

Entrepreneurial Higher Education and

Economic Progress

Learning from Failure: Insights from the Start-ups' Graveyard

Behzad Mohammadian¹, Marzieh Tahmasebi², Asef Karimi³,

Abstract: Objectives This research explores the value of learning from failure for startup-scale entrepreneurs, aiming to bridge the gap in understanding failure within the startup ecosystem and provide actionable insights for resilience and growth, Approach Through a qualitative research methodology, we conducted a meticulous analysis of cognitive determinants and categorized failure reasons thematically. This involved examining 28 startups across diverse sectors and identifying nearly 90 unique lessons gleaned from failure experiences. These lessons were then distilled into 30 distinct reasons for entrepreneurial failure, categorized into startup-scaleup and internal-external factors, Results Our analysis revealed a significant concentration of failure reasons during the startup phase, emphasizing the importance of addressing internal operational inefficiencies and strategic shortcomings early in the entrepreneurial journey. As startups progressed into the scale-up phase, the distribution of failure factors shifted, highlighting the complex interplay between internal and external dynamics. Implications By integrating insights from quality management principles, our study offers practical implications for fostering resilience and enhancing entrepreneurial performance, Limitation Despite the comprehensive analysis conducted, our study is not without limitations. The sample size of 28 startups may limit the generalizability of findings, and the qualitative nature of the research may restrict the depth of analysis in comparison to quantitative approaches. Additionally, the retrospective nature of examining failure experiences may introduce bias, and external factors beyond the scope of this study may influence entrepreneurial outcomes. Future research could address these limitations by employing larger sample sizes and longitudinal study designs to provide a more robust understanding of failure dynamics in the startup ecosystem.

Keywords: Failure; Learning from failure; Startup graveyard; Entrepreneurship

JEL Classification: M00; D83; M13; L26

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1. Introduction

Embarking on an entrepreneurial journey mirror navigating a turbulent sea, where unforeseen challenges and unexpected setbacks are the norm. Statistics from the US Labor Department paint a sobering reality: nearly 40% of startup businesses meet their demise within the first four years (Liu, Li, Hao, & Zhang, 2019). However, within this tempest of uncertainty and risk, failure emerges not as a defeat but as a vital steppingstone towards future success.

Each setback, each stumble serves as a potential catalyst for growth and innovation. It is through the crucible of failure that entrepreneurs hone their skills, refine their strategies, and ultimately emerge stronger and more resilient. Yet, despite the inherent value of learning from failure, a conspicuous gap persists both in theory and practice.

While scholars have delved into the intricacies of entrepreneurial learning, particularly in the context of failure, there remains a glaring dearth of research specifically targeting startup scale entrepreneurs (Yamakawa et al., 2015). This oversight is all the more striking given the pivotal role such insights could play in fostering resilience and innovation within the startup ecosystem.

Moreover, divergent perspectives abound among entrepreneurs regarding the nature of failure. While some view it as an insurmountable barrier to be avoided at all costs, others perceive it as a transformative force teeming with potential. This diversity of viewpoints underscores the complexity of failure and highlights the need for a nuanced understanding of its implications.

In light of these considerations, this manuscript sets out to bridge the theoretical gap and address the practical neglect by delving into the profound value of learning from failure for startup scale entrepreneurs. By identifying the key effective reasons contributing to startup failure and prioritizing them, our aim is to offer actionable lessons derived from the crucible of the startup graveyard.

Through a meticulous analysis of failure reasons, this research endeavors to provide practical insights that can inform entrepreneurial practice and policy (Yae, Chang, & Chen, 2022). By shedding light on the failure reasons underlying entrepreneurial learning from failure, this study not only advances theoretical knowledge but also offers tangible guidance for entrepreneurs navigating the treacherous waters of startup ventures.

Furthermore, this exploration of failure's lessons extends beyond mere academic discourse. It holds profound implications for the resilience and reentry intention of entrepreneurs. By understanding and internalizing the lessons gleaned from failure, entrepreneurs can fortify their resilience in the face of adversity and increase their likelihood of reentering the entrepreneurial arena with renewed vigor and insight.

In doing so, they not only contribute to their own growth and success but also foster a culture of resilience and growth within the broader startup community. Thus, this manuscript seeks to not only contribute to the academic discourse but also to cultivate a community of resilient and forward-thinking entrepreneurs poised to navigate the challenges and opportunities of the startup landscape.

Expanding on this exploration, our study integrates insights from quality management principles, offering a novel perspective on the root causes of entrepreneurial failure. By scrutinizing historical data and employing a comprehensive framework, we aim to provide actionable insights into failure mitigation strategies.

Moreover, by elucidating the interplay between internal and external factors contributing to failure, our research contributes to a deeper understanding of entrepreneurial dynamics. This holistic approach not

only advances theoretical knowledge but also holds practical implications for policymakers, educators, and practitioners seeking to foster a supportive ecosystem for entrepreneurship.

Ultimately, by equipping entrepreneurs with the knowledge and tools to navigate failure more effectively, our study aims to promote innovation and sustainable growth in the entrepreneurial landscape.

2. Literature Review

The literature review section delves into the existing body of research surrounding entrepreneurial failure. Safari and Das (2023) proposed a Business Failure Classification model, which encompasses two critical dimensions: The Locus of Failure Factors and the Domains of Failure Factors. This model has been employed in our research, and a concise explanation will be presented in the following section after a brief review of failure definition.

2.1. Failure, Learning from Failures

Entrepreneurship is inherently intertwined with failure, a reality that entrepreneurs grapple with daily (Liu et al., 2019). While failure often carries negative connotations, it also presents valuable learning opportunities for those willing to delve into its complexities (Shepherd et al., 2018).

Definitions of entrepreneurial failure vary across the literature, encompassing factors such as legal issues, financial instability, and unmet goals (Bruno et al., 1999; Singh, 2011; Colho & McClure, 2005). These definitions span from the cessation of business operations to the failure to achieve predetermined objectives, reflecting diverse perspectives on failure.

Three primary approaches to defining failure emerge: closure and liquidation, bankruptcy, and the failure to achieve goals (Valenzuela et al., 2023; Singh et al., 2007). While some view failure solely as the dissolution of a business, others emphasize its broader implications for entrepreneurial learning and goal attainment.

Indeed, learning from failure has become a focal point in entrepreneurship research, with studies elucidating the cognitive benefits and learning opportunities associated with failure experiences (Amankwah-Amoah et al., 2022, 2021; Riar et al., 2021). Systematic reviews have highlighted the stages of entrepreneurial learning from failure and factors influencing its effectiveness (Lattacher & Wdowiak, 2020), suggesting that failure can positively impact new venture performance when coupled with entrepreneurial learning (Bosso et al., 2018).

While vicarious learning from failure holds promise in educational settings, there remains a scarcity of literature specifically tailored to serial entrepreneurs (Valenzuela et al., 2023; Lattacher & Wdowiak, 2020; Parker, 2013). Exploring the lessons learned from failure among serial entrepreneurs could yield valuable insights for fostering resilience and enhancing entrepreneurial performance.

2.2. Locus and Domains of Failure Reasons

The discourse on entrepreneurial failure distinguishes between internal and external factors influencing business demise. Internally, factors such as management expertise, business planning deficiencies, and organizational structure contribute to failure, alongside psychological attributes like overconfidence and neglect of competition (Artinger & Powell, 2016; Rauch & Frese, 2007). These internal challenges

encompass inexperienced decision-making, imprudent spending practices, and inadequate human resource management, exacerbated by the absence of professional entrepreneurial education and unclear business visions (Mantere et al., 2013; Goltz, 2011; Edmondson, 2011; Cope, 2011; Wagner, 2013).

Externally, market conditions, regulatory environments, and competitive dynamics play pivotal roles, with metropolitan areas attracting heightened competition, necessitating strategic partnerships for survival (Freeman, 2012). Excess market entry, coupled with poor product differentiation and responsiveness to customer feedback, compounds external failure risks (Artinger & Powell, 2016; Anderson et al., 2006; Audretsch & Thurik, 2001; Harvie, 2010). This delineation aligns with classical organizational theories, emphasizing firm-specific shortcomings versus broader market influences, informing strategies for mitigating failure risks and fostering resilience (Williamson, 1973; Thorelli, 1986).

Furthermore, the causes of entrepreneurial failure can be categorized into distinct domains, including financial, organizational, product-market, and legal aspects (Lussier, 1995). Challenges such as inadequate startup capital and financial management deficiencies fall within the financial domain, while issues like founders' lack of managerial experience and weaknesses in business strategy pertain to the organizational domain (Lussier, 1995; Mantere et al., 2013; Nobel, 2011; Wagner, 2013). The product-market domain emphasizes product/service suitability, differentiation, and effective marketing strategies (Cope, 2011; Wagner, 2013). Legal considerations underscore the importance of managing legal issues for success, as highlighted by controversies surrounding successful startups like Uber and Facebook (CB Insights, 2021).

Our research expands upon existing frameworks by examining how start-ups and scale-ups confront unique challenges within each domain as they progress through different stages of the business lifecycle. By dissecting the intricacies of failure at various stages, we aim to provide actionable insights that can inform tailored strategies for mitigating risks and enhancing the chances of success for entrepreneurs navigating the complexities of business growth.

3. Methodology

In our qualitative research methodology, we employed a systematic approach to investigate the factors contributing to entrepreneurial failure. Our study began with an in-depth thematic analysis to uncover the underlying reasons behind entrepreneurial failures. We initiated this process by collecting data from "startupgraveyard.io," a website dedicated to documenting the reasons behind the failure of 28 startups. Through meticulous scrutiny of these documented accounts, we discerned and catalogued the diverse array of factors influencing entrepreneurial failure. This comprehensive analysis allowed us to gain a nuanced understanding of the multifaceted nature of failure in entrepreneurial endeavours. Our aim is to facilitate a practical and profound learning process from failure, enabling entrepreneurs to glean valuable insights and strategies for future success.

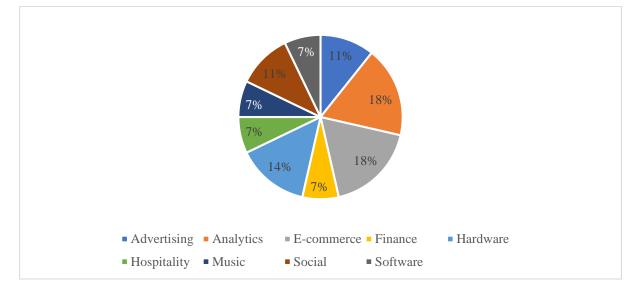


Figure 1. Types of Studied Start-Ups

In our research analysing entrepreneurial failure, we examined 28 startups across diverse sectors, with analytics and e-commerce each comprising 18% of the sample, indicating a focus on data-driven and online retail ventures. Hardware startups represented 14%, emphasizing innovation in physical product development. Advertising and social sectors accounted for 11% each, underscoring the importance of digital marketing and social media engagement. Finance, hospitality, music, and software sectors each constituted 7%, offering insights into niche markets. This analysis highlights the varied landscape of startup industries and provides valuable insights for navigating the challenges of entrepreneurial ventures across different domains.

4. Results

In this section, we present the findings of our study on entrepreneurial failure, which involved the analysis of 28 startups across nine distinct sectors. Through this comprehensive analysis, we aimed to uncover valuable insights into the factors contributing to startup failures and elucidate the lessons that can be derived from these experiences. Our research journey led us to a wealth of knowledge, encompassing nearly 90 unique lessons gleaned from the failures of the startups under examination. To distill this rich dataset, we employed a rigorous thematic analysis approach, allowing us to categorize these lessons into 30 distinct reasons for entrepreneurial failure. This introduction sets the stage for a detailed exploration of our results, offering a nuanced understanding of the multifaceted nature of startup failures and providing actionable insights for entrepreneurs and stakeholders in the startup ecosystem (Table 1).

Table	1.	Coding	Process
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approach, for which they were unprepared. Time was spent building prototypes to verify technical feasibility. In hindsight, they should have launched lightweight prototypes quickly to validate product interest. New Bitcoin banking services emerged after the company was founded. It is unclear whether competition contributed to their closure, or if the reliability of other services allowed 37Coins to shut down peacefully. Argyle struggled to keep up with its competitors. It did not achieve the marketing and distribution success of rivals like Spotify. They shifted their focus from buying gifts for friends to also buying gifts for oneself. This change led to competition with new rivals such as Wanelo, Wish, Fancy, Sypply's Want, and Polyvore. Failed to achieve market for customized electronics did not gain traction. Growth was too slow to yield a decent profit. The solar company faced difficulties exceptance. Failel to find productmarket fit as conference organizers viewed the product as a nice-to-have rather than a necessity. Struggled to achieve market fit based on user feedback. For instance, users requested LinkedIn integration, which had no impact, and a map-like feature for check-ins, leading them to stop sharing updates from Sonar when the feature was not implementation and ease of use faster than OpTier could manage. Experienced difficulties excuring VC funding due to conflicting opinions on the target amount. Failed to obtain additional investment. The business model relied on a percentage of transaction costs, but as transaction prices dropped, 997ersess' revenue declined. Could not secure another round of funding. Raised only one-tenth the amount of funding compared to competitors. Rdio requires a paid subscription, while competitors offered free, ad-supported to conting the fundance subscription, while competitors offered free, ad-supported apids with angle state of a \$250, which was more than people were willing to pay. Customer acquisition proved difficult secure was freed as \$250, which was more tha	Reason	Frequency	Туре
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Ang	The remaining team attempted to continue without the CEO but couldn't sustain Selltag. Legal issues weren't addressed by leaders from the start.	7	lack of leader

Users exploited the Safe Harbor provision of the DMCA to upload songs they didn't own the rights to. They led in streaming service design and had a strong UX/UI user base, but this focus on minor details distracted them from the bigger picture. The lack of long-term vision became evident when founders sold their shares. Employees were uncertain about leadership. A majority stake was sold to investors lacking experience in the business. There was no clear leader until it was too late.		
Structural problems at the incubator caused diffusion of responsibility, ambiguity, confusion, and tension, leading to a lack of funding. Internal conflicts between investors, founders, and board members. Disagreements on strategy within the company and with the board.	3	Internal feuds
The VCs cut too many corners, which eventually harmed the company.	1	Sacrificing Quality
The site was shut down due to a legal settlement between the company and copyright owners, who accused them of illegally sharing 5,000 songs, potentially resulting in a \$736 million fine. Complicated legal issues: managers sued shareholders, using the company's own funds for the lawsuit. Placed too much trust in a high-reputation law firm's advice; in hindsight, they would have double-checked information and used common sense.	4	Legal issues
Faced worker classification lawsuits. Lacked experience in founding and managing a company. Developed a	2	Lack of
platform for which the market was not yet prepared.	2	experience
They did not sell the platform when they realized it could no longer be made successful	1	Insisting on prior commitment
The turnover rate among errand runners was very high. One of the co- founders left to focus on family. They lost their best workers to arrangements with external clients.	3	Lost human capital
Leading Customers to activate their profile was challenging.	1	Customer
Lack of focus; they recommend identifying and solving one problem very well as a startup instead of attempting to solve everything adequately. "We shouldn't have handled jobs ourselves." They focused on too many things instead of excelling at one.	3	Lack of focus
There was significant customer dissatisfaction.	1	customer dissatisfaction.
Difficulty in acquiring and retaining talent. The founder was more committed to the project than his partners, who viewed it as secondary work. Challenges in retaining talent. For instance, Rdio struggled to maintain a consistent marketing chief for more than a few months at a time. Founders selling their shares created talent retention issues as employees lost confidence in the company's long-term viability. Issues with talent acquisition, including retention problems related to visa difficulties. Retention rates were low, with only about 25% of customers continuing to use the service after the first month, and less than 10% after six months.	5	Talent acquisition
Struggled with product-market fit and location. New York lacked the startup ecosystem the startup needed. Missed out on the benefits of high-profile incubators like Y-Combinator. Usage of the service varied significantly between cities, resulting in instances where the service didn't align well with certain cities.	3	Lack of product and location fit
Expanded too quickly, resulting in costly international operations.	1	Quick Expand
Depended on Nordstrom as an investor, but the deal did not materialize; specific details are undisclosed. The app was removed from major platforms (Apple App Store, Google Play, Facebook), forcing the team to refocus on desktop development despite user migration to mobile.	2	Key partner issue
Faced challenges with international worker visas, disrupting operations between the United States and Australia.	2	International workforce
Lack of distinction between the company's technology and product divisions.	1	Identity

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Engaged in excessive PR prematurely.	1	Quick announce
Overfunding led to poor organizational structure, suboptimal strategic decisions, and a disconnect from customers.	1	Too much money
Momentum was lost due to technology issues.	1	Technology issue
Secret's evolution did not align with the founder's original vision.	1	Deviation from the original goal
Transitioned to a free service with ads in 2013, but this move was too late.	1	Late in change
 One pivot aimed to preview conference attendees in advance to boost ticket sales, but it failed because most tickets were purchased closer to the event date. Lacked sufficient expertise in the Internet of Things; advises founders to become experts or active users to better understand their market. Initially attributed government-citizen communication failures to outdated or absent technology. 	3	Insufficient experience in technology
Founders' attachment to the product hindered objective decision-making about pivoting strategies.	1	Loving the idea

After conducting thematic analysis and uncovering the primary reasons for failure among startups, our study has categorized these 30 reasons into two main overarching categories: startup-scaleup and internal-external factors. The distinction between these categories provides a structured framework for understanding the complexities of startup failures. The startup-scaleup category encompasses challenges and pitfalls encountered during different stages of the business lifecycle, from the nascent startup phase to the critical scale-up period. On the other hand, the internal-external category delineates between factors that are intrinsic to the startup's operations and those that are influenced by external environmental factors such as market conditions, regulatory changes, or competitive pressures. By delineating these categories, our analysis offers a comprehensive perspective on the diverse array of challenges faced by startups, enabling stakeholders to identify key areas for intervention and strategic planning to mitigate the risks associated with entrepreneurial ventures (Table 2).

Table 2	Categorizing	Failure Reasons
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No.	Fail reason	Start-up	Scale-up	Internal	External
1	Not ready product	*		*	
	Competition		*		*
2 3 4	Lack of product-market fit	*			*
4	Financial hurdles		*		*
5	Customer acquisition		*		*
6	Engineering issues	*		*	
7	Inappropriate Rule	*		*	
8	lack of leader	*	*	*	
9	Internal feuds	*		*	
10	Sacrificing Quality		*	*	
11	Legal issues	*			*
12	Lack of experience	*		*	
13	Insisting on prior commitment		*	*	
14	Lost human capital		*	*	
15	Customer	*			*
16	Lack of focus	*		*	
17	Customer dissatisfaction		*		*
18	Talent acquisition	*			*
19	Lack of product and location fit	*			*
20	Quick Expand		*	*	
21	Key partner issue		*		*
22	International workforce		*		*
23	Identity	*		*	
24	Quick announce	*		*	

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25	Too much money	*		*		
26	Technology issue	*			*	
27	Deviation from the original goal		*	*		
28	Late in change		*	*		
29	Lack of experience in technology	*			*	
30	Loving the idea	*		*		
Total		18	13	17	13	

Following the clarification of the types of Entrepreneurial Failure Reasons (EFRs), our study proceeded to plot the position coordinates of these EFRs. This visualization technique afforded us a schematic view of the landscape of failure reasons among entrepreneurs. By mapping out the position coordinates of each EFR, we were able to discern patterns, clusters, and relationships among the identified reasons for failure. This graphical representation not only facilitated a clearer understanding of the distribution and prevalence of EFRs but also offered valuable insights into the interplay between different factors contributing to entrepreneurial failure. Through this visual exploration, stakeholders can gain a holistic perspective on the multifaceted nature of startup failures, guiding strategic decision-making and intervention efforts aimed at addressing the underlying challenges faced by entrepreneurs in their pursuit of business success (Figure 2).

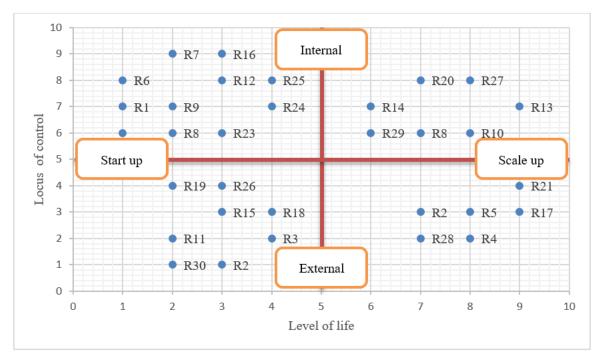


Figure 2. Plotting of Position Coordinates of EFRs

The plotting of position coordinates of Entrepreneurial Failure Reasons (EFRs) has unveiled compelling insights into the distribution and dynamics of failure factors across different phases of the entrepreneurial journey. Notably, a significant concentration of failure reasons is observed during the startup phase, indicating the critical challenges encountered by entrepreneurs in the early stages of venture creation. Furthermore, the analysis highlights that the majority of these failure factors are internally driven, underscoring the importance of addressing internal operational inefficiencies and strategic shortcomings during the startup phase. Interestingly, as startups progress into the scale-up phase, the distribution of failure factors between internal and external categories becomes more balanced. This suggests that while internal factors continue to play a pivotal role in influencing startup success, external environmental factors increasingly exert comparable levels of influence during the

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scale-up phase. These findings provide valuable insights for entrepreneurs, enabling them to proactively identify and mitigate the risks associated with different phases of the entrepreneurial journey, ultimately enhancing their chances of sustainable growth and success.

5. Conclusion and Discussion

The examination of entrepreneurial failure is fundamental in understanding the dynamics of startup ventures and fostering resilience within the entrepreneurial ecosystem. Our research aimed to bridge the gap in understanding the implications of failure specifically for startup-scale entrepreneurs, whose experiences are often overlooked in both academic discourse and practical application. Through a meticulous analysis of cognitive determinants and thematic categorization of failure reasons, our study unveils critical insights into the multifaceted nature of startup failures and provides actionable lessons derived from the crucible of the startup graveyard.

Our findings underscore the significance of failure experiences, particularly in the startup phase, where entrepreneurs face formidable challenges in navigating the uncertain terrain of venture creation. The predominance of internally driven failure factors during this phase highlights the importance of addressing internal operational inefficiencies and strategic shortcomings early in the entrepreneurial journey. By prioritizing internal factors and implementing targeted strategies for improvement, entrepreneurs can fortify their ventures against the inherent risks of startup failure and increase their likelihood of success.

Furthermore, our analysis reveals a notable shift in the distribution of failure factors as startups progress into the scale-up phase. While internal challenges remain prominent, external environmental factors begin to exert comparable levels of influence, underscoring the complex interplay between internal and external dynamics during the scale-up process. This nuanced understanding of failure dynamics enables stakeholders to develop tailored strategies for mitigating risks and fostering resilience throughout the entrepreneurial lifecycle.

By integrating insights from quality management principles and elucidating the interplay between internal and external factors contributing to failure, our research contributes to a deeper understanding of entrepreneurial dynamics. This holistic approach not only advances theoretical knowledge but also holds practical implications for policymakers, educators, and practitioners seeking to foster a supportive ecosystem for entrepreneurship. By equipping entrepreneurs with the knowledge and tools to navigate failure more effectively, our study aims to promote innovation and sustainable growth in the entrepreneurial landscape, ultimately contributing to the cultivation of a community of resilient and forward-thinking entrepreneurs poised to navigate the challenges and opportunities of the startup landscape.

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