectual property (IP)	-0.302	0.739	2.894	0.089*
Multiple founders (MF)	-0.475	0.622	6.519	0.011**
Business type (Private)	-0.063	0.938	0.149	0.700
Business location (Urban)	-0.466	0.628	1.134	0.287
COVID-19 impact (COVID)			14.421	0.001***
COVID(1)	-0.891	0.410	3.025	0.082*
COVID(2)	-0.135	0.874	0.076	0.782
-2Log likelihood: 1,493.158				
Chi-square: 145.295***				
Observations : 376				

Note: Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

This model also provided further insight into individual variables within financial, human capital, and COVID-19 dimensions. Formal capital (FC) demonstrated the most consistent effect, suggesting that startups with access to formal funding sources such as bank loans or venture capital maintain a considerable survival advantage, even amid crises. In contrast, internal and informal capital remained statistically insignificant, reinforcing that small-scale financial sources may lack the capacity to sustain a startup in the face of substantial challenges. Performance indicators, specifically ROA, ROE, and ROS, maintained their significant negative associations with hazard rates ($p < 0.10$), indicating that financial profitability remains a pivotal factor in startup survival, with higher returns enhancing resilience against failure.

Other factors also contributed to startup survival within the model. For example, having multiple founders (MF) was significantly associated with reduced hazard rates ($p < 0.05$), highlighting the resilience that comes from diverse expertise and resource-sharing within founding teams. Intellectual property (IP) rights were similarly protective, reducing the hazard rate and underscoring the strategic advantage of proprietary assets. However, variables such as business location (Urban) and company type (Private) did not show statistical significance, suggesting that factors specific to Mekong Delta region's economic landscape may reduce the relative importance of these variables.

In conclusion, the analysis reaffirms that formal financial capital is a crucial determinant of startup survival in the Mekong Delta, particularly during times of external stress such as the COVID-19 pandemic. Human capital factors—especially founders' experience and education—augment financial resources by further lowering risk, and financial performance metrics underscore the vital role of

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ISSN: 2576-8484
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profitability in survival outcomes. While COVID-19 intensifies survival challenges, formal capital, robust performance, and human capital collectively enhance startup resilience, emphasizing the need for targeted financial and educational support policies to foster startup sustainability in the Mekong Delta region.

5. Managerial Implications

Based on the Cox proportional hazards regression model, managerial implications can be derived to help startups enhance their survival prospects. First, financial capital management is essential for ensuring startup sustainability, particularly during turbulent market periods. Startups should prioritize securing formal financial sources such as bank loans, venture capital, and government support programs, as these offer stability and reduced failure risk, especially in crises. Formal capital sources typically provide favorable interest rates, flexible repayment options, and additional government-backed support. Such funding not only alleviates financial pressure but also instills confidence among investors and partners, strengthening the startup's reputation and potential for future funding. Utilizing available government programs for startups can also significantly improve access to capital for infrastructure development, technology adoption, and scaling up.

Startups are advised to build a sustainable and balanced capital strategy, reducing reliance on informal or internal funds, which are often unstable and influenced by personal or social relationships. While informal capital may provide short-term support, it should not be the primary source for long-term projects or expansion. A diversified capital approach, including bank loans, venture capital, and self-financing, enables startups to manage financial risks better and quickly access necessary funds for growth initiatives or unforeseen market fluctuations. Additionally, startups should create a financial reserve fund to manage unexpected challenges without resorting to new debt, ensuring continued operations during short-term financial hardships.

Internal financial management is critical for effective capital utilization and risk mitigation. Startups should invest in financial training for their teams, equipping them with skills in cash flow management, cost optimization, and financial risk analysis. These capabilities not only support financial stability but also improve decision-making during financial challenges. Training should cover essential skills such as budgeting, cost analysis, and cash flow management to foster a financially robust and resilient startup.

Secondly, business performance indicators like ROA, ROE, and ROS are central to assessing and enhancing operational efficiency. Startups should strive to optimize these financial metrics, which directly influence profitability and investor appeal. Improving ROS involves cost control, optimizing workflows, and negotiating competitive supplier prices. Startups should maximize asset utilization to improve ROA, ensuring equipment and resources are used efficiently, which reduces waste and maximizes productivity. For ROE, focusing on high-return investments and maintaining a balanced capital structure can optimize financial costs and enhance flexibility.

To further support growth, effective asset management is crucial. Startups should establish an asset management system for tracking and assessing asset utilization, potentially integrating asset management technology for efficient monitoring. This approach helps minimize maintenance costs, extend asset lifespan, and maximize returns on investments.

In conclusion, these managerial implications emphasize the critical role of formal capital and financial performance in supporting startup survival. Startups should focus on building sustainable capital strategies, managing assets effectively, and continuously improving financial performance metrics. By leveraging formal financial resources, investing in internal financial capabilities, and optimizing operational efficiency, startups can enhance their resilience, attract investment, and lay a foundation for long-term growth and stability in dynamic markets.

6. Conclusion

This study highlights the critical role of formal financial capital in enhancing the survival of startups in the Mekong Delta region, especially during periods of market instability such as the COVID-19 pandemic. Access to formal financial resources—such as bank loans, venture capital, and government-backed programs—significantly reduces the risk of failure, providing both stability and

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investor confidence. Human capital, particularly founder experience and education, further reinforces this effect, helping startups navigate challenges more effectively. Moreover, key financial performance indicators (ROA, ROE, and ROS) emerge as essential metrics, underscoring the importance of profitability in improving resilience. These findings suggest that startups should prioritize building a balanced financial strategy, securing formal capital, and investing in performance optimization. Through these measures, startups can strengthen their foundation for sustainable growth and better withstand external shocks, contributing to their long-term viability in the Mekong Delta.

7. Limitations

This study provides valuable insights into the impact of financial capital on the survival of start-ups in the Mekong Delta region; however, it has several limitations that should be considered when interpreting the findings. First, the study's reliance on self-reported survey data may introduce response bias, as respondents may overstate or understate their financial resources and performance metrics due to personal or contextual factors. Second, the use of convenience sampling limits the generalizability of the findings to all start-ups in the region, as the sample may not fully represent the diversity of industries, business models, and stages of development among start-ups in the Mekong Delta.

Additionally, while the Cox Proportional Hazards Model is effective for analyzing survival data, it may not fully capture the complex, dynamic interactions between financial and human capital variables over time. Lastly, the rapidly evolving economic landscape, particularly in light of the COVID-19 pandemic, suggests that these findings may only be relevant for a specific period, and future research will be necessary to understand how these relationships evolve over time. Future studies could address these limitations by utilizing longitudinal data and more diverse sampling methods to enhance the robustness and generalizability of the results.

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Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 8, No. 6: 5411-5421, 2024
DOI: 10.55214/25768484.v8i6.3204