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Scaling Failures: Causes, Pattern and Managerial Implications

I fallimenti nei processi di scaling: cause, modelli ricorrenti e implicazioni manageriali

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Summary

Introduction

Over the past two decades, the concept of *scaling* has gained increasing prominence in the fields of management, entrepreneurship and international business. In this thesis, scaling is defined as the process through which a firm expands its operations and market reach while maintaining or improving its economic and organizational efficiency. In particular, within the context of innovative and high-growth firms, the ability to scale is not only a lever for international market expansion but also a critical requirement for long-term survival (Audretsch, Belitski, & Theodoraki, 2024). Nonetheless, numerous cases reveal that scaling attempts often end in failure, frequently due to internal organizational dynamics, market conditions or an inability to validate the business model at scale (Tippmann et al., 2023).

Understanding failures in scaling is therefore crucial not only from a theoretical standpoint but also for its managerial and practical implications. This study focuses on failure in scaling, understood not necessarily as complete firm disappearance, but as the inability to sustain growth in a scalable and coherent manner. Many firms experience early growth but lack the scalability, that is, the capacity to scale efficiently, needed to sustain it. As a result, they often fail during the scaling process, leading to consequences such as loss of competitiveness, financial distress or even complete shutdown. (Bohan et al., 2024).

Despite growing interest in the concept of scaling, the literature has historically focused on success stories of rapid growth, largely overlooking failure cases and the structural reasons behind them. Most existing studies examine companies that have successfully undergone rapid internationalization; such as born globals and digital scale-ups; while relatively few investigate firms that, despite initiating scaling efforts, were unable to sustain growth or replicate their business model effectively (Tippmann et al., 2023; Reuber et al., 2021).

However, existing literature rarely provides a comparative and multilevel explanation of scaling failures across different business models and sectors (tech, sharing economy, retail, etc..). Most studies focus either on isolated failure cases or on successful scale-ups, without identifying recurring mechanisms that transcend industry contexts. This fragmentation limits our theoretical understanding of scaling as a contingent and systemic process.

To address this gap, this thesis adopts a comparative qualitative approach aimed at identifying cross-case patterns and structural divergences in scaling failure processes. Rather than examining isolated collapse events, the study conceptualizes failure in scaling as a multilevel misalignment process.

The central aim of this thesis is to analyze scaling failures through a comparative qualitative approach. Specifically, the research seeks to:

- examine the primary causes that lead to the failure of scaling process
- identify recurring patterns and critical factors; both internal (organizational design, leadership, strategy) and external (market dynamics, institutional environment, competitive pressures)
- provide actionable managerial insights by outlining alternative strategies such as lean scaling and adaptive scaling that may enhance success rates.

This study is guided by the following research questions:

1. What structural, relational and cognitive mechanisms drive failure in business scaling processes?
2. How do different configurations of these mechanisms interact to produce distinct patterns of scaling failure across contexts and industries?
3. What strategic and governance practices can enhance adaptive scalability and reduce the risk of premature or unsustainable growth?

The research adopts a qualitative methodology based on the analysis of case studies involving companies that initiated scaling processes but failed to sustain them. Data sources include financial reports, academic publications, business databases and other publicly available documents. Although no primary data collection was conducted, the study relies on both primary sources (such as official company reports and filings) and secondary sources (including academic literature and analytical databases), ensuring the triangulation and reliability of the information used. Case selection criteria include company shutdown, significant market share loss or documented financial crisis. The findings reveal three recurring and interrelated mechanisms of scaling failure; structural rigidity in asset-heavy models, relational fragility in network-dependent models and cognitive or narrative dilution in hybrid configurations. Together, these mechanisms suggest that scaling failure emerges from the loss of alignment between structure, network dynamics and organizational meaning.

By developing a contingent typology of scaling failure and integrating structural, relational and cognitive dimensions, this study contributes to extending existing growth theories beyond success narratives and toward a more nuanced understanding of scalable sustainability.

1 - Understanding Business Scaling

1.1 Definition of Scaling and Distinction from Growth

Growth and scaling are often used interchangeably in both managerial practice and academic discourse, however, recent literature emphasizes that they represent conceptually distinct phenomena. Growth generally refers to an increase in a firm's size, revenues or customer base over time and may occur through mechanisms such as workforce expansion, higher capital expenditures or entry into new markets. Importantly, such expansion does not necessarily imply the presence of a scalable business model (Bohan et al., 2024). Scaling, by contrast, refers to a specific mode of growth in which performance improves without a proportional increase in costs or organizational complexity, allowing firms to achieve non-linear revenue expansion and enhanced operational leverage (Bohan et al., 2024; Hoffman & Yeh, 2018).

Building on this distinction, the literature conceptualizes scaling as a strategic and structured process rather than a purely quantitative expansion. Audretsch, Belitski and Theodoraki (2024) describe scaling as the coordinated alignment of internal capabilitie; such as leadership, organizational systems and resource configurations; with external opportunities, including market demand, timing and institutional conditions. From this perspective, while all scaling necessarily involves growth, not all growth is scalable, firms may experience rapid expansion yet remain structurally fragile if rising costs and complexity offset performance gains. This challenge becomes even more pronounced in internationally oriented firms, where scaling requires the replication and adaptation of business models across heterogeneous institutional environments while preserving organizational coherence (Tippmann et al., 2023).

At the operational level, scaling is closely associated with efficiency-enhancing mechanisms and performance metrics rather than absolute size. Technology, automation and platform-based models often enable firms to serve expanding customer bases without proportionally increasing inputs, resulting in lower marginal costs and in some cases reinforcing network effects (Blank, 2013; Ismail et al., 2014). Accordingly, scaling is typically assessed through efficiency-oriented indicators such as Customer Acquisition Cost (CAC), Customer Lifetime Value (LTV) and gross margins, which help distinguish sustainable scaling trajectories from growth paths driven by escalating resource consumption (Hoffman & Yeh, 2018; Audretsch et al., 2024).

Growth captures the extent to which a firm expands, whereas scaling reflects the quality and sustainability of that expansion. This distinction is critical for understanding why many firms achieve rapid early-stage growth yet fail to transition into scalable and resilient business models.

Recent research by Coviello et al. (2024) addresses the persistent conceptual ambiguity surrounding terms such as scaling, scalability and scale-up, offering a valuable contribution toward definitional harmonization in the field of entrepreneurship and organizational growth. They define scaling as the process through which a firm increases its size and scope while maintaining performance and efficiency; scalability as the firm's potential or capacity to scale under certain conditions and scale-up as the observable outcome of successful scaling efforts, often marked by significant expansion and impact. Importantly, Coviello et al. (2024) also highlight the cost dimension of scaling, emphasizing that sustainable growth depends on the firm's ability to expand revenues and operations without a proportional increase in costs, thus preserving margins and efficiency over time. This tripartite distinction clarifies not only the difference between scaling and general growth, but also emphasizes that scalability is not binary but rather a dynamic capability that can be developed or constrained over time. Moreover, Coviello et al. (2024) argue that effective scaling depends on the interaction between internal enablers; such as leadership, organizational systems and routines; and external conditions, including institutional frameworks and market readiness. This systemic view resonates with Audretsch et al. (2023), who emphasize the role of entrepreneurial ecosystems and institutional infrastructures in shaping firm growth trajectories. Together, these perspectives highlight that scaling is a multilevel phenomenon, where success depends on the alignment between internal capabilities and external contexts. Consequently, scaling failures may stem not only from managerial or operational weaknesses, but also from misalignments between scaling strategies and environmental contingencies. Integrating this definitional clarity into the present thesis strengthens the analytical foundation for examining why some firms fail to scale effectively despite early growth success, while others convert scalability into sustainable impact.

1.2 Fundaments of Scaling

Scaling is not only a practical challenge but also a deeply theoretical one, with several models and frameworks proposed to understand the mechanisms behind successful scaling efforts. The process involves aligning business models, organizational structures and market strategies to facilitate sustained, exponential growth without proportionate increase in costs. In the academic literature, numerous models help explain the dynamics of scaling, with varying emphasis on internal and external factors, as well as the role of digitalization and internationalization in modern businesses.

One of the most influential models is the Penrose Growth Model (Penrose, 1959), which suggests that firms scale when they expand their internal resources to exploit external opportunities. However, Penrose also warns that beyond a certain point, firms may face diminishing returns if they fail to adapt their internal processes and organizational structures to the scale of their operations. In this context, scaling refers to growing outputs faster than inputs**,** what is often described as efficiency-based or non-linear growth. In some cases, firms may even achieve superlinear scaling where outputs increase exponentially relative to inputs (Bohan et al., 2024).

Building on the foundational insights of Penrose (1959), the Resource-Based View (RBV) further contributes to the understanding of scaling by emphasizing the role of firm-specific resources and capabilities. While Penrose highlighted how firm growth is constrained and enabled by the development and deployment of internal resources, RBV formalizes this logic by arguing that firms possessing valuable, rare, inimitable and non-substitutable resources are better positioned to achieve sustainable growth and scalability (Barney, 1991).

From a scaling perspective, RBV suggests that not all firms can expand efficiently, as scalability depends on the extent to which key resources can be leveraged, replicated or extended without proportional increases in cost or complexity. This perspective is particularly relevant for technology-based firms, which often scale by exploiting intangible assets such as software, data and organizational routines, as well as network effects that can be replicated across multiple markets at relatively low marginal cost (Tippmann et al., 2023).

Scaling and Organizational Design

As firms scale, they often need to revisit their organizational design to ensure that growth is sustainable.

The work of Burns and Stalker (1961) introduced the idea of the organic structure as opposed to mechanistic structures, emphasizing that organizations must adapt their internal structures to the environment in which they operate. Scaling requires a transition from a flat and informal structure to one that can accommodate greater complexity, typically through the introduction of hierarchical systems, specialized roles and formalized processes. This transformation is necessary to avoid the bottlenecks in decision-making and coordination that can inhibit growth.

However, recent research and managerial practice suggest that scaling does not inevitably require increasing structural complexity. Alternative strategies, such as modular team structures**,** cell-based organizations and decentralized decision-making models, enable firms to maintain adaptability while

expanding their operational scope (Zook & Allen, 2016; Hoffman & Yeh, 2018). The use of automation and digital coordination tools further allows organizations to scale decision-making capacity without adding hierarchical layers. These configurations preserve the benefits of speed and responsiveness, mitigating the bureaucratic slowdown that often accompanies growth. In this sense, structural evolution is not unidirectional, scalability can also emerge from maintaining an organic core within an expanding system.

Furthermore, Gulati and DeSantola (2016) introduced the concept of replicable innovation in scaling. They argue that scaling firms must balance innovation with standardization, ensuring that the core elements of their business models are replicable across new markets, while still allowing for local adaptation when necessary. This dynamic between standardization and local adaptation is central to the scaling process, particularly for businesses that expand internationally (Tippmann et al., 2023).

Internationalization and Global Scaling

In addition to internal transformation, scaling often involves internationalization, where firms seek to replicate their successful business models in new geographical markets. Johanson and Vahlne's (1977) Uppsala Model emphasizes the gradual process of international expansion through incremental steps based on market knowledge and experience. However, modern scaling ventures; especially digital firms; tend to bypass this incremental model by leveraging global digital platforms, enabling them to scale across borders quickly (Autio et al., 2021). This type of hyper-scaling is particularly prevalent among technology companies, which often rely on digital network effects to accelerate international expansion (Tippmann et al., 2023).

The tension between global integration and local responsiveness (Doz & Prahalad, 1991) remains a challenge for firms scaling internationally. This dilemma requires firms to standardize certain elements of their business model to achieve economies of scale, while also adapting to local market conditions to ensure relevance and competitiveness (Reuber et al., 2021).

Extending this perspective, Reuber, Tippmann and Monaghan (2021) conceptualize *global scaling* as a distinct logic of multinationalization. Rather than following traditional staged models of international expansion, digital firms increasingly adopt a platform-based approach enabling them to enter multiple markets simultaneously. This logic emphasizes speed, network effects and scalability by design and is particularly relevant for tech-driven ventures operating in fluid global ecosystems.

Digitalization and Technological Affordances

In the digital age, scaling has been significantly transformed by technological affordances. Digitalization enables firms to leverage scale-free resources (Levinthal & Wu, 2010), such as software platforms, which can be expanded without the physical constraints of traditional products. As noted by Giustiziero et al. (2023), digital scaling allows firms to grow rapidly and efficiently, reducing the marginal cost of serving each additional customer. Network effects are also a key driver in digital scaling, particularly in platform-based businesses, where the value of the product or service increases as more users participate (Huang et al., 2017). This creates a self-reinforcing growth cycle, where increased adoption accelerates further growth, leading to exponential scaling.

While the term scaling in this thesis refers to efficient growth, that is, the ability to increase outputs (revenue, users) faster than inputs (costs, staff) without a proportional rise in complexity, other expressions used in both managerial and technological contexts capture different intensities or mechanisms of this process. Superlinear scaling describes cases where outputs grow more than proportionally compared to inputs, indicating increasing returns to scale (Bettencourt et al., 2007). Exponential scaling represents an extreme form of this dynamic, where growth follows an exponential trajectory, often observed in digital and network-based sectors (Huang et al., 2017). Hyperscaling, originating from cloud and infrastructure domains, refers to the capacity to sustain ultra-fast growth through architectures specifically designed for rapid scalability (Levinthal & Wu, 2010).
Superscaling is sometimes used informally to denote exceptionally rapid expansion but lacks a formal theoretical grounding. In this thesis, the analysis adopts the concept of scaling in its systemic sense, focusing on the balance between growth velocity and structural coherence, rather than the sheer pace of expansion.

General Models and Strategies of Scaling

Scaling is not a one-size-fits-all process, strategies differ substantially from one firm to another and depend on factors such as the business model, organizational maturity, resource availability, and environmental dynamics. While growth can often occur opportunistically, scaling requires a strategic and deliberate transformation of internal systems, processes, and structures to support expansion without proportional increases in cost and complexity.

An influential framework for understanding the internal challenges of scaling comes from Zook and Allen (2016), who identify three root causes of most growth breakdowns: the erosion of the founder's mentality, increasing complexity and misalignment between strategy and execution. They argue that

as companies grow, they face predictable crises, loss of mission, loss of speed and loss of accountability, that undermine scalability unless deliberately counteracted. This perspective adds a behavioral and organizational lens to scaling, emphasizing the need to preserve agility, insurgency and customer focus as companies expand.

In parallel, Hoffman and Yeh (2018) introduce the concept of *blitzscaling*, defined as prioritizing speed over efficiency in environments where being first to scale confers a decisive competitive advantage. They outline the trade-offs involved sacrificing management structure, control or even profitability for the sake of rapid expansion. While blitzscaling has fueled the success of companies like LinkedIn and Airbnb, it also heightens the risk of failure if complexity outpaces internal capabilities. Their framework helps explain why many firms collapse not despite scaling but because of how they scale.

In the blitzscaling logic, the input side of the business model behaves atypically, resources, investments and costs often increase faster than revenues in the short term. Rather than optimizing efficiency, firms deliberately accept temporary diseconomies as a strategic trade-off to capture market share and establish a dominant position before competitors can react (Hoffman & Yeh, 2018). This phase can be interpreted as a form of pre-scaling, where growth is pursued at almost any cost under the assumption that efficiency will be restored once scale advantages are achieved. However, this approach amplifies the exposure to structural and managerial fragilities, if the organizational and financial systems fail to catch up with the accelerated expansion, the imbalance between inputs and outputs becomes unsustainable. In this sense, firms often fail not because they fail to scale, but because they scale in an unbalanced and premature way, transforming temporary inefficiency into structural instability.

As growth accelerates, the company expands its reach, increases production and intensifies its customer acquisition efforts. However, without clear internal alignment and rigorous monitoring of unit economics, this stage often amplifies underlying inefficiencies rather than producing economies of scale. According to Gelles and Bhambri (2022), many scaling failures occur because firms confuse growth momentum with scalability readiness, investing heavily in marketing or headcount without a proportional increase in value creation or operational coherence.

Eventually, complexity becomes the central challenge. Coordination across teams, geographies and systems requires robust leadership structures, governance mechanisms and cultural reinforcement. Companies that fail to adapt their internal architecture often experience a decline in agility, decision-

making quality and ultimately performance. This is especially true for founder-led firms, where centralized decision-making can become a bottleneck unless deliberately redesigned.

Zook and Allen (2016) emphasizes that scaling is not merely a matter of doing more but of evolving the way the business operates at each transition point. The real risk lies not in insufficient growth, but in mistimed growth; pushed forward without the structural, financial or cultural readiness to sustain it.

Complementary to this view, the Lean Startup methodology, introduced by Eric Ries (2011) and built upon the earlier principles of customer development by Steve Blank (2013), advocates for a learning-based, iterative approach to early-stage venture creation. At its core lies the build – measure - learn loop, a cycle in which ideas are rapidly transformed into prototypes or Minimum Viable Products (MVPs), tested with real users and refined through empirical feedback. This approach emphasizes validated learning, progress measured not by execution but by the ability to reduce uncertainty about what works. The goal is not simply to launch a product but to systematically uncover a scalable and repeatable business model.

In this context, scaling without validation is seen as one of the most common causes of startup failure. According to Ries, premature scaling, where firms expand operations, marketing or infrastructure before achieving product-market fit often leads to misallocated resources, bloated cost structures and eventual collapse. These risks are amplified in environments with high uncertainty, limited funding or fast-changing customer preferences.

As a response, a growing number of firms have embraced Lean Scaling, a disciplined and data-informed approach to growth that leverages Lean Startup principles while addressing the demands of scalability (Maurya, 2016; Giustiziero et al., 2023). Unlike the exploratory focus of early-stage validation, Lean Scaling involves scaling only what works, based on evidence and traction. According to Maurya (2016), effective scaling must be grounded in actionable metrics, such as customer retention, viral growth coefficients, unit economics and time-to-profitability, rather than vanity indicators. This phase requires tight feedback loops, continuous testing of growth channels, and an emphasis on scalability as a function of repeatability.

Giustiziero et al. (2023) extend this thinking to the domain of digital businesses, proposing that Lean Scaling is particularly effective in volatile and resource-constrained markets. Their research highlights the need for gradual, modular growth, where firms retain the ability to pivot and adapt even as they expand. The essence of Lean Scaling is not just to grow, but to grow sustainably, avoiding

over-commitment and preserving organizational agility. It represents a middle ground between caution and ambition, offering a strategic blueprint for translating validated learning into scalable operations.

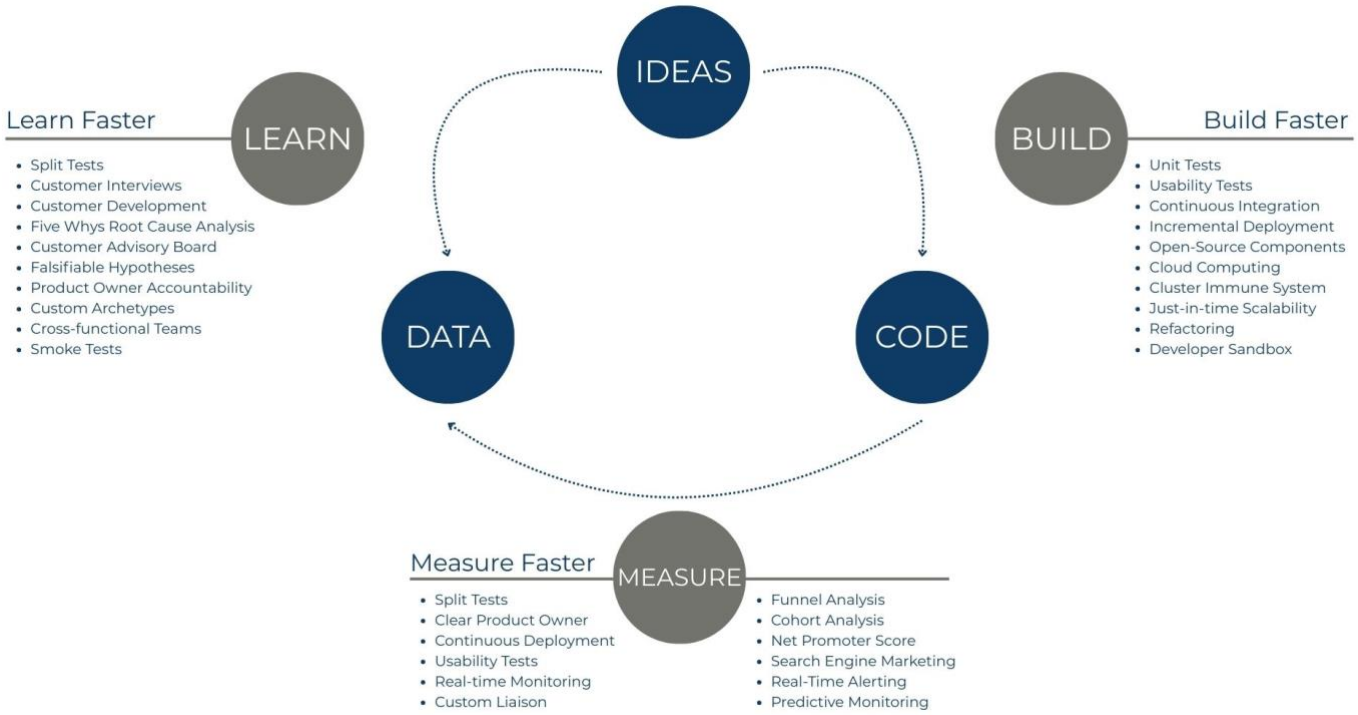

Figure 1. Build–Measure–Learn Loop. Adapted from Ries (2011).

Another influential framework is the Scaling Cube model proposed by Ismail et al. (2014), which conceptualizes scaling as a multidimensional process unfolding along three complementary directions. The first dimension, referred to as scale-out, captures the firm's ability to reach a larger number of customers by replicating its existing product or service. The second dimension, scale-up, relates to the enhancement of offerings through increased value per transaction, product sophistication or the targeting of higher-value customer segments. The third dimension, scale-deep, reflects the expansion into new geographical markets or vertical domains, requiring the adaptation and replication of the business model across different contexts.

This three-dimensional model provides a nuanced view of how firms can grow and highlights that multidimensional scaling requires differentiated capabilities across marketing, operations and customer service. Pursuing all dimensions simultaneously can increase the risk of internal misalignment and overexpansion. While the Scaling Cube proposed by Ismail et al. (2014) provides a clear framework for distinguishing growth directions, recent literature emphasizes that successful scale-ups often require multidimensional integration that is the ability to scale across several axes in

a coordinated and synergistic way. Rather than treating scale-out, scale-up and scale-deep as separate initiatives, firms must align infrastructure, leadership, systems, and strategic intent across all three dimensions. According to Teece (2007), this alignment depends on dynamic capabilities, which allow firms to reconfigure resources and processes in response to increased complexity. Without this integrative capacity, simultaneous expansion along multiple directions often leads to fragmentation, overload or failure to deliver consistent value. In essence, it is not the breadth of scaling that causes problems but the lack of coordination between its parts.

In addition to directional strategies, firms must also consider the organizational design underpinning scaling. DeSantola and Gulati (2017) highlight the tension between informal, entrepreneurial structures and the need for formalized roles, hierarchy and control systems as organizations grow. Their work suggests that successful scaling requires a reconfiguration of internal governance to handle coordination complexity, decision-making bottlenecks and cultural drift. This transition may involve shifting from founder-centric leadership to distributed authority, investing in scalable IT systems and redefining performance metrics.

Beyond structural adaptations, firms must also develop resilience strategies to manage volatility during the scaling process. Gilbert, Eyring and Foster (2012) identify two main paths to organizational resilience: repositioning the core business to adapt to change and expanding into adjacent markets to diversify risks. Beyond structural and organizational design, firms must also develop resilience capabilities to navigate uncertainty during the scaling process. The two strategies identified by Gilbert, Eyring and Foster (2012), repositioning the core business to adapt to change and expanding into adjacent markets to diversify risks, are particularly relevant for scaling firms facing environmental turbulence or shifting customer demands. These approaches provide practical pathways to maintain strategic coherence while embracing necessary transformation. Another layer of strategic decision-making involves choosing between centralized vs decentralized scaling approaches. Centralized models prioritize consistency, control and economies of scale, making them suitable for firms in regulated industries or those relying on standardized processes. Decentralized models, instead, allow for greater local responsiveness and entrepreneurial autonomy often critical in fragmented or fast-changing environments (Autio et al., 2021). Such models are typically characterized by the delegation of decision-making authority to local units, flexible organizational structures and strong communication systems that ensure alignment with the company's core mission. Their pillars include local market knowledge, autonomous teams, distributed leadership and scalable digital infrastructure that enables coordination without imposing central control.

Moreover, scaling must be aligned with a firm's competitive positioning and value proposition. Firms pursuing cost leadership (Porter, 1985) must achieve economies of scale through process efficiency and rigorous cost control, while those pursuing differentiation must find ways to preserve innovation, customer intimacy or brand experience as they expand. Strategic coherence is the key, a scaling strategy that conflicts with the firm's core value proposition often results in loss of identity and market relevance (Zook & Allen, 2016; Teece, 2007).

Scholars have also emphasized the importance of dynamic capabilities in scaling contexts (Teece, 2007). These refer to the firm's ability to sense opportunities**,** seize them through timely investments and resource allocation and reconfigure its existing capabilities in response to environmental changes and market feedback. While the concept is consistent with its earlier usage, the focus here lies more explicitly on its three core dimensions; sensing, seizing and reconfiguring; which together determine whether growth can be sustained over time. In rapidly evolving environments, these capabilities act as the foundation for adaptive scalability, enabling firms to transform expansion from a reactive process into a continuous learning mechanism.

In parallel, the concept of platform-based scaling has emerged as a strategic model particularly relevant for businesses in networked industries, that is, sectors where the value of a product or service increases with the number of users or participants (marketplaces, social media, ride-sharing platforms). Platform firms, such as marketplaces or software ecosystems, rely on third-party participation to scale supply and demand simultaneously. Their growth does not stem from linear resource investments but from the ability to orchestrate interactions among users, developers and partners (Parker, Van Alstyne & Choudary, 2016). The platform logic illustrates how some scaling strategies challenge traditional firm boundaries and resource constraints.

1.3 Scaling under Resource Constraints

Scaling under resource constraints represents one of the most critical and paradoxical challenges for firms, particularly in entrepreneurial and innovation-driven contexts. While the very act of scaling implies expansion, replication and increased market reach, many ventures must pursue these objectives without proportional increases in their available resources. This structural tension often defines the outcome of scaling efforts and distinguishes firms that succeed in sustaining growth from those that collapse under operational pressure.

Resource constraints during scaling commonly occur in financial, human, operational and institutional domains. Financially, firms may lack access to sufficient capital to support infrastructure,

hiring or marketing investments. This is particularly evident in startups, which are often dependent on venture capital and subject to cash flow volatility resulting in limited planning horizons and cautious behavior (Brush, Greene & Hart, 2001). In terms of human capital, the need for specialized talent intensifies as firms grow. Yet, many struggle to attract or manage skilled personnel, especially in leadership or technical roles which leads to overstretched founding teams or role dilution (Gulati & DeSantola, 2016). Operationally, firms may be unprepared to scale due to the absence of replicable processes, systems or IT infrastructure. In such cases, growth simply amplifies existing inefficiencies, producing coordination failures, delivery delays, or reduced service quality (Zook & Allen, 2016). On an institutional level, particularly in emerging markets, legal uncertainty, bureaucratic burdens or weak infrastructure can present external constraints, impeding firms from exploiting market potential (Khanna & Palepu, 2010).

The manifestation of these constraints differs across the scaling lifecycle. In early-stage ventures, constraints tend to be absolute, firms must do more with less relying on founder initiative, improvisation and informal networks. While this context allows for high flexibility, it also increases the risk of premature scaling, whereby firms commit to growth before validating their business model or achieving operational stability (Ries, 2011; Maurya, 2016). In contrast, expansion-stage firms face relative constraints, while growth is feasible, it is hindered by bottlenecks in internal systems, limited leadership capacity or inability to absorb capital effectively. These firms are often forced to navigate trade-offs between control and delegation or between efficiency and market customization. Strategic choices, such as centralization versus decentralization and standardization versus local adaptation, become critical at this stage (Autio et al., 2021).

Rather than preventing scale-up, these constraints often serve as a filter for strategic clarity and organizational innovation. Many firms adapt by embracing financial discipline and resource prioritization. Bootstrapping, for example, consists in relying on internal cash flow and reinvested profits instead of external funding, thus limiting scale speed while enforcing operational focus and cost control (Winborg & Landström, 2001). Lean scaling, discussed previously in section 1.2, reinforces this mindset by advocating the selective expansion of only those business components that have been validated through data and experience (Maurya, 2016). Other firms adopt phased or modular approaches to scaling, such as entering new markets sequentially or targeting specific customer segments to avoid overextension (Giustiziero et al., 2023). Strategic partnerships represent another frequent response, allowing access to complementary resources; such as distribution capabilities, technologies or know-how; without requiring significant internal investment (Gulati & DeSantola, 2016).

Constraints can also play a developmental role, acting as structuring forces that shape capabilities. In this context, dynamic capabilities, defined as a firm's ability to sense opportunities, seize them and reconfigure its resource base (Teece, 2007) have been recognized as essential for enabling firms to adapt and sustain scaling efforts in volatile or complex environments (DeSantola & Gulati, 2017; Giustiziero et al., 2023). Operating under pressure often sharpens focus, accelerates learning and promotes disciplined execution. However, when firms overlook or underestimate their resource limitations scaling tends to become disorganized and inefficient, often resulting in systemic failure. It is important to distinguish, however, between overcoming resource constraints through disciplined focus and adaptive learning, and achieving efficient scaling in the strict sense, where output increases faster than input. The former involves coping with limitations, while the latter refers to a structural ability to generate non-linear growth.

In sum, scaling under constraint is not only a technical challenge but also a strategic test. It demands a combination of foresight, adaptability and resourcefulness. Firms that learn to navigate these limitations, rather than simply enduring them, tend to develop robust routines, resilient cultures and strategic maturity ultimately laying the groundwork for sustainable competitive advantage.

1.4 Scaling in Emerging vs Mature Markets

Understanding how firms scale across different institutional environments is central to analyzing the causes of scaling failures. While much of the literature has historically concentrated on firms operating in mature economies, the rise of entrepreneurial activity in emerging markets has brought new attention to the ways in which scaling strategies are shaped, and often constrained by local institutional and environmental conditions. Firms that adopt a "one-size-fits-all" approach to scaling frequently experience failure not merely due to flawed execution but because of a fundamental misalignment between their internal capabilities and the external context. This section explores how scaling dynamics differ between emerging and mature markets and identifies the institutional and environmental factors that influence success or failure.

Mature markets are typically characterized by established institutional infrastructures, including legal protection for property rights, stable financial systems, predictable regulatory regimes and advanced physical and digital infrastructures. These conditions create a relatively conducive environment for firms to scale systematically and with lower risk. Access to capital, skilled labor and sophisticated customer bases enables firms to implement scaling strategies that rely on efficiency gains, replication of proven models and data-driven decision-making (Coviello et al., 2024). However, scaling in mature markets is not without its challenges. Firms may face regulatory saturation, intense

competition and diminishing returns on growth investments. Additionally, the need to comply with complex governance requirements can hinder speed and flexibility factors that are often critical in high-growth environments (Reuber, Tippmann & Monaghan, 2021). Paradoxically, these same institutional strengths can become barriers when scaling strategies require rapid adaptation or experimentation.

In contrast, emerging markets present a different set of constraints and opportunities. Firms operating in these contexts often confront institutional voids, such as inconsistent legal enforcement, limited access to financing, underdeveloped infrastructure, and fragmented markets (Khanna & Palepu, 2010). These constraints increase the risk of failure during scaling, especially when firms attempt to replicate models designed for more stable environments. The UNICEF/IMF Report (2023–2024) highlights that in many emerging economies, particularly in Sub-Saharan Africa and parts of South Asia, firms are hindered by unreliable electricity supply, logistical bottlenecks, and high regulatory unpredictability. Such environmental conditions not only slow down the scaling process but can lead to systemic inefficiencies if not anticipated and managed effectively.

Yet, the challenges of emerging markets are counterbalanced by potential advantages. In some cases, firms benefit from less entrenched competition, faster-growing consumer demand, and the possibility of leapfrogging legacy infrastructure through the adoption of digital technologies. For instance, mobile payment systems and e-commerce platforms have scaled rapidly in countries lacking traditional banking or retail infrastructure. However, these successes are the exception rather than the norm. More frequently, firms overestimate their scalability and expand prematurely, leading to operational overstretch and financial strain. The absence of reliable institutions also means that informal networks and local knowledge become critical enablers of scaling, a factor that many external entrants underestimate (Coviello et al., 2024).

One of the central insights from recent literature is that scaling failure often stems from the inability to adapt strategies to the local institutional environment. Coviello et al. (2024) emphasize that scalability should not be treated as an inherent firm-level attribute, but rather as a contingent capability, a potential that materializes only when internal and external conditions are appropriately aligned. In this view, failure occurs not because firms lack ambition or innovation, but because they fail to calibrate their growth trajectories to the constraints and affordances of the context. For example, a firm may possess strong leadership and validated business models, yet still fail to scale in a market with high regulatory opacity or infrastructural gaps. Similarly, scaling attempts that rely heavily on automation or standardized service delivery often falter in environments where customer

expectations or institutional support systems vary widely across regions (Reuber, Tippmann & Monaghan, 2021; Coviello et al., 2024).

Reuber, Tippmann and Monaghan (2021) further argue that the logic of global scaling, particularly in digital ventures, requires firms to develop capabilities for contextual adaptation. Rather than seeking universal solutions, successful scaling involves building localized microfoundations that are sensitive to the regulatory, cultural and infrastructural characteristics of each market. This process often necessitates decentralization, local partnerships and iterative learning cycles, practices that are resource intensive and may increase input complexity. To manage this, firms often adopt modular scaling architectures, invest in local talent with strong cross-border coordination systems, and leverage digital platforms to balance local responsiveness with centralized oversight (Autio et al., 2021; Giustiziero et al., 2023). Firms that neglect this adaptive approach are likely to face delays, reputational damage or even full-scale withdrawal, outcomes that qualify as scaling failures despite initial growth momentum.

The UNICEF/IMF data reinforces the complexity of operating in emerging markets by documenting discrepancies in market readiness and infrastructure quality even within national borders. For instance, firms may encounter urban-rural divides in digital connectivity or regional variations in regulatory enforcement. These intra-market disparities demand differentiated scaling strategies and amplify the risk of misallocation of resources. Additionally, environmental risks, such as climate-related disruptions and public health crises, disproportionately affect firms in low-capacity states, adding another layer of vulnerability during expansion phases.

These institutional challenges are even more pronounced in fragile and conflict affected states (FCS), where firms face additional barriers to scaling, including political instability, weak governance and high levels of infrastructural disruption. The UNICEF Venture Fund's experience in FCS demonstrates that scaling ventures in these environments often requires not only financial capital but significant engagement to build local innovation ecosystems, navigate complex regulatory conditions and foster community-level trust (UNICEF Venture Fund, 2023). For instance, country office pilots in contexts such as Yemen, Burundi and the Democratic Republic of Congo had to address constraints related to connectivity, regulatory skepticism and digital literacy before implementing even basic technological scaling initiatives (UNICEF, 2023). Moreover, operational continuity was frequently threatened by conflicts, natural disasters or fragile institutional support, forcing firms to pivot, delay or localize operations substantially (UNICEF, 2023). These examples illustrate how scaling failure

in emerging and fragile contexts is not simply a function of firm-level shortcomings but of broader system-level volatility, underscoring the need for adaptive, context-sensitive scaling models.

In summary, while mature markets provide institutional predictability and operational efficiency, they may also impose structural inertia and heightened competition. Emerging markets offer rapid growth potential and innovation opportunities, but these come with high contextual uncertainty and operational fragility. Scaling strategies that ignore these institutional and environmental nuances are prone to failure. This underscores the importance of viewing scalability not as a static trait but as a dynamic interaction between firm capabilities and the surrounding ecosystem. The subsequent chapters will further explore how firms have succeeded or failed to navigate these complexities in practice, offering empirical insight into the institutional embeddedness of scaling outcomes.

1.5 Metrics to Assess Scaling and Failure

In the process of scaling, startups must monitor not only their growth trajectories but also the underlying metrics that determine whether such growth is sustainable. While traditional indicators such as revenue and headcount provide superficial signals, a deeper understanding of scaling requires the use of advanced performance metrics. These metrics help identify the balance between growth, profitability and capital efficiency and they are often predictors of potential failure when misaligned. This section presents four key categories of metrics; Customer Acquisition Cost (CAC), Customer Lifetime Value (LTV), Cash Burn and Runway, and Revenue Growth vs. Profitability; integral to assessing the viability and success of scaling strategies in entrepreneurial contexts.

1.5.1 Customer Acquisition Cost (CAC)

Customer Acquisition Cost (CAC) quantifies the total expense incurred to acquire a new customer. It is a fundamental metric for startups, especially in their scaling phase, as it directly impacts the cost-efficiency of marketing and sales strategies. The basic formulation is as follows:

$$CAC = \frac{\text{Total Sales and Marketing Expenditure}}{\text{Number of New Customers Acquired}}$$

This metric is instrumental in assessing the return on investment for customer growth initiatives.

Ferrentino et al. (2016) highlight that CAC is most informative when paired with other performance metrics, such as revenue per customer or customer retention, to ensure that acquisition strategies are not only effective but also economically justified.

From a strategic standpoint, a high CAC may signal operational inefficiencies or market misfit, particularly in resource-constrained environments such as early-stage ventures. Startups must optimize CAC through iterative experimentation, channel testing and segmentation strategies, as also emphasized in recent empirical studies on CAC optimization in digital firms (Dandis et al., 2024).

1.5.2 Customer Lifetime Value (LTV)

Customer Lifetime Value (CLV or LTV) estimates the net present value of all future profits derived from a customer over the duration of the relationship. It provides a holistic view of customer profitability and is critical in determining whether the firm's growth is financially sustainable.

Ferrentino et al. (2016) present a generalized mathematical formulation of LTV:

$$CLV = \sum_{t=0}^{T} \frac{(p_t - c_t) \cdot r_t}{(1+i)^t} - AC$$

Where:

- p_t: expected revenue per customer in period t
- c_t: service cost in period t
- r_t: probability of customer retention
- i: discount rate
- AC: acquisition cost

The relevance of LTV is magnified when evaluated in conjunction with CAC. A widely adopted benchmark is the LTV/CAC ratio, where a value above 3 is considered healthy. Fader and Toms (2018) emphasize that the LTV/CAC ratio is among the most reliable indicators of scalability, as it captures both acquisition efficiency and the long-term economic viability of customer relationships.

Empirical studies reveal that startups with an LTV/CAC ratio below 1 tend to experience revenue leakage and investor resistance. Moreover, Bytek (2024) introduces AI-driven models to improve LTV forecasting accuracy, reinforcing the role of machine learning in managing growth metrics at scale.

1.5.3 Cash Burn Rate and Runway

Cash burn rate measures the net amount of capital a company spends monthly to sustain operations. In its basic form:

- Gross Burn = Total monthly operational expenses
- Net Burn = Monthly losses = Expenses - Revenue
- Runway = Cash Reserves / Net Burn Rate

Burn rate and runway metrics are particularly critical for startups during aggressive scaling. A long runway ensures strategic flexibility, while a short one demands immediate fundraising or cost cutting. Excessive burn without corresponding revenue growth often leads to premature scaling failure. Xu et al. (2023) further demonstrate that predictive analytics on burn rate deviations from expected scaling laws can be used to forecast distress events and capital inefficiencies .

Moreover, startups must distinguish between growth that justifies high burn, such as entering winner-takes-all markets and burn rates stemming from inefficient operational complexity. Financial management sources such as CFI and Drivetrain (2023) stress the importance of separating growth-oriented investments from fixed-cost inflation during scale-up phases. In practice, this distinction can be achieved by closely monitoring unit economics, assessing whether the incremental cost of acquiring or serving customers translates into proportional value creation. Firms should analytically separate growth-driven expenditures, such as customer acquisition, market expansion or product enhancement, from structural inefficiencies, including redundant headcount or duplicated processes. Implementing financial dashboards and KPI systems that visualize real-time spending efficiency helps management identify when rising costs reflect strategic investment versus organizational drift. In this sense, financial discipline becomes not a constraint to growth but a mechanism for preserving scalability, ensuring that expansion strengthens rather than erodes the firm’s economic logic.

1.5.4 Revenue Growth and Profitability

Revenue growth is often viewed as a proxy for success but it is not a sufficient indicator of scalability, true scalability arises when revenue grows faster than costs. A firm may grow in size yet become less profitable if it fails to manage operational complexity.

The distinction between "growth" and "scale" is central. According to Bohan et al. (2024), companies that pursue growth without considering margin sustainability often face what is termed “scaling

failure by diseconomies." In a longitudinal study of S&P 500 firms, nearly half became less profitable as they grew, indicating dis-economies of scale .

Wilson Perumal (2016) proposes a useful framework for assessing scalability based on four interrelated scale factors that influence how effectively firms can convert growth into sustained performance. The first factor, existing complexity, refers to the degree of structural and operational intricacy within the organization, which tends to increase marginal costs and reduce scalability as firms grow. The second factor, product adoption, captures the dynamics of market saturation, whereby acquiring additional customers becomes progressively more expensive as early demand is exhausted. Brand strength constitutes the third factor and reflects the extent to which a coherent and recognizable brand can reduce customer acquisition costs and enhance the leverage of existing organizational resources. Finally, leverageable assets refer to the presence of underutilized resources, such as idle infrastructure or distribution capacity, that allow firms to increase revenues without a proportional rise in costs.

While Wilson Perumal's framework provides a comprehensive lens for assessing scalability, not all four factors apply uniformly across firm maturity stages. In early-stage or rapidly scaling ventures, brand strength and leverageable assets are typically underdeveloped. Brand strength, in particular, is not a pre-existing resource but an emergent capability, built progressively through consistent positioning and customer experience. Similarly, slack or underutilized capacity seldom characterizes young firms, which usually operate under resource scarcity. In such contexts, leverage tends to derive instead from strategic partnerships, digital infrastructures or modular architectures that allow scaling without significant additional investment.

Managing these scale factors is essential for identifying when revenue growth becomes detrimental rather than beneficial to long-term profitability.

Quantitative metrics such as CAC, LTV, burn rate and profitability ratios are essential tools for diagnosing the scalability and sustainability of startups. However, their significance lies not in their individual values but in their interdependence and evolution over time. If we analyze these metrics together, they will provide a multi-dimensional view of the firm's financial health and growth potential. As shown throughout this chapter, ignoring such metrics or misinterpreting their signals is a recurrent pattern among startups that fail to scale successfully.

1.6 Defining Scaling Failure

Building on the definition of scaling developed in the previous sections; as a process of efficient, sustainable and non-linear growth; a failure in scaling can be defined as the inability of a firm to transform growth into sustained efficiency and performance.
In this sense, scaling failure does not merely indicate a cessation of growth but rather a breakdown of scalability, that is, when the firm's costs, complexity or risks increase faster than its capacity to create value (Bohan et al., 2024; Coviello et al., 2024). The phenomenon typically manifests as eroding margins, negative unit economics, declining organizational coherence or even corporate collapse. As Zook and Allen (2016) observe, many companies "grow themselves into fragility," expanding their reach while losing operational focus and control.

Recent empirical evidence confirms the systemic nature of the problem. Bohan et al. (2024) found that nearly half of S&P 500 firms became less profitable as they grew, indicating that growth alone is not evidence of scalability. Similarly, Startup Genome (2019) estimated that around 70% of high-growth ventures scale prematurely**,** explaining why roughly 90% of startups ultimately fail. In all such cases, the fundamental principle of scaling that growth must preserve or improve efficiency is violated.

As discussed in Section 1.5, performance indicators such as the Customer Acquisition Cost (CAC)**,** Customer Lifetime Value (LTV)**,** cash burn rate and profitability margins offer early warning signals of unsustainable scaling. When CAC rises faster than LTV or when the LTV/CAC ratio falls below 1, the firm is effectively buying growth at a loss (Ferrentino et al., 2016; Fader and Toms, 2018). Similarly, a high burn rate combined with a short runway reveals financial overstretch (Xu et al., 2023). These metrics therefore act as diagnostic tools linking the quantitative assessment of Section 1.5 with the qualitative typologies of failure discussed below.

1.6.1 Typologies of Scaling Failure

To understand how and why scaling efforts collapse, it is necessary to move from the general definition of failure to a more granular classification of its underlying mechanisms.
The literature on entrepreneurship and growth dynamics reveals that firms do not fail at random but they tend to follow recurring trajectories of breakdown, each driven by a specific imbalance between growth drivers and scalability enablers (Zook and Allen, 2016; Bohan et al., 2024; Coviello et al., 2024). In some cases, the failure stems from growing too fast and too soon, in others from operational

overstretch, financial diseconomies or from strategic and leadership dysfunctions that erode the organizational foundation of scaling.

Building on these insights, five interrelated yet analytically distinct patterns of scaling failure are identified. Based on the integrative review developed in this chapter, these patterns do not originate from a single prior framework but represent a synthesis of recurring mechanisms identified across the literature. Rather than being derived from a single framework, these patterns emerge from a cross-synthesis of the literature on growth, scalability, organizational design, resource constraints and strategic misalignment (Penrose, 1959; Zook & Allen, 2016; Hoffman & Yeh, 2018; Bohan et al., 2024; Coviello et al., 2024). Each represents a different pathway through which firms lose the ability to convert growth into sustainable performance. Together, these categories capture the multidimensional nature of scaling failure, linking financial, structural, strategic and human factors into a coherent analytical framework that will guide the empirical analysis in the following chapters.

Premature Scaling and Unvalidated Business Models

This occurs when growth initiatives outpace the validation of the product-market fit or revenue model (Ries, 2011; Maurya, 2016). Firms misinterpret early traction as evidence of scalability and over-invest in customer acquisition or infrastructure before confirming profitability. The result is "growth on shaky ground" — rapid expansion accompanied by poor retention, high CAC and unsustainable burn rates. Empirical analyses (Startup Genome, 2019) indicate that premature scaling is the dominant failure mode among early-stage ventures.

Operational Overextension and Complexity Overload

A second pattern arises when organizations expand their physical or organizational footprint faster than their internal processes can sustain. As Zook and Allen (2016) emphasize, scaling requires continual redesign of systems, roles and governance. Failure to adapt generates coordination breakdowns, information bottlenecks and cultural drift. The firm loses agility, transforming growth into diseconomies of scale (Gelles and Bhambri, 2022). Such cases exemplify what Bohan et al. (2024) describe as "scaling failure by complexity."

Financial Unsustainability and Diseconomies of Scale

Financial diseconomies emerge when revenues fail to outpace costs. Profitability erodes if margins shrink with volume or if fixed-cost inflation cancels efficiency gains (Bohan et al., 2024; Wilson Perumal & Company, 2016). In such cases, rapid expansion financed through external capital may

temporarily mask structural losses but the underlying business model remains unscalable. As growth continues, accumulated liabilities and declining margins expose the absence of true economies of scale, leading to a financial collapse once investor support diminishes.

Product–Market Misfit and Strategic Misalignments

In this pattern, failure originates not from the absence of an initial product–market fit, but from its limited replicability across markets or customer segments. While the firm may have successfully validated its offering with early adopters, the business model proves difficult to transfer to new geographies, customer groups or competitive contexts, leading to stagnation once early demand is exhausted (Reuber et al., 2021; Coviello et al., 2024). Common drivers include over-extension into poorly understood markets, timing errors, institutional incompatibilities or competitive saturation. In contrast to premature scaling, where growth precedes validation, this failure mode emerges when scaling efforts are pursued on the assumption of universal fit, and the market fails to scale alongside the firm despite internal operational readiness. ~~firm.~~

Organizational and Leadership Failures

Scaling can break down due to human and governance factors that are distinct from the operational and complexity-related challenges discussed earlier. While operational overextension concerns the inability of systems and processes to absorb growth, this pattern refers to failures in leadership adaptation, governance structures and decision-making authority as organizations expand. As ventures grow, leadership styles and organizational roles must evolve accordingly. Failure to delegate authority, professionalize management or redefine governance mechanisms can undermine coordination and accountability, ultimately leading to internal collapse (De Santola and Gulati, 2017; Gelles and Bhambri, 2022). In some cases, ethical lapses or over-hyped narratives create a façade of scalability that disintegrates once external scrutiny increases, revealing deeper weaknesses in leadership judgment and organizational governance (SEC v. Theranos Inc., 2018; DOJ Judgment, 2022).

1.6.2 Toward an Integrated View

Despite their different manifestations, these categories share a common mechanism, the misalignment between growth drivers and scalability enablers. Whether financial, operational, strategic or organizational, failure occurs when the firm's architecture cannot support the speed, scope or complexity of expansion. From a dynamic capabilities perspective, effective scaling requires firms to continuously sense emerging opportunities, seize them through appropriate strategic commitments,

and reconfigure organizational resources and processes as complexity increases (Teece, 2007). When this equilibrium is lost, the firm drifts into unsustainable trajectories that amplify fragility rather than resilience.

From a managerial perspective, early detection through financial ratios, burn analysis or organizational diagnostics can prevent escalation. Yet, as Zook and Allen (2016) argue, firms often ignore warning signals due to cognitive bias and investor pressure to demonstrate perpetual growth.

To consolidate the integrated perspective developed in this section, the following table synthesizes the five patterns of scaling failure by making explicit their underlying breakdown logics, core mechanisms and stages of manifestation. This comparative overview provides a structured lens for distinguishing analytically related yet conceptually distinct failure pathways.

(Table 1)

Pattern of Scaling Failure	**Dominant Scaling Breakdown Logic**	**Core Mechanism**	**Stage of Breakdown**	**Key Distinguishing Feature**
Premature Scaling and Unvalidated Business Models	Market validation breakdown	Growth pursued before product–market fit or unit economics validation	Early scaling phase	Absence of initial validation; growth precedes learning
Product–Market Misfit and Strategic Misalignment	Replication and transferability breakdown	Validated offering fails to replicate across contexts or segments	Post-validation expansion	Lack of transferability rather than lack of fit
Operational Overextension and Complexity Overload	Organizational complexity breakdown	Systems and processes fail to absorb increased coordination demands	Expansion phase	Growth amplifies internal inefficiencies
Financial Unsustainability and Diseconomies of Scale	Economic logic breakdown	Costs and investments grow faster than revenues and margins	Growth acceleration phase	Breakdown of unit economics and cost structure
Organizational and Leadership Failures	Governance and leadership breakdown	Decision-making and authority structures fail to adapt to scale	Advanced scaling phase	Leadership and governance do not evolve with size

By comparing these patterns across common analytical dimensions, the table highlights both their differences and their structural affinities. These breakdown logics inform the subsequent grouping

and interpretation of the empirical case studies, while preserving flexibility to account for overlapping or hybrid failure trajectories.

Chapter 2 - Research Design and Methodological Rationale

Qualitative research design aims to explore complex phenomena in depth within their real-life context, focusing primarily on "how" and "why" questions rather than on hypothesis testing or purely statistical inference (Yin, 2018). While qualitative research is typically associated with the analysis of textual and interpretive data, it does not exclude the use of numerical information. Rather, numerical data may be incorporated descriptively to support interpretation, contextualize findings or illustrate patterns, without constituting the primary mode of analysis (Busetto, Wick and Gumbinger, 2020).

Unlike linear quantitative designs, qualitative research adopts an iterative and flexible process, in which data collection and analysis often proceed in parallel and evolve in response to emerging insights (Creswell and Poth, 2018). One of its recognised strengths lies in its ability to explain the underlying mechanisms of social and organizational processes, revealing patterns and dynamics that are difficult to capture through standardized statistical methods alone (Crowe et al., 2011).

In summary, qualitative design allows for a multifaceted and contextualised understanding of the phenomena of interest, favouring analytical depth over sample size. This is particularly useful when certain research questions cannot be answered through quantitative data alone, for example, when investigating motivations, perceptions or subtle organisational dynamics (Creswell and Poth, 2018). Furthermore, the qualitative method can be used on its own or combined with quantitative methods in a mixed-methods design expanding the researcher's ability to capture both the measurable and more latent aspects of a phenomenon (Busetto, Wick and Gumbinger, 2020).

2.1 Qualitative and rational epistemological approach

The research design represents the conceptual and procedural architecture of a scientific study, defining the logic through which the researcher collects, analyzes and interprets data to answer their research questions (Yin, 2018). The choice of a qualitative approach and a multiple case design responds to the need to explore in depth a complex and poorly theorized phenomenon, the failure of business scaling, in order to understand its underlying mechanisms, dynamics and causal relationships.

As Creswell and Poth (2018) point out, the qualitative paradigm is particularly appropriate when the purpose of the investigation is exploratory and when the phenomenon under study cannot be meaningfully separated from its real-life context. In contrast to quantitative models that prioritize

generalizable relationships, a qualitative approach enables a context-sensitive analysis of evolving organizational and strategic dynamics (Busetto, Wick, and Gumbinger, 2020). In the present case study, examining scaling failure requires an approach capable of capturing how strategic choices, organizational structures and environmental conditions interact over time, generating patterns of diseconomy, complexity and breakdown.

The adoption of a qualitative paradigm is based on an interpretative and constructivist epistemological orientation, according to which organisational reality is a complex system of socially constructed meanings. As Creswell and Poth (2018) point out, knowledge in this type of research emerges from the interaction between observer and object, through an iterative process of interpretation and reflection. This implies that the researcher does not merely observe a phenomenon, but co-constructs its meaning together with the actors involved (Stake, 1995).

In this context, this perspective allows me to capture the subjective and collective representations of failure in scaling, including cognitive, organisational and strategic dimensions that cannot be reduced to purely numerical variables.

The epistemological orientation of this research is explicitly within the realm of theory-building, rather than theory-testing. According to Eisenhardt (1989), building theories from case study research is an inductive, systematic and iterative process, in which concepts, relationships and propositions emerge progressively from empirical observation. The goal is not to verify predefined hypotheses, but to generate new data-based theoretical understanding. This approach is particularly appropriate in emerging and unexplored contexts, where the existing literature offers fragmentary or partial models (Edmondson and McManus, 2007).

2.1.1 Reasons for choosing case study and multi-case design

Case study research is one of the most established and versatile strategies in qualitative research. Yin (2018) defines a case study as an empirical investigation that explores a contemporary phenomenon within its real-world context, when the boundaries between phenomenon and context are not clearly defined. The aim is to understand the complexity of the interaction between variables, events and actors through the use of multiple sources of evidence (interviews, documents, observations, archives, secondary data).

The study adopts a multi-case research design, also referred to as a collective case study in Stake's (1995) terminology, in order to investigate scaling failure across different organizational and contextual settings. A multi-case approach is particularly suitable when the objective is to identify

recurring mechanisms and compare how similar phenomena unfold under varying conditions, thereby strengthening analytical generalisation through cross-case comparison (Yin, 2018; Eisenhardt, 1989). Rather than relying on a single empirical instance, the inclusion of multiple cases allows patterns, contrasts and boundary conditions to emerge more clearly, while preserving the depth and contextual richness typical of qualitative inquiry (Eisenhardt and Graebner, 2007).

The comparative logic underpinning the research design follows the principles of literal and theoretical replication (Yin, 2018), as reflected in the purposeful selection of cases. Cases that share key characteristics are used to explore whether similar scaling failure dynamics recur (literal replication), while cases that differ along relevant dimensions (sector, timing or growth trajectory) allow for the examination of variation in failure mechanisms (theoretical replication). In this sense, replication is not treated as statistical verification but as an analytical strategy to refine and extend the conceptual typology developed in Chapter 1. Each case represents a distinct unit of analysis corresponding to a specific scaling trajectory, enabling the empirical exploration of how different breakdown logics manifest in practice. This design therefore operationalises the theoretical framework by translating the identified patterns of scaling failure into a structured empirical comparison, allowing theory and evidence to interact iteratively rather than setting expectations of formal hypothesis testing (Eisenhardt, 1989; Yin, 2018; Creswell and Poth, 2018).

In this methodological context, recent reflections clarify that case-based research in the Eisenhardt tradition should not be interpreted as a rigid or prescriptive method. Rather, as Eisenhardt and colleagues emphasize in their more recent work, theory building from cases is an abductive and iterative process, in which empirical observations and theoretical insights continuously inform each other (Eisenhardt, Graebner and Sonenshein, 2016). The objective is not to mechanically apply predefined procedural steps but to develop theoretically grounded explanations through systematic comparison, analytical transparency and conceptual rigor. This understanding aligns with the present study, which uses cross-case analysis to refine and elaborate the conceptual patterns of scaling failure introduced in Chapter 1. Taken together, these methodological choices reflect an interpretative stance that privileges contextual understanding, analytical comparison and theory development over statistical inference.

The multi-case qualitative design adopted in this thesis provides a coherent framework for examining scaling failure as a complex and context-dependent phenomenon. By combining an interpretative perspective with a comparative case logic, the study is able to capture how strategic, organizational and environmental factors interact over time to generate distinct failure trajectories. The use of

multiple cases supports analytical rigor through replication and triangulation, while also enabling the development of a theoretically grounded understanding of recurring patterns across heterogeneous contexts. Overall, the research design aims to contribute an empirically informed conceptual explanation of why firms fail to scale, rather than to estimate frequencies or test predefined hypotheses

2.2 Case Selection Criteria and Presentation of the Study Cases

The selection of cases followed a replication logic consistent with multiple-case study methodology (Eisenhardt, 1989; Yin, 2018). Cases were chosen to allow both literal replication, where similar scaling failure mechanisms were theoretically expected to emerge, and theoretical replication, where contrasting outcomes could be explained by meaningful contextual differences. This logic guided the purposeful selection of cases and underpins the comparative design adopted in the subsequent analysis.

Purposeful selection, as highlighted by Patton (1990) and Palinkas et al. (2015), therefore favours information-rich cases, those capable of offering a deep and multifaceted understanding of the phenomenon being analysed. This approach allows for a combination of literal and theoretical replication understood in an interpretative sense, whereby cases are selected to explore recurring and contrasting configurations of scaling failure across different contexts, rather than to test predefined expectations (Yin, 2018). To ensure coherence and transparency in the comparative analysis, case selection was guided by three inclusion criteria.

The first criterion concerns scale-up status. The companies included in the analysis are characterized by a phase of accelerated growth and expansion beyond early market entry, as reflected in indicators such as revenue increase, workforce growth or rapid geographic or operational expansion. Importantly, inclusion does not presuppose fully validated product-market fit or sustainable unit economics, as several cases exhibit growth trajectories that later proved premature or unbalanced. To operationalize this criterion, reference is made to the OECD definition of "high-growth firms", which identifies companies with average annual growth of at least 20% over three consecutive years, starting from a minimum base of ten employees (OECD/Eurostat, 2010; OECD, 2021). This benchmark is used as a guiding reference rather than a strict threshold, allowing the analysis to capture both sustainable and premature scaling trajectories.

The second criterion concerns the availability and reliability of empirical sources, which is essential for data triangulation (Yin, 2018). In this study, primary sources refer to original documents produced

by firms or regulatory and judicial authorities in the course of actual events, such as regulatory filings, SEC disclosures, court records and official reports. Secondary sources include independent analyses and interpretations of these events, such as academic studies, investigative journalism, industry reports and expert commentary. Cases were selected only when both types of sources were sufficiently available, allowing the integration of multiple perspectives and enhancing methodological transparency and analytical robustness,

Finally, the third requirement concerns the presence of clearly documented evidence of scaling failure. Each company included exhibits a distinct phase or period in which the scaling process broke down, occurring during or following a phase of rapid expansion. Scaling failure is understood here as the inability to sustain growth without margin erosion, a disproportionate increase in organizational complexity, or a governance crisis. The availability of longitudinal evidence covering this breakdown phase enables the analysis of the different failure patterns identified in Section 1.6.2, while maintaining an empirical focus consistent with the theoretical objectives of the study.

The case design follows a logic of controlled heterogeneity, whereby variation across cases is deliberately introduced along theoretically relevant dimensions while preserving comparability on core analytical aspects. As suggested by Patton (1990) and Eisenhardt (1989), sectoral and temporal diversity enhances analytical validity when it is used to explore how similar mechanisms unfold under different conditions. In this study, cases replicate literally with respect to the central phenomenon under investigation, namely the breakdown of scalability following a phase of accelerated growth, while they replicate theoretically along dimensions such as industry context, business model and timing of expansion.

The six cases selected span the period from 2010 to 2023 and operate in different sectors, including real estate, on-demand logistics, digital consumer services and biotechnology. This variation allows the analysis to examine whether and how similar scaling failure mechanisms emerge across heterogeneous contexts. At the same time, comparability is maintained through shared inclusion criteria and a common analytical focus on the transition from early growth to failed or unsustainable scaling.

Building on the five analytically distinct patterns of scaling failure identified in Chapter 1, the empirical analysis groups cases into three broader clusters that capture recurring configurations of failure mechanisms. These clusters do not replace the original typology but serve as an empirical aggregation device, enabling cross-case comparison while acknowledging that multiple failure patterns may co-occur or interact within the same empirical trajectory. In this way, the case design

allows the conceptual framework developed in Chapter 1 to be examined and refined through structured comparison across diverse yet theoretically connected cases. By enabling systematic comparison across cases that share core analytical features while differing in context and execution, this design strengthens the credibility and explanatory power of the findings, as cross-case replication allows patterns to be assessed beyond idiosyncratic trajectories (McLeod, 2024; Yin, 2018).

2.3 Data Collection, Sources and Reliability

This section describes the data collection methods, the types of sources used, and the strategies adopted to ensure reliability and validity. The study relies on document-based qualitative data, a well-established approach in qualitative case study research, particularly suited to the retrospective analysis of complex organizational phenomena (Yin, 2018; Bowen, 2009).

The sources used can be distinguished according to their analytical role into primary documentary sources and secondary analytical sources. Primary documentary sources consist of original and official documents produced contemporaneously with the events under investigation, such as regulatory filings (e.g. SEC Forms 10-K, 10-Q and 8-K), audited financial statements, court documents, press releases, minutes of supervisory bodies, and institutional reports. Although these materials are not generated by the researcher, they provide first-hand documentary evidence of organizational decisions, financial conditions, and governance structures, and are therefore essential for reconstructing factual timelines and observable outcomes (Yin, 2018). At the same time, these sources present well-known limitations. They often reflect a formal or organizational perspective, potentially shaped by legal, reputational, or disclosure incentives, and tend to emphasize financial and regulatory aspects while offering limited insight into underlying strategic intentions or internal dynamics.

Secondary analytical sources consist of materials produced by third parties on the basis of documentary evidence or systematic ex-post analyses. These include peer-reviewed academic articles (such as case studies published in management and entrepreneurship journals), industry and sector reports, and high-quality investigative and business journalism. The use of such independent analytical sources is common in document-based qualitative research and is recommended to support interpretation, contextualization, and theory development, particularly when primary access to organizations is not feasible (Bowen, 2009; Eisenhardt, 1989; Yin, 2018). Secondary sources allow the cases to be situated within a broader analytical and theoretical context and often highlight causal mechanisms, organizational dynamics, or strategic implications that do not emerge directly from official documents. However, their use also requires critical assessment, as the quality and reliability

of secondary analyses depend on the methodological rigor of the original studies and may incorporate the interpretative perspectives or biases of their authors.

In this study, primary documentary and secondary analytical sources are used in a complementary manner. Documentary sources provide a solid factual basis for reconstructing scaling trajectories and observable breakdowns, while secondary analyses support interpretation, comparison across contexts, and theoretical integration. This combination enhances analytical depth while mitigating the limitations associated with reliance on a single source type, in line with established principles of qualitative triangulation (Yin, 2018; Eisenhardt and Graebner, 2007).

An overview of all primary documentary and secondary analytical sources, including their institutional origin, document type, and length, is provided in Appendices A1. All materials were systematically archived to ensure transparency and allow for auditability upon request. In one case included in the study, primary documentary sources were not available, as the company was privately held and did not produce regulatory filings or judicial documents comparable to those analysed for the other cases. In this instance, the analysis relies exclusively on high-quality secondary analytical sources, such as investigative journalism and post-mortem case reconstructions. This methodological choice reflects the nature of the available evidence and is consistent with established practices in document-based qualitative case study research when direct access to primary organizational data is not feasible (Yin, 2018). The implications of this source structure are addressed explicitly in the case description in Section 2.4.

2.3.1 Collection and storage procedures

The empirical materials were collected using a systematic and traceable procedure in order to ensure the transparency and replicability of the method. First, a documentary research plan was defined for each case, identifying possible relevant sources: financial databases (SEC's EDGAR) to find company filings, online archives of economic newspapers and bibliographic databases (EBSCO, Google Scholar, etc.) to identify articles and case studies, as well as institutional websites (of the company or supervisory authorities) for official press releases and reports. A snowball sampling strategy was adopted for documentary sources, starting from each document found, the citations and references contained therein were followed to discover further relevant sources. For example, a note in the financial statements mentioning a regulatory investigation led to a search for the relevant press release from the supervisory authority or an academic article on the case cited specific events or documents that were then found in primary sources. At the same time, to ensure the completeness of the collection, iterative searches were carried out using multiple keywords (in different languages,

where necessary) as new items of interest emerged from the preliminary analysis of the documents already collected. All the materials collected were saved and catalogued in a structured digital archive. In particular, a case study database (Yin, 2018) was created, organised by cases and source subcategories for each business case analysed, a folder was created containing subsections for "Official documents" (financial statements, press releases, court documents), "Media and external reports" (press articles, investigative reports, etc.) and "Academic literature" on the case. Within each subfolder, the files were named descriptively and/or with the date so as to facilitate chronological sorting and quick retrieval of information.

This systematic archiving has not only made it possible to manage the large volume of data efficiently, but also to build a clear chain of evidence linking each analytical assertion to its original source. As recommended by Yin (2018), maintaining a detailed chain of evidence increases the transparency and reliability of the study, allowing third parties to trace the results back to the original information and verify how the latter supports the conclusions drawn. At the same time, during the collection process, a log was kept of the sources consulted and the searches carried out, noting dates, search engines or databases used and criteria for selecting/rejecting documents, so that the process could be reported in detail (see Crowe et al., 2011, on the need to document methodological steps). This organisational approach reflects the good practices highlighted in the literature for qualitative case studies, creating a case database helps to systematically organise and store data, ensuring that all sources are easily accessible for analysis (Yin, 2018).

2.3.2 Triangulation of sources and validity verification

To ensure the validity and convergence of the results, the data collected underwent a rigorous cross-checking process, according to the principle of triangulation. Triangulation consists of comparing information from different sources or obtained using different methods with the aim of verifying the consistency of the results and strengthening the credibility of the inferences. Yin (2018) emphasises that the use of multiple sources of evidence, such as documentation, archives, interviews and direct observations, allows for the construction of a rich, detailed and valid data set offering a more complete understanding of the phenomena studied.

Similarly, Crowe et al. (2011) point out that combining multiple data sources increases the internal validity of the study, the assumption is that converging results from independent sources increase confidence in the conclusions, while any discrepancies prompt a re-examination of the interpretations. In practice, for each case examined, key information was verified through at least two independent sources. For example, critical financial values (profit, debt, etc.) reported in papers or secondary

analyses were verified in the company's official financial statements; public statements by executives (perhaps reported in the press) were compared with company press releases or any transcripts of conference calls from the period; the causes of failure indicated by the authors of an academic case study were compared with the findings of official investigations or the opinions of other analysts. This cross-checking process aims to corroborate all factual evidence and reduce the risk of relying on incorrect or distorted information. Where discrepancies between sources emerged (different versions of the same event), further research was conducted, seeking additional confirmation and keeping track of divergences in conclusions, so as to account for residual uncertainties. Triangulation was applied not only to sources but also, where possible, to methods, in addition to document analysis, a qualitative analysis of the content of the narratives produced retrospectively was carried out, combining factual data with their theoretical framework with the support of the literature. In this way, convergence through complementarity was pursued, primary sources provided empirical anchoring, while perspectives derived from secondary sources helped to interpret and explain the data in an iterative process of comparison. From a methodological point of view, these measures reflect the recommendations of classic case study authors, for example, Eisenhardt (1989) observes that the use of multiple data collection methods strengthens the empirical foundations of emerging theory through the triangulation of evidence.

Similarly, Stake (1995) emphasises that the case must be examined from different angles (multiple perceptions) in order to grasp its complexity and recommends the involvement of multiple researchers or perspectives (where possible) precisely to enrich the interpretation and reduce individual bias. In our study, although conducted by a single researcher, we sought to incorporate multiple perspectives by periodically submitting interim results comparing them with the interpretations of different authors in the literature (theory triangulation), so as to approach the plurality of viewpoints that, according to Stake, contributes to the robustness of the conclusions. Furthermore, in line with the credibility criteria for qualitative research (Creswell, 2014), strategies such as prolonged engagement with the data (in-depth reading and rereading of documents), accurate reconstruction of the context of each case and dense presentation of results through detailed descriptions were adopted to allow the reader to evaluate the congruence of the proposed interpretations.

Overall, the data collection and analysis approach followed, based on multiple sources, systematic organisation, triangulation and transparent documentation, aims to produce reliable and valid results in terms of correspondence with the reality under investigation. It is consistent with Yin's (2018) methodological recommendations on the “four principles of data collection” for case studies, which

include the use of multiple sources of evidence, the creation of a case database and the maintenance of the chain of evidence to ensure rigour and verifiability (CliffsNotes, 2025).

2.3.3 Data Analysis Procedure

The data analysis followed an iterative and abductive logic, moving back and forth between the conceptual framework developed in Chapter 1 and the empirical material collected for each case (Eisenhardt, 1989; Yin, 2018). In line with established case study methodology, data collection and analysis were not treated as strictly sequential phases but as interconnected processes that informed each other throughout the research.

First, a structured case database was created for each company, in which all primary documentary sources and secondary analytical sources were systematically archived and indexed. For each case, a detailed chronological reconstruction of the scaling trajectory was developed, distinguishing between the phase of rapid expansion and "the subsequent episode" of scaling breakdown (margin erosion, restructuring, bankruptcy or legal enforcement). This temporal structuring supported within-case analysis and helped preserve a transparent chain of evidence, reducing the risk of retrospective distortion (Yin, 2018).

Second, the empirical material was analysed through theory-informed qualitative coding. Coding categories were derived from the five patterns of scaling failure identified in Section 1.6.1 and were used as sensitising concepts rather than fixed classificatory schemes (Eisenhardt, 1989). Evidence was coded along key analytical dimensions, including the initial scaling logic and growth drivers; unit economics and financial sustainability; operational complexity and organisational structure; governance and leadership dynamics; and market or strategic fit. Throughout the process, factual evidence (such as financial figures, regulatory findings or documented decisions) was kept analytically distinct from interpretative accounts (such as ex post explanations proposed by analysts or journalists), allowing for critical comparison between observed outcomes and subsequent narratives.

Third, a cross-case analysis was conducted to identify recurring mechanisms, contrasts and boundary conditions across cases. Consistent with the logic of analytical generalisation, cases were compared both within and across the three empirical clusters in order to assess whether similar scaling failure dynamics emerged under different business models and contextual conditions (Eisenhardt and Graebner, 2007; Yin, 2018). This comparative process allowed the refinement of the explanatory links between antecedents (scaling choices and contextual constraints) and outcomes (specific forms of scaling failure), without aiming at statistical inference.

Throughout the analysis, rival explanations were actively considered and interpretations were revised when contradictory evidence emerged. This iterative comparison between data and theory supported the development of robust within-case narratives and cross-case patterns, which form the empirical foundation of the chapters that follow.

2.3.4 Methodological limitations and mitigation strategies

Despite the precautions taken, it is important to recognise the inherent limitations of the approach used and how attempts were made to mitigate its impact. A first set of limitations stems from the retrospective nature of the analysis. By studying cases of high-profile corporate failures after the fact, the researcher is aware of the final outcome of events; this exposes him to hindsight bias, such as the tendency to perceive outcomes as more predictable or inevitable than they actually were ex ante. With hindsight, it is easy to overestimate the visibility of warning signs or simplify the causal chain of events that led to the failure. To mitigate this bias, an approach grounded as much as possible in the data available at the time was adopted, for example, when analysing controversial managerial decisions, the researchers based their analysis on what managers knew (or could reasonably have known) at the time, avoiding evaluating those decisions solely in light of the negative outcome that subsequently occurred.

Furthermore, a certain caution was maintained in using overly linear ex post explanations whenever the narrative of a secondary source attributed failure to a specific cause or error, it was verified whether this interpretation was supported by evidence contemporary to the events or whether other variables were plausibly at play. In this way, an attempt was made to avoid the trap of an overly simplistic retrospective narrative, aware that case studies, especially those of failure, tend to be subject to retrospective sensemaking that can introduce interpretative distortions.

A second limitation concerns the completeness of the data, the analysis depends on materials available retrospectively, which may not cover every relevant detail. Some information, especially on internal company matters (such as confidential boardroom conversations, corporate cultural dynamics, etc.), may never have been disclosed publicly or may have been lost. This entails the risk of empirical gaps in the reconstruction. To address this problem, we have attempted to collect as many diverse sources as possible for each case, including, for example, indirect evidence (post-event interviews with key figures, where available) and any accessible documents that could fill in the gaps. Where undocumented grey areas remain, they are honestly reported in the text of the analysis, avoiding filling them with mere speculation. A third critical aspect concerns the reliability of the corporate sources used. As mentioned, primary sources originating from companies (annual reports, press

releases, investor presentations, etc.) may contain a certain degree of inherent bias, as companies have incentives to present their data and narratives in a favourable light. For example, a financial statement may deliberately downplay or omit information about impending problems; similarly, executives may minimise operational difficulties or risk attributes in conference calls. However, as these sources are indispensable, their use was accompanied by critical analysis whenever information came directly from the company under study, it was verified with independent sources (such as newspaper articles, analyst reports or legal documents). In particular, the factual statements made by companies were compared with market data and third-party assessments. This cross-checking made it possible to identify any significant discrepancies or omissions in the "official" versions provided by the companies. One example is the case in which management publicly proclaimed financial soundness shortly before the collapse by comparing these statements with the financial statements and the analyses of external analysts, it was possible to highlight discrepancies and warning signs that the company had neglected to point out. A fourth limitation concerns the post-bankruptcy narratives available in literature or in the media. Often, after a company collapse, analysts and commentators produce reports that attempt to explain the reasons for the failure ex post. These narratives, however useful, may be influenced by attribution bias (the tendency to blame individuals or immediate factors, neglecting systemic causes) or may suffer from incompleteness if the authors do not have access to all the information. Furthermore, different secondary sources may offer divergent explanations for the same case, emphasising different aspects depending on the theoretical background or ideology of the writer. To address this issue, in our study, interpretations drawn from secondary sources were also triangulated, for example, the conclusions of academic articles were compared with those of journalistic investigations on the same event, seeking convergences or understanding the reasons for any divergences. Emphasis was placed on explanations common to multiple independent sources, considering them more robust, while isolated or conflicting interpretations were subjected to further scrutiny. In addition, a reflective approach was maintained, the researcher constantly evaluated how his own preconceptions or expectations might influence the interpretation of the data, practising a sort of bracketing to limit personal bias. To mitigate the limitations listed above, reference was made to various methodological strategies suggested in the literature. During the design phase, the cases to be studied were selected using theoretical and purposive sampling (Eisenhardt, 1989; Palinkas et al., 2015), choosing cases that were emblematic and informative in relation to the research questions, rather than a random statistical sample. This ensured that each case contributed relevant knowledge and allowed for the application of logical replication (Yin, 2018) in case comparisons, some cases were chosen because they were expected to confirm certain patterns (literal replication), others because of their contrast (theoretical replication), in order to verify the extensibility of the emerging

explanations. During the analysis phase, in addition to the triangulation of sources already described, a systematic comparison between cases (cross-case analysis) was carried out, looking for similarities and differences that could validate or qualify the conclusions (Yin, 2018; Eisenhardt, 1989).

At the same time, narrative transparency was pursued, each key inferential step is explained in the text, linking statements and conclusions to the corresponding empirical evidence. This level of detail allows the reader to follow the logical thread and evaluate the validity of the interpretations (thick description and audit trail). Transparency is recognised as a key element in enhancing the quality and trustworthiness of qualitative research (Crowe et al., 2011).

Finally, openness to alternative explanations was maintained instead of settling for the first plausible interpretation of the data, different hypotheses were explored to see if they could also be supported by the evidence (rival explanations according to Yin). This critical exercise helped to avoid hasty conclusions and strengthen the theoretical soundness of the final deductions. Ultimately, thanks to these precautions, the study aims to meet the criteria of reliability and constructive validity characteristic of rigorous research. As suggested by Edmondson & McManus (2007), when investigating phenomena that are relatively poorly understood theoretically, it is appropriate to adopt a flexible exploratory qualitative design capable of generating new insights, while remaining aware that such "emerging" contexts require particular attention in corroborating empirical evidence (Knight, Chidlow and Minbaeva, 2022). Consistently, the chosen approach, multiple case study with integration of primary and secondary sources, was designed to maximise learning about the phenomenon while maintaining methodological rigour. Recent developments in case study methodology confirm the effectiveness of these measures, for example, Czosnek et al. (2022) show how the adoption of transparent procedures and the collection of multi-source data contribute to increasing the quality, reliability and validity of a multi-case study (Czosnek et al., 2022).

In conclusion, this section has illustrated how data were collected, managed and verified in an accurate and systematic manner. This methodological approach provides a solid foundation on which to build the case analysis in the following chapters, ensuring that interpretations and conclusions are based on robust and reliable evidence, in line with advanced qualitative research standards.

2.4 Study Cases

The identification of the study cases followed a structured and purposeful process, consistent with the theoretical sampling logic outlined in Section 2.2. Rather than starting from a predefined list, cases were identified through a systematic review of academic literature on scaling and failure,

complemented by the analysis of high-quality business journalism, regulatory records and widely documented corporate collapses. This initial screening focused on firms frequently cited as emblematic examples of rapid growth followed by the loss of scalability, restructuring or collapse.

From this broad pool, cases were progressively narrowed down by applying the inclusion criteria defined earlier (i) evidence of a completed scaling phase following initial product–market validation; (ii) the presence of a clearly identifiable breakdown of scalability, such as persistent financial diseconomies, operational overload, strategic misalignment or governance failure and (iii) the availability of sufficiently rich and reliable documentary material to enable within-case reconstruction and cross-case comparison. This iterative selection process ensured that cases were not chosen for notoriety alone, but for their analytical relevance and explanatory potential in relation to the research questions.

The final set of cases reflects a logic of controlled heterogeneity. Companies were selected across different sectors, business models and temporal contexts in order to examine whether similar scaling failure mechanisms emerge under varying conditions. At the same time, all cases share a common structural feature, an initial phase of rapid expansion followed by an inability to sustain growth without escalating costs, complexity or governance breakdowns. This balance between variation and comparability supports analytical generalisation through replication logic rather than statistical representativeness (Yin, 2018; Eisenhardt, 1989).

The six selected cases; WeWork, Gopuff, Homejoy, Deezer, Theranos and Fab.com; thus constitute information-rich empirical settings through which the patterns of scaling failure developed in Chapter 1 can be examined, contrasted and refined. An overview of the key characteristics of each case, including the period of scaling and the episode(s) of failure, is provided in Table 2, which serves as a roadmap for the individual case analyses that follow.

2.4.1 Individual Case Description

WeWork (2010 – 2023)

Founded in New York in 2010, WeWork emerged as one of the most iconic examples of the "asset-light" sharing economy, offering flexible coworking spaces to freelancers, startups and large enterprises. Its business model revolved around long-term real estate leases converted into short-term memberships with revenue derived from occupancy and value-added services. Between 2014 and 2019, the company expanded aggressively across 100 cities and reached a private valuation of $47

billion, supported by over $10 billion in venture funding, primarily from SoftBank (Financial Times, 2019).

However, the model's scalability rested on fragile unit economics. While marketed as a technology-driven company, WeWork's core business entailed high fixed costs, low margins and heavy exposure to commercial real estate cycles. The company's 2019 IPO filing (Securities and Exchange Commission, 2019) revealed net losses exceeding $1.9 billion on revenues of $1.8 billion, as well as unconventional metrics, such as "community-adjusted EBITDA", designed to mask structural inefficiencies. Governance issues further aggravated the situation, with founder Adam Neumann exercising outsized control through dual-class shares and self-dealing transactions. Investor confidence collapsed prior to listing, forcing the IPO withdrawal and triggering a major restructuring under SoftBank's control.

Despite multiple turnaround attempts, WeWork filed for Chapter 11 bankruptcy protection in November 2023, marking one of the largest collapses among venture-backed firms of the decade (Reuters, 2023). Overall, the case highlights a trajectory in which rapid expansion was sustained by increasing capital inflows rather than by improving unit economics, while growing organizational and governance complexity progressively undermined financial sustainability.

Gopuff (2013 – present)

Gopuff, founded in Philadelphia in 2013 by Yakir Gola and Rafael Ilishayev, operates in the ultra-fast delivery or quick commerce (q-commerce) segment. Its model integrates centralized micro-fulfilment centres, known as dark stores, with a proprietary last-mile logistics network, promising household essentials in minutes. Backed by investors such as SoftBank Vision Fund and Fidelity, Gopuff raised over $3.4 billion by 2022 and reached a private valuation near $15 billion (CB Insights, 2023).

The company's scaling trajectory accelerated during the COVID-19 pandemic, when demand for home delivery spiked globally. Gopuff expanded to over 1.000 locations across the U.S. and Europe, but this rapid geographic proliferation proved unsustainable once demand normalised. The model required high capital expenditures, complex logistics coordination and subsidised delivery fees to attract customers resulting in persistent negative margins.

By mid-2022, Gopuff announced the closure of dozens of warehouses and layoffs of approximately 10 % of its workforce (Grocery Dive, 2022; The Information, 2023). In 2023-2024, the company scaled back its international operations and refocused on profitability. Overall, the case illustrates a

scaling trajectory characterised by rapid geographic expansion and heavy capital deployment, followed by a phase of retrenchment once demand conditions shifted and the sustainability of unit economics came under pressure.

Homejoy (2010 – 2015)

Homejoy was a San Francisco based on-demand cleaning services platform founded in 2010 by siblings Adora and Aaron Cheung. Positioned as a pioneer of the "gig economy", it sought to standardise home cleaning through a digital platform connecting freelancers with clients, using fixed pricing and rating systems to ensure consistency. Between 2012 and 2014, Homejoy raised approximately $40 million from top-tier investors, including Google Ventures and Redpoint Ventures (Wired, 2015).

Initially hailed as a success story of scalable on-demand services, Homejoy expanded rapidly to more than 30 cities across North America and Europe. However, the company soon faced structural weaknesses such as high customer churn, low lifetime value and escalating acquisition costs undermined its growth. In 2015, a series of class-action lawsuits challenged the company's classification of cleaners as independent contractors exposing it to significant legal liabilities (TechCrunch, 2015).

Without a clear path to profitability or compliance adaptation, Homejoy ceased operations in July 2015. Overall, the case documents a rapid expansion trajectory followed by a sudden collapse, shaped by rising customer acquisition costs, high churn and increasing regulatory pressure in a labour-intensive platform model.

Deezer (2007 – present)

Founded in Paris in 2007, Deezer is one of the earliest music-streaming platforms and an early competitor to Spotify. The company's model centred on freemium subscriptions, offering ad-supported streaming alongside premium plans. By 2014, Deezer had expanded to over 180 countries and secured partnerships with telecom operators such as Orange, which boosted user acquisition in key markets (Euronext, 2022).

Despite its strong domestic base, Deezer struggled to sustain competitiveness against global rivals with larger catalogues, deeper pockets, stronger brand recognition and more pronounced network effects, most notably Spotify, as well as integrated ecosystem players such as Apple Music and Amazon Music. Attempts to go public in 2015 were postponed due to "unfavourable market conditions", as investors questioned the company's ability to achieve scale in a winner-takes-most

industry (Reuters, 2015). In 2022, Deezer eventually listed on Euronext Paris via a SPAC merger but debuted with a 35 % price drop on its first trading day.

The company has since refocused on profitability through geographic consolidation and strategic partnerships. Overall, the case documents the challenges faced by a technologically mature platform operating in a market characterised by strong network effects and high competitive concentration, where scale advantages increasingly shape competitive outcomes.

Theranos (2003 – 2018)

Theranos, founded in Palo Alto in 2003 by Elizabeth Holmes, aimed to revolutionise blood testing by miniaturising diagnostic technology. The company claimed to conduct hundreds of tests from a few drops of blood using its proprietary Edison device, promising faster, cheaper and less-invasive diagnostics. Backed by prominent investors and partnerships with Walgreens and Safeway, Theranos reached a valuation of over $9 billion in 2014, positioning Holmes as the world's youngest self-made billionaire (Securities and Exchange Commission, 2018).

However, investigations by *The Wall Street Journal* in 2015 revealed that the technology was unreliable and that the majority of tests were conducted using conventional analysers. The company had misrepresented its capabilities to investors, regulators and patients. In 2018, the U.S. Securities and Exchange Commission charged Holmes and COO Sunny Balwani with massive fraud; in 2022, both were convicted in federal court (Department of Justice, 2022).

Overall, the case documents a growth trajectory driven by strong external expectations and high-profile partnerships, followed by a rapid collapse once technological feasibility and governance practices came under regulatory and legal scrutiny.

Fab.com (2011 – 2014)

Fab.com began in 2011 as a curated e-commerce platform for design products and lifestyle accessories. Its distinctive proposition lay in flash sales and limited-time offers, combining social discovery with retail urgency. Initially hailed as one of the fastest-growing startups of its era, Fab.com reached $150 million in annual sales within two years and raised over $330 million in venture capital, reaching a $1 billion valuation (TechCrunch, 2014).

However, the company's rapid growth masked structural inefficiencies as over-expansion, uncontrolled hiring and misalignment between customer acquisition and inventory management eroded margins. In 2013–2014, Fab.com underwent multiple layoffs and pivoted toward a traditional

retail model abandoning its flash-sale structure. The strategy failed to stabilise finances, leading to a sale of assets at a fraction of its valuation by late 2014.

Unlike the other cases examined, Fab.com did not generate primary documentary sources such as regulatory filings or judicial records, as it remained a privately held company throughout its lifecycle. Accordingly, the analysis of this case relies exclusively on high-quality secondary analytical sources, including investigative journalism and post-mortem case reconstructions, in line with established practices in qualitative case study research (Yin, 2018).

Fab.com's trajectory exemplifies strategic misexecution and premature scaling driven by investor pressure and overconfidence. The company's decline underscores the risks of pursuing hyper-growth without operational discipline and adaptability. Overall, the case documents a rapid growth trajectory followed by strategic repositioning and financial contraction, as the firm struggled to align its operating model and cost structure with the pace of expansion.

While Chapter 1 identified five analytically distinct patterns of scaling failure, the empirical analysis of the study cases revealed that these patterns tend to co-occur along broader dimensions of scaling. For the purpose of comparative analysis, the cases were therefore grouped into three higher-order clusters, each capturing a dominant locus of breakdown in the scaling process. This clustering does not replace the five-pattern typology but rather serves as an analytical device to structure cross-case comparison by aggregating closely related failure mechanisms.

2.5 Comparative Clustering and Analytical Rationale

To facilitate a structured cross-case analysis, the six case studies were grouped into three thematic clusters, each bringing together two cases in which analogous scaling challenges emerged. The clustering is based on the primary dimension along which scalability breaks down, as observed in the empirical material and informed by the failure patterns discussed in Chapter 1.
The first cluster captures failures rooted in physical and operational scaling, where expansion requires capital-intensive assets, logistics and coordination. The second cluster focuses on digital platform scaling, in which scalability is constrained mainly by network effects, market structure and competitive concentration rather than by physical assets. The third cluster centres on narrative and organizational scaling, where growth is driven primarily by expectations, storytelling and governance structures that outpace underlying technological or organizational capabilities.

(Table 2)

Case	Period of scaling	Dominant scaling dimension	Main breakdown observed
WeWork	Approx. 2014–2019 (rapid international expansion prior to failed IPO)	Physical and operational scaling	Capital-intensive asset model, fragile unit economics, and increasing organizational and governance complexity undermining financial sustainability
Gopuff	Approx. 2019–2021 (pandemic-driven geographic expansion)	Physical and operational scaling	Rapid geographic proliferation and heavy capital deployment without validated unit economics, leading to retrenchment once demand normalized
Homejoy	Approx. 2012–2014 (multi-city platform expansion)	Digital platform scaling	High customer churn, low lifetime value and regulatory pressure limiting the scalability of a labour-intensive marketplace model
Deezer	Approx. 2010–2014 (early international platform expansion)	Digital platform scaling	Competitive disadvantage in a winner-takes-most market dominated by strong network effects and highly capitalised incumbents
Theranos	Approx. 2010–2015 (valuation growth and partnership expansion)	Narrative and organizational scaling	Growth driven by expectations and partnerships that outpaced technological feasibility and governance controls
Fab.com	Approx. 2011–2013 (hyper-growth phase)	Narrative and organizational scaling	Investor-driven hyper-growth, strategic misexecution and organizational overstretch leading to financial contraction

The clustering presented above provides the analytical structure for the cross-case comparison developed in the following chapters. By grouping cases according to the dominant dimension along which scaling breaks down, the analysis can examine how similar failure mechanisms manifest across different organizational and contextual settings, while also accounting for important sources of variation. The clusters are not treated as mutually exclusive categories, but as heuristic devices that support systematic comparison and theory refinement. In the empirical analysis, each case is examined in depth within its cluster, before moving to cross-cluster comparison aimed at identifying commonalities, differences and interaction effects among scaling failure mechanisms.

Cluster 1 – WeWork & Gopuff (Physical and Operational Scaling)

The first comparative cluster examines startups that attempted to scale primarily through the rapid expansion of tangible, asset-intensive operations, including physical infrastructure, real estate commitments, logistics networks and workforce deployment. This form of scaling, referred to here as physical and operational scaling, corresponds to the operational scaling failure category identified in Section 1.6.2. WeWork and Gopuff both pursued aggressive growth based on brick-and-mortar or logistical infrastructure and in both cases the high costs and complexities of scaling tangible operations proved calamitous. WeWork, though presented as a tech visionary, was fundamentally an office-leasing business that overextended itself, it "spent heavily to acquire a mass of long-term leases in some of the world's most expensive real estate markets" during its rapid rise (Guardian, 2023). This strategy led to untenable overhead and contributed to its spectacular fall when market conditions shifted. Gopuff similarly expanded its network of micro-fulfillment centers and delivery services at breakneck speed, pouring venture capital into new warehouses and staff. As industry analysis noted, instant-delivery start-ups like Gopuff have "very tricky" economics; they built costly logistics infrastructure on the assumption of perpetual growth, only to find that margins were bad and operations extraordinarily complicated (The Atlantic, 2022). Indeed, Gopuff in recent years had to retrench, conducting layoffs and closing warehouses, it had just set up to preserve cash (The Atlantic, 2022) a pattern echoing WeWork's contraction when its cash reserves dwindled. The structural similarity between WeWork and Gopuff lies in their physical scaling model: both tried to achieve scale through real-world assets (leased offices or delivery hubs) and faced lethal cash burn and operational inefficiencies as a result. By comparing a co-working provider (WeWork) and a hyper-local delivery service (Gopuff), this cluster controls for the shared challenge of scaling physical operations, while introducing sectorial variation (real estate vs consumer logistics) and a slightly different time frame. These contextual differences act as a robustness check demonstrating that the operational scaling failure pattern is not idiosyncratic to one industry or era but can recur in varied settings.

In other words, finding analogous failure dynamics in a 2010s office-sharing unicorn and a 2020s instant-delivery startup would lend credence to the general theory that aggressive physical expansion without sustainable unit economics leads to collapse.

Cluster 2 – Deezer & Homejoy (Digital Platform Scaling)

The second cluster focuses on failures rooted in digital platform scaling, aligning with the platform-based scaling failure category (Section 1.6.2). Deezer and Homejoy both built platform-centric business models, the first one in music streaming, while the other in on-demand home services and

faced the structural challenges associated with scaling two-sided digital platforms. Despite operating in different domains, they share structural issues such as dependency on user acquisition, network effects and platform economics that ultimately proved difficult to sustain. Homejoy, an early player in the gig-economy home cleaning market, experienced a phase of rapid early expansion followed by an equally rapid decline. After a phase of accelerated growth, Homejoy's model collapsed under mounting losses and poor customer retention, exacerbated by costly expansion and execution problems (Farr, 2015). The company slashed prices and spent heavily on marketing ($19.99 first-time cleanings via daily deals) to boost user numbers but most customers never returned beyond the initial discount, leading to untenable economics (Farr, 2015). Homejoy's inability to retain a critical mass of users, to service providersand and its struggle to monetize repeat usage exemplify a platform scaling failure, wherein growth hacking tactics could not overcome fundamental shortcomings in the business model. Deezer, by contrast, is a digital music streaming platform that survived where Homejoy did not but it too highlights scaling limitations. Deezer achieved a substantial user base, yet with just 10 million paying subscribers, Deezer remains far smaller than Spotify (268 million) or other global rivals and has historically relied on its home market (France) and telecom partnerships for stability (Ayuso, 2023). This indicates that even with continued operation, Deezer struggled to attain global scale and profitability on par with competitors, underlining the difficulty of scaling a digital content platform in a winner-takes-all market. By pairing a failed startup (Homejoy) with an incumbent survivor (Deezer), this second cluster allows for a nuanced comparative insight; both illustrate the structural pressures of platform scaling (critical mass requirements, high user acquisition costs, competition, etc.), yet their divergent outcomes (outright failure vs constrained survival) provide a theoretical replication by contrast. The two cases differ in sector (services vs music) and timing (early 2010s vs late 2000s origin), which again serves to strengthen analysis; any common patterns observed can be deemed more robust if they manifest across such different digital arenas. In sum, Cluster 2 probes how digital platform ventures can falter when rapid scaling outruns the platform's ability to generate sustainable network effects or revenue, whether the consequence is abrupt collapse (Homejoy) or long-term stagnation (Deezer).

Cluster 3 – Theranos & Fab.com (Narrative and Organizational Scaling)

The third cluster examines cases of failure driven by inflated narrative and organizational overstretch, corresponding to the narrative/organizational failure category (Section 1.6.2). Theranos and Fab.com were both highly celebrated startups that achieved sky-high valuations on the back of compelling stories and charismatic leadership, only to implode when reality caught up with them. This cluster highlights how scaling a venture on vision, hype and rapid organizational growth, without solid foundations, can lead to spectacular failure. Theranos, in the biotech/healthcare domain,

epitomizes narrative-driven failure, founder Elizabeth Holmes crafted the image of a revolutionary tech company poised to reinvent blood testing, which attracted enormous investor and media hype. In truth, Theranos built a $9 billion enterprise entirely on promises, masking the absence of a viable product from start to finish (Planet Compliance, 2023). The company's narrative of innovation and its charismatic founder (often likened to a "next Steve Jobs") allowed Theranos to scale up its valuation, partnerships and operations rapidly, even as its technology never worked reliably. Ultimately, the bold narrative collapsed into scandal, revealing how thoroughly vision had eclipsed substance.

Fab.com, an e-commerce startup once hailed as the fastest-growing site in the design retail space, followed a similar arc of explosive rise and fall fueled by hype. After a pivot in 2011, Fab's flash-sale model saw remarkable early growth reaching $100k in daily sales within months and a $900 million valuation by 2013 (Harvard D^3, 2016). However, Fab's leadership (CEO Jason Goldberg) became fixated on aggressive expansion and lofty sales targets, losing sight of business fundamentals. The company expanded operations too quickly (including a rushed European expansion and massive hiring) and repeatedly changed its business model in pursuit of growth (Harvard D^3, 2016). This led to severe misalignment such as high overheads, inventory bloat and strategic confusion, all while the initial value proposition eroded. In the span of two years, Fab burned through over $200 million and had to lay off most of its staff (Harvard D^3, 2016). As one analysis noted, Fab failed because it scaled up rapidly without aligning its operating model to its business model focusing on growth and narratives over operational viability (Harvard D^3, 2016). Both Theranos and Fab.com, despite stark differences in industry (medical technology vs consumer retail) and in the nature of their deceit (Theranos's fraud vs Fab's mismanagement), showcase a common structural problem; "scaling by narrative" using vision, brand story or investor exuberance to drive expansion can paper over operational weaknesses only for a short time. When the reckoning came, these companies lacked the organizational substance (whether technological capability or sound business processes) to support their scale, resulting in dramatic implosions. Comparing Theranos and Fab.com within one cluster allows us to examine how charismatic storytelling, inflated expectations and internal organizational strain contribute to failure. Any differences between the two (for example, the regulatory stakes in healthcare vs retail or the role of outright fraud) provide additional analytical leverage if a similar pattern of "hype-fueled collapse" emerges in such divergent cases, it reinforces the theory that an overemphasis on narrative and rapid scaling, unmoored from reality, is a distinct failure mode in startups. Together, Theranos and Fab.com illustrate how ventures that scale primarily through narrative legitimacy and rapid organizational expansion, without corresponding

technological or operational foundations, are particularly vulnerable to abrupt collapse once external scrutiny intensifies or growth expectations are no longer sustained.

2.6 Data Analysis Procedure

The analysis of the six cases followed a qualitative comparative case study approach, based on systematic examination of secondary data sources. The objective was not to test predefined hypotheses statistically but to identify recurring mechanisms and patterns across heterogeneous contexts. The analytical process can be divided in four stages. First, all collected materials (financial reports, SEC filings, press releases, investigative journalism, academic articles and analytical reports) were read in full and archived in digital format. Each document was saved locally to ensure traceability and to avoid reliance on potentially changing web content. For each source, publication date, access date and full URL were recorded. Second**,** an initial open coding phase was conducted manually. During this phase, documents were reviewed line-by-line and key passages were highlighted and annotated. Codes were generated inductively and deductively. Deductive codes were derived from the theoretical framework introduced in Chapter 1 (unit economics imbalance, premature scaling, governance misalignment, network fragility, operational rigidity). Inductive codes emerged directly from the data (discounted growth tactics, founder centralization, lease burden, churn escalation, board composition issues). No qualitative software was used. Coding was conducted manually using structured notes and thematic categorization tables**.** Third, codes were grouped into higher-order categories. In total, 23 first-order codes were identified and consolidated into three main analytical dimensions (see the following table), these dimensions later informed the clustering logic developed in Chapter 2 and applied in Chapter 3. Fourth, a cross-case comparison was performed, identifying patterns through constant comparison across cases and following Eisenhardt's (1989) replication logic. Similarities and divergences were examined to determine whether observed mechanisms were case-specific or recurrent across sectors and time periods. This stepwise procedure ensured a transparent chain of evidence linking raw data excerpts to first-order coding, higher-order categories and the theoretical interpretation presented in Chapters 3 and 4. Illustrative excerpts from the dataset are integrated within the case analysis to demonstrate how interpretations were grounded in documented evidence.

The table presents illustrative examples of the aggregation logic applied during the coding process. First-order codes were identified and systematically grouped into six second-order categories, later consolidated into three overarching analytical dimensions.

(Table 3)

First-Order Codes (Data Excerpts)	Second-Order Category	Overarching Analytical Dimension
High burn rate; negative EBITDA; LTV < CAC; heavy discounting	Unsustainable unit economics	Structural failure
Multi-year lease commitments; high fixed costs; warehouse overexpansion	Operational rigidity	Structural failure
Heavy reliance on venture capital; continuous fundraising rounds	Capital dependency	Structural failure
High customer churn; low retention; weak engagement density	Network instability	Relational failure
Founder dominance; lack of independent oversight; centralized decision-making	Governance opacity	Cognitive failure
Overemphasis on valuation narrative; mission drift; brand dilution	Narrative distortion	Cognitive failure

Chapter 3

After outlining the research design in Chapter 2 and presenting the selected study cases, this chapter applies the analytical framework developed in Chapter 1 to examine how scaling breaks down across the three comparative clusters (WeWork & Gopuff, Homejoy & Deezer, Theranos & Fab.com). The analysis presented in this chapter is grounded in systematic examination of documentary evidence, including financial disclosures, regulatory filings, court documents and high-quality secondary analytical sources such as investigative journalism, industry reports and academic case studies. For each case, specific empirical indicators; including cost structures, revenue dynamics, financing patterns, governance arrangements and documented strategic decisions; are used to trace how scaling trajectories evolved and where breakdowns occurred. The analysis is guided by the five patterns of scaling failure identified in Section 1.6.2 and uses clustering as an organising device to compare cases that share a dominant locus of breakdown while differing in context and business model, rather than presenting descriptive narratives, this chapter applies the analytical dimensions derived from the theoretical framework to interpret how observed outcomes reflect recurring mechanisms of scaling failure.

Methodologically, the chapter follows a structured within-cluster comparison. For each pair, the analysis (i) reconstructs the scaling trajectory and the timing of the breakdown phase, (ii) identifies the key mechanisms linking growth to unsustainable outcomes (deteriorating unit economics, operational complexity, governance failures, competitive lock-in) and (iii) highlights observable warning signals documented in contemporaneous sources. Evidence is drawn primarily from documentary materials (regulatory filings, audited reports, court and enforcement documents and official communications) and systematically complemented with high-quality secondary analyses (academic studies, investigative journalism and industry reports), with all sources traceable through bibliography and Appendices A1.

The aim of this chapter is not to retell failure stories but to develop an evidence-based explanation of recurring mechanisms through pattern matching across cases, while remaining attentive to the interaction between endogenous factors (strategy, operating model, governance) and exogenous conditions (market structure, regulation and technological environment) (Yin, 2018; Eisenhardt, 1989).

3.1 WeWork and Gopuff: failures in operational/physical scaling

The operational scaling model of WeWork and Gopuff was based on rapid physical expansion, property rentals in the case of WeWork and widespread micro-fulfilment centres and ultra-fast

deliveries in the case of Gopuff, supported by substantial venture capital funding. In both cases, tumultuous growth revealed operational diseconomies and an unsustainable burn rate, management complexities and fixed costs grew faster than revenues eroding margins and exposing the inadequacy of the business model. The analyses highlight structural similarities, such as the adoption of the "tech" narrative to justify asset-intensive expansion, but also differences in sector and governance. Below, we compare the two cases, highlighting how overexpansion and the inability to adapt traditional infrastructure to an exponential scale led to collapse.

WeWork (2010–2023), founded as a co-working service, stood out for its relentless expansion, backed by over $10 billion in investments (mainly from SoftBank) and a peak private valuation of approximately $47 billion (end of 2018 valuation) (Wired, 2020). In just a few years, WeWork has opened hundreds of locations in over 100 cities, becoming one of the largest real estate occupiers in major centres such as New York and London ahead of its planned IPO in 2019 (Wired, 2020; Reuters, 2023). However, this hypergrowth coincided with huge losses, in 2018, S-1 accounts revealed net losses of approximately $1.9 billion on $1.8 billion in revenue, with atypical accounting metrics (such as WeWork's adjusted EBITDA) designed to mask structural inefficiencies. In essence, WeWork was presented as a "tech" company, but its core business was the subletting of properties at low margins (VentureBeat, 2019; Wired, 2020). When investors (SoftBank in particular) took a closer look at the accounts in 2019, exorbitant fixed costs (long-term leases) and imbalances in unit revenues emerged, the obsession with top-line growth had led to economic sustainability being put aside. Starting in the summer of 2019, the collapse in the valuation price (from $47 billion to $10 billion) and the flight of investors put an end to the IPO (Business Insider, 2019). Subsequently, the pandemic worsened an already critical situation, demand for office space collapsed and WeWork found itself with leasing obligations of approximately $13.3 billion an "overwhelming" burden on the company's accounts (Reuters, 2023). Essentially, WeWork's attempt at blitzscaling ran into severe diseconomies of scale, as costs rose (rent, maintenance, staff), margins shrank until they almost disappeared. As noted in the literature, many companies "grow to fragility" if expansion exceeds operational capability (Zook & Allen, 2016). In WeWork's case, this fragility manifested itself in explosive debt, mass layoffs and ultimately, operational failure, culminating in a court-supervised reorganization under Chapter 11 of the U.S. Bankruptcy Code in 2023 (United States Courts, 2023; Reuters, 2023). The lack of robust unit economics, despite the claimed "hyper-technological" levels, was so obvious that the subsequent restructuring measures in 2019-2023 could only stem the cash flow haemorrhage, without preventing the final collapse (Newman resigned under pressure before the failed IPO, and SoftBank's bailout prolonged the end until 2023) (Business Insider, 2019, Wired, 2020). In summary, WeWork embodies a failure of operational scaling due to poor strategic choices (focus on growth rather than profitability)

and excessive dependence on fixed property costs. Its example shows how a 'full throttle' physical expansion strategy can fail when the infrastructure and organisational model cannot digest the growth: the costs of complexity grew faster than revenues, causing diseconomies of scale that eroded margins (Wired,2020; Reuters, 2023). The analysis is consistent with studies indicating that over half of large companies become less profitable as they grow in size, due to increasing internal complexity (Innosight, 2023).

Gopuff (2013–present), operating in the ultra-fast delivery of convenience products, was propelled to grow at a comparable rate; from a local Philadelphia start-up to a global unicorn during the pandemic. Gopuff's model is based on a network of “dark stores” (mini urban warehouses) and a 15-30 minute delivery service with discounted rates. Since its first rounds, it has raised over £3.4 billion in capital (SoftBank Vision, Fidelity, etc.), reaching a valuation of approximately £15 billion in 2021. With this budget, Gopuff has invested heavily in infrastructure and acquisitions (BevMo, Flink, Fancy) to expand its footprint to over 650 cities in the US and several cities abroad (TechCrunch, 2021). On paper, Gopuff’s scale-up aimed to create a technological and logistical barrier to entry for competitors. In reality, even in its case, rapid expansion revealed serious operational sustainability issues. The capital costs of maintaining hundreds of warehouses, the complexity of coordinating staff, couriers across the continent and the need to subsidise deliveries to attract customers led to persistent negative margins (unfavourable unit economics). The negative turnaround came in the two-year period 2022-2023. Starting in the summer of 2022, Gopuff began a series of drastic adjustments, closing dozens of unprofitable warehouses, laying off about 10-15% of its staff and withdrawing from international markets (Technical.ly, 2024). Sources report that in 2023 alone, Gopuff "burned" approximately $400 million in cash, a burn rate comparable to other fast-delivery companies that have struggled to control costs (Technical.ly, 2024). Many observers describe Gopuff as a typical case of premature scaling, growth was pursued before fully validating the operational profitability of each new market, forcing the company into a painful restructuring when the promotional boost of lockdown came to an end. From a strategic point of view, one of the key mistakes was to slavishly imitate efficiency models built by giants such as Amazon. Gopuff hired dozens of operational executives from Amazon and introduced extremely rigid business metrics, with the aim of “levelling” towards Amazon's processes (long business reports, minute targets on warehouse times, etc.) (Business Insider, 2022). In other words, the huge increase in operational complexity (warehouses, relations with suppliers, delivery drivers, customer care) was not supported by an adequate coordination structure, resulting in inefficiencies and additional costs (much higher wages for warehouse staff, without any actual reduction in unit costs) (Business Insider, 2022). Overall, Gopuff has had to renegotiate its expectations and seek profitability by cancelling expansion plans, implicit

decisions that point to a “next leg of growth” only once the model has been re-established (6% of redundancies announced for 2024) (Technical.ly, 2024).

WeWork and Gopuff share an emblematic path of physical overexpansion financed by venture capital, in which the focus on growth prevented them from addressing operational sustainability. In both cases, leaders emphasised visionary narratives that framed the firms as technology-driven platforms rather than asset-intensive businesses, in order to justify rapid expansion and high valuations. However, this created enormous expectations for scale, until the weight of operating costs, property leases for WeWork, logistics centres and a fleet of riders for Gopuff, exceeded the benefits of incremental revenue resulting in classic diseconomies of scale (Wilson, 2025; Innosight, 2023). However, there are also important differences, WeWork suffered to a greater extent from excessive financial leverage on long-term real estate assets and governance deficits (the hegemony of founder Neumann was crucial) (Wired,2020; Reuters, 2023), while Gopuff, despite also being heavily dependent on capital and vision management, was exposed to highly competitive markets characterised by high variability in local demand. Furthermore, WeWork's failure ultimately resulted in bankruptcy and complete reorganisation, while Gopuff, still in business, is correcting its course with more conservative strategies. In terms of scaling dynamics, WeWork exemplifies the danger of growing exponentially on fixed costs aligned with linear growth, a model that is therefore inherently unscalable, as pointed out by experts (Friedman, 2019; Wired, 2020; Reuters, 2023) while Gopuff shows how last-mile logistics can swallow up capital without any obvious efficiency gains if not managed gradually (infrastructure adaptation, adoption of efficient technologies and consolidation before expansion). Finally, both cases illustrate the importance of strict financial and operational metrics, a high burn rate with relatively little increase in revenue (or negative LTV/CAC) should have raised alarm bells before the collapse (Startup Genome, 2011).

Ultimately, the comparative analysis of WeWork and Gopuff highlights how the equation "more scale = more success" can fail in the case of physical infrastructure that is undersized relative to ambitions. Their story confirms that growth and scalability are not synonymous unless accompanied by sustainable unit economics. Strategic errors (growing too much andtoo quickly, according to inadequate metrics) and negative operating economies were key drivers of their scaling failures. The comparison highlights that, despite sectoral and temporal differences, there are recurring patterns: overexpansion, high burn rate, and inability to adapt the organisation to the new size (Bohan et al., 2024; Coviello et al., 2024).

3.1.1 Financial metrics, diseconomies of scale and the role of financing in scaling

To assess the sustainability of WeWork and Gopuff's scaling, it is crucial to analyse indicators such as unit economics, burn rate, adjusted EBITDA and LTV/CAC. Unit economics represent the profit (or loss) generated by each customer or transaction, if a start-up loses more money than it earns per customer, the model is not scalable (Long 2025). The burn rate measures the rate of capital consumption, WeWork, for example, "burned" approximately £198.7 million in the first half of 2019 on operations alone (in addition to £2.36 billion in investments) (Khuntara, 2020); an unsustainable rate that preceded the collapse. Adjusted EBITDA (adjusted operating profit) was another warning sign: WeWork was aiming to break even on adjusted EBITDA by 2021 (Khuntara, 2020), but in reality it continued to record huge losses (Cohan 2019). The LTV/CAC (customer lifetime value to customer acquisition cost) ratio summarises the efficiency of the customer acquisition model, ideally, this value should be at least 3:1 (Long, 2025). For Gopuff, the heavy burn of around $400 million in 2023 (despite cuts in marketing expenses) (Riehl, 2024) suggests that the acquisition cost far exceeded the average value generated by each customer. In practice, both WeWork and Gopuff operated on unfavourable unit economics, WeWork leased long-term space with unsatisfactory occupancy margins, while Gopuff offered fast, discounted deliveries that eroded revenues relative to the cost of maintaining "dark stores". These figures, combined with high burn rates and negative operating EBITDA, confirm that neither company had solid financial fundamentals. Diseconomies of scale occur when an increase in organisational size leads to an increase in unit costs (CFI, 2023). In other words, beyond a certain point, producing more output increases marginal costs rather than reducing them (CFI, 2023). Causes include coordination inefficiencies, slower internal communications, and duplication of work (CFI, 2023). At the organisational level, "communication channels" grow exponentially with the number of employees, slowing down the transmission of information and creating errors. Similarly, autonomous teams can duplicate functions (and costs) that a small organisation shared centrally. On an operational level, for example, Gopuff's rapid expansion led to the opening of dozens of dark stores; analysts believed that each hub would only become profitable if it exceeded approximately 500 - 1,000 orders per day (Sterling, 2022). As a result, many hubs below this threshold were closed, with costs already incurred going to waste. In financial terms, a company that is too large may encounter limitations in accessing capital or have to accept less favourable terms, WeWork, despite having numerous investors, accumulated high debts to finance further openings (Cohan 2019). In summary, diseconomies of scale manifest themselves in managerial and operational inefficiencies (increased coordination, isolated employees and declining motivation) which, in the case of WeWork and Gopuff, made each new unit more expensive to manage.

To situate the WeWork and Gopuff cases within a broader pattern of venture-backed scaling, similar financial dynamics can be observed in other high-growth firms, other giants of "exponential scalability" have followed similar trajectories. Uber operated for years with negative unit economics: despite growing revenues, it continued to suffer billions in losses (SoftBank invested £7.7 billion in Uber, which lost £6.2 billion on £5.4 billion in sales in 2019) (Cohan, 2019). This strategy of growth at any cost, heavily driven by venture capital, ultimately led Uber to delay profitability for nearly a decade. In the quick-commerce sector, Getir and Gorillas show similar dynamics, after rapid expansion and stellar valuations, they were forced to withdraw or restructure. Getir laid off 2,500 employees in 2023 (over 11% of its workforce) and abandoned countries such as Italy, Spain and Portugal in the face of a sharp decline in post-Covid demand (Reuters, 2023). Gorillas, on the other hand, was acquired by Getir in 2022 when profitability proved elusive (Sterling, 2022). In both situations, the initial financial capital (tens of millions for each company) did not translate into sustainable economies of scale, the number of orders per warehouse, fierce competition and volatility in demand eroded margins. These examples reinforce the generalisability of the dynamics observed in WeWork and Gopuff, huge capital investments can accelerate market growth, but without a solid economic foundation, they lead to operational and financial diseconomies.

3.1.2 Role of venture capital, distorted financing and incentives

The rapid scaling of WeWork and Gopuff was fuelled by an extraordinary availability of venture capital. In a context of near-zero interest rates in the 2010s, venture capital investors promoted blitzscaling strategies, in a widely cited industry commentary, Tower (2025) summarises the prevailing venture capital logic of the period as encouraging firms to “hire faster than you can onboard, raise more money than you can spend and expand into markets you barely understand”, reflecting the incentive structures promoted by large late-stage investors. At that time, burning through hundreds of millions of dollars per quarter was almost a badge of honour (Tower, 2025). SoftBank, for example, had hundreds of billions to invest and followed the logic of financing seemingly huge companies at a loss, ignoring long-term profitability (Cohan, 2019). This fuelled valuation bubbles, WeWork reached a private valuation of $47 billion despite its margins being in free fall (Cohan 2019). These distorted incentives also emerged in contracts, founders were often disproportionately rewarded despite the destruction of value (at WeWork, SoftBank paid billions to Neumann himself despite obvious losses) (Cohan 2019). In essence, venture capital promoted premature and aggressive scaling, prioritising market share and user metrics growth at the expense of economic efficiency.

The pressure to grow rapidly has profound consequences on internal culture and organisation. The blitzscaling strategy requires mass recruitment in a short period of time making it difficult to maintain cohesive values and solid procedures (Johnson, 2022). At WeWork, for example, the company rapidly hired managers and contractors to manage hundreds of global locations, diluting the original "we" culture and creating internal conflicts. The result was a complex hierarchical environment, where slow communication and decision-making processes fuelled inefficiencies (Johnson 2022). Visionary leaders often accentuated these dynamics, Adam Neumann embodied the typical charismatic founder with a "reality distortion" that inspired large investments in unusual ideas (Cohan 2019). His proposal to transform the office into a "physical social network" (Cohan 2019) reflected the adoption of a big tech mindset that was ill-suited to the office space business. Ultimately, importing big tech paradigms (aspiring to be a unicorn at all costs, subscription models and technology-driven physical hubs) undermined the organisational structures of WeWork and Gopuff. High hiring rates, a concomitant loss of contact with end customers and a lack of attention to established processes quickly eroded stakeholder confidence and made recovery extremely difficult.

3.2 Homejoy and Deezer: Failures in Digital Platform Scaling

The second cluster examines two ventures that attempted to scale within the digital-platform economy, Homejoy and Deezer, each representing a distinct but complementary form of digital platform scaling failure. Unlike the operational or physical scaling failures discussed in the previous section, digital-platform failures occur not because of tangible infrastructure constraints, but because of the inability to sustain the network effects, user retention and unit-economic efficiency required for scalable digital growth (Parker, Van Alstyne & Choudary, 2016; Giustiziero et al., 2023). Both companies illustrate how rapid growth and technological optimism can mask weak value capture and fragile business fundamentals.

In digital ecosystems, scalability hinges on positive feedback loops between users, suppliers and partners. A successful platform reaches critical mass, where each new participant increases overall value for all others (Evans & Schmalensee, 2016). Failure emerges when this virtuous cycle stalls or reverses, when acquisition costs rise faster than lifetime value or when competitive intensity erodes differentiation. Homejoy's collapse and Deezer's stagnation reveal that even in software-driven

models, diseconomies of scale may arise from unbalanced growth, fragile retention or structural limitations in network effects.

Homejoy, founded in San Francisco in 2010 by Adora and Aaron Cheung, aimed to standardize home-cleaning services through a digital on-demand marketplace. Its proposition relied on fixed pricing, quality ratings and seamless online booking, translating the logic of software scalability to a labor-intensive service (Wired, 2015). Backed by over US $40 million from Google Ventures and Redpoint Ventures, Homejoy expanded to 35 cities across North America and Europe by 2014 (GeekWire, 2015). The founders pursued growth by offering first-time cleanings at heavily discounted rates (US $19.99), expecting viral adoption and strong repeat usage. However, retention was weak, less than 25% of customers returned after the first month and fewer than 10% after six months (Wired, 2015).

The company's model depended on high transaction volume to dilute fixed costs; such as marketing, onboarding and platform maintenance; yet the churn rate remained persistently high. Customer Acquisition Cost (CAC) exceeded Customer Lifetime Value (LTV), producing an LTV/CAC ratio below 1 (Maurya, 2016). According to the Startup Genome (2019), this represents premature scaling, where expansion outpaces product-market validation. Homejoy extended operations internationally before refining retention metrics, mirroring the classic symptom of growth decoupled from validated learning (Ries, 2011).

Compounding economic fragility, Homejoy faced multiple lawsuits in 2015 regarding the classification of its independent contractors, which exposed the company to retroactive wage liabilities and compliance costs (TechCrunch, 2015). This legal uncertainty undermined investor confidence and accelerated capital withdrawal. Without the network density of more diversified gig-economy peers (Uber or TaskRabbit), Homejoy lacked scale economies to absorb shocks. It shut down in July 2015, transferring part of its engineering team to Google.

Homejoy's failure illustrates a case of digital diseconomies of scale, exponential marketing spend met diminishing marginal returns on user growth. The platform's growth logic prioritized top-line expansion over unit validation (Maurya, 2016). As Ries (2011) noted, scaling without verified product-market fit amplifies inefficiencies instead of reducing them. Furthermore, the company's dependence on external contractors undermined service standardization, a core promise of the model, leading to inconsistent user experiences and reputational erosion. Ultimately, Homejoy demonstrates that technological interfaces cannot compensate for weak retention economics and misaligned institutional frameworks.

Founded in Paris in 2007, Deezer pioneered the European music-streaming market with a freemium model combining ad-supported access and premium subscriptions. Its initial scaling strategy relied on partnerships with telecom operators, notably Orange France, that bundled premium subscriptions into mobile contracts, providing rapid user acquisition with low direct CAC (Euronext, 2022). Deezer expanded into over 180 countries by 2021 but its market share remained marginal compared to global leaders (Euronext, 2022).

Despite early success, Deezer struggled to reach the critical mass achieved by Spotify or Apple Music. Network effects in streaming markets are winner-takes-most; larger catalogues, social features and data-driven recommendations create reinforcing advantages for incumbents (Reuber et al., 2021). Deezer's reliance on regional partnerships fragmented its user base and limited global brand equity. Attempts to go public in 2015 were cancelled due to "unfavourable market conditions" (Reuters, 2015). Although the company eventually listed via SPAC in 2022, it experienced a drop of nearly 35% in share price on its first trading day (Rosemain & Vidalon, 2022).

Deezer's freemium model depended on converting free users into paying subscribers, yet its conversion rate remained under 6% (The Guardian, 2025). Average Revenue Per User (ARPU) lagged behind competitors, while licensing fees consumed much of gross revenue. Unlike scalable software firms, streaming platforms face high variable costs per stream due to royalties, constraining margin leverage (Giustiziero et al., 2023). Consequently, Deezer's LTV/CAC ratio remained narrow and profitability elusive. The company recently refocused its efforts on core markets such as France and Brazil (Euronext, 2022).

Deezer represents a case of constrained scalability rather than outright collapse. Its challenge was not premature scaling but insufficient scale, an inability to expand fast enough to trigger sustainable network effects. According to Coviello et al. (2024), such cases reflect limited scalability potential, the capacity exists in principle but cannot materialize under adverse market structures. Deezer's dependence on telecom partnerships weakened direct user engagement, while global incumbents reaped data-driven advantages. Thus, even a technically robust platform can stagnate when competitive asymmetries prevent the self-reinforcing dynamics that underpin digital scale.

Homejoy and Deezer exhibit parallel patterns despite operating in distinct industries and technological contexts. Both pursued platform-centric business models reliant on large user bases, recurring interactions, and network-driven value creation. However, while they initially achieved

strong user acquisition through aggressive growth campaigns and strategic partnerships, their inability to sustain retention and unit-economic balance revealed structural weaknesses inherent to premature or constrained scaling. Each company exemplifies what Bohan et al. (2024) describe as the *growth–profitability paradox*: when expansion amplifies inefficiencies rather than diluting them, leading firms to "grow themselves into fragility" (Zook & Allen, 2016). Both cases share a set of recurring mechanisms underpinning their failures. Homejoy and Deezer suffered from fragile or incomplete network effects, as growth in user numbers did not translate into higher engagement or value per user. This imbalance is central to platform sustainability, without sufficient interaction density and repeat usage, the feedback loops that fuel scalability weaken (Parker, Van Alstyne & Choudary, 2016). Moreover, both platforms exhibited unsustainable CAC/LTV ratios, signalling that customer acquisition costs exceeded the long-term value generated by each client. Their reliance on continuous external financing to compensate for operational losses demonstrates the prevalence of venture-driven scaling, in which growth is subsidised by capital inflows rather than organic profitability (Tower, 2025).

From a managerial perspective, both organisations prioritised vanity metrics; such as total users or geographic reach; over strategic indicators like customer retention, profitability per cohort and operational leverage. This misplaced focus reflects a broader cultural pattern within the digital economy, where scale is often equated with success irrespective of financial fundamentals. The overemphasis on top-line expansion, as Hoffman and Yeh (2018) observe, typifies the blitzscaling mindset, which can produce short-term momentum but erodes long-term viability when underlying economics remain weak.

Despite these shared weaknesses, the outcomes of Homejoy and Deezer diverged significantly. Homejoy faced a dual breakdown, regulatory and financial, that culminated in a terminal failure, illustrating the vulnerability of platform models operating in legally ambiguous labour markets. In contrast, Deezer survived as a sub-scale incumbent, constrained by oligopolistic market dynamics dominated by larger players such as Spotify and Apple Music. Its persistence reflects stagnant scalability, the firm achieved operational continuity but lacked the critical mass required to reinforce network effects and achieve durable profitability (Reuber et al., 2021). This contrast highlights two distinct archetypes of digital platform failure. The catastrophic type, exemplified by Homejoy, arises when rapid growth collides with regulatory or operational fragility, leading to abrupt collapse once investor confidence wanes. The chronic type, embodied by Deezer, represents prolonged underperformance, a platform that sustains operations yet remains trapped below the threshold of self-reinforcing scale. Both trajectories confirm that technological sophistication and digital reach

alone do not guarantee scalability. Instead, sustainable scaling requires coherence between three interdependent pillars; economic fundamentals, governance systems and market structure.

Ultimately, the comparative insight drawn from Homejoy and Deezer underscores that scalability is not merely a technical or financial outcome but an organisational capability. Firms must balance speed with validation, expansion with retention, and ambition with structural discipline. When this equilibrium fails, growth transforms from a competitive advantage into a liability, an observation that resonates across multiple cases of digital expansion analysed throughout this study.

3.2.1 Platform Economics, Network Effects and Unit Economics

Building on the platform-scaling framework outlined in Chapter 1, this section examines how failures in network effects, acquisition efficiency and unit economics materialize empirically in the cases of Homejoy and Deezer. As discussed in the theoretical background (Section 1.6.2), platform scalability depends on the alignment between user-side network dynamics and value capture mechanisms (Parker, Van Alstyne & Choudary, 2016; Eisenmann, Parker & Van Alstyne, 2011). The following analysis applies these concepts to the observed scaling trajectories, focusing on how imbalances between growth, engagement and monetization contributed to platform-level diseconomies. When any of these elements fail to reinforce the others, digital diseconomies arise, eroding the economic logic that underpins scalability. Platform economics rest on the principle of cross-side network effects, the more users on one side of the platform, the more value created for the other (Rochet & Tirole, 2003). Yet, as Eisenmann, Parker and Van Alstyne (2011) note, these effects are inherently fragile, they can generate powerful growth loops, but once equilibrium breaks due to quality decline, price distortions or asymmetric participation, network value can deteriorate as fast as it accumulated. Positive network effects emerge when each additional user enhances the platform's utility, but beyond a critical threshold, they may invert into negative or congestion effects if growth compromises service quality (Evans & Schmalensee, 2016).

Homejoy exemplified this shift, its rapid onboarding of freelance cleaners outpaced its ability to maintain service consistency, eroding trust among both providers and clients. The platform thus expanded its user base quantitatively but weakened it qualitatively. Deezer faced the inverse challenge, its global expansion diffused rather than intensified engagement, spreading thin user activity across regions without achieving sufficient "interaction density" to sustain network self-reinforcement. As Giustiziero et al. (2023) argue, digital scaling requires not only user growth but also relational depth, meaning sustained interactions that transform a user base into a community of repeat participants. At the financial core, both ventures exhibited structurally weak unit economics.

LTV/CAC ratios below 1 for Homejoy and below 3 for Deezer (Fader & Toms, 2018) reveal acquisition models that consumed more value than they created. The imbalance between Customer Acquisition Cost (CAC) and Customer Lifetime Value (LTV) exposes a classic form of subsidized growth, in which platforms pursue scale through aggressive incentives or partnerships that fail to translate into profitability. In Homejoy's case, the $19.99 promotional cleans drove short-term spikes in demand but not repeat transactions; in Deezer's case, bundling through telecom partners boosted user counts but eroded direct relationships, weakening pricing control and retention. A rising CAC combined with stagnant LTV indicates that growth is being purchased rather than earned, violating the fundamental condition of scalable efficiency (Maurya, 2016).

The patterns observed in Homejoy and Deezer resonate across the digital economy. SoundCloud, for instance, operated for nearly a decade under sub-scale monetization before restructuring its business model in 2021 (Reuter Tech, 2021). Uber and Lyft similarly deferred profitability by prioritizing market capture over operational efficiency, a dynamic described by Tower (2025) as the "late reckoning of blitzscaling". These examples illustrate a systemic paradox, in digital ventures, scale often precedes sustainability. Venture capital financing can extend the illusion of scalability by masking unit-level inefficiencies but once capital inflows decelerate, fragile models collapse under their own diseconomies. Sustainable scaling requires managing a dynamic equilibrium among acquisition, engagement and monetization. A platform that accelerates one dimension without reinforcing the others destabilizes its growth architecture. For Homejoy, the imbalance stemmed from premature expansion relative to service quality; for Deezer, from global reach unsupported by localized value creation. As Eisenmann et al. (2011) emphasize, the key to longevity in platform ecosystems lies in maintaining network balance, ensuring that each new participant adds incremental value rather than incremental cost. Ultimately, the comparative evidence from these cases reinforces that scaling without validated unit economics is not merely a managerial misstep but a systemic failure mode in the digital economy. Growth achieved through financial leverage or superficial user accumulation cannot compensate for weak feedback loops or thin margins. True scalability demands not just more users, but better economics per user, a principle that distinguishes enduring digital ecosystems from transient scale illusions.

3.2.2 Competition, Differentiation and Strategic Positioning in Digital Markets

Digital platform competition is shaped by dynamics fundamentally distinct from those of traditional industries. In networked environments, the sources of competitive advantage derive less from cost efficiency or production capabilities and more from data accumulation, network effects and ecosystem orchestration (Teece, 2007; Parker et al., 2016). Yet, the logic of digital markets also

generates structural vulnerabilities, the same mechanisms that enable rapid scaling, low marginal costs and high connectivity, create strong path dependencies, winner-takes-most dynamics and rapid erosion of differentiation. Homejoy and Deezer illustrate how the absence of strategic distinctiveness within these conditions leads to scaling failures not through lack of growth, but through unsustainable positioning.

Homejoy pursued an undifferentiated entry into an already commoditized market for on-demand household services. The company's model, designed around standardized pricing and algorithmic matching, relied on a promise of convenience rather than on a defensible competitive position. In Porter's (1985) terms, Homejoy never achieved either cost leadership or meaningful differentiation; instead, it operated "stuck in the middle", competing primarily on discounts and marketing intensity. Its growth strategy was premised on the assumption that platform size would substitute for strategic depth. However, in a market with minimal switching costs and weak brand attachment, scale amplified exposure to price competition rather than creating advantages of scope or experience. The company's dependence on independent contractors, viewed as a mechanism for operational flexibility, further constrained its ability to deliver consistent service quality or build a brand rooted in trust. As a result, its apparent scalability concealed a fundamental strategic vacuum, the inability to control or differentiate the value proposition that justified user loyalty.

Deezer, by contrast, entered a global digital oligopoly dominated by a few incumbents with massive network advantages. Despite pioneering the freemium model in Europe and securing valuable partnerships with telecom operators, Deezer failed to establish distinctive positioning in a market governed by scale asymmetry and switching inertia. Platforms such as Spotify and Apple Music achieved self-reinforcing advantages through data-driven personalization, ecosystem integration and brand ubiquity. Deezer's reliance on third-party bundles, while facilitating early expansion, diluted its direct relationship with users and eroded the feedback mechanisms essential to improving engagement. In strategic terms, Deezer's partnerships traded autonomy for access, they ensured distribution but limited differentiation. The absence of ecosystem integration, comparable to Apple's hardware-software complementarity or Spotify's algorithmic curation, prevented the firm from translating growth into strategic resilience. Over time, Deezer's competitive position crystallized into what Coviello et al. (2024) define as "sub-scale equilibrium", a situation in which the firm remains viable but structurally incapable of generating reinforcing network effects.

Both cases reveal the same structural contradiction in digital scaling, expansion without strategic consolidation. While the rhetoric of blitzscaling emphasizes speed, the reality of digital competition

demands focus and defensibility. As Hoffman and Yeh (2018) note, rapid growth can mask the fragility of positioning, particularly when firms misinterpret scale as a proxy for competitive advantage. Homejoy mistook volume for validation, believing that platform size alone would secure market dominance; Deezer mistook reach for relevance, assuming that geographic expansion and partnerships could substitute for unique user value. In both instances, the result was strategic drift, an incremental disconnection between operational growth and strategic coherence.

From a theoretical perspective, these failures demonstrate that digital competition transforms Porter's (1985) traditional framework rather than invalidating it. While cost and differentiation remain central, their expressions evolve, costs are now tied to user acquisition efficiency and differentiation emerges through network design and data leverage rather than product features. Homejoy's cost base escalated with each marginal user due to weak retention; Deezer's differentiation eroded as algorithms and catalogues became commoditized. In both, Teece's (2007) dynamic capabilities; sensing, seizingand reconfiguring; were underdeveloped. Neither firm effectively sensed market shifts, seized emerging opportunities or reconfigured their models to preserve uniqueness. Their inability to adapt under competitive pressure underscores that digital scalability without strategic agility merely accelerates decline.

Ultimately, Homejoy and Deezer represent two symmetrical failures of strategic positioning within digital markets. The former lacked horizontal defensibility, unable to establish barriers against replication in a low-tech, high-churn environment; the latter lacked vertical defensibility, unable to build layered advantages across its ecosystem. Both reveal how the erosion of differentiation transforms scaling from a driver of advantage into a multiplier of exposure. As Zook and Allen (2016) suggest, firms that lose focus during rapid expansion tend to scale fragility rather than capability; a pattern that recurs across the digital platform economy, where competitive pressure is constant, imitation instantaneous and the margin for strategic error vanishingly small.

3.3 Theranos and Fab.com: Failures in Organizational and Strategic Scaling

The third cluster examines scaling failures that originate not from operational inefficiency or digital fragility, but from organizational and strategic misalignment. Unlike the previous clusters, which focused on tangible diseconomies and network dynamics, the cases of Theranos and Fab.com reveal how flawed leadership, cultural dysfunction and misaligned strategy can undermine scalability from within. These firms demonstrate that growth without internal coherence breeds systemic fragility, where organizational structures and governance mechanisms collapse under the weight of their own momentum (Zook and Allen, 2016; Christensen, 2017). Both ventures emerged as symbols of

entrepreneurial ambition and innovation, yet their trajectories expose the perils of unbalanced scaling; where storytelling, valuation and visibility grow faster than organizational learning and accountability. Theranos exemplifies a failure of governance scaling, in which secrecy and centralization replaced validation and adaptability. Fab.com, conversely, epitomizes cultural and strategic drift: a company that expanded rapidly but eroded its brand identity and operational coherence. Together, these cases reveal that scaling is not solely an economic challenge, but an institutional one—testing the capacity of organizations to evolve their structure, governance, and culture in proportion to their growth.

Theranos was founded in 2003 by Elizabeth Holmes with the mission to revolutionize blood diagnostics through micro-sampling technology capable of running hundreds of tests from a single drop of blood. The company's narrative combined biomedical innovation with Silicon Valley's ethos of disruption, positioning itself as both a technology pioneer and a moral crusade (Carreyrou, 2018). At its peak, Theranos had raised more than US $700 million from high-profile investors and reached a valuation of about US $9 billion (Time, 2022). However, the firm scaled its market presence and visibility without validating its core technology, a phenomenon that Christensen (2017) describes as growth ahead of proof.

Theranos institutionalized opacity as a cultural and strategic choice. Its governance structure was highly centralized, with decision-making concentrated in the founder and a small inner circle, excluding technical expertise from critical processes. The company's board included political figures and military leaders but lacked biomedical or scientific oversight (Carreyrou, 2018; Securities and Exchange Commission, 2018). This composition reflected prestige rather than competence, enabling Holmes to suppress dissent and perpetuate an illusion of progress. Internal scientists and lab directors repeatedly flagged inconsistencies, but the organizational culture; dominated by fear, loyalty, and secrecy; prevented corrective feedback loops. As Zenger (2022) notes, this pattern typifies governance rigidity when organizations scale authority faster than accountability. Theranos's downfall began when its technological claims were publicly challenged by laboratory experts and whistle-blowers. Investigations by The Wall Street Journal in 2015 revealed that most tests were conducted using conventional machines rather than the firm's proprietary Edison devices (Carreyrou, 2018). By 2018, the U.S. Securities and Exchange Commission charged Theranos and its executives with fraud, leading to liquidation and Holmes's conviction. The company's scaling trajectory reveals a profound institutional disequilibrium, it expanded in valuation, partnerships and market expectations without expanding its governance, transparency or scientific validation systems. Scaling thus became a process of amplifying internal dysfunction, a textbook case of organizational scaling

failure. Notably, Theranos entered major partnerships with Walgreens and Safeway, which together invested hundreds of millions of dollars, Safeway alone reportedly spending about US $400 million and Walgreens US $140 million, before terminating the contracts when inconsistencies emerged (Bhattacharya, 2020). These alliances exemplify premature scaling; distribution expansion preceding technological readiness.

Fab.com was founded in 2011 by Jason Goldberg and Bradford Shellhammer as a design-focused e-commerce platform following the unsuccessful social networking start-up Fabulis (The Hustle, 2020). The company rapidly repositioned itself as a curated design marketplace emphasizing visual identity and user experience. By the end of 2012 Fab.com's user base had expanded, from approximately 1.5 million at the end of 2011, to around 10 million, according to data reported by Wired and TechCrunch (Wired, 2012; Perez, 2012) and attracted global attention for its explosive growth. Across 2011-2013, the firm raised a total of approximately US $336 million (Inc., 2015). The company's scaling logic relied on flash sales, deep discounting and a curation-based value proposition. However, the pursuit of exponential growth gradually displaced the design-centric ethos that had differentiated the brand. As the catalogue broadened, curation gave way to volume and Fab.com became indistinguishable from mass-market competitors such as Groupon or Overstock. The firm invested heavily in international expansion and acquisitions, including Llustre (UK) and One Nordic (Sweden), before achieving operational stability or a sustainable supply chain (Shontell, 2015). The result was an organizational structure stretched across functions, markets and cultures, without the integrative processes required to sustain coherence.

While Theranos's failure stemmed from excessive secrecy, Fab.com's originated from excessive openness, a culture of enthusiasm detached from operational discipline. Leadership celebrated scale as an end in itself, embracing a "hypergrowth" narrative that prioritized visibility over value creation. Internal turnover soared as the firm cycled through management layers unable to reconcile creative culture with retail execution. At its peak, Fab.com employed roughly 750 people, but by early 2015 the workforce had shrunk to about 35 (The Verge, Popper, 2015), a reduction of around 95 %. The company's identity, once rooted in design authenticity, eroded under the weight of indiscriminate scaling. By 2015, Fab.com had sold most assets to PCH and shut down operations (Jeffries, 2015; Shontell, 2015). Its trajectory reflects what Zook and Allen (2016) term core dilution, a process in which expansion destroys the focus and coherence that originally fueled success.

Theranos and Fab.com reveal two complementary manifestations of organizational and strategic scaling failure. Both expanded faster than their internal systems could adapt, substituting growth

narratives for structural discipline. Each case exposes how cultural pathologies, be it control or chaos, can undermine scalability. In Theranos, authority was concentrated and unchallenged; in Fab.com, authority was diffused and directionless. Both configurations produced similar outcomes, the erosion of accountability, the decay of decision quality and the collapse of reliable feedback mechanisms. The following mechanisms are not interpretative assertions but are derived from a systematic comparison of documentary evidence across the two cases, including regulatory filings, court documents, investigative journalism and post-mortem analyses. In line with institutional theory, legitimacy is treated here as an externally granted judgment rather than an internal attribute (Suddaby, Bitektine & Haack, 2017). The analysis traces how organizational behaviour increasingly responded to external evaluative audiences (investors, media, partners) rather than to internally validated performance indicators. The failures share three core mechanisms that explain how internal misalignment turns scaling into self-destruction:

1. **Dependence on external validation over internally verified performance.** In both cases, organizational decisions increasingly responded to the expectations of external evaluators rather than to internally validated evidence. In Theranos, legitimacy was constructed through high-profile partnerships, media narratives and board composition, while internal laboratory data and expert feedback were systematically excluded from decision-making processes (Carreyrou, 2018; SEC, 2018). In Fab.com, legitimacy was similarly pursued through growth signals; user numbers, geographic expansion and fundraising rounds; despite persistent operational losses and unresolved supply-chain inefficiencies (Shontell, 2015; Harvard D³, 2016). Consistent with institutional theory, legitimacy functioned as an externally granted judgment rather than as a reflection of operational performance (Suddaby et al., 2017).
2. **Acceleration of hiring and spending in the absence of verified performance feedback.** Both organizations expanded headcount and capital commitments without establishing reliable internal performance controls. Theranos scaled partnerships and infrastructure before demonstrating technological viability, while Fab.com expanded internationally and across product categories prior to achieving operational stability or positive unit economics (Carreyrou, 2018; Shontell, 2015). This pattern corresponds to what prior research describes as “unverified scaling”, where resource deployment precedes learning and validation (Ries, 2011; Christensen, 2017). Rather than correcting weaknesses, growth amplified them by increasing organizational complexity without commensurate control systems.
3. **Erosion of organizational identity under scaling pressure.** In both cases, rapid expansion diluted the core organizational identity that initially

underpinned value creation. At Theranos, the moralized narrative of disruption progressively displaced scientific rigor as the dominant organizing principle, weakening epistemic accountability within the firm (Carreyrou, 2018). At Fab.com, the original design-led identity eroded as growth objectives encouraged assortment expansion, discounting and strategic pivots that blurred the brand's meaning (Harvard D³, 2016). In line with Zook and Allen's (2016) concept of core dilution, scaling acted as a centrifugal force that fragmented purpose and undermined coherence.

Yet despite these shared mechanisms, the trajectories of failure diverge sharply. Theranos collapsed through centralized deception, governance scaled vertically but transparency did not. Decision-making was insulated within a rigid hierarchy, where authority expanded faster than accountability. Fab.com, conversely, failed through fragmented execution, governance scaled horizontally, but cohesion was lost. Authority became diffuse, strategic intent blurred and the organization fractured into competing logics of creativity and commerce.

These contrasting patterns illuminate a broader insight, scalability is not merely about the capacity to grow but about the capacity to maintain coherence while growing. As Teece (2007) and Christensen (2017) emphasize, sustainable scaling depends on dynamic alignment between leadership, governance and strategic intent. Where that alignment falters, growth ceases to be a sign of healt, it becomes a multiplier of dysfunction.

3.3.1 Organizational Culture, Leadership and Governance Failures

Organizational culture plays a defining role in determining whether a firm can scale its capabilities without amplifying dysfunction. As Schein (2010) observed, culture acts as the "social DNA" of an organization, invisible yet determinative. Theranos and Fab.com exemplify contrasting but equally destructive cultural architectures. Theranos institutionalized a closed culture, one that rewarded conformity and punished dissent. Employees operated under surveillance, non-disclosure agreements and siloed access to information (as documented in internal testimonies and investigative reconstructions; Carreyrou, 2018). Leadership presented moral conviction as strategic certainty, transforming the founder's charisma into an epistemic monopoly. This concentration of authority eroded learning mechanisms, making the firm incapable of correcting its course even when faced with evidence of failure.

Fab.com, conversely, developed an open but unstable culture, where enthusiasm and creativity replaced discipline and accountability. Founders encouraged experimentation but failed to translate it into structured processes. As the organization scaled, this exuberance became chaos, overlapping roles, inconsistent decision-making and lack of strategic focus. The absence of governance infrastructure; performance metrics, decision rights or escalation paths; converted creativity into disorder. Both firms thus demonstrate the limits of cultural scalability, values that enable early growth can become liabilities when not institutionalized.

From a leadership perspective, both cases confirm Zook and Allen's (2016) notion of the founder's paradox. Founders who succeed by imposing vision often fail by resisting adaptation. Holmes's commitment to secrecy and perfectionism reflected a moralized leadership style that equated dissent with betrayal. Goldberg's exuberance, in contrast, produced diffusion, an overextension of autonomy without strategic anchoring. In both cases, leadership scaled influence faster than accountability, converting charisma into constraint.

3.3.2 Strategic Misalignment and Loss of Coherence

Strategic misalignment occurs when a firm's growth logic diverges from its foundational capabilities and market realities (Porter, 1985; Christensen, 2017). This phenomenon has been extensively examined in the international business literature, particularly by Hagen et al. (2012) and Zucchella, Hagen (2014), who emphasize that sustainable international growth requires consistency between strategic intent, organizational learning and the firm's adaptive capacity. When this coherence erodes, firms may continue to expand, but growth becomes decoupled from capability, turning momentum into vulnerability.

Both Theranos and Fab.com exemplify this pattern, they pursued expansion without strategic coherence, mistaking market visibility and investor enthusiasm for validation. Theranos sought technological revolution through secrecy rather than iterative learning, violating the principle that scalable innovation must compound through transparency and feedback (Christensen, 2017). Its partnerships with Walgreens and Safeway illustrate premature scaling, expanding distribution before confirming technological reliability, which ultimately triggered reputational collapse once scrutiny arose.

Fab.com, conversely, experienced strategic overreach. The company expanded horizontally across markets, categories and geographies without reinforcing its core proposition. Its initial differentiation,

curated design and exclusivity, dissolved as product variety widened and discounting intensified. In Porter's (1985) framework, Fab.com abandoned its position of focused differentiation, drifting toward cost-based competition it could not sustain. The result was an identity vacuum, the loss of the organizing principle that once unified its operations, brand and culture.

Together, these cases reveal a broader structural logic, scaling magnifies the consequences of misalignment. When strategy, culture and governance lose coherence, growth amplifies dysfunction rather than creating advantage. As Teece (2007) highlights, dynamic capabilities; sensing, seizing, and reconfiguring; are essential for maintaining alignment between opportunity and organizational capacity. Both Theranos and Fab.com lacked these adaptive mechanisms. Their scaling efforts deepened rigidity and inconsistency, culminating in what Christensen (2017) terms failure by acceleration, the faster they grew, the faster they fell.

Chapter 4 – Cross-Case Analysis

Building on the within-cluster analyses developed in Chapter 3, this chapter moves from case-level examination to cross-case synthesis. While the previous chapter analysed scaling failures within homogeneous clusters, the purpose of this chapter is to identify recurring patterns, causal mechanisms and structural differences that emerge across cases and clusters. In line with the logic of multiple-case research, the focus shifts from individual trajectories to comparative abstraction, allowing empirical regularities to be examined beyond firm-specific contexts (Yin, 2018; Eisenhardt, 1989).

The cross-case analysis is structured around two complementary analytical objectives. First, Section 4.1 identifies cross-cutting patterns of scaling failure that recur across different industries, business models and failure archetypes. These patterns represent common mechanisms through which scaling breaks down, regardless of whether growth is pursued through physical expansion, digital platforms or narrative-driven strategies. Particular attention is paid to the violation of unit economics, the dynamics of premature scaling and the role of venture capital in amplifying fragility rather than resilience.

Second, Section 4.2 examines structural differences in how scaling failures unfold. While common mechanisms can be identified, the empirical cases also reveal distinct failure trajectories shaped by the nature of assets, market structure and organizational configuration. This section differentiates between operational rigidity and network fragility, explores narrative-driven failure as a specific form of core dilution, and contrasts terminal collapse with forms of chronic stagnation. By distinguishing these failure modes, the analysis clarifies why similar scaling pressures may lead to different outcomes.

Taken together, the cross-case analysis refines the theoretical framework developed in Chapter 1 by showing how scaling failures are both patterned and contingent. The chapter thus contributes to theory-building by demonstrating that scaling failure is not a single phenomenon but a set of recurrent mechanisms whose manifestation depends on structural and organizational conditions. These insights provide the foundation for the managerial and theoretical implications discussed in the subsequent chapter.

4.1 Cross-cutting patterns of failure

This section identifies the common factors that contributed to the collapse in the six cases analysed, regardless of business model or sector. The aim is to highlight the recurring causal mechanisms that cut across the three clusters of failure, identifying the points of convergence between seemingly heterogeneous phenomena, from the operational rigidity of WeWork and Gopuff, to the network fragility of Homejoy and Deezer, to the organisational disintegration of Fab.com and Theranos.

The identification of these cross-cutting patterns is grounded in a systematic comparison of empirical indicators and documented events across the six cases. For each pattern, evidence was traced across multiple cases by examining financial metrics, operational decisions, governance events and externally documented breakdown episodes reported in regulatory filings, court documents and investigative sources. The patterns discussed below therefore emerge from repeated empirical observations rather than from isolated firm-specific narratives, in line with replication-based case study logic (Yin, 2018; Eisenhardt, 1989).

The literature on scaling failures suggests that the causes of collapse rarely lie in a single strategic or managerial error, but rather in the cumulative interaction of multiple systemic factors (Cantamessa et al., 2018). Empirical research (CB Insights, 2024; Giardino et al., 2014; Bednár & Tarišková, 2023; Szathmári et al., 2024) has shown that business failures frequently result from structural imbalances, such as a loss of alignment between growth and economic sustainability, a lack of validation of the operating model and a deterioration in internal governance. These dynamics are cross-cutting patterns, found in both high-growth digital companies and traditional scale-ups, and form the starting point for the intercluster analysis developed in this section.

A systematic comparison of the cases shows that, although they arise in different contexts, the mechanisms of failure have common features that can be traced back to three main levels:

1. Economic-financial level: where recurring violations of the unit economy, LTV/CAC ratio, and excessive reliance on external capital as a factor of growth rather than consolidation are observed (Zook & Allen, 2016; Hoffman & Yeh, 2018).

2. Operational-organisational level: where premature scaling and a lack of process standardisation compromise sustainable scalability (Coviello et al, 2019).

3. Cognitive and governance level: where information distortion, excessive centralisation of decision-making and loss of accountability have amplified the effects of the underlying crises (Giardino et al., 2014; Bednár & Tarišková, 2023).

(Table 4)

Cross-cutting pattern	Empirical indicators (examples)	Cases where observed
Violation of unit economics	Negative LTV/CAC; persistent negative EBITDA; growth subsidised by capital inflows	WeWork, Gopuff, Homejoy, Deezer
Premature scaling	Geographic expansion prior to validated unit economics; rapid hiring; infrastructure build-up ahead of demand	WeWork, Gopuff, Homejoy, Fab.com
Capital-fuelled fragility	High burn rates; dependence on successive funding rounds; delayed profitability targets	WeWork, Gopuff, Theranos
Governance and cognitive distortions	Concentration of decision-making; suppression of dissent; narrative-driven strategic choices	Theranos, WeWork, Fab.com

These patterns, identified through repeated empirical observations across the six cases in the three clusters, are also reflected in comparative literature, which identifies five key categories of failure: lack of product-market fit, capital depletion, inadequate business model, team weakness, andineffective marketing strategies (CB Insights, 2024; Szathmári et al., 2024). However, the intercluster analysis of the six cases reveals that these categories do not act in isolation, but rather as interdependent mechanisms that reinforce each other over time, leading to the progressive erosion of scaling sustainability. From this perspective, this section aims not only to confirm existing empirical evidence, but also to reconstruct the causal links connecting the failures observed in the different clusters, identifying the propagation mechanisms that lead from initial success to systemic crisis. In the following paragraphs, these mechanisms will be articulated and discussed as recurring patterns underlying the different archetypes of failure.

4.1.1 The violation of the unitary economy (LTV/CAC)

In all the cases analysed, a common dynamic emerges, the unit economics of the business, the relationship between lifetime value (LTV) and customer acquisition cost (CAC), is highly unbalanced. In the physical/operational cluster (WeWork and Gopuff), this imbalance was particularly evident. WeWork entered into multi-year leases with unsatisfactory occupancy rates and high fixed costs, while Gopuff multiplied its operating costs through discounted ultra-fast deliveries. In both cases, the cost of acquiring and serving each customer far exceeded the value that could be derived from that customer over time (LTV/CAC $\ll 1$). While precise firm-level LTV/CAC figures are not always publicly disclosed, the imbalance is inferred from documented combinations of

persistent negative margins, high churn rates, subsidised pricing strategies and sustained operating losses relative to customer growth, as reported in regulatory filings and investigative sources.

This means that growth was not supported by organic revenue, but "bought" with continuous external financing; each new location or warehouse added more debt than profit, undermining the scalability of the business model. In practice, without continuous capital injections, the deficit LTV/CAC ratio would have made it impossible to sustain expansion (Long, 2025; Bohan et al., 2024).

Similar dynamics also emerge in the digital/platform cluster (Homejoy and Deezer). Homejoy aimed for rapid expansion through heavy discounts and promotional campaigns, raising CAC to levels that exceeded the modest LTV of each user. This resulted in an LTV/CAC ratio well below 1, a clear sign of growth "purchased" through external capital (Maurya, 2016). Deezer pursued its international expansion through bundled agreements with mobile operators, but the average value per user (LTV) remained relatively low. As a result, Deezer's LTV/CAC ratio was around 3:1, well below the ideal sustainability benchmark (Fader and Toms, 2018). In both cases, the increase in acquisition costs far exceeded the growth in value generated, highlighting how each new member or subscriber was actually financed by debt rather than remunerating the costs incurred. This phenomenon of subsidised growth, achieved through incentives or aggressive marketing rather than real economies of scale, amplified operating losses and made both models heavily dependent on new rounds of investment.

Even in cases of narrative/organisational failure (Theranos and Fab.com), similar implications can be found, albeit in a less conventional form. Theranos never generated a real revenue stream from repeat customers; commercial partners (Walgreens and Safeway) were won over with joint investments of hundreds of millions of dollars, but the analyses and diagnostic tests did not actually produce sufficient value (Bhattacharya, 2020). In terms of unit economics, it can be said that the actual LTV per customer was almost zero compared to the capital used to acquire them. Fab.com, for its part, fuelled its growth with lavish marketing campaigns, spending around £30 million in 2012 alone, and promotional offers that reduced margins (Harvard D³, 2016). Despite initial gross margins of up to 40%, these were quickly eroded by inventory, logistics and customer service costs, exacerbated by uncontrolled expansion. In both cases, the companies "bought" growth, spending capital to expand their customer base far exceeded the value that those customers would generate over time. This made the LTV/CAC ratio extremely unfavourable, forcing the companies to rely entirely on new external financing instead of generating internal profitability.

In summary, in each of the three failure archetypes, the imbalance between LTV and CAC proved to be a structural sign of strategic inconsistency. An LTV/CAC ratio significantly <1 indicates that the

company is spending more to acquire a customer than that customer generates in value over time, compromising the efficiency of the entire growth cycle. This implies that expansion is not fuelled by sustainable economic leverage, but rather by a logic of growth at any cost, in which external capital is used to artificially force an increase in the customer base, rather than improving the quality of monetisation or optimising loyalty processes. From a managerial perspective, this dynamic reflects a systemic prioritisation error, whereby an obsession with volume (number of users, speed of expansion, geographical reach) takes precedence over building genuine economies of scale and consolidating unit economics. As Zook and Allen (2016) observe, many hyper-growth companies 'lose touch with the customer' and mistake initial traction for definitive validation, ignoring crucial signals such as high churn, low retention or margin compression. The result is a spiral in which each unit of growth consumes more resources than it generates, eroding the company's ability to reinvest independently and sustainably. The effect is twofold: on the one hand, it compromises scalability, understood as the ability to grow in a non-linear way with respect to costs; on the other hand, it reinforces dependence on external capital, which becomes the only fuel for the expansion cycle. In the absence of a favourable LTV/CAC balance, the company enters what can be described as a form of "venture addiction", in which each round of financing serves not to build efficiency levers but to compensate for accumulated systemic inefficiency. As the cases of WeWork, Gopuff, Fab.com and Homejoy show, exiting the virtuous cycle of growth results in a rapid deterioration of key financial metrics: out-of-control burn rates, negative margins, shortened runway and, ultimately, difficulty in raising new capital. These dynamics suggest that LTV/CAC is not just a technical indicator but a 'thermometer' of the structural balance of the business model. Its evolution over time reveals whether the company is building scalable growth or simply buying traction to appear attractive to investors. When the funding environment contracts (monetary tightening or venture capital reflux cycles), models based on a deteriorated LTV/CAC collapse more quickly because they lack self-sustainability. This is a classic example of 'scaling without foundations', where each new customer, instead of generating incremental value, amplifies the marginal loss. Strategically, this implies that LTV/CAC management must be proactive and iterative. CAC is not only a function of the marketing budget but also reflects the quality of the product-market fit, the efficiency of distribution channels and the clarity of positioning. Similarly, LTV depends on the company's ability to build lasting relationships, retain high-value customers and increase monetisation over time. Companies that fail to balance these elements tend to amplify organisational complexity without generating proportionate returns, an effect that is amplified in cases of early scaling.

In conclusion, the LTV/CAC balance is not just a performance metric, but a sentinel variable for the entire scalable architecture of the business. In the six cases analysed, the collapse of this balance

preceded the decline in operational efficiency, the emergence of diseconomies of scale and, ultimately, the deterioration of investor confidence. The lesson is clear: without a solid unitary economy, growth ceases to be a multiplier of value and becomes an accelerator of fragility.

4.1.2 The Paradox of Premature Scaling

In this study, the paradox of premature scaling refers to the situation in which actions intended to accelerate growth; such as geographic expansion, capacity building or aggressive user acquisition; systematically undermine the very economic and organizational foundations required to sustain that growth.

The phenomenon of premature scaling emerges as a recurring theme in all the cases examined, with companies pursuing rapid expansion even before confirming the validity of their business model or key operational processes. According to the literature on Lean Startup, premature scaling occurs when "companies expand operations, marketing or infrastructure before achieving product-market fit", resulting in misallocated resources, inflated costs and eventual collapse (Ries, 2011; Maurya, 2016). In the cases studied, this imbalance between validation and growth acted as a magnifying glass, every latent inefficiency was amplified as the expansion machinery increased. As Ries (2011) and Maurya (2016) illustrate, sustainable scalability requires that expansion follow only what has been validated, retention metrics, unit economics or LTV/CAC; on the contrary, growing "for growth" without concrete feedback turns scaling into a boomerang that explodes in hidden weaknesses.

The physical/operational cluster, with its two cases, WeWork and Gopuff, perfectly illustrates the paradox: both burned through capital for expansion focused on tangible assets that had not been operationally validated. WeWork, as we have already seen, described as a 'tech' company despite being based on property leasing, opened hundreds of locations around the world, with the rush for large floor space financing billions of dollars in losses without consolidating the sustainability of the business model (Graham, 2020; Coviello et al., 2024), leading to exorbitant fixed costs and multi-year leases that grew faster than revenues, eroding margins and causing diseconomies of scale. Similarly, Gopuff multiplied its rapid distribution 'dark stores' in just a few years, expecting constantly growing volumes. This massive logistical investment proved unsustainable when normalised demand after the pandemic no longer covered operating costs (Constine, 2022). The 'full throttle' growth strategy, based on the narrative of instant delivery, far exceeded the organisational capacity to support it. Gopuff is a paradigmatic case of premature scaling, where growth was pursued before validating the operational profitability of each new market (CB Insights, 2024). In both cases, the frantic emphasis on scaling overshadowed the need to rigorously monitor financial indicators (unit

economics, burn rate, LTV/CAC), with the result that each new logistics node or additional location generated increasing costs rather than economies of scale, making the model inherently unscalable (Zook & Allen, 2016; Hoffman & Yeh, 2018).

In the digital/platform cluster (Homejoy and Deezer), acceleration came from the user base rather than physical assets, but the paradox remains. Homejoy grew rapidly by opening operations in over 30 cities, trusting that promotional offers and virality would offset costs. In reality, the start-up had failed to consolidate customer loyalty or a critical mass of suppliers, so churn rates were high and less than 25% of users made repeat purchases (Cohan, 2015; CB Insights, 2024). International expansion was not preceded by a review of retention mechanisms, and the lack of financial and qualitative feedback, such as revenue growth per customer, led to liquidity crises and legal disputes that ultimately resulted in bankruptcy (Giardino, Wang & Abrahamsson, 2014). Similarly, Deezer invested in global user acquisition but without sufficient conversion from free to paying users. The platform maintained a conversion rate below 6% and a low average revenue per user, remaining well below market leaders (Szathmári, Bethlendi & Hegedűs, 2024). In terms of network effects, Deezer never reached the necessary critical mass. According to recent studies, it was not so much a case of premature growth as insufficient scale, understood as the condition in which a company fails to reach the minimum threshold of users, revenues or interconnections that allows for the activation of sustainable economies of scale and network effects. In this scenario, the company finds itself in a 'grey area' where unit costs remain high and the typical benefits of scalability, such as reduced marginal costs or increased value per user, do not materialise. In both cases, the inconsistency between the number of subscribers and actual engagement, i.e., the failure to validate the engagement mechanism, has transformed growth into a multiplier of inefficiencies in terms of acquisition and management costs for a platform with little leverage on margins (Zook & Allen, 2016; Coviello et al., 2024).

In the narrative/organisational cluster (Theranos and Fab.com), premature growth was fuelled by storytelling and hype. For example, Theranos raised over $700 million and forged strategic alliances (Walgreens, Safeway) based on the promise of revolutionary technology, without its diagnostic device ever being validated (Bhattacharya, 2020). Its commercial expansion outpaced scientific verification, as noted, 'the alliances with Walgreens and Safeway exemplify premature scaling, a distributive expansion prior to technological readiness' (Time, 2022). The outcome was to publicly reveal the product's ineffectiveness, causing reputational and legal collapses. Fab.com followed a similar trajectory of hypergrowth, with aggressive discount campaigns and international openings, growing much faster than its logistical capabilities and organisational structure could handle.

Excessive enthusiasm for growth dissolved the brand's identity and generated uncontrolled operational turnover (Harvard D³, 2016). In both cases, the belief that entrepreneurial vision alone would suffice bypassed the necessary feedback cycles. Technological validation (for Theranos) and strategic-organisational consistency (for Fab.com) were overlooked, amplifying latent problems, opacity and rigid governance at Theranos; and management complexity and product-market misalignment at Fab.com, leading to the final crisis (Zook & Allen, 2016; Hoffman & Yeh, 2018).

These examples highlight some crucial managerial implications: sustainable scalability requires conscious, learning-driven growth (Coviello et al., 2024). Premature scaling is not so much an operational failure as a cognitive one, arising from a managerial misperception that confuses speed of growth with quality of validation. Companies tend to interpret an increase in the number of customers, locations or users as proof of the model's success, overlooking the fact that, in the absence of solid profitability or retention metrics, these indicators are simply 'vanity metrics' (Ries, 2011). The consequence is that growth, rather than consolidating competitive advantages, progressively erodes them. In practice, managers must learn to distinguish between quantitative scaling (expansion of capacity, personnel or market) and qualitative scaling (refinement of the business model and value capture mechanisms). The former can be artificially accelerated through financing, promotions or acquisitions; the latter, on the other hand, requires a slower process of learning and continuous adjustment. In the cases analysed, the prevalence of the former type of growth, quantitative growth, has generated fragile structures that are dependent on the macroeconomic context and incapable of self-regulation.

As Maurya (2016) points out, unvalidated expansion tends to produce a dynamic in which organizational growth leads to declining efficiency and increasing coordination costs, rather than to economies of scale, the more the organisation grows, the more its efficiency declines. Structures become rigid, processes become less responsive, and strategic decisions are based on perceptions rather than data. This gives rise to a condition of growth to fragility, in which the very speed of expansion becomes the main cause of collapse. This was evident in WeWork and Theranos, where the hubris of the founders and pressure from investors replaced experimentation with rhetoric of imminent success, reducing the ability to learn from signs of crisis. Managerially, the paradox of premature growth translates into a failure of governance and organisational learning. The lack of progressive validation mechanisms, such as controlled experiments, market testing or systematic analysis of marginal costs, leads to irrational scaling decisions. When learning processes are suppressed by the urgency to grow, the virtuous cycle between validation, adaptation and scaling is interrupted and growth becomes an end in itself. The lesson that emerges from the cases analysed is

that successful companies do not scale despite slowness but thanks to the selective slowness that precedes sustainable growth.

Ultimately, premature scaling is not only an economic distortion but also a mindset error, representing the moment when the organisation stops learning and starts repeating itself. As Zook & Allen (2016) and Hoffman & Yeh (2018) point out, the absence of a balance between speed, learning and strategic discipline leads to a loss of founder's mentality, where the focus shifts from innovation to maintaining the image of growth. In the six cases analysed, the end result is always the same, structures that are too large to be agile but too fragile to be sustainable. In other words, growing too soon does not mean growing more but it often means exhausting the capacity to truly grow sooner.

4.1.3 Fueling the Fragility: The Role of Venture Capital

In all the cases analysed, the abundance of venture capital acted as a real "amplifier" of pre-existing critical issues. In a macroeconomic context of near-zero interest rates, investors promoted blitzscaling strategies in which it was permissible to raise more funds than could be spent and grow the company at an extreme pace (Hoffman & Yeh, 2018). This availability of unlimited financing fuelled valuation bubbles (WeWork reached a private valuation of nearly £47 billion) and created distorted incentives, often rewarding founders even in the face of huge losses (Graham, 2020). In practice, investor pressure for rapid growth weakened economic efficiency constraints and accentuated operational diseconomies, favouring disproportionate investments in new markets or infrastructure before the model was established (Zook & Allen, 2016; Maurya, 2016).

(Table 5)

Case	Capital raised (approx.)	Scaling focus financed	Observed outcome	Main sources
WeWork	> $10bn	Real estate expansion, long-term leases	Persistent losses ($1.9 bn of losses on $1.8 bn of revenues), valuation collapse	SEC; Reuters; Graham
Gopuff	~$3.4bn	Dark stores, logistics infrastructure	High burn rate($400 m in cash), closures, layoffs	CB Insights
Homejoy	~$40m	User acquisition, discounts	LTV/CAC < 1, early shutdown	Wired
Deezer	> $500m	Global expansion, partnerships	Sub-scale ARPU, low conversion	Euronext; Reuters
Theranos	> $9bn	Narrative-driven growth, partnerships, investors ($700m)	Fraud charges, liquidation	SEC; Carreyrou

Fab.com	~$1bn	Marketing, international expansion, fundings ($330m)	Margin erosion, asset sell-off	Harvard D[3]

In the physical-operational cluster (WeWork and Gopuff), the effect was evident: both companies, driven by massive injections of venture capital, undertook an extraordinarily aggressive expansion of their tangible asset networks. As highlighted in Table 5, WeWork, backed by investments, mainly from SoftBank, reported net losses in 2019 (Graham, 2020). These figures reflect a "full throttle" growth strategy that quickly saturated operating capacity, with rents and fixed costs growing faster than revenues, generating acute diseconomies of scale (Hoffman & Yeh, 2018). Similarly, Gopuff raised in venture capital and achieved high market valuations by investing heavily in sorting centres and urban logistics (CB Insights, 2024). Once the extraordinary pandemic-induced surge ended, these investments exposed huge inefficiencies. In 2023 alone, Gopuff burned cash while closing warehouses and laying off staff to limit the damage (CB Insights, 2024). In both cases, therefore, venture capital-funded growth amplified operational inefficiency, while the rush to invest and hire (often imitating large technology models) diluted the original corporate culture and made decision-making processes more complex (Zook & Allen, 2016). It should also be noted that weak governance contributed to a lack of accountability. For example, at WeWork, founder Adam Neumann had almost absolute control, and personal benefits were regulated by favourable contracts even in the face of losses (Graham, 2020). In summary, for WeWork and Gopuff, abundant venture capital ended up masking economic warning signs, pushing them towards reckless expansion beyond sustainable operational capabilities (Maurya, 2016; Hoffman & Yeh, 2018).

In the digital/platform cluster (Homejoy and Deezer), venture capital amplified tensions between market growth and economic fundamentals. Homejoy raised from leading investors (Google Ventures, Redpoint), using these funds for rapid growth with aggressive promotional offers (very low prices and intensive marketing) (Cohan, 2015). However, the excessive emphasis on rapid user acquisition, excessive "spend for growth", clashed with a weak economic model, with customer acquisition cost (CAC) regularly exceeding lifetime value (LTV), leading, as already anticipated, to an LTV/CAC ratio of less than 1 (CB Insights, 2024). In other words, growth financed by external capital did not compensate for high churn rates (the majority of customers did not return), and legal disputes over the business model exacerbated costs. When regulatory uncertainties in 2015 weakened investor confidence, Homejoy ran out of resources (Giardino, Wang & Abrahamsson, 2014). Even Deezer, despite benefiting from strong investments and strategic partnerships, showed that being

“well-funded” is not enough in a global market dominated by a few players (Spotify, Apple Music); even a technologically sound and well-capitalised platform may not achieve the critical mass necessary to scale effectively (Szathmári, Bethlendi & Hegedűs, 2024). In both cases, therefore, the availability of venture capital emphasised 'vanity' indicators (number of users, geographical coverage) at the expense of sustainability indicators (profitability per user, loyalty). The systemic consequence has been that rapid expansion has amplified latent inefficiencies (high burn rate, high customer churn) and ultimately made the economic models of these platforms unsustainable.

In the narrative/organisational cluster (Theranos and Fab.com), the impact of venture capital has become even more striking as a multiplier of idealised narratives. Theranos raised from prominent investors, reaching a valuation of approximately £9 billion in 2014 (Bhattacharya, 2020). Fab.com similarly exceeded in funding and reached a valuation of £1 billion within a few years (Harvard D³, 2016). These huge amounts of capital fuelled powerful entrepreneurial myths (the charismatic figure of Elizabeth Holmes compared to the “new Steve Jobs”), but they also removed internal checks and balances. In the case of Theranos, the ease of finding prestigious investors and partners weakened the pressure to verify technological progress, while rigidly centralised governance and a board structure lacking scientific expertise allowed the leadership to suppress any dissent and exhibit illusory growth (Time, 2022). Fab.com, for its part, benefited from capital to support hyper-accelerated growth (flash sales and extreme discounts), until this disorderly expansion eroded its brand identity and sustainable supply chain (Harvard D³, 2016). In both cases, external pressure from investors for numbers and visibility created a dependency on continuous 'external validation' at the expense of internal verification, with investors, media and partnerships replacing real feedback from operational and scientific data. This resulted in further organisational distortion, with companies focusing on maintaining the illusion of success, neglecting transparency and essential operational practices, until accountability collapsed.

In summary, excess venture capital acted as a cross-cutting catalyst in all three archetypes of failure. Its original function, to finance experimentation and entrepreneurial risk, was transformed into a lever of uncontrolled acceleration that amplified every latent vulnerability rather than correcting it. Financing huge losses or grandiose narratives allowed for exasperated growth, which magnified existing structural imbalances, from the operational diseconomies of WeWork and Gopuff, to the fragility of Homejoy and Deezer's transactional models, to the breakdown of control and transparency mechanisms at Theranos and Fab.com. What these cases have in common is the absence of a principle of allocative discipline. The abundance of funds has removed the natural constraints of efficiency, transforming access to capital from an enabling tool to a distorting element. When capital arrives

before results, and in quantities greater than the organisational capacity to absorb it, it does not accelerate value creation but anticipates its collapse. Companies stop questioning the consistency between model, execution and context, and start responding to a single logic, that of expansion supported by liquidity. This dynamic has contributed to the creation of a veritable organised information asymmetry, in which investors rely on superficial proxies of growth (valuations, number of users, rounds raised), while companies fuel growing expectations with complacent metrics and storytelling. The result is systemic fragility, with organisations becoming too capitalised to correct, but too immature to sustain themselves, stuck in a hyper-financed growth trajectory that deprives them of the ability to learn, adapt and, when necessary, stop.

In this sense, venture capital, rather than mitigating entrepreneurial risk, amplified its entropy. In the cases analysed, the lack of checks and balances meant that finance did not merely support the model, but became its prevailing substance. It is precisely in this reversal, where capital becomes an end rather than a means, that the transition from sustainable growth to unsustainable growth takes place. And when the financial oxygen is cut off, the structural void emerges violently. The fragility was not external, it was written into the very way the business was financed.

4.2 Structural Differences and Differentiation of Failures

After analysing the recurring mechanisms common to the cases of failure, this section focuses on the divergent nature of the paths analysed, i.e., on the structural barriers that acted as dominant constraints within each cluster. While in the previous chapter premature growth, the distortion of the unitary economy and the influence of venture capital emerged as cross-cutting factors, here the focus shifts to the architectural specificities that led to different forms of crisis.

Each archetype of failure highlights a prevailing systemic constraint that has made the model inherently vulnerable to external or internal pressures. In the physical/operational cluster, the limitation lies not so much in the idea of scaling up, but in the rigid structure of assets and the difficulty of reconfiguring fixed costs. Growth quickly saturated management flexibility, exposing the company to irreversible diseconomies. In the digital/platform cluster, the constraint is less tangible but equally profound. The fragility of the network, understood as the inability to activate self-reinforcing dynamics among users, has blocked the flywheel of growth, in both Homejoy and Deezer, user base expansion did not translate into higher engagement, retention or monetization, as evidenced by persistently low repeat usage, weak conversion rates and unfavourable LTV/CAC dynamics (see Sections 3.2 and 4.1.1). As a result, scale increased coordination and acquisition costs without generating cumulative network value, transforming expansion into dispersion rather than

reinforcement, transforming scale into dispersion. Finally, in the narrative/organisational cluster, the barrier is less technical and more identity-related. The dilution of the strategic core and the absence of evolutionary governance systems have transformed visionary ambition into a form of organisational misalignment, which has undermined internal coherence even before external sustainability. These barriers have not only caused the crisis, they have also contributed to differentiating the outcomes. Some companies collapsed rapidly under the weight of their own expansion; others slowed down to indefinite stagnation. In this sense, failure was not just an epilogue, but an emerging configuration of the model itself. In the following paragraphs, these divergences will be analysed along three axes, the tension between operational rigidity and network fragility (4.2.1), the erosion of strategic and organisational identity (4.2.2) and the way in which these constraints affected the final trajectory, between irreversible collapse and stagnant survival (4.2.3). These differences emerge clearly when comparing the empirical patterns documented in Chapter 3, the irreversibility of fixed cost commitments in WeWork versus the retrenchment options observed in Gopuff (Section 3.1), the contrast between Homejoy's abrupt collapse and Deezer's prolonged sub-scale survival (Section 3.2), and the divergence between centralized governance failure at Theranos and strategic dilution at Fab.com (Section 3.3).

4.2.1 Operational Rigidity vs. Network Fragility

The contrast between failures attributable to operational rigidity and those resulting from network fragility highlights two opposing polarities of failure in scaling: on the one hand, the inability to adapt a physical and costly structure to growth rates that exceed economic sustainability; on the other, the vulnerability of digital and platform models that depend entirely on the cohesion and density of their user base. In both cases, excessive expansion did not generate economies of scale, but rather a compression of organisational resilience (Zook & Allen, 2016), highlighting how scalability is not an automatic condition, but rather a fragile and reversible property (Hoffman & Yeh, 2018).

In Cluster 1 (WeWork, Gopuff), growth was constrained by an asset-heavy structure in which the main leverage consisted of highly rigid physical assets: spaces, warehouses, logistics fleets and operational personnel. While enabling a rapid increase in capacity, these assets simultaneously reduced the economic flexibility of the business. The combination of high fixed costs and long adaptation times turned geographical expansion into a structural trap, with demand saturation or the slightest deviation from optimal utilisation rates resulting in irrecoverable losses. In the case of WeWork, the model based on multi-year leases and upfront investments in renovations created a time asymmetry between costs and revenues, making it impossible to quickly downsize in response to falling demand (Christensen, 1997; Ries, 2011). Similarly, Gopuff replicated this rigidity through a

proprietary logistics infrastructure which, while ensuring operational control and speed of delivery, amplified financial exposure and reduced the ability to adapt to local variations in profitability. In both trajectories, expansion occurred more due to competitive pressure and capital availability than to actual validation of unit margins, creating an imbalance between growth speed and structural sustainability (Hoffman & Yeh, 2018).

At the opposite extreme, Cluster 2 (Homejoy, Deezer) illustrates a structurally different failure mechanism, in which scalability is constrained not by asset rigidity but by the instability of network effects. In these cases, value creation depends on maintaining sufficient interaction density and user retention; when this condition is not met, growth disperses rather than reinforces itself.. Here, the vulnerability does not lie in fixed costs, but in dependence on the collective behaviour of users and suppliers, whose interaction is the main driver of value (Eisenmann, Parker & Van Alstyne, 2011). The collapse does not stem from operational rigidity, but from the impossibility of maintaining the minimum density of connections necessary for the network to generate positive externalities. Homejoy, after rapid initial expansion, experienced an evaporation effect of its user base. Loss of trust, supplier heterogeneity and lack of standardisation triggered a cycle of mutual abandonment between supply and demand, eroding the critical mass on which the model was based (Constine, 2015). Deezer, on the other hand, showed how network fragility can manifest itself in a more gradual but equally structural way. The difficulty of retaining users and artists in a context of non-exclusive network effects progressively reduced the value of the platform compared to competitors with stronger engagement dynamics (Parker et al., 2016). In both cases, the limitation was not infrastructural but relational: once the network is disrupted or weakened, it is not easily rebuilt, and the loss of connections has an exponential impact on value creation.

A further level of complexity emerges in Cluster 3 (Theranos, Fab.com), which combines traits from both extremes, a form of cognitive and organisational rigidity intertwined with relational fragility. By cognitive and organisational rigidity, this analysis refers to the inability of the firm to revise core assumptions, decision-making structures, and governance arrangements in response to disconfirming evidence. Relational fragility, in turn, refers to the weakening or loss of trust-based relationships with key external stakeholders such as users, partners, regulators or customers. Theranos is an emblematic case of non-physical but technological and cognitive rigidity, in which closed internal processes and a culture of secrecy generated a self-referential system incapable of learning or adapting (Christensen, 1997; Coviello et al., 2024). The obsession with proprietary control of technology made the company incapable of integrating external expertise or promptly correcting its experimental errors, turning innovation into a constraint. Fab.com, on the other hand, shows the opposite side, the progressive

dissolution of the commercial network and symbolic capital. After an expansion fuelled by viral marketing and a community of design lovers, the platform lost its strategic coherence and engagement capacity, resulting in a collapse in loyalty and a progressive misalignment between operational scale and perceived value among users (Popper, 2015). In both cases, the combination of internal rigidity and external fragility has produced a form of hybrid failure, where the speed of growth has masked deep structural weaknesses for a limited time. Internal rigidity refers, in these cases, to inflexible governance structures and decision-making processes that prevented timely correction, such as Theranos's centralized authority and information opacity or Fab.com's inability to stabilize its operating model after repeated strategic pivots. External fragility refers to the erosion of trust and engagement among external stakeholders, including users, partners and investors, once inconsistencies between narrative and performance became visible.

A comparison of the three archetypes therefore highlights a progressive divergence in the nature of scaling risk. Asset-heavy companies are vulnerable to cost rigidity and slow reconfiguration; asset-light companies are vulnerable to network volatility and engagement instability; while hybrid companies in Cluster 3 suffer from a systemic consistency crisis, where technological or cognitive constraints prevent adaptation and the external network can no longer support their positioning. However, they all share a critical point: the inability to translate growth into a sustainable form of adaptation (Zook & Allen, 2016). WeWork and Gopuff sought to sustain static economies of scale in dynamic markets; Homejoy and Deezer based their expansion on dynamic but indefensible network economies; finally, Theranos and Fab.com showed how the interaction of rigidity and fragility can lead to accelerated collapse, where cognitive or reputational capital erodes more quickly than financial capital (Hoffman & Yeh, 2018). This opposition and, at the same time, connection between operational rigidity, network fragility and structural hybridisation opens up a broader reflection on the structural divergences of scaling failures, which concern not only the nature of the resources used but also the very logic of building competitive advantage. The implications of this divergence will be explored in more depth in the next section, where we will analyse the patterns of differentiation that distinguish the trajectories of collapse in the different archetypes.

4.2.2 Narrative-Driven Failure (Core Dilution)

While in the previous paragraph Cluster 3 was interpreted as an expression of structural tension between cognitive rigidity and relational fragility, in this section that tension is analysed in terms of its most profound outcome: the loss of the narrative thread that guarantees strategic coherence and identity legitimisation. The failure of narrative represents the symbolic and cultural translation of an irreversible structural collapse, in which the organisation loses its 'centre of meaning' and growth

loses its anchorage to its original mission. A more subtle but equally destructive form of failure in scaling is therefore that which manifests itself through the dilution of the company's core narrative. In this case, the collapse does not depend on operational rigidity or network fragility but rather on a progressive erosion of strategic identity, which deprives the organisation of coherence, direction and internal and external legitimacy. This phenomenon, which can be defined as Core Dilution, coincides with the loss of the "founding story" that underpins growth, the combination of purpose, positioning and values that give meaning to the business model (Zook & Allen, 2016).

In the case of Fab.com, the original narrative was based on a community of design enthusiasts and a distinctive identity of curation commerce, capable of combining aesthetic exclusivity and social discovery. However, rapid and poorly calibrated expansion generated a narrative discontinuity, and the platform gradually abandoned its authenticity, transforming itself into a generalist marketplace without clear differentiation (Popper, 2015). This process of core dilution is typical of cases where quantitative growth prevails over qualitative consistency (Hoffman & Yeh, 2018). The result was a collapse of the symbolic and relational capital that sustained the community: early customers no longer identified with the brand, while new users no longer perceived any distinctive value. In an attempt to pursue metrics of scale and visibility with investors, Fab.com ended up losing its narrative centre, i.e. the consistent promise that transformed the product into an experience and growth into a strategic sense. The consequence is an organisational identity crisis, in which internal teams no longer share the same mission logic, fragmenting culture and internal alignment (Zook & Allen, 2016). If Fab.com represents the external dilution of the narrative and the loss of coherence perceived by the market, Theranos embodies the internal distortion of the narrative, to the point of making it completely self-referential. From its inception, the company has built a storyline of salvific innovation, centred on a myth of technological progress and visionary leadership (Christensen, 1997). However, over time, this narrative has become rigid, transforming from a tool of legitimisation to a mechanism of cognitive closure. The absence of transparency and effective governance has allowed the narrative to replace empirical reality, generating a systemic information asymmetry between what was promised and what was actually achieved (Coviello et al., 2024). Theranos' failure is therefore not only technological or ethical, but narrative: the story of radical change has progressively devoured the ability to learn, adapt and correct. The company continued to portray itself as a disruptor even when market feedback and technical data contradicted the dominant narrative. This paradox reflects the trap of the founding narrative, in which loyalty to the original myth becomes a cognitive barrier to transformation (Hoffman & Yeh, 2018).

In both cases, the loss of consistency, due to excessive adaptation at Fab.com or a lack of review at Theranos, eroded the link between identity and strategy. The two companies lost the ability to maintain a stable core narrative capable of guiding choices and giving meaning to expansion. It is therefore a failure of meaning, which precedes and amplifies organisational and financial collapse. The erosion of the core not only produces strategic inconsistency, but also destroys stakeholder confidence and reduces governance capacity, depriving the company of its decision-making compass (Zook & Allen, 2016; Coviello et al., 2024).

From this perspective, core dilution constitutes a barrier to purely organisational failure; the crisis does not stem from structural inefficiencies but from a narrative disintegration that empties growth itself of meaning. Even if formally expanding, the company ceases to be consistent with itself. This type of failure marks the transition from scale as an economic lever to scale as an identity distortion, anticipating the processes of systemic divergence that will be explored in the next section.

4.2.3 From Terminal Crisis to Chronic Stagnation

The previous sections have shown how failures in scaling can take different forms, such as structural, identity-related or cognitive. However, the trajectory of collapse does not end when the company stops growing. Some organisations plunge into a terminal crisis, while others enter a state of chronic stagnation, surviving in a reduced and dysfunctional form. This section explores this difference, analysing the conditions that lead to definitive liquidation as opposed to those that allow for prolonged but non-vital downsizing. The distinction between terminal crisis and chronic stagnation represents the ultimate outcome of the dynamics discussed in the previous sections. Where structural rigidity and relational fragility (4.2.1) combine with narrative dilution (4.2.2), the company simultaneously loses operational capacity, symbolic legitimacy and decision-making coherence. However, the depth and reversibility of this loss vary, with some companies collapsing rapidly and others remaining suspended in unstable survival.

In the case of WeWork and Homejoy, the crisis took the form of terminal failure. In both cases, the economic structure was no longer able to sustain even downsizing, as the business model was based on economies of scale that only worked in the presence of continuous growth (Hoffman & Yeh, 2018). For WeWork, the rigidity of fixed costs, dependence on external capital, and lack of a profitable core made gradual adaptation impossible. When the narrative of hyper-growth broke down, the organisation had no strategic alternatives, the costs of reconfiguration exceeded the expected benefits, and the structure imploded under its own weight (Zook & Allen, 2016). Homejoy, on the other hand, shows the digital counterpart of this process: the disintegration of the network of users

and suppliers made the model irremediably unscalable. The platform could not be reduced to a local market because its value proposition, based on network effects, required a critical mass that was no longer achievable (Constine, 2015). In such cases, the crisis does not lead to a phase of reorganisation but marks a point of no return, with the very structure of the company collapsing.

The trajectory of Gopuff and Deezer is more nuanced, embodying forms of chronic stagnation. These companies do not collapse completely but enter a phase of prolonged survival, characterised by strategic inertia and controlled decline. In the case of Gopuff, the presence of proprietary logistics infrastructure and patient investors has allowed it to postpone the terminal crisis but not to re-establish a path of sustainable growth. The company finds itself trapped in a logic of tactical optimisation between cuts, warehouse closures and delivery rationalisation, which guarantees operational continuity but not a real strategic relaunch. Survival, in this context, becomes a form of paralysis: the company remains alive but is no longer able to innovate or reconfigure its model. Deezer, similarly, represents the 'soft' version of collapse: the platform maintains a user base and market presence, but its competitive position is eroded. Network effects are not regenerated, and the company remains confined to a market niche that does not allow it to develop defensible economies of scale (Parker et al., 2016). Stagnation, in this sense, is survival without growth, a systemic inertia in which the structure continues to exist but has lost its capacity for expansion.

These two forms of outcome, collapse and stagnation, differ not only in intensity but also in organisational nature. In collapse, the system disintegrates because its components are no longer functional with each other; in stagnation, the system closes in on itself, survives on its own but stops evolving. In the first case, death is sudden; in the second, it is a form of crystallisation (Zook & Allen, 2016). Both outcomes result from a failure of the adaptation process but diverge in terms of the presence or absence of structural and financial redundancies. WeWork and Homejoy were models with no room for manoeuvre, as their sustainability depended entirely on growth. Gopuff and Deezer, on the other hand, had sufficient resources and contracts to maintain a semblance of continuity but lacked a learning system capable of reversing the trajectory (Coviello et al., 2024).

In conclusion, the distinction between terminal crisis and chronic stagnation illuminates the final dimension of failure in scaling: the varying degrees of misalignment between structure, narrative and adaptation. Where the breakdown is simultaneous at all levels, the company implodes; where a minimum of operational or financial coherence remains, it survives but in a state of strategic hibernation. This distinction sets the stage for the final synthesis of the chapter, in which the

divergences in outcome will be integrated into the cross-cutting patterns of failure and their managerial implications.

5 – Discussion: Theoretical Contributions and Managerial Implications

This chapter discusses the main findings of the study in light of the research questions and existing literature on business scaling and failure mechanisms. It integrates the empirical evidence developed in the previous chapters by outlining their theoretical implications, managerial relevance, and broader interpretative insights. The analysis conducted shows that the collapse of scale-ups cannot be interpreted solely as a financial or operational event, but as the result of systemic divergences that emerge when growth, structure and narrative lose mutual coherence.

The first theoretical contribution consists of reconfiguring the concept of failure. The literature tends to conceive of failure as an interruption of growth or an inability to sustain profitability (Hoffman & Yeh, 2018). The cases analysed suggest, however, that failure represents a breakdown in internal coherence, in which the various subsystems of the company, economic, organisational and symbolic, cease to move in sync. From this perspective, scalability is not a technical property of the business model but a dynamic condition that requires constant alignment between resources, culture and governance (Zook & Allen, 2016). When this alignment fails, growth becomes the main factor of instability.

The second contribution concerns the development of a multilevel model that distinguishes three dimensions of failure, structural, relational and narrative, corresponding to the three archetypes that emerged from the empirical analysis:

1. Operational rigidity: typical of asset-heavy models (Cluster 1), which highlights the limits of infrastructural scalability.
2. Network fragility: characteristic of asset-light models (Cluster 2), which shows the vulnerability of indefensible network economies.
3. The dilution of the narrative core: typical of hybrid models (Cluster 3), which highlights the identity and symbolic dimension of failure.

Taken together, these dimensions provide an integrated reading of how different mechanisms of collapse interact across scaling trajectories. The three forms are not alternatives but interconnected, physical rigidity, relational fragility and loss of meaning often evolve in sequence, reinforcing each other until they produce systemic collapse (Coviello et al., 2024). The analysis also reveals a strong interaction between structural conditions and narrative dynamics during scaling processes. Research shows that scaling failures stem not only from operational inefficiencies but also from cognitive

misalignments when the company's narrative, its mission, values and promise to the market, does not evolve in a manner consistent with its organisational architecture, scale becomes a source of distortion.

The notion of Core Dilution, introduced in this thesis, provides a framework for understanding how the loss of narrative coherence often precedes a crisis in margins and a loss of legitimacy. Narrative is therefore not an accessory element, but a structuring variable in the growth process (Zook & Allen, 2016).

The theoretical synthesis that emerges suggests a paradigm shift, from viewing scaling as accelerated growth to viewing it as consistent growth. In the cases analysed, uncontrolled expansion, not accompanied by a proportionate evolution of governance and processes, has led to systemic fragility. Companies that have maintained, at least temporarily, their ability to adapt (such as Deezer or Gopuff) have done so thanks to residual organisational or narrative consistency, despite the loss of economic performance. This evidence reinforces the thesis that sustainability in scaling does not depend on speed, but on the synchronisation between structure and learning (Christensen, 1997; Ries, 2011).

Finally, the thesis proposes considering failure not as an end point but as a phase of strategic learning. Cases of chronic stagnation illustrate how some companies can survive in a reduced form, using failure as a moment of refocusing or "cognitive rebalancing". This implies that scaling failure does not necessarily coincide with the disappearance of the organisation, but can represent a transition to new structures if interpreted with awareness.

In summary, the findings highlight three recurring patterns that cut across the analysed cases:

1. the systemic conception of scaling failure as a breakdown of coherence;
2. the connection between structure, network and narrative as a determinant of scalability;
3. the reinterpretation of failure as an evolutionary process rather than a terminal event.

These elements lay the foundations for subsequent managerial implications, which will translate these theoretical principles into practical guidelines for the design and management of scalable growth.

5.1 Towards a Contingent Typology of Scaling Failure

The analysis conducted in the previous chapters highlights that failure in scaling does not follow linear or deterministic patterns, but reflects a contingent combination of structural, cognitive and contextual factors. The variety observed in the cases analysed shows that there is no single 'law of growth', but rather a plurality of trajectories in which companies oscillate between expansion, adaptation and collapse. From this perspective, scalability emerges not as an intrinsic property of the business model, but as a situated organisational capacity, influenced by the degree of alignment between internal resources, leadership and environmental conditions (Zook & Allen, 2016; Coviello et al., 2024).

This approach is similar to Penrose's logic, according to which business growth is limited not only by market constraints but above all by internal coordination and learning limitations (Penrose, 1959). However, the results of this research extend its scope in a contemporary key, showing that these limitations take different forms depending on the type of failure. The operational rigidities identified in Cluster 1 reflect an excess of structuring compared to the capacity for adaptation; the network fragilities of Cluster 2 show how dependence on external dynamics (network effects, engagement, retention) can erode internal sustainability; finally, the identity and narrative crises of Cluster 3 highlight how the loss of cognitive coherence can neutralise even formally scalable models. These three archetypes thus outline a contingent typology of scaling failure, in which each company collapses due to the disruption of a different balance, between structure and flexibility, between network and control, between identity and strategic direction. Comparison with existing models allows this typology to be placed within a broader theoretical framework. In Penrose's model, growth is conceived as an endogenous process of resource expansion, governed by the managerial capacity to use them efficiently. The evidence for this thesis confirms this perspective, but broadens its horizon: in digital and hyper-competitive contexts, the threshold of sustainability no longer depends solely on the availability of resources but on the quality of the dynamic alignment between resources, processes and organisational meanings. Internal learning capacity remains crucial, but it must be accompanied by a constant ability to resynchronise the structure with external pressures through continuous cycles of sensing, seizing and reconfiguring (Teece, 2007).

At the same time, the Lean Startup model (Ries, 2011) provides a complementary perspective: scalable growth does not come from simply increasing size, but from the ability to learn quickly from the market and adapt the business model through successive iterations. However, the failure cases analysed show that many companies stop at a stage of partial validated learning, unable to

systematically integrate feedback as complexity increases. In other words, the lean approach tends to work in the early stages but can degenerate into premature scaling if the organisation does not develop learning mechanisms commensurate with its expansion. This suggests that scalability is not a natural extension of initial success, but a process of continuous adaptation that requires a balance between experimentation and structuring.

The formalisation of the results allows us to outline a contingent matrix of failure, in which each archetype represents a different combination of internal and external pressures. These dimensions do not represent new or independent failure types, but rather dominant failure logics that underpin the three archetypes identified in the empirical analysis:

- in structural failure, growth destroys flexibility;
- in relational failure, firms become excessively dependent on external market dynamics (user behaviour, platform engagement, partner participation), while lacking the internal governance mechanisms required to influence, stabilise or steer those dynamics;
- in identity failure, the loss of strategic coherence undermines the alignment between organisational purpose, strategic decisions and operational execution (action).

This classification allows existing models to be integrated into a unified framework, with scalability becoming a situated dynamic capability, the maintenance of which depends on the ability to simultaneously manage efficiency, adaptation and coherence. In this sense, the failures observed are not accidental deviations, but typical manifestations of an evolutionary imbalance, where the speed of growth exceeds the system's ability to learn and reconfigure itself.

5.2 Strategic Implications for Lean and Adaptive Scaling

The results of the analysis suggest that many of the vulnerabilities observed in fast-growing companies stem from an asymmetry between speed and adaptation. The challenge for entrepreneurs and managers is therefore to design growth models that preserve the original agility of the company without falling into the imbalances typical of premature scaling. From this perspective, a number of strategic implications emerge that outline a Lean and Adaptive Scaling paradigm, based on continuous learning, organisational modularity and alignment between structure and narrative.

As Ries (2011) points out, and as confirmed by the cases analysed, speed alone does not constitute a sustainable competitive advantage unless it is accompanied by a feedback system that allows learning from the market. The companies that grow most effectively are not those that run fastest, but those that transform growth itself into an iterative cycle of learning and adaptation. From this perspective,

scaling is not a linear goal, but an iterative process in which each phase of expansion generates information that feeds into the next. Applying lean principles to scaling means introducing iterative mechanisms of continuous validation and experimentation, even into post-product-market fit growth processes, such as constant analysis of unit margins, controlled tests on new markets and periodic review of organisational consistency metrics. The goal is therefore not to reduce speed, but to regulate it through structures and processes that allow the company to learn in proportion to its expansion, thus ensuring cumulative and conscious growth.

Failures due to operational rigidity (Cluster 1) show that excessive vertical integration and the accumulation of physical assets lead to a loss of flexibility. Lean scaling strategies should therefore favour modular architectures, in which growth can occur through independent modules or replicable units (Zook & Allen, 2016). Structures based on cells, pods or autonomous teams allow decision-making responsibility to remain close to the customer and limit the spread of complexity. At the same time, the creation of intelligent redundancies, skill reserves or reusable resources avoids the fragility of completely asset-light models. In this way, the organisation combines efficiency and resilience, maintaining the ability to adapt quickly without having to rebuild the entire structure with every change.

The crisis of consistency and governance highlighted in Cluster 3 suggests that, during the expansion phase, leadership must evolve from centralised control to distributed governance, capable of ensuring operational autonomy without losing alignment with values (Coviello et al., 2024). The concept of core narrative becomes a managerial resource here: maintaining a clear and shared identity allows tactical decisions to be decentralised without compromising strategic direction. Adaptive growth is therefore based on a dynamic balance between local freedom and global consistency, in which the company narrative acts as a collective guidance system.

Cases of network fragility (Cluster 2) highlight that digital growth requires the construction of sustainable networks, not just large ones. To reduce dependence on unstable network effects, companies should adopt platform scaling strategies based on modular ecosystems of partners and developers, rather than on the direct integration of all functions. Partnerships make it possible to extend service and innovation capabilities without a proportional increase in costs or internal complexity. In this sense, scalability becomes a property of the ecosystem rather than of the individual company.

As highlighted by Hoffman & Yeh (2018), the tension between speed and efficiency is at the heart of the scaling paradox, what accelerates growth can also undermine its sustainability. Companies that

manage to overcome this contradiction treat efficiency not as a static condition but as a dynamic capacity for reallocation. Automation, digital tools and real-time monitoring of unit costs allow visibility and control to be maintained even in scenarios of rapid expansion. The challenge is not to eliminate temporary inefficiency but to prevent it from becoming structural.

In summary, a Lean and Adaptive Scaling approach emerges as a coherent strategic response to the three archetypes of failure identified; modularity mitigates operational rigidity, distributed governance reduces relational fragility and narrative consistency prevents core dilution. This approach recognises that scaling sustainably means growing while remaining adaptive, transforming speed into learning and complexity into flexible structure.

5.3 Practical Implications for Governance and Leadership Management

The other side of this organizational adaptability lies in the domain of governance and leadership. While adaptive scaling requires flexible structures and iterative learning, it also depends on the evolution of decision-making, accountability and cultural alignment as firms grow. These aspects define how organizations sustain coherence and strategic intent while increasing in size and complexity.

Empirical evidence from the six case studies highlights that many scaling failures were not caused by flawed business models but by leadership and governance breakdowns. In WeWork and Gopuff, centralized control and the overextension of the founder's authority created bottlenecks in decision-making. In Homejoy and Deezer, weak governance structures failed to coordinate the decentralized logic of network-driven models. In Theranos and Fab.com, the absence of oversight allowed narrative distortion and ethical drift, revealing how the quality of governance determines the sustainability of growth. At the heart of this transition lies the so-called Founder's Paradox, the tension between the agility enabled by centralized entrepreneurial control and the need for distributed governance as complexity increases. This dynamic is evident in WeWork and Gopuff, where the founder's charisma and control initially accelerated scaling but later restricted learning and accountability. In early stages, concentrated authority facilitates rapid experimentation and cohesive vision. However, as the organization expands, the same centralization becomes a constraint, generating information asymmetries and slowing responsiveness. Effective scaling therefore requires a progressive delegation of decision-making power toward middle layers and autonomous teams, supported by transparent communication channels and clear accountability structures. This does not imply diluting

the founder's role but reframing leadership as an enabling function, guiding through vision and values rather than direct control.

Zook and Allen (2016) highlight that firms entering the scale-up phase often underestimate the need for formal governance systems. The case of Theranos demonstrates the risks of delaying professionalization, the absence of independent oversight and technical governance turned secrecy into systemic opacity. Similarly, Fab.com illustrates how enthusiasm and creative freedom, when not balanced by disciplined management processes, can fragment coordination and erode coherence. The introduction of professional management practices, board structures and performance dashboards is not bureaucratic but essential to sustain coordination at scale. Governance maturity allows the organization to reconcile two seemingly opposing imperatives, preserving entrepreneurial spirit while institutionalizing control mechanisms. Formalization, when aligned with the company's core narrative, becomes the institutionalization of learning, embedding experience into routines, decision protocols and knowledge systems. As scaling multiplies interactions and teams, leadership becomes the main vehicle of coherence. Homejoy and Deezer illustrate the dangers of neglecting this integrative role, in the absence of consistent leadership communication, local teams pursued divergent objectives, weakening engagement and customer trust. Building adaptive leadership therefore requires cultivating collective sense-making capabilitie, mechanisms that help employees interpret growth not as an imposed mandate but as a shared mission. Practices such as open communication, transparent goal setting and cross-functional learning loops allow leaders to maintain both unity and autonomy. Leadership thus functions as the cultural infrastructure of scalability.

Hoffman and Yeh (2018) emphasize that the most scalable organizations maintain an equilibrium between control and trust. Excessive centralization erodes initiative, while unchecked autonomy breeds inconsistency. This principle is evident across all clusters, WeWork over-managed, Homejoy under-coordinated and Theranos ignored control entirely. The governance of scaling firms should therefore operate on the principle of "guided autonomy", defining clear boundaries and priorities while allowing local units to experiment and adapt within them.
Such balance transforms governance from a compliance function into a learning-oriented coordination system, capable of integrating feedback from the periphery into strategic decision-making. This approach reinforces adaptability and helps prevent the organizational rigidity or cognitive closure that often precede collapse.

In summary, the governance and leadership patterns observed across the six cases reveal that scalability depends as much on how authority is distributed as on how fast the organization grows.

Leadership must evolve from heroic to systemic, from directive to connective and from individual authority to collective intelligence. Only through the professionalization of governance and the institutionalization of learning mechanisms can scaling firms sustain both speed and coherence over time, transforming temporary growth into durable organizational capability.

5.4 Theorethical Contributions

The following section synthesizes the main findings of the study by addressing the three research questions introduced in Chapter 1. Each answer integrates evidence from the comparative case analysis and the theoretical discussion developed in the preceding chapters.

1. What structural, relational, and cognitive mechanisms drive failure in business scaling processes?

The findings contribute to the scaling literature by showing that failure does not originate from a single dominant cause, but from distinct configurations of misalignment between growth and organizational capacity.

First, the analysis extends existing theories of growth limits by demonstrating that structural rigidity emerges when scaling amplifies fixed commitments and coordination requirements faster than managerial and learning capacities can adapt. In line with Penrosian and dynamic capability perspectives, growth becomes self-undermining when internal structures harden before adaptive routines mature.

Second, the study contributes to platform and network theory by highlighting relational fragility as a distinct failure mechanism. In network-dependent models, scaling increases exposure to external actors whose engagement cannot be fully controlled. When retention, trust, or participation weaken, growth momentum collapses, revealing that scalability depends not only on size but on the stability of interaction patterns and governance over complementors.

Third, the analysis introduces cognitive and narrative dilution as an underexplored driver of scaling failure. Beyond structural or market constraints, failure can stem from the erosion of strategic meaning and governance coherence. When organizational narratives continue to signal success while internal feedback mechanisms deteriorate, growth becomes symbolic rather than substantive. This finding contributes to legitimacy and governance debates by showing how misalignment between narrative and organizational reality accelerates collapse.

Taken together, these mechanisms demonstrate that scaling failure should be theorized as a systemic process of desynchronization, in which structural, relational and cognitive dimensions evolve at different speeds. The contribution of this study lies in reframing scaling not as a binary outcome (success versus failure), but as a dynamic configuration problem in which sustainability depends on maintaining coherence across multiple organizational layers.

2. How do different configurations of these mechanisms interact to produce distinct patterns of scaling failure across contexts and industries?

Comparative evidence across the six cases shows that the interaction of these mechanisms generates three contingent archetypes of failure.

In structurally driven failures, internal complexity exceeds coordination capacity, scaling amplifies fixed costs faster than organizational learning (WeWork, GoPuff).

In relationally driven failures, external dependence outweighs internal control, growth becomes hostage to volatile user networks (Homejoy, Deezer).

In cognitively driven failures, narrative and governance coherence disintegrate, growth persists symbolically while operational reality deteriorates (Theranos, Fab.com).

These archetypes confirm that scaling is a contingent capability rather than a universal property of business models. In Penrosian terms, each failure reveals a different type of "managerial limit to growth":

- in structural cases, the limit is operational;
- in relational cases, it is contextual;
- in cognitive cases, it is interpretative.

Furthermore, these patterns highlight that industry and model type modulate but do not determine the outcome, similar dynamics of imbalance recur across sectors. What varies is the relative weight of internal and external constraints, suggesting that scalability depends on dynamic alignment rather than static design.

Building on the cross-case analysis conducted in Chapters 3 and 4, the typology proposed in Chapter 5.1 emerges inductively from the empirical investigation of the six cases. Rather than being derived a priori from existing theory, the typology was developed through systematic comparison of recurring failure mechanisms across clusters, linking observed patterns of structural rigidity, relational fragility

and cognitive or narrative dilution. In this sense, scaling failure is formalized as a configuration problem, where sustainability depends on the firm's empirically observed capacity to synchronize the pace of structural, relational and cognitive evolution. Table 6 synthesizes the empirical grounding of the typology, showing how each case contributed to the identification of the three failure configurations.

(Table 6)

Case	Dominant failure dimension	Secondary dimension	Failure trajectory
WeWork	Structural rigidity	Cognitive distortion	Terminal collapse
Gopuff	Structural rigidity	Relational stress	Retrenchment
Homejoy	Relational fragility	Structural weakness	Early collapse
Deezer	Relational fragility	Strategic inertia	Chronic stagnation
Theranos	Cognitive / narrative	Governance failure	Terminal collapse
Fab.com	Cognitive / identity	Structural drift	Rapid implosion

3. What strategic and governance practices can enhance adaptive scalability and reduce the risk of premature or unsustainable growth?

Findings from Chapters 5.2 and 5.3 indicate that sustainable scaling requires lean and adaptive strategic practices combined with professionalized governance. From a strategic standpoint, the key is to treat scaling as an iterative process of learning rather than a linear trajectory. Firms should adopt mechanisms of continuous validation beyond the initial product-market fit (Ries, 2011), maintaining flexibility through modular architectures and autonomous teams (Zook & Allen, 2016). This approach mitigates operational rigidity while fostering distributed decision-making.
From a governance perspective, adaptive scalability depends on balancing control and autonomy. Centralized authority accelerates early growth but must evolve into systems of shared accountability and transparent oversight. The Founder's Paradox observed in WeWork and Theranos illustrates the risks of delaying this transition, without institutionalized learning and independent governance, organizational coherence deteriorates.

In synthesis, adaptive scaling integrates three managerial principles:

1. Iterative learning: continuously realigning growth assumptions through feedback loops.
2. Structural modularity: expanding through replicable and loosely coupled units.

3. Distributed governance: embedding leadership into systems rather than individuals.

Together, these practices transform scalability from a one-time achievement into a dynamic organizational capability, capable of sustaining growth while preserving coherence and integrity.

In conclusion, the answers to these research questions reaffirm that scaling success and failure stem from the same process, the attempt to balance speed with adaptability, ambition with discipline and expansion with meaning. Firms that master this equilibrium are not those that grow fastest, but those that learn how to scale intelligently, aligning structure, network and narrative in a coherent and evolving system.

5.5 Limitations of the Study and Suggestions for Future Research

Although this research provides a novel typology of scaling failure and proposes strategic implications for adaptive growth, it is subject to several limitations that shape the interpretation of the findings and set boundaries to their generalizability.

This study adopts a multiple-case qualitative design focused on six firms that initiated scaling processes but later failed to sustain growth. While this approach allows in-depth contextualised insights, it also limits the ability to generalise findings to the broader population of scaling firms (Yin, 2014). The small sample size and purposive selection mean that the patterns identified may reflect particularities of the chosen cases rather than universal scaling dynamics. Moreover, relying exclusively on secondary data sources (public filings, media reports, academic analyses) restricts access to internal performance data, real-time decision-making processes and proprietary dynamics of the firms, thus constraining the richness of causal inference. Qualitative case-study research further faces the risk of researcher bias and interpretive subjectivity. Although triangulation was applied, the absence of primary interview data remains a limitation. Finally, the cross-sectional nature of the research captures firms at a particular stage of their scaling collapse (or stagnation) rather than following a longitudinal progression. Thus, the evolution over time of the mechanisms of failure cannot be fully traced, and the causal ordering between events remains partly inferential.

While the selected cases span digital, sharing economy and logistics models, they remain concentrated in high-growth, venture-backed firms primarily based in Western institutional environments. As such, the typology may not fully account for scaling failures in small- and medium-sized enterprises (SMEs), in family-owned firms, in non-venture-backed settings or in emerging

economies. Future research should investigate whether the structural/relational/narrative archetypes hold in these alternate contexts. In addition, the regulatory, institutional and cultural environment in which each firm operated likely influenced the dynamics of failure; but this research did not systematically compare institutional variation (regulatory stringency, governance norms, national culture) as moderating variables. Hence, the contextual contingency of scaling failure remains under-explored.

Although the study integrates multiple theoretical frameworks (Penrose model, Lean Startup, Dynamic Capabilities), some relevant lenses were not extensively engaged. For example, the role of ecosystem-level dynamics (platform ecosystems, coopetition) or digital platform governance in scaling failure merits deeper theoretical treatment (Cavallo et al., 2024). This limits the explanatory reach of the typology with respect to networked or platform businesses. Furthermore, as scaling is inherently a dynamic process, the static snapshot provided by this research may under-estimate temporal dynamics, such as path dependency, early decisions' lock-in effects and the interplay between growth phases.

Based on the above limitations and the findings of this thesis, several avenues for future research emerge:

Future research should adopt longitudinal designs to trace the lifecycle of scaling firms from early growth, through scaling, to possible failure or sustainability. This would allow a stronger understanding of how structural, relational and narrative mechanisms evolve and interact over time. Additionally, using mixed methods (combining qualitative case studies with quantitative surveys or archival data) would improve generalizability and causal inference.

It is recommended to extend the typology to non-venture-backed firms, SMEs, family firms and firms in emerging markets. Investigating whether the same archetypes (structural rigidity, relational fragility, narrative dilution) apply or if new ones emerge, would enhance the robustness of the framework. For example, studies could compare scaling failure in Latin America, Africa or Southeast Asia where institutional environments differ markedly.

Given the prominence of platforms and network architectures in modern scaling, future work should explore ecosystem-level failure mechanisms. How do platform governance, partner networks, and ecosystem orchestration contribute to or mitigate scaling failure? How do they interact with internal governance structures? Research such as Autio et al. (2018) on platform dynamics suggests fertile ground.

The typology derived in this thesis could be tested empirically with larger datasets to assess prevalence and variance. Variables such as institutional context, industry maturity, funding regime and founder experience could be tested as moderators. This quantitative extension would significantly strengthen the theoretical contribution. While this thesis highlights the importance of governance and leadership, future research could examine how leadership transitions (founder to professional management) are managed and how board composition, incentive alignment and decision rights evolve in scaling firms. Process-tracing of governance interventions may shed light on effective practices and failure triggers. With increased availability of data and analytics, future studies might investigate how firms leverage digital dashboards, real-time KPIs and AI-enabled decision support systems to monitor scalability and prevent collapse. This aligns with the broader digital theme of scaling (Coviello et al., 2024).

Another dimension for research is the sequencing of scaling decisions. How does the order of investments in structure, network and narrative affect outcomes? Are there optimal paths or habitual sequences that lead to success or failure? Exploring such dynamic sequencing would enrich the understanding of scaling as a process rather than a static event.

5.5.1 Closing Reflection

In sum, while this research offers a structured conceptualisation of scaling failure and practical strategic guidance, the journey toward a fully generalisable theory of scaling remains ongoing. The heterogeneous nature of scaling firms, sectors, and institutional settings demands continued inquiry and methodological diversity.

The findings of this thesis highlight that scalability is not a universal property but a context-dependent capability, one that emerges at the intersection of resources, structure and meaning. This implies that scaling cannot be understood solely through economic or technological lenses; it is an inherently organizational and behavioural phenomenon. Growth amplifies both strengths and weaknesses and success depends on whether firms can transform learning into structure faster than complexity erodes coherence.

The typology of failure proposed here contributes to this broader conversation by reframing scaling not as a deterministic process of expansion, but as an adaptive equilibrium between acceleration and stability. The notion of contingent scalability calls for rethinking classical theories of growth, from Penrose's (1959) emphasis on managerial limits, to Teece's (2007) dynamic capabilities framework, under the conditions of digitalisation and hyper-connected markets. It also resonates with Zook and

Allen's (2016) concept of the Founder's Mentality, illustrating how the same entrepreneurial intensity that fuels scaling can later constrain adaptation if not institutionalised.

Moreover, the research underscores that scaling is not purely a managerial challenge but a systemic one, it involves ecosystems, investors, regulators and users. The firm no longer scales in isolation but as part of interdependent networks whose coordination and governance critically shape performance (Nambisan, 2017; Autio et al., 2018). As such, understanding scaling failure requires not only analysing firm-level dynamics but also how environmental feedback loops accelerate or hinder adaptation.

From a practical perspective, this study reaffirms that the ultimate challenge for high-growth ventures is not speed, but sustainability of coherence. Scaling should thus be approached as a continuous learning architecture, an evolving dialogue between ambition and control, exploration and consolidation, growth and meaning. The capacity to scale sustainably depends on how organizations embed reflection into action and how leadership transforms from individual charisma to collective capability.

In conclusion, scaling is less a race for size than a discipline of synchronization, aligning structure with learning, governance with autonomy and narrative with reality. By embracing this perspective, both scholars and practitioners can move beyond the obsession with rapid expansion toward a more mature understanding of how firms can grow without losing their essence. The path forward lies in building theories and practices that enable organizations to remain agile, coherent and purpose-driven, even as they expand. Only then can scaling become not a prelude to fragility, but a genuine expression of organizational resilience and renewal.

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Appendix

A1 Documentary Data

A1.1 WeWork

Case	Source Type	Institution / Author	Document Title	Year	Pages / Length	Nature	Analytical Use
WeWork	SEC Filing (10-K)	U.S. Securities and Exchange Commission	Form 10-K (FY 2021)	2022	281 pages	Primary corporate financial disclosure	Financial performance, losses, lease obligations
WeWork	SEC Filing (10-K)	U.S. Securities and Exchange Commission	Form 10-K (FY 2022)	2023	232 pages	Primary corporate financial disclosure	Burn rate, restructuring evidence
WeWork	Proxy Statement (DEF 14A)	U.S. Securities and Exchange Commission	Schedule 14A	2023	94 pages	Governance disclosure	Board structure, executive compensation
WeWork	SEC Filing	U.S. Securities and Exchange Commission	Form 8-K (0001140361-24-030828)	2024	3 pages	Regulatory disclosure	Bankruptcy / restructuring signal
WeWork	Case Study	Lietz & Bracken (HBS)	WeWork Case Study	2019	25 pages	Academic secondary	Strategic narrative, expansion logic

A1.2 GoPuff

Case	Source Type	Institution/Author	Title	Year	Pages	Nature	Analytical Use
Gopuff	News article	Malone, K. (Technical.ly)	Gopuff lays off 6% of workforce, as it prepares for 'next	2024	3	Secondary – Industry journalism	Evidence of capital burn, repeated layoffs, delayed profitability; supports structural

			leg of growth’				pressure & unit economics stress
Gopuff	Industry news	Moran, C.D. (Grocery Dive)	Gopuff links with UK supermarket chain Morrisons on rapid delivery	2022	3	Secondary – Industry analysis	Evidence of international expansion strategy and partnership-driven scaling; supports rapid geographic scaling logic
Gopuff	Investigative journalism	Dotan, T. (Business Insider)	$15 billion delivery startup Gopuff tried to rip out a page from Amazon's playbook …	2022	3	Secondary – Investigative business journalism	Evidence of governance centralization, metrics obsession, operational rigidity; supports governance misalignment & structural stress
Gopuff	Tech media	TechCrunch	Instant grocery startup Gopuff to raise $1B on a $15B post-money valuation	2021	5	Secondary – Venture capital reporting	Evidence of hypergrowth capital dependency and valuation inflation; supports capital dependency coding
Gopuff	Industry news	Grocery Dive	Gopuff laying off 3% of its global workforce	2023	3	Secondary – Industry reporting	Evidence of repeated restructuring; supports unsustainable unit economics & structural stress

A1.3 Homejoy

Case	Source Type	Institution / Author	Title	Year	Pages	Nature	Analytical Use
Homejoy	News Article	GeekWire	Cleaning site Homejoy to shutter July 31 due to battling worker classification lawsuits	2015	3	Secondary – Journalistic	Evidence on legal framing of closure
Homejoy	News Article	TechCrunch	Homejoy Is Shutting Down At The End Of The Month	2015	4	Secondary – Journalistic	Market perception & shutdown narrative
Homejoy	News Article	Vox	Homejoy Shuts Down After Battling Worker Classification Lawsuits	2015	3	Secondary – Journalistic	Litigation emphasis vs structural failure
Homejoy	News Article	Forbes	Homejoy Shuts Down, Citing Worker Misclassification Lawsuits	2015	2	Secondary – Financial journalism	Investor reaction & legal context
Homejoy	Analytical Article	EIO Alumni (HBS Digital Innovation)	Homejoy: A Silicon Valley darling's path to the grave	2018	5	Secondary – Case-style analysis	Growth strategy, CAC, retention issues
Homejoy	Opinion / Industry Analysis	Ajay Prakash (TechCrunch)	Not every service needs to be an on-demand service	2016	8	Secondary – Industry commentary	Structural mismatch of on-demand model
Homejoy	Investigative Article	Christina Farr (WIRED)	Why Homejoy Failed	2015	23	Secondary – Investigative journalism	Evidence on churn, CAC imbalance, operational strain
Homejoy	Industry Analysis	Sam Madden (TechCrunch)	Why Homejoy Failed… And The Future Of The On-Demand Economy	2015	11	Secondary – Analytical commentary	Platform leakage & contractor economics

A1.4 Deezer

Case	Source type	Institution	Document	Year	Pages	Nature of source	Analytical use
Deezer	Stock exchange communication	Euronext Paris	Deezer joins Euronext Paris Tech Leaders segment	2022	3	Primary documentary	Listing context, market positioning, governance
Deezer	Universal Registration Document	Deezer / AMF	Universal Registration Document	2022	270	Audited financial & regulatory filing	Business model, revenues, market position, scaling constraints
Deezer	Universal Registration Document	Deezer / AMF	Universal Registration Document	2023	250	Audited financial & regulatory filing	Competitive dynamics, profitability strategy, post-SPAC trajectory
Deezer	Business journalism	Reuters	France's Deezer sinks 35% on market debut (Rosemain & Vidalon)	2022	3	Market analysis	IPO outcome, investor perception, competitive disadvantage
Deezer	Business journalism	Reuters	Deezer postpones IPO	2015	2	Market reporting	Early scalability constraints, timing issues
Deezer	Strategic profiling	Monocle	How Deezer is striking a chord with music fans	2023	4	Strategic narrative	Differentiation strategy, platform identity
Deezer	Universal Registration Document	Deezer / AMF	Universal Registration Document	2024	272	Audited financial & regulatory filing	Strategic consolidation, governance, limits to international scaling

A1.5 Theranos

Case	Source Type	Institution / Author	Document	Year	Pages	Nature of Source	Analytical Use
Theranos	SEC Press Release	U.S. Securities and Exchange Commission	Theranos, CEO Holmes, and Former President Balwani Charged With Massive Fraud	2018	3	Primary – Regulatory enforcement	Investor fraud, misrepresentation of technology and revenues (Cognitive failure; Governance opacity)
Theranos	DOJ Press Release	U.S. Department of Justice (Northern District of California)	Elizabeth Holmes Sentenced To More Than 11 Years For Defrauding Theranos Investors	2022	6	Primary – Judicial outcome	Financial misrepresentation, governance breakdown, misleading projections (Cognitive failure; Structural distortion)
Theranos	DOJ Case Summary	U.S. Department of Justice	U.S. v. Elizabeth Holmes, et al.	2022	4	Primary – Case summary	False claims regarding analyzer capabilities; revenue manipulation; investor deception (Cognitive failure)
Theranos	Federal Indictment	United States District Court, Northern District of California	United States v. Holmes & Balwani – Indictment	2018	14	Primary – Legal indictment	Detailed allegations of wire fraud, technological misrepresentation, false revenue forecasts (Cognitive failure; Governance collapse)
Theranos	Investigative Journalism	Reuters (Godoy & Levine)	Elizabeth Holmes sentenced to more than 11 years in prison for	2022	12	Secondary – Journalistic investigation	Public exposure of fraud, investor damage, narrative collapse (Cognitive failure)

			Theranos fraud				
Theranos	Business Journalism	Quartz (Ananya Bhattacharya)	How Safeway and Walgreens fell for the Theranos pipe dream	2022	10	Secondary – Industry analysis	Partner misalignment, ecosystem trust failure, commercial overextension (Relational + Cognitive failure)
Theranos	SEC Complaint	U.S. Securities and Exchange Commission	SEC Complaint – Theranos & Holmes	2018	24	Primary – Regulatory complaint	Fraud allegations; technological misrepresentation; governance failure
Theranos	SEC Complaint	U.S. Securities and Exchange Commission	SEC Complaint – Balwani	2018	23	Primary – Regulatory complaint	Investor deception; financial projection manipulation

A 1.6 Fab.com

Case	Source type	Institution	Document	Year	Pages	Nature	Analytical role
Fab.com	Tech journalism	TechCrunch	Fab.com's downfall: from $1 billion valuation to sale for scraps	2014	6	Post-mortem analysis	Hypergrowth, operational misexecution
Fab.com	Business journalism	Business Insider	How a billion-dollar startup died: Fab.com (Shontell)	2015	8	Investigative narrative	Leadership failure, strategic pivots
Fab.com	Business journalism	Business Insider	Fab.com acquires Llustre to launch in Europe	2012	3	Expansion reporting	Premature international scaling
Fab.com	Tech journalism	The Verge	The Rise and Fall of Fab.com (Popper)	2015	5	Retrospective analysis	Scaling complexity, cost explosion

Fab.com	Tech journalism	The Verge	How Fab.com went from $1B valuation to fire sale (Jeffries)	2015	4	Failure analysis	Investor pressure, strategic drift
Fab.com	Academic-industry analysis	Harvard D³ Institute	Why Fab.com's former CEO should have studied TOM	2016	7	Conceptual post-mortem	Organizational design & execution failure