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**Dipartimento di Scienze Economiche e Aziendali
Master in International Business and
Entrepreneurship**

**SCALING THROUGH DIGITAL TRANSFORMATION:
A COMPARATIVE STUDY OF REVOLUT AND BCC**

Scalare attraverso la trasformazione digitale:
uno studio comparativo tra Revolut e BCC

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ABSTRACT

This research illustrates the impacts of digitalization on the scaling process and whether the influence differs by organizational context. While digital technologies are often associated with rapid and scalable growth, existing literature provides limited explanation of the conditions under which digitalization effectively translates into scaling outcomes.

To address this gap, the study develops a two-dimensional framework integrating digital maturity and scaling orientation, defined as the extent to which firms rely on standardized replication versus local adaptation in structuring their growth. Building on prior research on replicability and scaling (Winter & Szulanski, 2001; DeSantola & Gulati, 2017) and digital transformation (Teece, 2018; Vial, 2019), the framework explains how different configurations lead to distinct scaling dynamics.

The empirical analysis is based on a comparative case study of Revolut and BCC Iccrea Group. The findings show that digitalization does not automatically generate scaling. Instead, its impact depends on its alignment with the firm's scaling orientation. In particular, replication-oriented firms with high digital maturity achieve accelerated scaling, while adaptation-oriented firms experience more gradual, coordination-intensive growth, even when digital capabilities are advanced.

This study contributes to the literature by providing a configurational explanation of digital-enabled scaling, demonstrating that scalability emerges from the interaction between technological capabilities and organizational design. It shows that digitalization does not create scaling per se, but amplifies the growth logic already embedded within the firm.

Overall, the findings suggest that the key question is not whether digitalization leads to scaling, but under which organizational conditions digital technologies can be effectively leveraged to support scalable growth.

ABSTRACT

La presente ricerca analizza l'impatto della digitalizzazione sul processo di scaling e valuta se tale influenza vari in base al contesto organizzativo. Sebbene le tecnologie digitali siano spesso associate a una crescita rapida e scalabile, la letteratura esistente offre ancora una spiegazione limitata delle condizioni in cui la digitalizzazione si traduce effettivamente in risultati in termini di scaling.

Per colmare questo gap, lo studio sviluppa un framework bidimensionale che integra la maturità digitale e l'orientamento allo scaling, inteso come il grado in cui le imprese strutturano la propria crescita facendo affidamento sulla replicazione standardizzata oppure sull'adattamento locale. Basandosi su precedenti studi relativi alla replicabilità e allo scaling (Winter & Szulanski, 2001; DeSantola & Gulati, 2017) e alla trasformazione digitale (Teece, 2018; Vial, 2019), il framework spiega come diverse configurazioni conducano a dinamiche di scaling differenti.

L'analisi empirica si basa su uno studio di caso comparativo tra Revolut e il Gruppo BCC Iccrea. I risultati mostrano che la digitalizzazione non genera automaticamente scaling. Al contrario, il suo impatto dipende dall'allineamento con l'orientamento allo scaling dell'impresa. In particolare, le imprese orientate alla replicazione e caratterizzate da un'elevata maturità digitale riescono a ottenere uno scaling accelerato, mentre le imprese orientate all'adattamento sperimentano una crescita più graduale e maggiormente basata sul coordinamento, anche quando dispongono di capacità digitali avanzate.

Questo studio contribuisce alla letteratura offrendo una spiegazione configurazionale dello scaling abilitato dal digitale, dimostrando che la scalabilità emerge dall'interazione tra capacità tecnologiche e progettazione organizzativa. La ricerca evidenzia che la digitalizzazione non crea scaling di per sé, ma amplifica la logica di crescita già incorporata all'interno dell'impresa.

Nel complesso, i risultati suggeriscono che la questione centrale non è se la digitalizzazione conduca allo scaling, ma a quali condizioni organizzative le tecnologie digitali possano essere efficacemente sfruttate per supportare una crescita scalabile.

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1 Introduction

Scaling and digitalization have become increasingly prominent topics in strategic management and entrepreneurship research. Companies seek faster, sustainable growth, but not all the processes of growth are equivalent. While traditional firm growth often requires proportional increases in resources, scaling refers to the ability to expand output, revenues, or customer base without a commensurate increase in inputs. As discussed in Chapter 1, scaling is both quantitative and qualitative, or more precisely, a necessity for a business model that is transferable, replicable, and organizationally sustainable over time. Digitalization, alongside the growing focus on scaling, has revolutionized industries by restructuring what businesses do, how they produce value, and compete. The use of emerging digital tools (cloud computing, data analytics, AI, and platform architectures) has lowered marginal costs, automated processes, and enabled internationalization. Digital-native companies generally rely on scalable digital architectures that enable rapid replication across markets. The implication is that digitalization is often represented as a primary enabler of firm scalability. But the connection between digitalization and scaling is not straightforward. While some firms leverage digital technologies as a direct driver of high-speed expansion, others are constrained by structural, regulatory, or organizational factors that limit the transformative potential of digital tools. Indeed, legacy organizations are perhaps slower to embrace digital technologies than to begin scaling after some strategic consolidation. Despite the large volume of work on scaling strategies (e.g., replication or adaptation) and the growing body of literature on digital transformation, there is little literature on how digitalization and scaling logics interact across various organizational contexts. The literature on digitalization and its impact on different scaling logics across organizational contexts is limited. Previous studies generally assume that digitalization is a growth-boosting impulse, without understanding enough the circumstances in which this effect materializes. This thesis fills this gap by investigating whether the extent to which the scale of digitalization influences firm scaling differs depending on the maturity of digitalization, organizational structures, and strategic pathways. Based on Scaling Theory, digitalization literature, and the dynamic capabilities framework, this thesis argues that digitalization should not be a universal driver of scaling. Instead, its influence is determined by organizational environment and path dependency.

To explore this argument, the thesis conducts a comparative analysis of two contrasting cases in the banking sector: Revolut, a digital-native fintech firm, and BCC Iccrea Group, a traditional cooperative banking network.

Research Questions. Building on the theoretical foundations developed in Chapters 1 and 2, this thesis seeks to answer the following central research question:

How does digitalization influence the scaling process of firms, and how does this influence vary across different organizational contexts?

To address this overarching question, the study investigates several related sub-questions:

1. Under what conditions does digitalization act as a direct driver of scaling?
2. When does digitalization play a supportive or sequential role in the scaling process?
3. How do different scaling logics—particularly replication and adaptation—interact with digital maturity?

Methodological Overview. This study employs a qualitative multiple-case study approach to examine the effect of digitalization on the scaling process. Case study research is particularly appropriate for addressing “how” and “why” questions in contexts involving complex organizational and institutional dynamics. Two theoretical selections of cases were chosen to ensure maximal conceptual contrast but at the same sectoral consistency. Revolut is a digital-native organization with excellent digital maturity and a replication-based scaling strategy. BCC Iccrea Group is an established cooperative banking network whose historical scaling strategy is adaptation and consolidation, followed by digital transformation. The unit of analysis is the firm and its scaling methodology. All data were sourced from secondary sources, including annual reports, regulatory documents, press releases, institutional communications, and industry research. Consistent with best-practice case-study methodology, evidence from multiple sources was triangulated to enhance the validity and reliability of the findings. For this analysis, the collected data were systematically coded based on five analytical dimensions that were derived from the theoretical framework:

- Scaling logic (replication vs. adaptation)
- Digital mechanisms (automation, platforms, data infrastructure)
- Dynamic capabilities (sensing, seizing, transforming)
- Organizational constraints (legacy systems, governance, culture)
- External conditions (regulatory and institutional environment)

Within-case analysis was followed by a cross-case comparison to identify commonalities and differences. This structured and focused comparison enabled the development of a theoretical model that integrates digital maturity and scaling logic.

Structure of the Thesis. The thesis is organized into four main chapters, followed by a conclusion.

Chapter 1 illustrates the concept of scaling as a means for strategic growth. It differentiates scaling from general firm growth and lays the foundation for the core scaling logics, i.e., replication, adaptation and hybrid models. The chapter also looks at governance options and how dynamic capabilities facilitate planning for development.

Chapter 2 examines digitalization and company scalability. It also conceptualizes digitalization and analyses how digital technologies facilitate scaling via automation, platform-based models, and data-driven decision making. The chapter also discusses the limits and constraints of digital scaling, including legacy systems, regulatory complexity, and organizational resistance.

The research methodology is described in Chapter 3. It gives the information about the qualitative research strategy, the comparative case study design, the case selection logic, the analytical framework, and data collection.

Chapter 4 introduces the comparative case study on Revolut and BCC Iccrea Group. It analyzes each case separately and considers a cross-case comparison. The chapter ends on the basis of theoretical implications which includes offering a two-dimensional model linking scaling logic and digital maturity.

The final section of the thesis summarizes the main findings, outlines theoretical contributions, discusses managerial implications, and identifies limitations and avenues for future research.

1. Scaling as a Strategic Path to Growth

Digitalization has emerged as a key enabler of rapid business scaling, fundamentally changing how companies grow. It allows firms to expand faster, more efficiently, and at lower cost by removing physical barriers, automating operations, and connecting organizations to global markets. For instance, digital finance players such as Revolut can scale quickly into new markets, whereas traditional banks operate with protracted, manual, localized processes. But digitalization alone can't ensure successful scaling; it needs a viable business model, a compelling strategy, and powerful organizational support. Therefore, to help understand why digitalization represents such a major competitive advantage, this thesis examines how scaling works in both online and conventional settings to identify the locations and explain why digitalization is this essential competitive advantage. To set the stage, the following sections clarify the distinction between general growth and scaling and outline the key factors and strategies for successful scaling.

1.1.1 Conceptualizing Scaling: Beyond Firm Growth

Scaling is now the subject of both entrepreneurial endeavors and strategic management more broadly, as well as for higher-growth types and new business models. Scaling is very popular, but is often confused with growth vs. expansion, which are separate processes (Bohan et al., 2024; Tippmann et al., 2023). Scaling has two essential dimensions. First, scaling includes high growth that is continuous and measurable (approximately 20% annually for revenue or headcount) and continuous for at least three years (OECD, 2007). Second, scaling has a qualitative element: viability. A business model that scales must demonstrate its ability to create value and be ready for systematic replication and broader adoption. In other words, scaling is more than just growing bigger; it is about crafting a proven, repeatable value-creation system. It is not possible for the model to not only be scalable through profitability, but also to be transferrable, codifiable, and robust enough to apply to other units, markets, or other contexts. Successful scaling usually involves alignment of firm's strategy, organizational capabilities and its structural readiness as firms move from a period of growth to a phase of structured expansion (DeSantola & Gulati, 2017; Tippmann et al., 2023). What is different from other types of growth is scaling to get more

results without the same amount of input multiplied. In traditional growth, there is usually more people, capital or resources added to the system; scaling provides an opportunity to add value from existing resources and seeks to improve the quality of existing processes at minimum cost by standardising and streamlining the process for repeatable outcomes (DeSantola & Gulati, 2017). Scaling is an intermediate stage along the life cycle of the firm that requires internal shifts to facilitate high-volume growth. Companies are known for transitioning from a product-market fit orientation to a systematic replication (i.e., roles/structured task frameworks, professionalized leadership) phase. Indeed, this journey is frequently characterized by organizational growing pains as founders are encouraged to share control with seasoned management and to align with the vision for change through structures and processes (Churchill & Lewis, 1983). Tippmann et al. (2023) note that scaling is frequently uneven across organizations and contexts. There are three different scopes of scaling: intra-organizational, inter-organizational and ecosystem scale in which the scale is divided. Intra-organizational scaling is a process (occurring within an entity) whereby one firm replicates successes across (or can adapt) practice to replicate the effectiveness of successful and relevant efforts at an organizational and organizational unit level. Inter-organizational scaling in business is the expansion to get broader with the help of other organizations (e.g., partnerships or networks of independent companies, or organizations across several different companies, where the activities are coordinated, resources are shared, and goals are mapped across the organization-to-organization scale). The third level of ecosystem scaling happens at the scale of the entire network; several independent organizations (partners, suppliers, even competitors) can engage and develop together under the influence of one another while co-evolving in the same growth support ecosystem. Each of these scaling contexts comes with certain challenges. In large global organizations (intra-organizational situation), such as in the case of large global organizations, headquarters and subsidiaries might have conflicts about legitimacy and resource allocation at scale and internal resistance and coordination issues might arise from these issues (Ambos et al., 2010). This organizational scaling phenomenon should therefore involve a balance between the challenge of replication and local adaptation to ensure internal cohesion (Ansari et al., 2010). At the inter-organization level, the fundamental tension is with regard to growth across firm lines, matching different companies' processes, cultures, and aspirations as they collaborate. Scaling the ecosystem should demand orchestrating a range of independent players, making it challenging to control interorganizational dependencies and to share in

value creation. Separating these contexts will allow us to identify the specific barriers they face in their context and to plan for how these conditions will be addressed and scaled. In all of these situations, a scaling model must deliver dependable performance without losing flexibility under stress. For the context of this thesis, Revolut is an example of ecosystem scaling, as the global growth is supported by digital platform infrastructure, API integration, and cooperation with external service providers such as insurance companies, cryptocurrency providers, and compliance players. BCC, on the other hand, is a type of inter-organizational scale model that is defined as expansion within a network of a local cooperative of independent banks that all share governance and support structures. The two models above are further analyzed and compared through case studies in Chapter 4.

1.1.2 Internal and External Enablers of Scaling

Scaling requires organizations to align internal and external opportunities to accelerate growth. Organizations are required to bring leaders, structures, talent, operations, market conditions, and regulatory requirements to plan leadership, structure, and operations in line to be able to increase growth speed. This entails alignment, including both strategic and operational aspects, to develop repeatable, effective growth paths (Kazanjian & Drazin, 1990; Picken, 2017). The use of technology and digital tools is one of the most decisive enablers, enabling scalable business models and rapid cross-market growth (Nambisan et al., 2019; Lee & Berente, 2020). This paragraph is concerned with the internal and external enabling factors to convert growth opportunities to scalable repeatable outcomes. Internal Factors refer to organizational, technological and resource-based capabilities that firms can create and manage intrinsically, while external factors are the market condition, networks, partnerships and institutional environments that shape the environment in which firms build up their ability to adapt and scale. Internal Enabling Factors.

1.1.3 Internal Enabling Factors.

Leadership is crucial during the first phase of scaling as it is leaders who define strategic issues for their teams, coordinate organizational resources and move from start-up to formal management setup (Kazanjian & Drazin, 1990). As firms expand, both organizational structures and culture adapt to accommodate an expanding complexity. Scalable firms, on the other hand, require structures in which they will need something of both formalization and adaptability if they are to be stable. Standard procedures will be compatible with new ideas (Picken, 2017). Talent management and human capital development are closely related to leadership. Scaling is dependent on a firm's ability to recruit, develop and retain employees who can cope with both organizational change and technological adoption. Given that scaling enterprise necessitates ongoing learning processes to ensure the right coordination of more complex activities, human capital becomes even more essential (Nambisan et al., 2019). And firms that invest in upskilling and development of internal capabilities, therefore, have a premium with time to ensure their growth and future. Operational processes and efficiency are also important internal drivers to scale. This enables growth without corresponding cost increases. Standardizing and automating processes enable handling larger volumes of activity while guaranteeing quality and consistency (Picken, 2017). A large-scale automation of processes (such as customer service, production, supply chain management) increases reliability and alleviates resource demand, enabling widespread commercialization (DeSantola & Gulati, 2017). Implementing technologies such as enterprise resource planning (ERP) systems, cloud computing, and data analytics provides complementary benefits such as internal coordination, workflow optimization, and repeatability of core processes (Lee & Berente, 2020). Underlying leadership, human capital, and operational efficiency are financial management and resource allocation, which are additional internal capabilities aiding scaling. As firms grow, the ability to mobilize funds and cash flows effectively and allocate capital strategically becomes even more important. Good financial management ensures that funds invested in growth priorities are allocated to the right areas, especially technological infrastructure, organizational development, and talent acquisition (Audretsch et al., 2024). The major internal enabler of scaling is digitalization and technology capability. Digitalization offers firms technology-enabled systems that would enable efficient and low-cost scaling to process automation, data collection, and scalable service delivery (Nambisan et al., 2019; Lee & Berente, 2020).

According to the literature, digital ecosystems help firms deploy cloud computing, artificial intelligence (AI), and analytical tools to scale without corresponding escalating costs (Iurkov et al., 2023). These technologies improve organizational coordination, facilitate data-driven decision-making, and promote scalable operational architectures. Digitalization is also driving platform-based and digitally enabled business models, such as software-as-a-service (SaaS), fintech, and e-commerce, because they are scalable. These models ensure low marginal costs, allowing for broad market penetration. Furthermore, digital technologies act as powerful enablers to increase strategic agility by lowering the cost of experimentation and learning and facilitating adaptive behavior throughout the scaling process (Teece, 2018). In this regard, digital technological capabilities serve as a foundational internal enabler, strengthening and accelerating the impact of other internal scaling drivers.

1.1.4 External Enabling Factors.

The scalability process, apart from internal capacity of organisations, is strongly influenced by external enabling factors shaped by the context in which a firm operates. These external forces shape their ability to realize and maintain growth opportunities – and often also dictate how quickly and how easily they are scalable. The biggest external factor influencing scalability is market demand and growth of the industry. Firms are more likely to scale successfully when they grow in markets with high and growing market demands for products or services. High-growth markets offer firms the ability to scale without being bottlenecked by saturation immediately, and hence provide the space for rapid growth. Iurkov et al. (2023) state that companies operating in industries growing rapidly encounter fewer barriers to growth at the structural stage and can react better at the demand scale. Simultaneously, scaling in such environments imposes competitive forces on firms as high-growth markets commonly invite new entrants and create competition. Hence, the competitive dynamics are a crucial component of the external context that influences the scale up process. Outside market conditions also, networks and inter-organizational relations, however, play a role in an external set of enabling factors. Firms integrated in network communities — clusters of linked organizations that share resources and knowledge — tend to have greater capability to scale than isolated firms. These networks offer access to auxiliary resources such as technical expertise, investment capital or human capital (e.g., technical capacity, financial

means and specialized human capital) which can help speed the scaling up process. Iurkov et al. (2023) emphasize that network communities enable organizations to gain access to several external resources that allow them to grow more efficiently than they would from developing on their own: they do so thanks to the numerous network resources in their network communities. Strategic co-operations, such as joint ventures, distribution agreements, and technology co-operations, aid with scaling that allow companies to enter new markets, spread the risks, and use their shared knowledge and capabilities (Audretsch et al., 2024). A third factor influencing the scaling environment is the regulatory or institutional context. Regulatory regimes also determine the landscape and framework under which firms can operate, usually enabling scaling with supportive regime either through tax benefits, ease of complying measures or even through free trade etc. But companies doing business in a heavily regulated sector or with an environment with strong institutional constraints may face great scaling barriers. Iurkov et al. (2023) underscored the importance of the role played by various institutional support instruments, including governmental policies, funding programs or funding schemes, market access projects, and market access, in lowering growth barriers. Public funding, state funded or publicly financed financing to a minimum or public-private partnerships can further lower the cost of expansion and facilitate rapid and efficient scaling of corporate operations, at least in countries where market-based financing is less accessible. Individually and collectively, these external enablers interact with internal organizational capabilities for firm scale success. Although companies can actually actively develop internal resources and capabilities, the larger organizational market, network and institution environments shape the context in which they must carry out the practices for scaling strategies. Strategic Models and Governance Decisions and Choice in Scaling Expansion. While it is essential to know about scaling enabling factors, it is more useful to investigate the models and methods employed by companies to transform potential into effective scale. The process of scaling up is neither homogeneous, with some organizations taking one path while others are opting for another depending on how they are structured and what kinds of environment will enable them to do business. In this, we outline the theoretical frameworks, practical behaviors, and plans through which firms operate during scaling up, mainly regarding non-digital traditional scales.

1.2 Strategic Models and Governance Choices in Scaling

While understanding the enabling factors of scaling is crucial, it is also important to examine the models and approaches that firms use to convert potential into realized scale. The process of scaling up is not homogeneous; companies may follow different paths and make distinct organizational and strategic choices depending on their business model, structure, and environment. This section discusses the theoretical frameworks, practical behaviors, and plans that companies employ when scaling up, focusing on conventional (non-digital) scaling scenarios.

1.2.1 Strategic Perspectives on Scaling

Scaling can be understood as a strategic decision-making process that defines the direction, scope, and logic of firm growth. From a strategic perspective, scaling concerns how firms deliberately choose where, how, and to what extent to grow, rather than how they organize internally to support growth. Those strategic choices define subsequent organizational and operational forms but are analytically different from the enabling elements described in the last section. As Tippmann et al. (2023) suggest, scaling is a shift from an informal entrepreneurship style to more purpose-driven growth paths. This kind of intent may involve goals like market penetration, geographic expansion, or copying proven business operations. Importantly, these options reflect strategic imperatives regarding growth direction and scope, not the internal competencies to execute them. From this point of view, scale companies identify a strategic logic of growth that aligns expansion with a value proposition. This logic then governs whether growth is sought through replication, adaptation, or a mixture of the two, and it underpins a level of control, coordination, and standardization that is part of the scaling strategy. This perspective resonates with Teece's (2018) dynamic capabilities model, which positions a strategy as an iterative process of sensing the growth opportunities, taking them up on with strategic commitment, and reallocating resources as environments change. In the scaling context, strategy is adaptive, not fixed: the firms constantly adjust their growth logic in response to increased complexity while maintaining a singular, replicable value proposition.

1.2.2 Typologies of Scaling Models

In literature, various archetypical firm scaling models have been proposed, including replication, adaptation, and hybrid (configurational) approaches (Winter & Szulanski, 2001; Tippmann et al., 2023; Piaskowska et al., 2021). These models differ primarily in how they balance standardization versus local responsiveness and in the degree of organizational control exercised over the scaling process.

Scaling by Replication. This model follows a copy-and-paste logic: the organization discovers a successful unit or process and duplicates it across new business units or markets with little adaptation. The core assumption is that efficiency and performance can be achieved by preserving consistency. Winter and Szulanski (2001) emphasize that replication involves codified knowledge, routine stability, and low variability. Companies that adopt this model tend to favor a core model approach, with formalized processes and systematic knowledge transfer. Replication is particularly suitable for firms operating in homogeneous markets with low institutional diversity.

Tippmann et al. (2023) note that many multinational companies utilize replication to expand internal projects and service lines across various subsidiaries. The replication model results in less coordination costs and results an increase in uniformity, but it might collapse when more local context adjustments must take place.

Scaling by Adaptation. On the other hand adaptation is about being attentive to local context and has companies make adjustments in respect to institutional, cultural or customer requirements. For sure growing across this model isn't about how to replicate a business model across the world; it's about re-scaping core operations to be more impactful and relevant across the different contexts. Such mechanisms are quite common in very different markets with regard to credibility, regulatory requirements, or consumer behavior. As Piaskowska et al. (2021) argue, adaptation allows firms to stay relevant amidst heterogeneity and dynamism. And crucial, this methodology is not inconsistent with the orthodox view of scaling being the reproduction of a successful business model-type model or organizational structure. Instead, adaptation may represent an extension route to growth that firms can use in which they will keep their core architecture scalable yet some flexibility left over at the periphery for local market development. The primary constraint of adaptation is its resource intensity: it requires huge local knowledge sharing, decentralized modes of decision making and often compromises operational consistency. At the same time, this excessive adaptation

too often may erode the firm's value creation proposition and its internal coherence. This is why a lot of organizations do both adaptation and replication in their methodology, which leads to hybrid methodologies such as configurations that are discussed below. Hybrid or configuration scaling approach differs from pure adaptation methods in both design logic and organizational order. Whereas adaptation stresses the need to achieve localized reconfiguration according to contextual differences, hybrid strategies depend on a predefined modular structure with a separation of standardized core components and adaptable peripheral components. Companies implementing the hybrid approach create scalable templates within which the fundamental elements, i.e., brand, key resources, or technological infrastructure, do not change across markets, whereas peripheral activities are fitted to the local context or market (Teece, 2018). Tippmann et al. (2023) refer to this as “scaling through configuration,” and firms build flexibility into scalable structures by providing prescribed interfaces instead of working their way through local change. Configurational scaling avoids the pitfalls of adaptation-based scaling, which allows local units to rely far more on broad discretion over how core practices are implemented than the degree of flexibility afforded by the wider-range global environment. This allows firms to scale between efficiency and consistency and the ability to respond nimbly and flexibly in the presence of institutions of, and cultures of a variety of sizes in a market. Hybrid scaling is complementary with the ambidextrous organization paradigm that is not only exploitative (replication support) but exploratory (adaptation) in nature. Configurational approaches constitute a different scaling model rather than a mediating middle course of adaptation vs replication; in this sense, flexibility is more institutionalized and is based on design within an organization rather than one's location in context.

1.2.3 Modes of Scaling: Centralized vs. Decentralized Execution

In addition to the choice of scaling model, firms must determine the mode through which scaling activities are executed and governed, namely, whether growth-related decisions are coordinated centrally at headquarters or decentralized across subsidiaries or autonomous organizational units. This choice represents a strategic governance decision that shapes how scaling strategies are implemented in practice.

Centralized execution is a term that encompasses the link between high-level corporate strategy, strategic planning, and operational decision-making. To support consistency,

standardization and to scale best practice, research on firm growth and international expansion offers insight that firm scale strategies tend to favour centralized methods of execution when firms engage in replication-based scaling strategies, enabling these models to be easily replicated between units (Tippmann et al., 2023; Piaskowska et al., 2021). Centralized execution also lowers coordination overhead during rapid scaling by reducing variability in processes and decision-making structures. Decentralized execution, in contrast, gives local units more control to adjust their implementation to local market conditions, institutional backgrounds, or customer demands. Such a mode of execution can optimize responsiveness during scaling and learning in heterogeneous or uncertain contexts. The scaling literature reminds us that decentralized execution will also heighten coordination complexity and undermine internal coherence unless it is governed by appropriate mechanisms (Piaskowska et al., 2021). Hence, hybrid execution structures, which combine centralization and decentralization, are deployed by most companies. Example: hub-and-spoke or franchise-like arrangements, in which firms maintain centralized ownership of fixed, standardized core elements of the core business model (e.g., brand, operating procedures, and key resources), while decentralizing ownership and day-to-day operations to locally embedded entities. These architectures allow a firm to scale efficiently while maintaining strategic coherence and harnessing local expertise and motivation, so that execution mode aligns with the broader scaling strategy (Tippmann et al., 2023).

1.2.4 Dynamic Capabilities and Learning of the Firm

Dynamic capabilities are among the most widely accepted theoretical models in the management literature. They are not conceptualized as a separate scaling model within this study, but rather as a fundamental lens for studying how firms maintain and modify scaling strategies over time. This approach is consistent with Teece's (2018). Dynamic capabilities are the organizational processes by which firms sense opportunities and threats, seize opportunities through strategic resource mobilization, and adapt structures and routines to preserve long-term competitive advantage (Teece, 2018). By viewing a wider lens of change, they highlight the continual reshaping of resources and structures that is in accordance with a changing environment. Eisenhardt & Martin (2000) also identify and explain dynamic capabilities as identifiable and replicable organizational processes (e.g., product

development routines, coordination mechanisms, and knowledge-transfer practices) that aid firm adaptation in the face of risk and uncertainty, while still treating dynamic capabilities as organizational processes rather than idiosyncratic factors unique to high-growth firms. Although their analysis does not deal specifically with scaling, it offers a good basis to begin to understand how organizations handle growing complexity as their size grows their operations. Organizational learning is of central importance for implementing dynamic capabilities and evolving and implementing them. When companies break into new markets or introduce new products, how they capture experience, store knowledge in codified form and apply the information they gain or redeploy resources is increasingly critical to keep internal coherence. Zollo and Winter (2002) propose that deliberate learning mechanisms allow firms to transition from ad hoc problem-solving to routine daily activities, thereby maintaining consistent firm performance over time. This is particularly relevant as contextually adapted to scaling these strategies, since learning from replication–adaptation is crucial to managing that tension. Ongoing analysis of the business model's scale enables firms to identify which aspects to retain and which elements to change to suit variations in local conditions, helping them update their scaling strategies as growth unfolds. Dynamic capabilities contribute in this respect, underlying mechanisms that align strategic intent, scaling models, and execution modes in expansion. In the contemporary business environment, these capability-building and learning processes become increasingly influenced by digital technologies, impacting the speed, coordination, and scalability of firm growth. Thus, in the next chapter, we consider digitalization as one of the central enablers of scaling, particularly how these new digital capabilities drive organizational strategies and accelerate rapid and sustainable growth.

2 Digitalization and Firm Scalability

2.1 Conceptual Foundations of Digitalization

In today's business world, digitalization is more of a cliché than a precise term, yet it remains crucial. So, what is the definition of digitization? Digitalization, in a broad socio-technical sense, refers to the adoption and integration of digital technologies into all aspects of business operations, fundamentally changing how organizations operate and deliver value (Gartner, 2015; Legner et al., 2017). Legner et al. (2017), digitalization is “the many socio-technical phenomena and procedures of adopting and using digital technologies, functioning in the broader individual, organizational, and societal contexts”, emphasizing the importance of digital technologies for organizations beyond the implementation of new tools, frameworks, or the configuration of organizations. In a business context, Gartner (2015) uses the following definition of the word “digitalization”: “Digitalization is the use of digital technologies to transform a business model and generate new revenue and create a novel set of value opportunities; it is when a business becomes digital.” Digitalization means the adoption of new technologies (e.g., cloud computing, data analytics, artificial intelligence (AI), the Internet of Things (IoT), mobile platforms) to transform products, services, and operations that deliver new and substantial value to the business and its stakeholders. Digitalization and digital transformation are, importantly, not the same thing. It is also important to remember that transformation is broader than digitalization, as the transformation to be digital is more often referred to as a strategic or organizational change, and the transformation to enable a firm to maximize the benefits of digital technology. Although digitalization is defined as new and improved digital systems or processes, digital transformation is much broader; it refers to the fundamental process that alters the business model and the business strategy used in the digital age (Vial, 2019). This thesis regards digitalization as a tangible deployment of digital capabilities and the digitalization of organizational processes and also recognizes that digitalization is a factor in (at times an inevitable part of) larger macro-level projects. Research and academic interest in digitalization is driven by its widespread impact on business performance and growth. Indeed, literature demonstrates that digitalization is a significant force behind economic development and competitiveness (Calderon-Monge & Ribeiro-Soriano, 2024). One

systematic review has found that: “digitally transformed” companies (those that have fully integrated digital technologies) had an annual impact of US\$13.5 trillion on GDP globally in 2018, and this number is expected to reach US\$53.3 trillion (more than half of nominal GDP) in 2023 (Calderon-Monge & Ribeiro-Soriano, 2024). The record number (from a Statista analysis) reveals how digitally embedded businesses in the world economy have become. Companies that successfully integrate digitalization are accessing new markets and revenue streams at levels never seen. On applications perspective, the digitalization of business is a domain. This may involve automating internal processes with enterprise software; it could include data analytics and artificial intelligence-driven decision-making; it commonly involves developing digital platforms (e.g., mobile applications or online portals) to reach customers; and it may involve building digital ecosystems by integrating with partners’ or customers’ systems through APIs. Urbach et al. (2018) posited that technological innovation refers to a set of technologies related to social media, cloud, Internet of Things (IoT), big data analytics, and other related tools and processes that allow organizations to innovate their way to talk to customers, automate processes, and to find and establish new lines of business. In fact, digital advances can provide entirely new solutions, even birth new industries: fintech, the sharing economy, or Industry 4.0 in manufacturing. Digitalization is not only about technology, but it is also about business excellence. As Murawski et al. (2018) note, digital technologies can foster innovation in the operation and creation of new organizational ecosystems and networks and build new ecosystems/networks from what seems to be becoming a fragmented industry. A digitally mature firm, on the other hand, could turn connected device data into supply chain improvements, or use machine-generated learning to tailor marketing campaigns to millions of customers in a single click, or get efficiencies and customer experience improvements previously out of reach before digital. So digitalization, by and large, is matched by innovation in products and services. Digital innovations are more than new IT solutions (Wiesböck, 2018). New business processes or models that merge physical data with digital information are examples of such innovations but are not limited to them. You should also contextualize digitalization with the business scaling model discussed in Chapter 1. Scaling (as previously defined) is aiming for fast, sustainable growth in outputs (revenue, customers, etc.) with little corresponding linear growth in inputs or costs over time (Bohan et al., 2024). Or, simply put, to exponentially scale outputs while the inputs merely grow incrementally. Scale is achieved by focusing value addition in business processes and leveraging a stable

business model and resources for growth (Winter & Szulanski, 2001; DeSantola & Gulati, 2017), thereby separating the two dimensions of scaling and growth. Similarly, digital technology has been considered a key internal enabler of scaling through successful use of digital tools, one of the best internal/external enabling factors such as leadership, talent and market conditions. The paper posits that accelerating digitalization or providing a further means to reproduce processes, meet market needs, and utilize resources can be transformative for companies planning for increased scale. However, we must reemphasize that digitalizing processes is not a panacea for scale. As addressed in Chapter 1, on its own, digitalization cannot deliver growth if a company's business model is weak or when the company doesn't have strategic clarity and capabilities. Digital capabilities may expedite a good strategy, but they're not a substitute for a product-market fit or for leadership competence. Digital transformation, in other words, is an enabler of scaling fundamentals, not a substitute. Furthermore, company-wide digitalization does not occur in isolation but involves linkages between digital projects and company-building organizational dynamic capabilities to allow for continuous evolution in changing environments. Dynamic capabilities, described as the capacity for a firm to sense and capitalize on opportunities, repurpose and reconfigure resources, and constantly refresh itself as a company (Teece, 2018), are intricately linked to the digitalization process. Companies having good dynamic capabilities can leverage on the development tools that are coming to the market and are also able to iterate with the changes in their growth process in addition to learn from them. Digitalization can, indeed accelerate the scaling process by automating and amplifying key components of growth — we'll look at how this is done right in the next segments. First let's say we have clarified what digitalization is; now let's come to how that transformation makes scaling possible.

Digital Mechanisms Supporting Scaling

Digitalization is widely touted as a key enabler of scaling because it fundamentally changes the economics and logistics of business growth. Scaling a business is the process of increasing output and impact exponentially, even as inputs (such as cost, headcount, and complexity) grow much more slowly. The digital world is perfectly suited to facilitate this, as it offers low marginal costs, automation, global reach, and agility. This section discusses mechanisms by which digitalization supports scalable operations (drawing on scaling theory

from Chapter 1, such as replication vs. adaptation) and illustrates these mechanisms with cases of Revolut and BCC in Chapter 4.

2.1.1 Automation and Process Efficiency

Automation via digitalization provides an immediate way to increase scalability. By transforming manual, labor-intensive processes into digital workflows, companies can manage a much larger volume of business with less labor and fewer errors. In general, well-scaled companies have strong processes and standardized procedures that allow them to grow without a large increase in unit costs (Chapter 1; DeSantola & Gulati, 2017). This can be achieved by using process automation technologies (such as robotic process automation, AI-driven software, or even simple IT systems) to eliminate human bottlenecks and errors. As discussed in Chapter 1, *“the focus on process automation and standardization allows processes to meet higher amounts of needs while maintaining quality”* (Chapter 1; DeSantola & Gulati, 2017). Digital solutions (everything from ERP apps to self-service to customer self-service tools) are essential to enabling this operational streamlining. Automation in customer service, production, sourcing, and supply chain, among other types, allows companies to scale up on an industrial scale in a small number of resources (DeSantola & Gulati, 2017). For instance, the fintech Revolut leverages automation of customers’ onboarding and assistance (e.g., chatbots, algorithmic KYC checks) to add thousands of clients per day without the same proportion of employees. In contrast, a traditional bank with physical branches would have to staff a similar number of bankmen out to serve that many clients, an expensive & slow way to scale. Automation not only manages the volume, it also increases the consistency and reproducibility that are essential to scale. Best practices are embedded into digital systems through software, so that any transaction or process execution is executed to a uniform high standard. This process codification serves as a “digital playbook” and can be rolled out step-by-step. As Winter and Szulanski (2001) famously phrased, replication is a strategy for scaling: transferring a successful operational template to new units or markets. Replication is easier with digitalization: a process encoded in an information system can be replicated online and at low cost, anywhere along a global chain. A cloud-based product on the SaaS platform can be delivered to new consumers the world over in seconds, leaving no physical site (i.e. site)

for each local client. The marginal cost of servicing an additional digital client or processing an additional digital transaction can be close to zero at scale, and organizations can meet much higher volumes without seeing costs increase with them. As a result, digitalized activities typically exhibit increasing returns to scale: early investments in automation and IT systems enable them to process far greater volumes of transactions at very little incremental cost. To this point, Lurkov et al. (2023) highlight the role of digital ecosystems and sophisticated IT tools in allowing businesses to “compete globally without incurring a commensurate increase in costs” as they scale. Cloud computing, for instance, allows businesses to expand their computing resources on demand (and pay only for what they use) with almost limitless capacity. Data analytics can also be used to streamline processes by optimizing, for example, resource use (like logistics route planning and inventory levels in retail) so that waste doesn’t grow in parallel scale as volume does.

2.1.2 Platform-Based Business Models and Network Effects

Digitalization has facilitated the emergence of platform-based business models that can scale rapidly. A platform business model (exemplified by companies such as Uber, Airbnb, Amazon Marketplace, and fintech platforms) provides infrastructure for interactions among multiple user groups (providers, end users, third-party developers, etc.). These models rely on networked digital structures and typically benefit from strong network effects: as the user base of a digital platform grows, the platform’s value increases for all users, attracting even more users in a virtuous cycle (Parker et al., 2016). The result is that the platform can become dramatically larger (referred to in the platform community as “scaling up”) without a comparable increase in the platform provider’s own resources. For instance, once Revolut built its core app and API backbone, each new customer or third-party partner (e.g. an insurance provider integrated into Revolut’s app) added only marginal costs (mostly server usage or support) while contributing significant network value (more data, fees, and utility for other users). Unlike a brick-and-mortar retailer that needs new stores to expand, an e-commerce platform can expand sales tremendously, with relatively little physical infrastructure investment, because online a storefront can accept virtually endless concurrent visitors. This dynamic is further amplified by network effects. As the saying goes in platform economics: *“the more users on a platform, the better the platform becomes — each new user creates additional value for others, driving further adoption and growth”* (Parker et al.,

2016). This demand-side momentum means that digital platforms can scale customer reach much faster than traditional supply-side growth. For instance, in a way, Revolut was able to go digital (a financial “super-app”, attracting millions of users across dozens of countries at lightning speed but attracting hundreds to thousands more users and then drawing in more users through referrals and Peer-to-Peer functionalities and global scale compared to a formal bank whose presence would require physical expansion. BCC, on the other hand, as a conventional cooperative bank, grows most directly through incorporation of local branches or partner cooperatives – a much slower, linear process that relies heavily on physical and organizational means. In this way, digitalization leads to qualitatively distinct growth paths shaped by connectedness and self-reinforcing adoption channels. Moreover, platform businesses often use ecosystem partners for rapid scalability. Some digital platforms are open or extensible (e.g., through APIs or software developer kits) so that 3rd-party producers can add value to the platform. This is because companies can benefit from global ecosystems and create value beyond its traditional firm boundaries (see Chapter 1 using platforms, cloud services, and APIs). Revolut is an example that allows outside service providers (e.g., insurance, cryptocurrency trading) to plug directly into the app interface (Speight, 2023). Such integrations can be instantly disseminated to Revolut’s whole customer base, thereby exponentially expanding on the product portfolio without Revolut having to develop each service internally. This ecosystem strategy accelerates scaling; growth is not limited to the firm’s own innovation capabilities; and partners participate in the platform’s development. From a scaling-theory standpoint, this aligns with the principles of inter-organizational and ecosystem scaling (set forth in Chapter 1): growth is achieved by organizing to expand outward through networks and partnerships, rather than solely within the firm’s hierarchy. On a global level, digitalization provides the technical architecture (standards, interfaces, cloud connectivity) for this coordination.

2.1.3 Data-Driven Decision Making and Personalization

Yet another way digitalization enables scaling is through data and analytics. Digitally mature companies are typically data-driven: they can record every user interaction, transaction, or process as data. When harnessed effectively, through big data analytics, AI, and machine learning, this wealth of data enables companies to make faster, better decisions even as they

become larger and more complex. In traditional growth scenarios, massive scale can lead to loss of control or agility; managers struggle to keep up with growing complexity. In contrast, a digitally mature scaling firm uses data as a competitive advantage: algorithms and dashboards are designed to manage complexity in real time (and can even automate certain decision-making processes). For example, ride-sharing services process millions of data points to continuously align supply and demand, dynamically set prices, and route drivers on the fly—tasks that would be impossible to manage manually at such scale. Importantly, the high efficiency and service standards achieved at a small scale need not deteriorate as the company grows; in fact, they can improve with scale, since more data often yields better predictive accuracy. As noted at the close of Chapter 1: “Digital solutions allow organizations to make good decisions and predict, enabling more accurate forecasts of market conditions and better distribution of available resources.” This points towards organizational learning and transformation. Dynamic capabilities are critical for expanding companies, as they enable them to respond to emerging challenges and opportunities (Teece, 2018). Additionally, digitalization enhances dynamic capabilities by incorporating feedback loops and experimentation, and by integrating them into the organization. For example, A/B testing on digital platforms enables even very large companies to adapt and innovate, testing new features or approaches on a small segment of users, so they can learn quickly what works. Leaders find ways to read the customer journey or market changes in the real-time dashboards, take advantage of them, and then adapt rapidly and effectively, and redeploy the resources that analogue organizations cannot. This data-driven agility is even more vital when scaling globally or in cross-subnational markets, as organizations need to address diverse consumer tastes and market conditions. Digital supports the ability to balance replication and flexibility in scaling processes. This tension is a known tension—as discussed in Chapter 1: the success of a standardized “formula” is not easy; there is a trade-off between the “success” of a replication and adaptation. Digitalization can address this tension; the reuse of a core platform or process (replication) can also be leveraged to repeat (replication), and data is a means to “localize certain elements.” As an example, an e-commerce site could build a single global-style website template (replication) but localize the product recommendations and payment forms (adaptation) of data analytics to provide individualized product recommendations and payments to customers locally in each region for local buyers through different regions in each of their business regions, for example. Therefore, digitalization enables a hybrid approach to scaling by improving efficiency

through standardization while remaining responsive to local realities. Data also encourages innovation at scale. As companies scale, it becomes imperative for them to maintain the momentum (continuously improving while pursuing breakthrough innovations), or they risk becoming stagnant. Digitalization can foster ongoing innovation through open technology platforms, crowdsourcing ideas from user communities, and machine learning to develop new solutions. It enables firms to conduct experiments quickly and inexpensively (even at a significant scale), creating a culture of constant innovation. This aligns with the notion of “continuous learning” during growth phases (a concept introduced in Chapter 1). For instance, tech giants like Google and Amazon run thousands of experiments per year on their digital platforms, a scale of experimentation unimaginable in a traditional physical business environment. Therefore, digitalization not only helps firms increase their scale, but also aids in developing their capabilities so they remain agile rather than becoming static as they grow larger.

2.1.4 Summary of Enabling Mechanisms

In summary, through digitalization, firms gain a set of tools for scaling operations in terms of operational efficiency, new business models and ecosystem leverage, intelligent management, and systems integration. Key mechanisms include:

Automation: Decreasing the cost per unit and maintaining quality as volume increases (Chapter 1; DeSantola & Gulati, 2017).

Platform and Ecosystem Strategies: Facilitating exponential user growth and third-party value addition on networked digital platforms (Parker et al., 2016).

Data-Driven Management: Using AI and analytics to manage complexity, personalize offerings, and respond quickly as the organization grows.

Global Presence: Eliminating physical barriers – as internet penetration grows, even small firms can directly reach international markets from Day 1 (so-called “born global” firms in the international business literature).

Promoting Dynamic Capabilities: Equipping leaders with rapid sensing, learning, and reconfiguration (e.g. using dashboards, simulation modeling), thereby satisfying the requirement for strategic agility at times in scaling (Teece, 2018). These advantages all account for why digitalization often gets cited as a defining feature that distinguishes modern

high-growth “scale-ups” from earlier time periods. Indeed, Mula et al. (2024) discovered that digital technologies are "at the heart of the concept of cost efficiencies and economies of scale that enable firms to scale up without a substantial increase in operating expenditures" and that, "digital business models are associated with rapid replication, early internationalization and virtually unlimited scalability." Aldrich (2014) also observed that through digital tools, entrepreneurship has become democratized and it has gained momentum, allowing the start-ups to scale much quicker than before. Digital platforms have also opened unprecedented avenues for innovation and growth according to Nambisan (2017). To illustrate these concepts more concretely, Chapter 4 will examine two case-study firms: Revolut and BCC. Revolut is a digitally native financial services company and exemplifies how digitalization supports scaling. From its inception, Revolut built a cloud-based, app-centric banking service that could onboard customers in minutes, operate across jurisdictions, and support various functions (currency exchange, stock trading, etc.) through a single digital interface. Revolut’s digital-first model enabled it to scale to over 20 million users globally within just a few years—an impossible feat for a traditional bank startup—because it did not need to simultaneously expand physical branches or staff. As noted in Chapter 1, Revolut was able to evolve “end-to-end” by using online tools, whereas a legacy institution like BCC is constrained by brick-and-mortar assets and manual operations (see Chapter 1). BCC (a cooperative bank network) relies on a legacy model of local branches and in-person services, which leads to slower, mostly linear growth (serving each new region requires establishing or partnering with a local bank). Revolut’s use of automation (e.g. automated compliance checks), platform expansion (delivering new products digitally), and data-driven adjustments (e.g. using transaction data to build budgeting tools) all demonstrate digitalization’s enabling role in scaling. BCC, on the other hand, has adopted some digital tools but finds growth more difficult due to archaic systems and rigid structures – a point we will return to in the next section.

In conclusion of this section, digitalization can act as a scaling amplifier: it combines the basic principles of scaling (replicating what works, diversifying into new markets, and optimizing processes) with the power of technology. It allows firms to do more with less, to replicate more quickly, be more nimble in the face of change, and achieve closer connections with stakeholders. However, the benefits of digital scaling are realized only when certain prerequisites are met (the organization possesses necessary digital skills and infrastructure, and there is strategic alignment). Without these, digitalization can yield diminishing returns

or even introduce new problems. This brings us to the challenges and limitations organizations may face as they pursue scaling through digitalization.

2.2 Limits and Constraints of Digital Scaling

Digitalization offers strong possibilities for scaling, but it is also challenging and constrained by certain factors. Many companies embark on “digital scaling” projects only to stumble or slow down their growth due to major roadblocks. These barriers can be internal to the company (e.g., legacy systems, resistance to change) or external (e.g., regulatory restrictions, security concerns). In this section, we discuss the top three bottlenecks to scaling in the digital realm, referencing our Revolut vs. BCC comparison where relevant. Acknowledging these challenges is crucial to balance the typically optimistic story of digital transformation with a realistic view of what is needed for successful scaling.

2.2.1 Legacy Systems and Technological Debt

A major internal obstacle to digital scaling is the existence of legacy IT systems. Many incumbent firms (such as older banks like BCC) run legacy software systems-built decades ago. That is, such legacy systems are generally not flexible, difficult to maintain, and do not support modern digital operations. For example, a bank with a 1980s older mainframe core banking system might fail to leverage new digital offerings or must scale to take real-time, fintech-style transactions. It could be powered by batch processing overnight and have no modern APIs for mobile apps. This makes it slow and expensive to introduce digital channels or products that would otherwise deliver the efficacy that digitalization is intended to provide. Legacy systems also carry technical debt (the cost and complexity of years of patches and customizations), making additional changes risky and potentially expensive (because changes can cause failures). In other words, even where a firm’s scaling strategy looks sound, an old tech muscle can turn into a serious bottleneck. The literature on digital transformation has highlighted that modernizing or replacing legacy systems is often the biggest obstacle in transformation projects (Irani et al., 2023). Organizations often run these older systems in parallel during migrations, creating a risky, resource-consuming cycle.

Lacking the ability to get a hold of a new company and grow quickly enough to meet aggressive growth targets at scale, an old business comes with a legacy of technology that prevents it from scaling up. BCC, for instance, probably suffers from a legacy banking stack and is constrained by what its existing core system can support before being able to introduce a new digital feature. One digital-native company, Revolut, with a newly built tech stack, is far more agile in comparison. In addition, legacy systems typically do not scale well; they reach capacity limits (e.g., a transaction processing system that can only process a limited number of transactions per second) and may require a full new implementation to manage an order-of-magnitude increase in volume. It leads to a paradox: scaling up in practice drives the volume and the speed, where a legacy landscape can be crushed by all-consuming requirements.

2.2.2 Organizational Resistance and Culture

The people factor is a significant internal hurdle, independent of technology. Digital scaling often means new ways of working—agile teams, data-driven decision-making, continuous experimentation, and the need to train workers quickly. A company’s established culture may clash with this trend especially. Old or traditional establishments often encounter this obstacle. Employees and managers may resist new digital tools or processes from various perspectives: fear of the unexplored unknown, fear of losing their jobs or status, or even mere inertia and comfort with old ways of doing things (Kotter, 1996; Markus, 1983). During the period of digital transformation, research has shown that employee resistance is a major obstacle to getting the best of the digital solutions (Scholkmann, 2021; Cieslak & Valor, 2024). For example, middle managers may oppose an AI-assisted analytics tool that offers strategic suggestions if they believe this encroaches upon their authority to decide. If front-line staff are used to an older system, this could make them slow to adopt a new CRM software even if the modern CRM software promises greater efficiency. Organizational resistance can take the form of real resistance or even passive “slow rolling” of changes and it poses a real challenge to scaling; new processes will only support scaling if they are embraced and fully utilized. Developing a digital capability across the organization can even necessitate changing an organizational mindset — around data, building customer-centric systems, speeding up iteration and continuous learning. This can be hard to imbue in a

workforce whose culture is risk-averse or does not welcome change. Overcoming this limitation lies in leadership and the management of change. Companies that scale successfully during a digital era tend to invest in staff training, articulate a clear vision for change and sometimes bring in new employees to bring digital strategies to life. (In Chapter 1, we discovered that scaling means visionary leadership skills and a professionalization of management as firms grow. Here, digital leadership is one aspect of that: leaders should preach the benefits of digital tools and create an environment in which experimentation is embraced, not feared.) For example, in our case studies, BCC's historical culture of face-to-face service and risk aversion may delay the use of digitals, while Revolut's initial culture (youthful, tech-savvy, high in tolerance for change) would likely allow for early scaling. Revolut's nimbleness and willingness to add new features on a weekly or even daily basis is rooted partly in its company culture, a pattern of rapid iteration that a lot of older banks with stricter release times and risk-averse mindsets struggle to emulate.

2.2.3 Lack of Skills and Digital Talent

The skills gap is closely related to culture and is another significant internal barrier. To scale in a digital environment, it needs the right talent who can hold specialized digital skills across data analytics, software engineering, digital marketing, and cybersecurity, to name just a few. Some enterprises lack the skills and capabilities to fully leverage digital technologies. OECD (2023) analyses suggest that digital skills shortages are a key barrier to organizations' development of digital technologies, especially for SMEs. Even big firms run into critical skill gaps: a company might not have enough data scientists to analyze big data, or its IT staff may be good at maintaining current systems but still not comfortable with cloud architectures. Such skill gaps can materially restrict a firm's ability to digitalize: a firm may have access to advanced tools, but no one on its staff knows how to use or implement them appropriately, making the gains unrecognizable. Plus, talent acquisition and retention can create a bottleneck. In rapidly growing digital companies (tech scale-ups), new hires typically lag the growth needs. Speight (2023) says that their products or customer bases can outgrow their labor to provide experienced software engineers, product managers, or other digital roles. Failure to hire or train fast would not hinder growth because there is no demand; it would be due to an internal capacity limit. As fintech companies mature and grow, it is of enormous importance to be looking for and developing a workforce that has the required

skillsets but finding that workforce is challenging and the skills gap needs to be bridged before growth goals can be achieved (Speight, 2023). This applies to incumbents (which may need to upskill their existing workforce and recruit new digital talent to move from a historically less dynamic environment) and startups (that need to grow their teams alongside their market presence). Some degree of partnerships and outsourcing helps address skill shortages (for instance, working with a tech company for analytics assistance), but in general, core capabilities for the digital economy must be internalized for a firm to achieve a sustainable competitive advantage from them.

At a global level, there is also unequal access to digital skills. The OECD notes that in many countries (especially developing ones), large segments of the workforce lack basic digital literacy, and relatively few workers have advanced ICT skills. For companies operating or scaling in such environments, this can mean a limited pool of digitally talented workers or the need for substantial investments in local training. Even within OECD countries, around 40% of internet users lack strong digital problem-solving abilities (Kelly & Zarnic, 2025). These broader skill gaps constitute a macro-level constraint that can lead to difficulties in firm-level scaling.

2.2.4 Cybersecurity and Data Privacy

Companies moving online and ramping up their digital business activities are also at greater risk from cybersecurity vulnerabilities. Everything in your digital touchpoints (mobile apps, cloud servers, customer data repositories, and partner integrations) can be a potential entry point for cyber attackers. Digitally scaling is usually a dauntingly large enterprise and will also involve processing exponentially more data and transactions, complicating matters and offering a richer target ecosystem for malefactors to operate in, upping the stakes for any cyberattack. A successful hacking attack can damage operations, jeopardize customer trust, and lead to legal consequences as well (under regulations, including the GDPR in Europe for data protection). Therefore, cybersecurity also poses a technical and strategic threat to slowing down digital scaling when it isn't appropriately managed. Corporations may need to postpone or curtail some digital functions until security problems have been resolved or invest heavily in cybersecurity (and end up paying extra as they scale). This is a pressing matter for industry insiders; for instance, intangible assets such as customer information and

intellectual property become the top lines of business for advanced cybercriminals as fintech grows (Speight, 2023). If a company's scaling efforts are not well enough "insulating the business" from such threats, these risks can "deter your efforts to scale" and may even lead to the loss of competitive advantage (Speight, 2023). In a nutshell, if not properly managed, the gains of digitalization can be negated by cyber risks. A large data risk event or service outage can erode trust and negatively affect the audience's ability to grow. So scaling companies need to invest heavily in cybersecurity (encryption, fraud detection systems, security team members, etc.) to meet the growing digital footprint. This is increasingly acknowledged in the world of financial services (as evidenced by companies like Revolut and BCC), where businesses handle sensitive financial information and are subject to regulation – a serious breach could derail a scaling project or invite regulatory action. There have, of course, been concerted attacks, and then there is also regulatory risk for data protection. As digital businesses are moving around, they find themselves facing a muddle of laws to control our privacy (GDPR in Europe, CCPA in California and more). For companies, the compliance at scale and dealing with issues such as user consent, data residency obligations, breach notification rules for regions, etc., all contribute to the risk. A global fintech has also ensured, for instance, that it stores and processes user data in compliance with the laws of each market (such as separating European user data to satisfy GDPR), which may stall its access to global scale for data analytics or the provision of shared services. There are heavy fines for non-compliance, so scaling firms now must be all-out careful to bake legal compliance into their growth plans. Overall, digitalization offers the opportunity to scale but also puts you at risk when trying to scale the firm into the risk-prone realms of cyber and privacy, which can become a pain point if scaling happens at the speed it could if the firm doesn't move proactively.

2.2.5 Regulatory and Legal Complexity

Beyond data privacy, general regulatory complexity is a key external factor to overcome in digital scaling, especially in heavily regulated industries like finance, healthcare, or transportation. As companies grow and enter new markets, they face an array of new legal requirements, including licenses, consumer protection laws, and financial regulations.

This complexity fits well with fintech companies: entering a new country to provide banking or payment services can involve acquiring a banking license, establishing relationships with local banks, adhering to local anti-money laundering (AML) and know-your-customer (KYC) laws, and more. Fintech is not like other digital domains (such as software or media), as it sits on a tight cross-section of strict regulations around finance, which is why compliance with those regulations is often a gatekeeping factor for scaling. Revolut, meanwhile, faced hundreds of regulations, like national and EU-level regulations, as it grew all throughout Europe and beyond, including the need to get an EU banking license in Lithuania. Every jurisdiction brings forth its own compliance challenges that might hamper growth (you cannot simply “launch an app” to operate a banking business in a new country without regulatory support). Companies must navigate “a maze of legal and regulatory risks: new legal and regulatory challenges such as jurisdictional disputes, competing legal structures, conflicting law, international trading arrangements” (Speight, 2023), are reported in a 2025 fintech scaling report. In addition, regulatory frameworks are also behind the pace of innovation. A digital business model may not neatly fit into existing legal categories, meaning firms operating in such grey areas or exposed to abrupt regulatory changes. The report identifies regional distinctions (for instance, new AI regulations in the EU versus a less draconian stance in the US) that can limit a global scaling strategy (Speight, 2023). Thus, fintech and other digital firms must continually develop their legal and regulatory expertise (Speight, 2023) and may even engage with regulators or advocate for the favourable frameworks needed to support their scaling processes. Compliance can be understood as a form of scaling tax: acquiring various licenses or meeting various capital requirements in each jurisdiction can drain a growing company’s resources. For large legacy organizations like BCC, regulatory challenges are not novel (banks are used to intense regulation), yet even they may face hurdles arising from evolving digital requirements (e.g., rules governing online services or cybersecurity) that would require new operations. For digital startups like Revolut, the question is how to strike a balance between innovating quickly and fulfilling regulatory obligations set for the company's older models. More commonly, these startups work with incumbents or hire compliance consultants to coordinate compliance. Ignoring regulatory complexity can lead to scaling timelines or, worse yet, a strategic retreat (of entering a market rather than leaving it entirely due to regulatory pressure). However, regulatory restrictions can also limit which parts of a

company can be scaled; in some cases, data localization laws require a business to build local data centers rather than a single global cloud, leading to friction and extra scaling costs.

2.2.6 Other Constraints

Beyond the major issues above, there are additional limitations to consider. One is the scalability of infrastructure – while cloud technology has largely mitigated many technical scaling limits (allowing on-demand expansion of computing resources), extreme scale can still encounter certain cost or performance thresholds. For example, the cost of cloud services increases non-linearly at large scale (some OECD reports even refer to the “rising cost of cloud services” in some cases), meaning that technology facilitates the scale, but the economics may become less efficient at a point. For instance, in a market where digitalization may allow you to scale rapidly at a cost, the market size and the rate of customer adoption impose a ceiling. If an organization scales too rapidly for its market to mature (e.g., hype periods), it will necessarily meet an environmental breakdown in unit economics or spend an unsustainable percentage of its revenue on acquiring customers. Competition responses can make scaling harder: an incumbent could respond to a scaling digital competitor by either deploying its resources or lobbying for regulatory protections, which could hinder scaling from above. It also falls into strategy issues not only around technology, but also in the real sense of how to scale, for instance, despite the technology being ready, even digital disruptors such as Uber met legal pushback in multiple cities that hindered their scaling. And finally, rapid digital scaling is inherently internal; if you don’t manage it properly, you can lose control and lack coherence. Rapid online growth, driven by very rapid developments, can surpass an organization’s ability to maintain quality and culture. At a bare minimum, a company can scale “too fast,” leading to customer service failures, security vulnerabilities, or a toxic culture and values. Making sure that operational processes, governance structures, and quality controls scale up faster than growth is another challenge. Digital tools can help with monitoring and automation, but leadership needs to stay vigilant. This underscores a notion from Chapter 1: scaling is not just about growth; it’s also about maintaining viability, the business model and organization must hold together under the pressure of expansion. A venture that rushes into digital scaling without developing the necessary organizational maturity may ultimately fail despite growth in numbers.

2.2.7 Synthesis and Link to Case Studies

In summary, while digitalization can give firms unprecedented opportunities to scale, the barriers and limitations discussed above remind us that technology is only one piece of the puzzle. Organizations need to contend with both internal factors (legacy systems, cultural resistance, skill gaps) and external factors (security threats, legal/regulatory hurdles, market realities). Often, the ability to overcome these challenges is what separates successful scale-ups from those that falter. The following case studies (Chapter 4) will illustrate many of these issues in action. For instance, Revolut's story shows that no matter how digitally native a company grows, it needs to pour resources into compliance and security too (obtaining the necessary banking licenses, tough anti-fraud schemes), and to do so this takes time, and that talent acquisition was crucial to the company's success (Revolut is well known for hiring top engineers and quickly growing its team, both of which came with benefits and cultural obstacles). On the other hand, BCC's experience suggests a legacy-fostering business constraint; slower adopters of new digital solutions because of an outdated core banking system and potentially cautious consensus-based governance, and challenges attracting digital talent as a smaller regional organization. We'll also look at how regulatory complexity stacks up for each: Revolut redefining the frontier of digital finance under regulatory scrutiny and BCC navigating a regulatory backdrop that has in many cases been quite challenging, especially considering new mandates for digital compliance.

A takeaway from Chapter 1 to recall here is that achieving scalable growth requires both internal and external alignment. Digitalization is a fundamental internal force, but it needs to be complemented by external enablers (such as supportive regulations or market readiness). Chapter 4 will demonstrate how this dynamic unfolds for Revolut and BCC. Chapter 2 has provided the conceptual framework: we explored what digitalization means in business, why it can supercharge scaling (through automation, platforms, ecosystems, and data), and why companies must also overcome the pitfalls of technology debt, cultural change, skill shortages, cybersecurity, and regulatory complexity. Optimizing these factors is key to harnessing digitalization as a scaling aid rather than having it become an Achilles' heel. Ultimately, digitalization and scaling revolve around capability and opportunity – digital tools can make a firm more scalable, but the firm must also develop the necessary organizational capabilities (in the dynamic capabilities sense) and seize the opportunities to reach scale. Firms that address this twin challenge will have a competitive edge in the digital

age, outpacing those that either fail to go digital or mismanage their digital expansion. In the next chapter, a comparative analysis of a fintech disruptor (Revolut) and a traditional incumbent (BCC) will further illuminate these themes.

3 Methodology

3.1 Research Strategy and Approach

This research utilizes a qualitative approach in which case studies demonstrate the role of digitalization in organizational scaling. Case study research is suited to investigating complex, real-life phenomena in context. Yin (2014, p. 14) argues that case studies are particularly appropriate for investigating “how” and “why” questions when the boundaries between phenomenon and context are not clearly evident. Here a deeper understanding of how digital technologies drive scaling will take a rich contextual detail that surveys or experiments cannot provide. Case studies are inherently an iterative, inductive process tightly connected with empirical findings. This resonates with Eisenhardt’s (1989, pp. 532–550) view that case study theory-building can lead to empirically grounded and theoretically novel insights. There is the added value of multiple case studies in theory development by mapping patterns across multiple contexts (Ridder, 2017). The method of case study, therefore, provides depth and theory development. Yin (2014) claims that case studies can use theory to inform data collection and to correlate data to propositions (e.g., pattern matching, cross-case synthesis). Similarly, Eisenhardt and Graebner (2007) argue that cases should be selected and examined with theory in mind, and that new discoveries must reinforce prior conceptions or offer fresh perspectives. Consistent with this, the design adheres to Eisenhardt’s guide for inductive theory construction, where the analytic logics of within-case analysis and replication motivate theoretical insights. In analysing the influence of digital mechanisms, capabilities and context on each individual case of scaling, this thesis seeks to produce its propositions on how the use of digitization facilitates firm growth.

3.1.1 Comparative Case Study Design

The study is a multiple sample design for systematically comparing different organizational structures. The multiple-case design enhanced the methodological validity of the study by enabling the application of replication logic through multiple cases, in that the cases are treated as analytical experiments that could confirm or counter theoretical expectations (Yin,

2014, pp. 56–60). The comparative design is employed in this paper to measure the impact of various organizational structures on the digitalization–scale relationship. It is not in terms of a statistical representativeness, but a comparative analysis of cases characterised by different scaling paths and organizational structures. By comparing two firms operating within the same broad industry context but exhibiting different approaches to digitalization and growth, the study seeks to identify mechanisms that may not emerge through single-case analysis alone.

The comparative logic of the study is further informed by George and Bennett’s (2005, pp. 67–72) Structured, Focused Comparison (SFC) approach. Structured comparison refers to the use of a common set of analytical dimensions and research questions across cases, while focused comparison limits the analysis to aspects theoretically relevant to the research problem. In practice, this means that both cases were examined through the same analytical framework, allowing empirical observations to be systematically compared across organizational contexts.

The analysis adheres as well to Yin (2014, pp. 143–164) proposed techniques for pattern matching and cross-case synthesis. First, within-case analysis was carried out individually for each organization in order to determine internal alignment of scaling mechanisms and organizational dynamics. Thus the cross-case comparison was used to derive similarities, divergences and recurring patterns between the two cases. This approach facilitated the generation of higher-order theoretical frameworks for understanding the nexus of digitalization, organizational design, and institutional conditions during the stages of scaling.

3.2 Case Selection Logic

Case selection followed a theoretical sampling logic rather than statistical representativeness (Eisenhardt & Graebner, 2007, pp. 25–27). These cases were chosen for their theoretical pertinence to the research purpose and their potential to shed illumination on contrasting scaling trajectories across varying organizational structures. The study is centered on Revolut and BCC Iccrea Group, two analytically divergent cases that operate in the banking and financial services industry. Revolut was selected as a theoretically relevant example of digital-first scaling, characterized by a centralized platform-based architecture and rapid international expansion enabled through standardized digital infrastructures. BCC Iccrea

Group, by contrast, is a federated cooperative banking structure characterized by decentralized governance and institutional embeddedness that emphasizes active development and coordination. The polarized type sampling logic is reflected in this contrast, with cases deliberately targeted for their high spread of data on dimensions relevant to the phenomenon involved. Polar-type sampling is particularly helpful in theory-building research because it encourages the discovery of opposing organization patterns by way of contrast and reveals theoretical interrelationships that arise from between constructs Eisenhardt & Graebner (2007, p. 27). Crucially, their work is situated in the financial industry, so this organization's work is relatively consistent for industry-level regulatory conditions and at the same time provides for maximum variability in organizational design and logic of digital scaling, which allows the study to achieve comparative advantage in relation to others. Such sectoral consistency gives analytical comparators greater confidence in the approach by minimizing excessive contextual heterogeneity, but leaving considerable organizational contrast intact. The selection of these two cases, therefore, enables the study to compare how similar technological pressures and digital transformation dynamics produce different scaling trajectories when embedded within distinct organizational and institutional configurations.

3.2.1 Unit of Analysis and Analytical Criteria

The unit of analysis in this study is the firm (organization). Each case is treated as an organizational configuration in which digital technologies, governance structures, capabilities, and external conditions interact to shape scaling trajectories. The analysis, therefore, focuses on firm-level dynamics rather than on individuals or sub-units, allowing the study to capture how organizational and institutional factors collectively influence digital-enabled scaling.

To maintain consistency in analysis between analysis, the empirical content was coded along five qualitative analytical dimensions extracted from scaling, digital transformation and dynamic capabilities literature. In fact, they were not considered in isolation, but as interpretive categories across the two cases to identify the persistent, and shared patterns and mechanisms across the two cases. Empirical evidence across dimensions was compared and

analyzed to discuss how scaling pathways emerged in the interaction of the technological, organizational and institutional.

3.2.2 Scaling Logic (Replication vs. Adaptation)

Within this study, scaling logic refers to the dominant organizational approach through which growth is achieved. Replication-oriented scaling involves the reuse of standardized routines, digital infrastructures, and operating models across contexts with limited local adaptation. Winter and Szulanski (2001, pp. 730–732) conceptualize replication as the transfer of an “Arrow core” across multiple organizational settings.

Conversely, adaptation-oriented scaling refers to growth processes that require contextual customization, coordination across heterogeneous units, or localized operational adjustments. The empirical analysis, therefore, examined whether growth was primarily achieved through the replication of standardized systems or through organizational adaptation and coordination mechanisms.

The cases were coded for evidence of standardized service architectures, transferable routines, centralized operating models, and, conversely, indicators of localized governance, coordination requirements, or context-specific adaptation.

3.2.3 Digital Mechanisms

The second analytical dimension captures the digital mechanisms that enable or support scaling. More emphasis was placed on processing automation systems, platform architectures, data infrastructures, analytics, and cloud-based systems. Instead of considering digitalization as an abstract organizational trait, the analysis considered how particular digital mechanisms enabled scalability. In the case of Revolut, this included questioning the significance of modularizing digital infrastructure and automating data systems to support rapid growth. The analysis in BCC Iccrea was, in particular, about how digital technologies were leveraged to coordinate very diverse areas of an organization to mitigate operational fragmentation. The coding then addressed factors affecting digital

infrastructures as influencing operational flexibility, scalability, integration capacity and organizational coordination.

3.2.4 Dynamic Capabilities

The third dimension draws on Teece's (2007, pp. 1319–1324) framework of sensing, seizing, and transforming capabilities. The empirical data were analyzed to identify how firms identified new opportunities, mobilized resources, and transformed organizational structures in response to scaling pressures. One particular focus was on whether the dynamic capabilities evolved in a proactive or reactive way. This dimension also became particularly relevant in the analysis of Revolut as a governance adaptation and compliance-strengthening issue following their rapid growth. In the BCC Iccrea case, Transformation was centered around organizational integration, centralized governance, and IT modernization efforts. Thus, the cases were coded for indicators of organizational learning by, strategic reconfiguration against, governance adaptation by, and capabilities building on time.

3.2.5 Organizational Constraints

Fourth analytic dimension is related to organizational constraints, that may constrain or facilitate the scaling pathway. These constraints include legacy systems, governance complexity, institutional rigidities, cultural resistances, and coordination costs. Instead of treating constraints merely as limiting factors in its own right, the analysis investigated how organizational structures acted as a mediator of the effects of digitalization. In particular, the study explored whether digital technologies reduced existing constraints or instead generated new forms of organizational complexity as firms expanded.

This dimension became especially important in the comparison between centralized platform-native architectures and federated organizational structures, where scaling pressures interacted differently with governance arrangements and coordination mechanisms.

3.2.6 External Conditions

The final analytical dimension captures the external institutional and regulatory environment surrounding each organization. This involves banks' regulation, supervision and ecosystem pressures and broader institutional constraints which may impact the scale of the institution. The paper looked at how external pressures were both hindering and reshaping organizational paths across time. In the case of Revolut, regulators escalated this with fast-paced expansion and growing systemic importance. In the BCC Iccrea case emphasis was on institutional architecture of cooperative banking and the regulatory regime related to cohesion and coordination at the member banks level.

Together, these five dimensions provided the analytical structure through which the empirical material was interpreted and compared across cases.

3.3 Data Sources and Collection

This study relies exclusively on secondary data sources. A case study database was constructed to systematically summarize and record the empirical material generated for each case. The database encompassed annual reports, regulatory, supervisory, technical case studies, company communications, institutional reports and selected trade publications in digital scaling and organizational transformation. The multi-perspective source of evidence is in line with Yin (2014, pp. 120–122) principle of triangulation in case study research. Instead of depending on one type of evidence, the study compared knowledge from various sources to improve interpretive validity and minimize reliance on isolated statements. When possible, empirical observations were cross-validated through multiple documents and institutional sources.

Importantly, the data collection process was explicitly linked to the five analytical dimensions introduced earlier in the chapter. Each source type was selected not only for informational relevance, but also for its contribution to specific analytical categories such as scaling logic, digital mechanisms, governance structures, or regulatory constraints.

The collected evidence was iteratively reviewed and coded in order to identify recurring patterns within and across cases. Draft case narratives were continuously refined throughout the analysis process to ensure consistency between raw empirical material, coding categories, and theoretical interpretation. This iterative approach aligns with Eisenhardt’s (1989, pp. 539–541) understanding of theory-building through systematic comparison between empirical observations and emerging conceptual explanations.

The resulting database also provided a transparent chain of evidence connecting empirical claims, coding dimensions, and interpretive conclusions. Detailed evidence tables and source mappings are provided in the appendices in order to ensure transparency and replicability of the analytical process.

Table 1.

Source Category	Specific Documents & Entities	Data Type	Primary Use in Analysis
Corporate Financial Reports	Revolut Annual Reports (2023, 2024); BCC Iccrea Group Annual Reports (2023, 2024)	Secondary (Quantitative & Narrative)	Tracking growth metrics (users, revenue, lending volumes) and strategic pivots.
Technical Case Studies	Google Cloud: "Revolut: Building a global financial super app" (2024)	Secondary (Technical)	Analyzing digital infrastructure (data lakehouse), codification, and automation capabilities.
Regulatory & Institutional Docs	Bank of Lithuania (Sanction Register 2025); European Central Bank (Supervision list	Primary/Official (Regulatory)	Identifying organizational constraints, "governance debt,"

Source Category	Specific Documents & Entities	Data Type	Primary Use in Analysis
	2025); ESRB (Capital buffers 2025)		and regulatory escalation.
Press Releases & Partnerships	Accenture & BCC Iccrea Strategic Partnership (2025); BCC Iccrea Press Office	Secondary (Qualitative)	Examining digital transformation logic and coordination mechanisms in federated structures.
Institutional Frameworks	Bank of Italy (Cohesion Contract & 2018 Reform); IMF Country Reports (Italy)	Secondary (Institutional)	Mapping the external conditions and legal constraints of the cooperative banking model.
Third-party Industry Analysis	Financial Times, Reuters, specialized fintech journals	Secondary (News/Contextual)	Triangulating corporate claims with external market observations.

4 Comparative Case Analysis: Revolut and BCC Iccrea Group

This chapter presents the empirical analysis of the two case studies. All empirical claims presented in this chapter are supported by a structured case study database, with detailed evidence provided in Appendices A1–A5 and B1–B5. Each piece of evidence was systematically categorized according to the analytical dimensions defined in Section 3, enabling a transparent link between raw data and case interpretation.

4.1 Case analysis: Revolut

Documentary evidence places Revolut among the most prominent examples of rapid growth supported by a highly standardized digital infrastructure. Based on the Revolut Annual Report 2023, the retail customer base also grew from 26.2 to 38.0 million users in the year while revenues were £1.8 billion (Revolut Annual Report 2023, pp. 6–15). Report 2024 follows, revealing 52.5 million users with revenues of approximately £3.1 billion (Revolut Annual Report 2024, pp. 6–15). Individually, these are indicators of fast organizational growth but do not offer particular evidence regarding the scaling mechanism. Specifically, they fail to differentiate between growth driven generally by demand-side dynamics, such as marketing intensity, customer acquisition or product attractiveness, and growth driven by supply-side scalability, defined as the ability to replicate services without commensurate increases in organizational inputs. Thus, this is not to say that growth indicators can be taken with any confidence as direct indications of replication-based scaling. Rather, they are analyzed in conjunction with other evidence about the physical layout of the firm's operational architecture. But we come to see a more analytically important pattern when the underlying indicators for growth are viewed together with its technical documents on Revolut's digital infrastructure. Google Cloud's technical case study, “Revolut: Driving efficiency in data management with automated governance” (Google Cloud, 2024), describes the company's architecture as an “open data lakehouse” platform with over 17,000 structured data tables and >10,000 distributed data-processing jobs supporting processing of over 1 million daily queries. Such organization has received significant improvement in operations, like a 3x improvement on the number of queries processed as in the same source

and also a decrease in dashboard latency from several minutes to less than three seconds on average. This matters not just in terms of their size and scale, but also in terms of the implications that are involved, concerning the fundamental organization process structure. Having very modular, standardized, and centrally coordinated data architecture indicates that primary functionalities, like onboarding, transaction processing, fraud detection, risk monitoring, and so on, are programmed in a way that allows for reuse between markets and operational contexts. This digital infrastructure is often linked to fintech scaling model, as its digital architecture facilitates the acceleration of international expansion without the need to increase its number of physically located infrastructure nodes (Zetzsche et al., 2017, pp. 6–11). Theoretically, this is consistent with one of Winter and Szulanski's (2001, pp. 730–732) most fundamental criteria for replication-based scaling, namely; the capacity to decouple core routines from local contexts and reproduce with little adjustment. The modular infrastructure also decreases the need for a proportional increase in the number of organizations and consequently makes operational routines more scalable. Although this interpretation is still inferential rather than an evidentiary one, the available evidence does not find replication of routines in the strict sense defined by replication theory. Instead, the evidence indicates that enabling conditions exist (codification, modularity, automation and centralized coordination) that makes replication achievable. Because of this, Revolut should be considered analytically compatible with a replicationary scaling logic rather than as an authoritative empirical evidence for routine replication. In order to enhance this interpretation, it would need to be explained explicitly also, alternative explanations should be examined more. Marketing and customer acquisition undoubtedly play a significant part in growth explanations for their first example. Organisational expansion has been connected in the Revolut Annual Report 2023 to strategy of entering markets, product expansion and advertising and marketing investment of around £241 million (Revolut Annual Report 2023, pp. 12, 16, 23, 50–51). These characteristics make for a plausible case of demand creation. However, they do not provide a complete picture on how organizational complexity was not proportional to operational scaling and how this scaling persisted. Demand-side drivers explain why growth happened, and digital infrastructure explains where such growth became operationally sustainable, in this sense. Second, Ecosystem and network effects could also facilitate organizational growth, especially when considering Revolut's multi-service structure. This interpretation aligns with platform-based scaling models in which ecosystem expansion and integrated service architectures reinforce customer acquisition and retention

dynamics (Parker, Van Alstyne, & Choudary, 2016, pp. 71–93). However, while plausible, these mechanisms remain less directly observable in the available empirical material than the characteristics of the firm’s technical infrastructure. As a result, the role of digital architecture remains the most empirically grounded explanation for Revolut’s scalability capacity, even if it likely operates in combination with broader ecosystem dynamics.

A second analytically relevant pattern concerns the relationship between organizational expansion and the evolution of governance mechanisms. The Revolut Annual Report 2023 solidifies the rollout of the “Three Lines of Defence” governance model and demonstrates a significant emphasis on anti-financial-crime systems investments and compliance tools (Revolut Annual Report 2023, pp. 54, 62–63). This indicates that internal governance mechanisms were reinforced as an organization evolved. But other regulatory trends suggest this strengthening was reactive not proactive. According to the Bank of Lithuania Administrative Agreement with Revolut Bank UAB (Bank of Lithuania, 2025), the institution issued an administrative sanction with an administrative cost of €3.5 million due to shortcomings of anti-money-laundering controls. While this particular factor cannot merely be explained by hyper growth, its timing—on the timing of accelerated expansion—implies that adaptation to governance did not equal pace of scaling. This sequence can be analyzed analytically as a “governance debt”—not a directly measurable variable but an interpretive construct related to the misalignment of scaling speed with the capacity of governance. In this view, when growth occurs rapidly, the scale and complexity of organizational processes increase more quickly than the organization can adapt monitoring and control capabilities. This understanding resonates with Teece’s (2018, pp. 40–49) characterization of dynamic capabilities evolving amidst organizational pressure, wherein changes are developing in responding to new constraints, or ‘transforming capabilities’. Finally, Revolut’s growth is linked to measurable escalating regulatory scrutiny. The organization also was one of the major supervised entities under direct surveillance by the European Central Bank (European Central Bank, List of Supervised Entities, 2024, p. 7). Concurrently, the Lithuanian supervisory authority established a 2% O-SII capital buffer, subsequently notified to the European Systemic Risk Board (ESRB, 2025). These developments indicate that scaling is not only an internal organizational process, but also one that instigates institutional responses. The rise of firms in size and systemic relevance means more intense regulatory attention, thus redefining their operating environment and

governance mandates. Similar processes have recently been recognised in the fintech literature, where high-speed scaling digital financial institutions create types of systemic significance that drive increased supervisory scrutiny and prudential supervision (IMF, 2022). In this sense, the scale itself creates new external constraints, illustrating more clearly that organizational growth brings with it increases in institutional and governance complexity.

4.2 Case analysis: BCC Iccrea Group

BCC Iccrea Group provides a contrasting case in which scaling dynamics are shaped not only by technological capabilities but, more fundamentally, by organizational architecture and institutional constraints. Unlike digitally native firms, where scaling is frequently associated with the replication of standardized operational processes, BCC operates through a federated structure composed of legally autonomous cooperative banks. As a result, the mechanisms underlying organizational growth cannot be assumed a priori and instead require empirical reconstruction.

Evidence from the *BCC Iccrea Group Annual Report 2024* indicates a steady trajectory of organizational expansion reflected in lending volumes, territorial coverage, and funding growth. The report documents a network of 114 cooperative banks, approximately €124 billion in direct funding, over 5.2 million customers, and approximately 903,000 cooperative members (BCC Iccrea Group Annual Report 2024, pp. 18–24).

Taken in isolation, these indicators demonstrate that scaling is occurring. However, the observed trajectory does not display the disproportionate or non-linear characteristics typically associated with replication-oriented scaling models. Instead, growth appears strongly connected to the aggregation of activities performed by individual member banks, suggesting a distributed rather than centralized scaling mechanism.

A first intuitive explanation for this pattern would attribute the absence of rapid scaling to weak digital capabilities. However, the available evidence does not support this interpretation. In 2025, BCC Iccrea entered into a strategic partnership with Accenture involving investments exceeding €300 million over a three-year period in core banking systems, artificial intelligence, operational resilience, and data infrastructures (Accenture,

BCC Iccrea Group and Accenture form partnership to support the Group's IT transformation, 2025).

This level of investment indicates that the organization is actively pursuing digital transformation initiatives. Consequently, the absence of replication-oriented scaling cannot simply be explained by insufficient technological capacity. Instead, the analysis shifts attention from the existence of digital technologies to the organizational role these technologies perform.

This interpretation is consistent with socio-technical perspectives on digital transformation, according to which the effects of digitalization depend heavily on pre-existing organizational arrangements and institutional structures (Hinings, Gegenhuber, & Greenwood, 2018, pp. 52–61). In the BCC Iccrea case, digitalization appears primarily oriented toward integration rather than replication. Digital systems are used to harmonize reporting structures, coordinate distributed entities, and support operational integration across the network, rather than to duplicate a standardized business model across contexts.

A deeper explanation for this configuration emerges through examination of the group's governance architecture. Relationships between the central entity and member banks are regulated through the “cohesion contract” introduced within the Italian cooperative banking reform framework (Bank of Italy, *Consultation on Cooperative Banking Group Reform*, 2016). This framework preserves the legal autonomy of member banks while simultaneously introducing centralized coordination, oversight, and joint-liability mechanisms (BCC Iccrea Group Annual Report 2024, p. 31).

The implications of this structure are substantial. Although the parent organization can centralize important governance functions—such as risk governance, capital planning, and the Risk Appetite Framework (BCC Iccrea Group Annual Report 2024, pp. 127–138)—it cannot impose a completely uniform operational structure across all affiliated entities. Consequently, the degree of standardization required for replication-oriented scaling remains structurally constrained.

Importantly, this constraint is not merely operational but institutional. Institutional theory suggests that organizations embedded in highly regulated environments frequently prioritize legitimacy, stability, and conformity alongside efficiency objectives (Greenwood et al.,

2011, pp. 318–320). The cooperative banking model reflects precisely this logic, balancing efficiency objectives with local embeddedness, territorial responsiveness, and stakeholder representation. Organizational growth therefore cannot be understood exclusively as an efficiency-driven process but instead as one embedded within broader institutional objectives.

From the perspective of dynamic capabilities, this organizational structure implies that transformation processes are inherently incremental. Although the group demonstrates evidence of transforming capabilities through governance centralization and IT modernization initiatives, these capabilities operate within boundaries imposed by institutional arrangements. Organizational transformation therefore occurs gradually and through negotiation rather than through centralized imposition.

An additional alternative explanation concerns the possibility that the observed scaling pattern simply reflects external market conditions such as lending demand or interest-rate dynamics. While these factors undoubtedly influence financial performance, they do not fully explain the structural characteristics of the organization's growth trajectory. Evidence from regulatory and institutional documents suggests that the current organizational architecture is the result of deliberate institutional design. Both Bank of Italy reform documents and IMF reports concerning the Italian cooperative banking system emphasize objectives related to capital cohesion, systemic stability, and preservation of local banking functions (IMF, 2017).

Within this institutional framework, coordination across entities is not optional but structurally mandated. Consequently, the absence of rapid replication-oriented scaling should not be interpreted as evidence of weak competitiveness or limited capability. Rather, it reflects a structurally constrained configuration in which growth is mediated by governance requirements, institutional objectives, and the need to maintain cohesion across a distributed network of autonomous organizations.

In this context, digitalization performs a substantially different role compared to the Revolut case. Rather than functioning primarily as an engine of expansion, digital technologies operate as mechanisms for coordination, complexity management, and organizational integration. This suggests that similar levels of technological investment can generate

fundamentally different scaling outcomes depending on the organizational and institutional environments within which those technologies are embedded.

4.3 Cross-case comparison

The comparison between Revolut and BCC Iccrea Group indicates that digitalization does not produce scaling outcomes in a linear or deterministic manner. Instead, the evidence suggests that digital technologies amplify pre-existing organizational growth logics embedded within broader organizational architectures. This interpretation is consistent with configurational views of organizational research, which posit that organizational results arise from combinations of multiple interdependent dimensions rather than from discrete variables (Meyer, Tsui, & Hinings, 1993, pp. 1178–1181). Here, this interpretation has not been arrived at from the isolated observations among other things but rather in the systematic comparison between instances. Both organisations show significant investment in digital operations. The result of such investments, however--the organization's outcome from which these investments contribute--is quite different, suggesting that technology is insufficient for explanations of scaling trends. In the Revolut case, this is because growth comes coupled with a highly centralized and modular digital infrastructure that can codify the procedures and re-use them through its various markets. The combination of rapid customer growth reported in Revolut Annual Reports 2023–2024, together with technical characteristics which appear from Google Cloud case study data supports our interpretation of a replication-oriented model of scaling. BCC Iccrea on the other hand, shows a very different organizational pathway. Notwithstanding investments of considerable capital in digital technology and modernization efforts (Accenture, 2025), growth is still embedded in a federated governance framework of legally autonomous entities. The norms of these operational models are restricted by the cohesion contract and the institutional architecture that exist. Thus, digitalization supports coordination and integration more than replication. This comparison therefore indicates that scaling effects are not determined independently by digital technologies. Instead, they influence organizational structures and institutional factors that already exist in the organization. In centralized platform-based arrangements, digitalization enables a decoupling of growth and physical expansion. In decentralised and federated organizations the technologies are re-focussed on to deal with organization's complexity and coordination. Crucially, the comparison also suggests that the process of

scaling is actually introducing new organization-specific constraints over time. Similarly in the case of Revolut, the rise of growth comes with the rise in the pace of governance dynamics and regulatory escalation (such as reinforced internal compliance systems followed by an avalanche of regulation). A similar dynamic has been noted in scale-up research, which argues that increased rapid expansion simultaneously leads to additional coordination and governance challenges as complexity in an organization increases (Tippmann et al., 2023). On the other hand, BCC Iccrea is based on an environment where governance constraints are built in from day one. As a result, the organization has a more gradual (but less dynamically expanding) growth path. These results reveal that scalability is not achieved through digitalization but through the integration of technology, organization architecture, governance and institution. From a contingency point of view, organizational performance is less a function of universally optimal structures however an organizational architecture is more dependant on congruence with the environmental situation (Donaldson, 2001). Thus scalability is therefore not dependent only on digital maturity but also on how consistent technological devices, governance frameworks, and institutional factors were. Finally, the evidence suggests that scaling should not be interpreted as an unambiguously desirable organizational outcome. Replication-oriented scaling models may facilitate rapid growth but simultaneously increase governance complexity and regulatory exposure. Coordination-oriented configurations constrain expansion but may strengthen organizational stability and resilience. Digitalization therefore mediates rather than resolves the trade-off between scalability and organizational control.

Taken together, the comparison indicates that digitalization does not eliminate structural constraints but may instead intensify them as organizations expand. Scaling should therefore be understood not as a purely technological outcome but as a dynamic and configurational process shaped by the interaction between digital capabilities, organizational design, and institutional environments.

4.4 Theoretical implications

The study sought to examine how digitalization affects firms' scalability across various organizational settings. Contrary to some deterministic readings or views that take digital technologies as direct enablers of scaling, the research demonstrates digitalization as a

scaling-amplifying mechanism rather than being a standalone factor, with scaling influencing the way an organization acts, depending on its digital transformation, for there are impacts of digitalization depending on the organization's underlying growth logic and organizational configuration. In this sense, similar levels of digital maturity can lead to fundamentally different scaling outcomes, as illustrated by the contrast between Revolut's platform-native replication and BCC Iccrea Group's federated integration.

Results show that scalability is complex and not a function of a single component, but rather the convergence of several interdependent aspects: scaling logic, digital mechanisms, dynamic capabilities, organizational constraints, and external conditions are the key dimensions. These dimensions do not act independently, nor do they exert linear effects, but their alignment, or misalignment, determines the course and sustainable growth of a firm. This interpretation aligns with configurational perspectives in organizational research, which contend that organizational outputs emerge because of the interaction between multiple mutually interdependent dimensions and thus do not result from discrete variables (Meyer, Tsui, & Hinings, 1993).

This is an approach, a mindset, to think differently about digital scaling; it is not a technology but a process that depends on the embeddedness of digital tools in the organizational and institutional landscapes. Digitalization in centralized, standardized setups allows core processes to be codified and reused across multiple contexts; it re-emphasizes replication, which supports the “Arrow core” framework (Winter & Szulanski, 2001). In decentralized and federated configurations, these technologies shift toward coordination and integration, affirming the view that digital transformation is a socio-technical phenomenon driven by pre-existing structures (Vial, 2019; Hinings, Gegenhuber, & Greenwood, 2018).

First, the findings reframe scaling as an organizational design problem rather than a purely technological or operational one. Existing studies on scaling and organizational growth emphasize the role of replication, routines, and business models in enabling expansion (Winter & Szulanski, 2001; DeSantola & Gulati, 2017). However, such perspectives often implicitly assume that scalable routines can be transferred relatively smoothly once digital infrastructures are in place. The findings of this study challenge this assumption by showing that digitalization produces scalable growth only when technological mechanisms are aligned with governance structures, organizational architecture, and institutional conditions.

From a contingency perspective, organizational effectiveness depends on the fit between structural arrangements and environmental conditions rather than on universally optimal organizational forms (Donaldson, 2001). Scalability, therefore, depends less on digitalization itself than on the coherence between organizational configuration and growth logic.

Second, the results provide evidence for the replication theory in digitally intensive, highly regulated environments. Winter and Szulanski (2001) define replication as the transfer of a stable 'Arrow core' across different contexts. The Revolut case illustrates that in digitally native financial organizations; however, this core cannot be purely operational routines. Rather, it should encompass governance mechanisms, compliance systems, and frameworks for data infrastructures. On top of that, we noted that scaling tensions become glaring when governance and control structures do not expand in parallel to operational expansion. This result extends replication theory to reconsider the Arrow core as an overarching socio-technical construct of operational, organizational, and institutional conditions rather than as a set of routines.

Third, the study clarifies the significant role of digital mechanisms in scaling activities. Previous research on digital transformation and digital entrepreneurship advances understanding of transaction-cost reduction by highlighting the facilitative role of digital technologies in making growth easier (Nambisan, 2017; Nambisan, Wright, & Feldman, 2019; Vial, 2019). This study's results reframe this view by showing how digital mechanisms have no universal impact on scalability. Instead, they amplify the prevailing scaling logic embedded within the organization. In replication-focused setups, digitalization facilitates the codification and transferability of routines, leading to rapid scaling. In coordination-related environments, digital technology is primarily used for managing complexity and integrating heterogeneous organizational units. Digitalization should not be conceived of as a universal enabler of scalability, but as a contingent mechanism that depends on alignment across the organization. In fintech companies, this is even more apparent, as built-in platforms and services expand quickly across markets while also providing greater regulatory coverage and systemic significance (Zetsche, Buckley, Arner & Barberis, 2017). In these contexts, scalability comes not only from technological efficiency but also from an organization's ability to maintain good governance and institutional credibility as it grows.

Fourth, the results shed light on the co-evolution of scaling operations and institutional environments. In line with Teece (2018) on business models and dynamic capabilities, the analysis demonstrates that scaling depends not only on the internal capabilities but also on continuous interactions between organizations and external conditions. However, rapid growth, in the case of Revolut, creates a need for ever greater regulatory escalation, in the form of strengthening governance and compliance systems. In this case of BCC Iccrea, institutional constraints are embedded into the organizational architecture early on, determining growth trajectories before the pressures of scaling arise. This suggests that scaling is not solely an internal organizational process; it's also an institutional process.

This is particularly relevant in highly regulated industries, where organizations operate under multiple and sometimes competing institutional pressures related to efficiency, legitimacy, stability, and compliance (Greenwood, Raynard, Kodeih, Micelotta, & Lounsbury, 2011). Consequently, organizational growth cannot be understood independently from the regulatory and institutional contexts within which firms operate.

More importantly, the analysis suggests the recursive process that has been largely investigated in previous research: scaling itself creates new limitations. Digitalization coupled with replication-oriented growth leads to reduced friction and marginal costs at the outset but with increasing governance complexity, coordination pressures, and regulatory exposure in the long term. Previous scale-up research has shown that organizations can expand rapidly but with increasing coordination complexity and governance pressures in growth (Tippmann, Scott, & Mangematin, 2023; Tippmann et al., 2023). This recursive process may be explained by the idea of “governance debt,” which we can see here as the aggregation of organizational vulnerabilities that arise when the rate of scaling exceeds the evolutionary development of the accompanying mechanisms of control. According to this account, scaling isn't a frictionless outcome of digitalization, but an evolving process framed by feedback loops between growth and constraint formation. Dynamic capabilities thus emerge as more than just a tool for enabling growth, as they are key mechanisms to manage the organizational tensions incurred through scaling. Overall, these results reconceptualize scalability not as a direct consequence of digitalization but rather as a configurational and dynamic output. The current research addresses one of the important limitations of prior study as in it the emphasis is laid on the correlation between technology capabilities,

organizational form and institutional conditions and this frequently relies on the traditional linear understanding of the relationship of companies growing or developing digitalization.

4.5 Managerial implications

The findings of this study also generate important implications for managers operating in digitally intensive and organizationally complex environments. Most importantly, the analysis suggests that digitalization alone does not guarantee scalable growth. Rather, scalability depends on the alignment between digital infrastructures, organizational design, governance systems, and institutional conditions.

For managers in fintech and digitally native firms, the findings indicate that rapid expansion enabled by digital infrastructures must be accompanied by the parallel development of governance and compliance capabilities. The Revolut case illustrates that digital architectures that scale rapidly can speed up organizational growth dramatically by minimizing marginal operating costs and allowing the quick propagation of consistent routines through markets. But the case also demonstrates that, in some cases, such rapid scaling can far outpace the process of establishing internal control systems, and that the resulting increasing governance complexity combined with the growing regulatory exposure will, over time, expose firms to more regulatory exposure.

Managers have to be careful not to regard governance and compliance as secondary functions that can be improved only when the enterprise has grown. Instead, governance processes need to be integrated within the scalable structure of the firm. This means embedding monitoring, compliance, risk-management mechanisms, and data control into the operational nucleus of digital platforms from the outset of scaling.

These findings also indicate that organizations adopting replication-oriented growth strategies should critically determine what organizational constructs comprise the transferable “core” of the business model. In digital environments, it includes the technical routines, but also the organizational processes, governance structures, and regulatory capabilities. Companies which do not factor these aspects into the scaling architecture may face higher fragility as growth progresses.

For managers operating in traditional or federated organizations, the implications differ substantially. The BCC Iccrea case indicates that digital transformation does not necessarily lead to replication-based scaling. In decentralized organizational contexts, digitalization may primarily support coordination, integration, and organizational coherence rather than rapid expansion. Managers should therefore avoid adopting digital transformation strategies based solely on the assumptions of platform scalability commonly associated with digital-native firms.

Instead, organizations characterized by distributed governance structures should focus on using digital technologies to reduce fragmentation, standardize coordination mechanisms, and improve information integration across units. In these contexts, digitalization functions less as an engine of exponential growth and more as a mechanism for managing complexity and preserving organizational cohesion. More generally, the results indicate that an inherently attractive strategy is not necessarily scalable. Rapid scaling may lead to efficiency and market penetration, but also to new governance frictions and institutional dynamics, as well as coordination issues. Managers need to therefore assess scaling strategies not only in their growth prospects but also the implications for organizational resilience, control capacity and long-term sustainability. The research also has implications for regulators and policymakers. Evidence indicates that digitally enabled scaling can gradually transform firms into systemically relevant actors, changing the regulatory environment in which they operate (IMF, 2022). Fintech settings are developing rapidly, and regulatory frameworks may need to adapt fluidly to organizational dynamics during growth. A BCC Iccrea case, meanwhile, shows how an institutional regime can be intentionally constraining for scaling with reference to stability, local embeddedness, and systemic coordination. In conclusion, the results suggest that policymakers should not consider digitalization as a neutral technological transformation but as one modifying organizational forms, governance arrangements and systemic risk profiles. Thus, the regulatory framework must consider not just the specific technological capacities of their firms, but also the organizational designs embedded within these technologies.

4.6 Synthesis model

Building on the empirical findings, this study proposes a configurational synthesis model that integrates the five analytical dimensions into a higher-level framework for understanding scalability. The model addresses a key limitation in prior research, which often assumes a linear relationship between digital maturity and scalability. Instead, it suggests that similar levels of digital investment can lead to fundamentally different scaling outcomes depending on how digital capabilities align with the firm's underlying scaling logic.

To capture this interaction, the model translates the analytical framework into two core axes. The first axis, scaling orientation, reflects the dominant growth logic of the firm, ranging from adaptation-based to replication-based configurations. The second axis, digital maturity, captures the extent to which digital mechanisms are developed and embedded within the organization. The remaining dimensions—dynamic capabilities, organizational constraints, and external conditions—do not act merely as moderating variables, but as forces that actively reshape scaling trajectories over time.

The interaction of these dimensions generates four distinct scaling configurations.

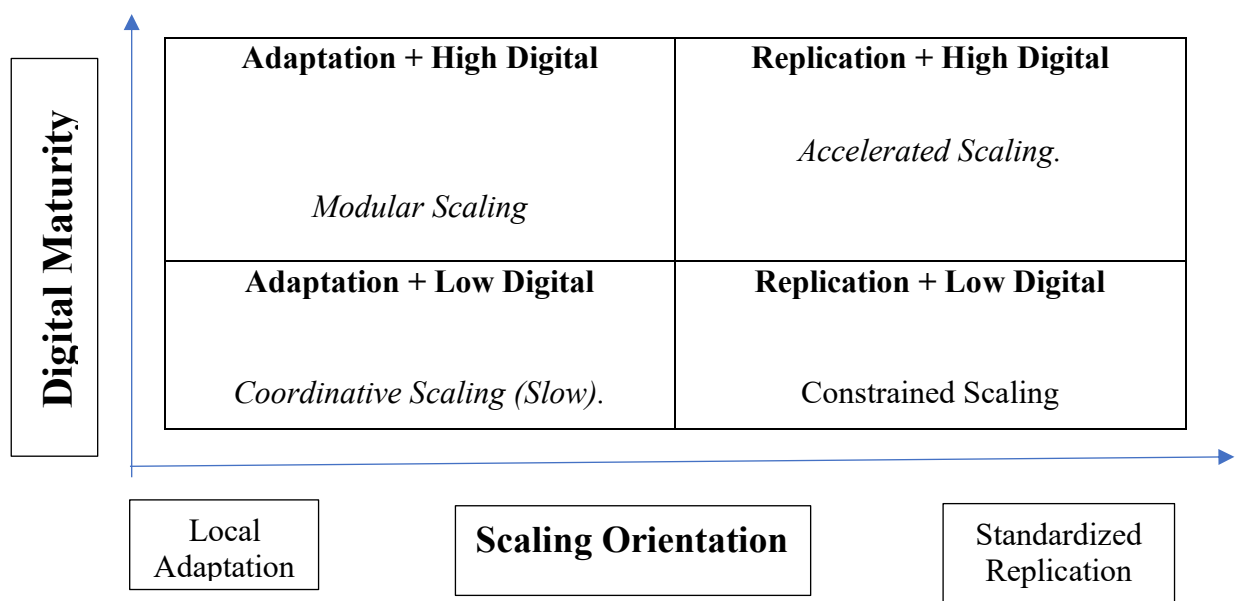


Figure 1.

As illustrated in Figure 1, the interaction between scaling orientation and digital maturity generates four distinct configurations of scaling.

- **Accelerated scaling** emerges when high digital maturity aligns with a replication-oriented logic. In this configuration, digital technologies enable the codification and transfer of routines across contexts, supporting rapid expansion. However, this model also increases exposure to governance complexity and regulatory pressure, as the speed of scaling may outpace the development of control mechanisms. The Revolut case provides an empirical illustration of this configuration.
- **Modular scaling** arises when high digital maturity is combined with an adaptation-oriented logic. In this configuration, digital technologies are primarily used to coordinate and integrate heterogeneous organizational units, rather than to replicate a standardized model. Growth occurs through the alignment and harmonization of distributed activities, resulting in a more controlled but less rapid scaling trajectory. This configuration is exemplified by the BCC Iccrea case.
- **Coordinative scaling** is associated with low digital maturity and an adaptation-oriented logic. Here, growth is driven by local coordination and incremental adjustments, with limited support from digital systems. As a result, scaling is slow and constrained by organizational fragmentation and coordination costs.
- **Constrained scaling** occurs when a replication-oriented logic is combined with low digital maturity. In this configuration, the absence of adequate digital infrastructure limits the effective codification and transfer of routines, preventing firms from achieving scalable growth despite a replication-oriented strategy.

This model provides a critical balance of scalability versus governance. Configurations allowing for maximum scalability and especially in the case of scenarios that combine replication logic with a high level of digital maturity increase organizational complexity and introduce more exposure for regulation. In contrast, coordination and control-focused formats naturally curtail the speed and reach at which the organization can grow. This is also an indication that scalability is not a necessarily desirable goal, but a strategic product that is driven by competing organizational and institutional values.

More importantly, the model introduces a dynamic perspective on scaling. Movement toward digitally mature and replication-oriented configurations may initially reduce

constraints by lowering marginal costs and enabling rapid growth. However, over time, this process generates new organizational and institutional pressures, including governance challenges, regulatory scrutiny, and increasing system complexity. These pressures, in turn, require the development of dynamic capabilities and may ultimately limit or reshape further expansion.

This recursive dynamic implies that scaling is not a stable equilibrium, but a process characterized by feedback effects between growth and constraint formation. Firms do not simply move linearly toward higher levels of scalability; rather, they continuously adjust their organizational configuration in response to the constraints generated by their own growth.

Crucially, the four configurations should not be seen as static categories or dichotomous conditions. Rather, they signify types of analytic ideal which are better suited to help account for the manner in which different inter-connections between technology abilities and organizational rationalities can underlie scaling paths. Firms can shift between configurations over time, as their technological capabilities develop and as organizational and institutional environments do as well. Theoretically, the model adds to the literature by restructuring scalability as a configurable and dynamic state. Instead of considering digitalization to be a direct cause of growth, it emphasizes how scaling becomes contingent on the convergence of technological resources, organizational structures, and institutional settings. In doing so, it addresses a key limitation in prior research, which often overlooks the role of organizational constraints and assumes a simplified relationship between digitalization and firm growth.

Finally, the model provides a framework for interpreting divergent scaling trajectories across firms. It allows researchers and practitioners to assess whether scaling strategies are aligned with organizational capabilities and external conditions, and to identify potential sources of misalignment that may constrain scalability over time.

5 Conclusions

This study aimed to explore the nature of digitalization on the firm's scalability in numerous organizational contexts. And while most interpretations of digital technologies as direct drivers of scaling are deterministic, the findings provide evidence that digitalization is not an independent motor of growth. Instead, it is an amplifying technology whose impact varies with its compatibility with firm-scale logic and organizational layout. The comparison between Revolut and BCC Iccrea Group reveals that comparable digital maturity can give rise to radically different scaling trajectories. Centralized and standardized environments are where digitalization enables core operations to be replicated, driving accelerated expansion across markets. In decentralized and federated structures, digital platforms are most often used to harmonize and integrate different, organizationally heterogeneous units, thereby enabling increasingly incremental and managed growth. These results emphasize that scalability is due to a dynamic interaction between technology and organizational design and institutional context and is not entirely driven by digitalization. More significantly, the research introduces a recursive dynamic within which scaling creates new constraints when imposed on it. On the one hand, digitalization and replication strategies may lower the initial barrier to growth; on the other hand, they may increase complexity, at least in governance needs and regulatory exposure. It is a dynamic which transforms scalability from a frictionless state to a process modulated by interactions through the feedback effect between expansion and the emergence of constraints. On this model, there is more to scaling than what seems to be a straightforward technical/operational, or, as always, practical issue; scaling is strategic, and organizations must trade off efficiency, governance, and institutional alignment for potential profit. Such an approach adds to the literature by taking a configurational and dynamic view of scalability by acknowledging the role of alignment between digital mechanisms and organizational structure. As a corollary, the results imply that scaling should not be pursued as an intrinsically desirable goal. Rather, firms need to examine growth in the context of their own organizational configurations' inherent constraints and trade-offs. The present study has several limitations. The nature of our analysis is limited to a few selected cases and is largely based on a secondary dataset, which restricts generalization and direct observation of internal organizational processes. Furthermore, the interpretive character of the analysis does not permit the specification of

causal links in a very literal sense. In the future, this study may be expanded by testing the proposed configurational framework with larger sample sizes, using quantitative methods, or conducting an intensive investigation into the micro-foundations of the scaling process. From an overall perspective, the results indicate that digitalization should not remove a structural constraint but rather plays into their effect by altering firm growth trajectories in the long run. And to understand scalability, one must resist overly simplified explanations of technological evolution and adopt a more sophisticated view in which digital capabilities, organizational design, and institutional settings are co-evolving.

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APPENDIX A1

This appendix provides the key documentary evidence supporting the analysis of Revolut’s growth trajectory, with particular reference to the scaling logic dimension and the interpretation of replication-based scaling.

Source	Specific Evidence	Analytical Relevance
Revolut Annual Report 2023, pp. 6–15	Retail customer base increased from 26.2 million to 38.0 million users in 2023; revenues reached approximately £1.8 billion	Evidence of rapid organizational scaling and international expansion
Revolut Annual Report 2024, pp. 6–15	Total customer base expanded to 52.5 million users; revenues increased to approximately £3.1 billion	Indicates continuation of high-growth scaling trajectory across markets
Google Cloud (2024), “ <i>Revolut: Driving efficiency in data management with automated governance</i> ”	Description of centralized “open data lakehouse” architecture supporting standardized operations	Evidence of scalable and codified digital infrastructure enabling replication across contexts
Google Cloud (2024)	Over 17,000 structured data tables and more than 10,000 distributed processing jobs	Suggests high modularity and operational standardization of core processes
Google Cloud (2024)	Processing capacity exceeding one million queries per day	Indicates operational scalability without proportional physical expansion
Revolut Annual Report 2023, pp. 12, 16, 23	Expansion into additional international markets and product categories	Evidence of geographically transferable business model and replication-oriented growth
Parker, Van Alstyne, & Choudary (2016), <i>Platform Revolution</i>	Platform ecosystems reinforce scaling through integrated multi-service architectures	Supports interpretation of Revolut’s platform-based scaling logic
Winter & Szulanski (2001)	Replication defined as transfer of an “Arrow core” across contexts	Theoretical framework used to interpret Revolut’s standardized scaling configuration

APPENDIX A2

This appendix presents the evidence related to Revolut’s digital infrastructure, supporting the analysis of digital mechanisms as a core enabler of scalability in the case study.

Source	Specific Evidence	Analytical Relevance
Google Cloud (2024), <i>“Revolut: Driving efficiency in data management with automated governance”</i>	Revolut operates an “open data lakehouse” architecture integrating centralized data governance and analytics capabilities	Evidence of highly integrated digital infrastructure supporting scalability
Google Cloud (2024)	More than 17,000 structured data tables across operational environments	Indicates extensive codification and standardization of organizational data
Google Cloud (2024)	More than 10,000 distributed processing jobs (including Apache Spark workloads)	Evidence of automation and scalable distributed computing capacity
Google Cloud (2024)	Infrastructure processes more than one million queries per day	Demonstrates operational scalability enabled through cloud-based architectures
Google Cloud (2024)	Query capacity increased threefold following infrastructure optimization	Indicates capacity expansion without proportional increases in organizational resources
Google Cloud (2024)	Dashboard latency reduced from several minutes to under three seconds	Evidence of real-time data processing and operational responsiveness
Revolut Annual Report 2023, pp. 12–16	Continued investment in digital products, platform expansion, and mobile financial services	Supports interpretation of digitalization as a core operational mechanism
Revolut Annual Report 2024, pp. 8–15	Expansion of multi-service financial ecosystem including payments, savings, investments, and business services	Evidence of platform-based scaling supported by integrated digital systems
Zetsche, Buckley, Arner, & Barberis (2017)	Fintech firms leverage digital infrastructures to scale financial services rapidly across markets	Theoretical support for interpreting Revolut as a digitally scalable platform organization
Nambisan, Wright, & Feldman (2019)	Digital technologies facilitate scalability through modularity, connectivity, and platform integration	Conceptual framework supporting interpretation of digital mechanisms in scaling processes

APPENDIX A3

This appendix summarizes the documentary evidence used to assess Revolut’s dynamic capabilities, particularly in relation to sensing, seizing, and transforming activities as discussed in Chapter 4.

Source	Specific Evidence	Analytical Relevance
Revolut Annual Report 2023, pp. 12–16	Expansion into new geographic markets and continued diversification of financial products	Evidence of sensing capabilities through identification of new market opportunities
Revolut Annual Report 2023, pp. 23–24	Significant investments in marketing, customer acquisition, and platform expansion	Indicates seizing capabilities through resource mobilization to support scaling
Revolut Annual Report 2023, pp. 54–63	Formalization of the “Three Lines of Defence” governance framework	Evidence of transforming capabilities aimed at strengthening organizational control systems
Revolut Annual Report 2023, pp. 62–63	Increased investment in anti-financial-crime systems and compliance functions	Indicates organizational adaptation in response to scaling pressures and regulatory demands
Bank of Lithuania (2025), <i>Administrative Agreement with Revolut Bank UAB</i>	€3.5 million sanction related to deficiencies in anti-money laundering controls	Suggests governance adaptation occurred reactively following rapid organizational expansion
ECB (2025), <i>List of Supervised Entities</i>	Revolut included among significant supervised banking entities under ECB oversight	Evidence that organizational growth triggered increased institutional and governance requirements
Teece (2007)	Dynamic capabilities conceptualized as sensing, seizing, and transforming organizational capacities	Analytical framework used to interpret Revolut’s organizational adaptation processes
Teece (2018)	Dynamic capabilities become increasingly important under conditions of rapid technological and organizational change	Supports interpretation of governance strengthening as a response to scaling-induced complexity
Mula, Zybura, & Hipp (2024)	Digital scaling requires continuous organizational reconfiguration and balancing of operational trade-offs	Conceptual support for interpreting governance adaptation during rapid scaling trajectories

APPENDIX A4

This appendix provides the evidence underlying the identification of organizational constraints in the Revolut case, with a focus on governance challenges and compliance-related issues.

Source	Specific Evidence	Analytical Relevance
Revolut Annual Report 2023, pp. 54–63	Expansion of compliance, governance, and financial crime prevention systems during rapid growth	Indicates increasing organizational complexity associated with scaling
Revolut Annual Report 2023, p. 54	Formal implementation of the “Three Lines of Defence” governance model	Evidence of growing need for internal coordination and control mechanisms
Bank of Lithuania (2025), <i>Administrative Agreement with Revolut Bank UAB</i>	€3.5 million administrative fine related to anti-money laundering deficiencies	Indicates governance and compliance limitations emerging during rapid expansion
ECB (2025), <i>List of Supervised Entities</i>	Revolut classified as a significant supervised entity under ECB supervision	Evidence of increasing institutional scrutiny and regulatory pressure linked to organizational growth
ESRB (2025), <i>O-SII Buffer Notification</i>	Revolut Bank UAB assigned a 2% Other Systemically Important Institution (O-SII) buffer	Demonstrates increasing systemic relevance and external governance constraints
IMF (2022), <i>Fintech: The Experience So Far</i>	Rapidly scaling fintech firms may generate new forms of systemic and regulatory risk	Supports interpretation of scaling as a process generating institutional constraints
Tippmann, Scott, & Mangematin (2023)	Scaling processes generate increasing coordination and governance challenges as firms expand	Theoretical support for interpreting organizational complexity as an outcome of growth
Teece (2018)	Organizational growth requires continuous adaptation of governance and control systems	Supports interpretation of governance restructuring as a response to scaling-induced pressures
Markus (1983)	Organizational systems and governance structures may become sources of coordination tension during technological expansion	Conceptual support for interpreting internal governance adaptation challenges

APPENDIX A5

This appendix reports the key external and regulatory evidence supporting the analysis of institutional conditions affecting Revolut's scaling trajectory.

Source	Specific Evidence	Analytical Relevance
ECB (2025), <i>List of Supervised Entities</i>	Revolut included among significant banking institutions supervised under the European Central Bank framework	Evidence of increasing institutional oversight associated with organizational growth
ESRB (2025), <i>Notification on O-SII Buffers</i>	Revolut Bank UAB assigned a 2% Other Systemically Important Institution (O-SII) capital buffer	Indicates growing systemic relevance and heightened regulatory expectations
Bank of Lithuania (2025), <i>Administrative Agreement with Revolut Bank UAB</i>	Regulatory sanction issued for anti-money laundering deficiencies	Demonstrates external supervisory intervention linked to governance and compliance pressures
Revolut Annual Report 2023, pp. 12–16	Expansion into additional international markets and jurisdictions	Evidence that scaling exposed the organization to increasingly complex regulatory environments
Revolut Annual Report 2024, pp. 8–15	Continued international expansion across financial products and customer segments	Indicates growing interaction with heterogeneous institutional and supervisory systems
IMF (2022), <i>Fintech: The Experience So Far</i>	Rapid fintech growth may increase systemic importance and regulatory scrutiny	Supports interpretation of scaling as generating new institutional pressures
Zetsche, Buckley, Arner, & Barberis (2017)	Fintech firms operate within evolving regulatory environments shaped by digital innovation and financial stability concerns	Conceptual framework for understanding regulatory escalation during fintech scaling
Greenwood, Raynard, Kodeih, Micelotta, & Lounsbury (2011)	Organizations in highly regulated environments face competing institutional pressures related to legitimacy, compliance, and efficiency	Supports interpretation of Revolut's scaling trajectory as institutionally embedded
Vial (2019)	Digital transformation is shaped by interactions between technological change and organizational environments	Theoretical support for analyzing scaling within broader institutional ecosystems

APPENDIX B1

This appendix provides the documentary evidence supporting the analysis of BCC Iccrea Group's growth pattern, with particular reference to its coordination-based scaling logic.

Source	Specific Evidence	Analytical Relevance
BCC Iccrea Group Annual Report 2024, pp. 18–25	Network composed of 114 cooperative banks serving over 5.2 million customers and approximately 903,000 cooperative members	Evidence of organizational growth through aggregation of distributed entities rather than centralized replication
BCC Iccrea Group Annual Report 2024, pp. 18–25	Direct funding exceeding €124 billion and continued balance sheet growth	Indicates stable expansion trajectory within a federated banking structure
Bank of Italy (2016), <i>Consultation on Cooperative Banking Group Reform</i>	Introduction of the “cohesion contract” regulating relationships between the parent entity and member banks	Evidence that scaling occurs within a legally coordinated but decentralized organizational framework
BCC Iccrea Group Annual Report 2024, p. 31	Member banks retain legal autonomy while operating under centralized coordination mechanisms	Suggests adaptation-oriented rather than replication-oriented scaling logic
Accenture (2025), <i>BCC Iccrea Group and Accenture Partnership Announcement</i>	€300 million investment program focused on digital infrastructure, AI, and operational integration	Indicates that digital transformation supports coordination and integration rather than standardized replication
IMF (2017), <i>Italy Financial System Stability Assessment</i>	Cooperative banking reform aimed to strengthen stability while preserving local banking functions	Supports interpretation of growth as institutionally constrained and coordination-intensive
Winter & Szulanski (2001)	Replication-oriented scaling depends on transferability of standardized operational routines	Analytical benchmark used to contrast BCC's adaptation-oriented growth logic
Hinings, Gegenhuber, & Greenwood (2018)	Digital transformation outcomes depend on existing organizational arrangements and institutional structures	Supports interpretation of BCC's scaling trajectory as shaped by federated governance structures

APPENDIX B2

This appendix presents the evidence related to digital transformation initiatives within BCC Iccrea Group, supporting the analysis of digital mechanisms as tools for coordination and integration.

Source	Specific Evidence	Analytical Relevance
Accenture (2025), <i>BCC Iccrea Group and Accenture form partnership to support the Group's IT transformation</i>	Multi-year strategic partnership focused on IT infrastructure transformation and operational modernization	Evidence of large-scale digital transformation initiatives within the cooperative banking group
Accenture (2025)	Investment plan exceeding €300 million over three years	Indicates substantial organizational commitment to digital infrastructure development
Accenture (2025)	Transformation initiatives include cloud migration, artificial intelligence, cybersecurity enhancement, and data infrastructure modernization	Demonstrates deployment of advanced digital mechanisms to improve coordination and operational resilience
BCC Iccrea Group Annual Report 2024, pp. 127–138	Centralized governance functions including risk management, capital planning, and Risk Appetite Framework coordination	Evidence that digital systems support centralized oversight across decentralized member banks
BCC Iccrea Group Annual Report 2024, p. 31	Coordination mechanisms implemented through the cohesion contract and centralized operational structures	Indicates that digital infrastructures are embedded within coordination-intensive governance arrangements
BCC Iccrea Group Annual Report 2024, pp. 140–145	Investments in integrated reporting systems and operational standardization across member institutions	Suggests digitalization is used to reduce fragmentation and improve organizational integration
BCC Iccrea Group Annual Report 2024, pp. 18–25	Digital modernization accompanies expansion of banking services and organizational integration activities	Evidence that technology supports incremental organizational scaling rather than rapid replication
Hinings, Gegenhuber, & Greenwood (2018)	Digital transformation outcomes depend on	Conceptual support for interpreting BCC

Source	Specific Evidence	Analytical Relevance
	organizational structures and institutional arrangements	digitalization as coordination-oriented rather than replication-oriented
Vial (2019)	Digital transformation involves changes in organizational processes, structures, and integration mechanisms	Supports interpretation of digital technologies as tools for organizational harmonization
Parviainen et al. (2017)	Digitalization improves process integration, coordination, and operational standardization within organizations	Theoretical support for interpreting digital mechanisms as complexity-management tools
Nambisan, Wright, & Feldman (2019)	Digital infrastructures facilitate connectivity and integration across organizational systems	Supports interpretation of digitalization as an enabler of organizational coherence within federated structures

APPENDIX B3

This appendix summarizes the evidence used to assess the development of dynamic capabilities within BCC Iccrea Group, particularly in relation to organizational transformation and integration efforts.

Source	Specific Evidence	Analytical Relevance
Accenture (2025), <i>BCC Iccrea Group and Accenture form partnership to support the Group's IT transformation</i>	Strategic partnership focused on IT modernization, AI integration, cloud migration, and operational resilience	Evidence of transforming capabilities aimed at organizational adaptation and modernization
BCC Iccrea Group Annual Report 2024, pp. 127–138	Centralization of governance, risk management, and strategic coordination functions	Indicates organizational reconfiguration in response to increasing operational complexity
BCC Iccrea Group Annual Report 2024, pp. 140–145	Ongoing investments in digital infrastructure and integrated operational systems	Suggests gradual capability development supporting organizational integration
BCC Iccrea Group Annual Report 2024, p. 31	Coordination mechanisms implemented through the cohesion contract framework	Evidence that capability development occurs within institutionally constrained governance structures
BCC Iccrea Group Annual Report 2024, pp. 18–25	Expansion of services and strengthening of centralized coordination activities across member banks	Indicates adaptive organizational responses aimed at maintaining coherence across distributed entities
Teece (2007)	Dynamic capabilities conceptualized as sensing, seizing, and transforming organizational capacities	Analytical framework used to interpret organizational adaptation processes
Teece (2018)	Dynamic capabilities become increasingly important under conditions of technological and institutional change	Supports interpretation of digital transformation as a continuous adaptation process
Mula, Zybura, & Hipp (2024)	Digital scaling requires balancing organizational trade-offs and continuous capability reconfiguration	Conceptual support for interpreting gradual organizational transformation within federated structures

Source	Specific Evidence	Analytical Relevance
Hinings, Gegenhuber, & Greenwood (2018)	Organizational change in digital environments is shaped by existing institutional and governance arrangements	Supports interpretation of capability development as constrained and negotiated rather than fully centralized

APPENDIX B4

This appendix provides the documentary evidence supporting the analysis of organizational constraints, with specific reference to the group’s governance structure and institutional embeddedness.

Source	Specific Evidence	Analytical Relevance
Bank of Italy (2016), <i>Consultation on Cooperative Banking Group Reform</i>	Introduction of the “cohesion contract” regulating relationships between the parent entity and member banks	Evidence of institutional constraints shaping governance and coordination mechanisms
BCC Iccrea Group Annual Report 2024, p. 31	Member banks maintain legal autonomy despite centralized oversight structures	Indicates structural limitations to full operational standardization and replication
BCC Iccrea Group Annual Report 2024, pp. 127–138	Centralized governance functions coexist with distributed organizational responsibilities	Evidence of coordination complexity within the federated organizational structure
IMF (2017), <i>Italy Financial System Stability Assessment</i>	Cooperative banking reform designed to preserve local embeddedness while strengthening systemic stability	Suggests organizational growth is institutionally constrained by regulatory and governance objectives
BCC Iccrea Group Annual Report 2024, pp. 18–25	Organizational growth occurs through coordination across multiple autonomous entities	Indicates scaling is mediated by governance and integration requirements rather than centralized replication
Accenture (2025)	Large-scale IT transformation initiatives implemented within an already complex cooperative structure	Suggests digital transformation must operate within pre-existing institutional and governance constraints
Greenwood, Raynard, Kodeih, Micelotta, & Lounsbury (2011)	Organizations in highly regulated environments balance efficiency with legitimacy and institutional conformity	Theoretical support for interpreting governance constraints within cooperative banking systems
Donaldson (2001)	Organizational effectiveness depends on alignment between structural arrangements and environmental conditions	Supports interpretation of BCC’s scaling trajectory as structurally contingent
Tippmann, Scott, & Mangematin (2023)	Scaling processes generate increasing coordination complexity as organizations expand	Conceptual support for interpreting coordination pressures within federated growth configurations

APPENDIX B5

This appendix presents the external and regulatory evidence underlying the analysis of institutional conditions shaping BCC Iccrea Group's scaling trajectory.

Source	Specific Evidence	Analytical Relevance
Bank of Italy (2016), <i>Consultation on Cooperative Banking Group Reform</i>	Regulatory reform introduced the cooperative banking group model and the cohesion contract framework	Evidence of institutional conditions shaping organizational governance and scaling trajectories
IMF (2017), <i>Italy Financial System Stability Assessment</i>	Reform aimed to strengthen systemic stability while preserving local banking functions	Indicates that external institutional objectives constrain organizational scaling dynamics
BCC Iccrea Group Annual Report 2024, p. 31	Governance relationships between member banks regulated through legally binding coordination mechanisms	Evidence of scaling embedded within formal regulatory and institutional structures
BCC Iccrea Group Annual Report 2024, pp. 127–138	Risk governance and capital planning coordinated under supervisory requirements	Demonstrates influence of prudential regulation on organizational structure and growth processes
DBRS Morningstar (2022), <i>Issuer Ratings Report on Iccrea</i>	Assessment highlights organizational stability and governance cohesion within the cooperative banking system	External institutional evaluation reinforcing interpretation of stability-oriented organizational logic
Accenture (2025)	Digital transformation initiatives framed around operational resilience, cybersecurity, and regulatory compliance	Indicates that external regulatory pressures influence digital transformation priorities
Greenwood, Raynard, Kodeih, Micelotta, & Lounsbury (2011)	Organizations in regulated sectors face competing pressures related to legitimacy, stability, and efficiency	Theoretical support for interpreting BCC's organizational trajectory as institutionally embedded
Donaldson (2001)	Organizational structures evolve in response to environmental and institutional contingencies	Supports interpretation of scaling outcomes as conditioned by external environments
Vial (2019)	Digital transformation processes are shaped by interactions between technology,	Conceptual framework supporting interpretation of external conditions within digital scaling processes

Source	Specific Evidence	Analytical Relevance
	organizations, and institutional environments	

Appendix C – Cross-case Comparison and Mapping to the Configurational Model

This appendix provides a structured comparison of the two case studies analyzed in this research, Revolut and BCC Iccrea Group, based on the analytical dimensions developed in Chapter 3. The appendix synthesizes the empirical findings presented in Chapter 4 and illustrates how the two organizations map onto the configurational model proposed in Chapter 5.

Analytical Dimension	Revolut	BCC Iccrea Group	Cross-case Interpretation
Scaling Logic	Replication-oriented scaling based on standardized and transferable routines	Coordination-oriented scaling based on adaptation across autonomous entities	Digitalization amplifies the dominant organizational growth logic rather than independently determining scalability
Digital Infrastructure	Modular, cloud-native, and centrally managed platform architecture	Integration-oriented digital systems supporting coordination and harmonization	Similar technological investments perform different functions depending on organizational structure
Role of Digitalization	Core enabler of scalable replication and rapid international expansion	Mechanism for coordination, integration, and organizational coherence	Digitalization supports either replication or coordination depending on organizational configuration
Operational Standardization	High degree of codification and process transferability	Partial and institutionally constrained standardization	The scalability of routines depends on governance structure and organizational flexibility
Organizational Structure	Centralized, platform-based architecture	Federated cooperative banking network	Organizational architecture shapes how digital technologies are deployed during scaling
Growth Mechanism	Rapid expansion across markets through reusable digital infrastructure	Incremental integration and consolidation of local banking entities	Scaling trajectories emerge through different organizational mechanisms
Governance Dynamics	Reactive strengthening of	Embedded coordination and	Scaling generates different forms of

Analytical Dimension	Revolut	BCC Iccrea Group	Cross-case Interpretation
	governance and compliance systems during scaling	oversight mechanisms from the outset	governance complexity across cases
External Conditions	Increasing regulatory escalation and systemic supervision	Strong institutional embeddedness and cooperative banking regulation	External institutional environments actively shape scaling trajectories
Scaling Outcome	Accelerated scaling associated with growing governance complexity	Modular scaling characterized by stability and coordination-intensive growth	Scalability emerges from the interaction between digital capabilities, organizational structure, and institutional constraints

The comparison highlights two distinct scaling configurations emerging from the interaction between digitalization and organizational structure. Revolut represents a replication-oriented and digitally centralized configuration in which standardized infrastructures enable rapid expansion across markets. BCC Iccrea Group, by contrast, reflects a coordination-oriented configuration in which digitalization primarily supports integration and organizational coherence across a federated institutional network.

Taken together, the comparison reinforces the central argument of this study: digital technologies do not generate scalability independently, but interact with organizational architecture, governance arrangements, and institutional conditions to shape distinct scaling trajectories

