THESIS FOR THE DEGREE OF LICENTIATE OF ENGINEERING

Scaling Digital Platforms in Weak Network-Effects Environments

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ABSTRACT

Dominant platform literature explains scaling through self-reinforcing network effects, capital-intensive user acquisition, and platform-led ecosystem orchestration. While persuasive in consumer-facing markets, this logic travels poorly to heavily regulated sectors where institutional forces, rather than the platform, determine who participates, at what pace, and on whose terms. This thesis introduces the concept of weak network-effects environments to describe settings in which the mechanisms through which platforms typically generate and appropriate value are structurally mediated by institutional forces beyond the platform's control, and in which value generation depends instead on institutional fit, accumulated legitimacy, and the capacity to operate within a governance system the platform does not own.

Drawing on two qualitative case studies of digital health platforms in Sweden, the thesis shows that scaling in such environments is governed by three interacting and interdependent mechanisms: scope configuration and reconfiguration, reusable and recursive learning, and provisional alignment with pre-existing governance structures. The thesis contributes to platform research by identifying weak network-effects environments as a boundary condition for dominant scaling theory and by proposing a processual, context-sensitive account of platform growth under institutional constraint.

LIST OF APPENDED PAPERS

Paper I

Darwish, R.; Björkdahl, J.; Holgersson, M.; Berglund, H.; and Sköld, J. (2025). False Assumptions & Old Truths: Rethinking Digital Platform Scaling In Healthcare.

Paper II

Darwish, R.; Björkdahl, J. and Holgersson, M. (2026). Transformation Through Iteration: Scaling Platform-Based Transformative Business Models in Established Ecosystems.

(Submitted to California Management Review SI on Transformative Business Models)

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"Read in the name of your Lord who created —

Created man from a clinging substance.

Read, and your Lord is the Most Generous —

Who taught by the pen —

Taught man that which he knew not."

(Qur'an 96:1–5)

These verses have been a profound source of motivation guiding my journey. They have continuously reminded me of the value of seeking knowledge, staying curious, and pursuing learning with purpose. For that, I begin by expressing my sincere gratitude to God for granting me the strength, patience, and opportunity to reach this stage.

To my parents, who have been the foundation of everything I have achieved, I am deeply grateful. Despite the difficult circumstances you faced in Lebanon, you did everything you could to help me reach this stage. Though you are no longer with us, you will always live on in my heart and in everything I do.

To my beloved wife and daughter, your presence has been my anchor throughout this journey. Thank you for your unwavering support, patience, and understanding, and for giving me the space to focus, grow, and persevere. I will carry your love with me every step of the way and draw strength from it.

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Rabih Darwish, Gothenburg 2026

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1. Introduction

Digital platforms have become a central organizational form in the contemporary economy (Cusumano et al., 2019; Kretschmer et al., 2022). Over the past two decades, they have transformed how value is created, delivered, and captured across a wide range of industries, and some of the world's most highly valued firms have built their competitive advantage on platform-based business models (Cusumano, 2022; Gawer & Cusumano, 2014). The mainstream literature explains this growth largely through a familiar scaling logic: platforms expand rapidly by attracting users to one or more sides of a market, activating network effects, and benefiting from self-reinforcing feedback loops that increase platform value as participation grows (Eisenmann et al., 2006; Parker et al., 2016). In this view, the central strategic challenge is to reach critical mass quickly enough for these reinforcing dynamics to take hold, often through aggressive user acquisition, subsidization, and ecosystem orchestration (Cusumano et al., 2019; Hoffman & Yeh, 2018).

This account has proven influential and empirically persuasive in many consumer-facing markets. Research on social media, e-commerce, ride-hailing, app stores, and digital advertising has shown how platforms can scale at exceptional speed when participation is open, coordination costs are low, and additional users generate meaningful spillovers for others on the platform (Cennamo & Santalo, 2013; Parker & Van Alstyne, 2005). Under such conditions, network effects can entrench competitive positioning and drive market concentration. As a result, much of the strategy literature now treats rapid, network-effects-driven growth as the defining characteristic of successful platform scaling (Henfridsson, 2020).

Yet this dominant logic does not travel easily across all sectors in which digital platforms increasingly operate. In heavily regulated and institutionally governed environments such as healthcare, financial services, and parts of energy, the conditions that support classic platform growth are often absent or severely constrained (Büge & Ozcan, 2021; Essen et al., 2023). Participation is not determined solely by market choice but also by licensing regimes, professional norms, reimbursement systems, procurement rules, and public accountability requirements (Hermes et al., 2020; Hinings et al., 2018). In such settings, platforms cannot simply open access, subsidize growth, or impose their own governance structures in the way that many consumer platforms have done (Büge & Ozcan, 2021). Instead, they must operate

within pre-existing institutional orders whose terms they do not control (Greenwood et al., 2011).

This thesis starts from that tension. It argues that the mainstream account of digital platform scaling has important boundary conditions and that these become particularly visible in what I term weak network-effects environments. I use this concept to describe contexts in which the mechanisms through which platforms typically generate, reinforce, and appropriate value are structurally mediated by institutional forces that the platform cannot unilaterally control (Björkdahl et al., 2024; Greenwood et al., 2011). In such environments, network effects are muted, capital cannot easily compress the path to adoption, and ecosystem governance is already occupied by incumbent actors with established legitimacy and statutory authority. Value generation instead depends on institutional fit, accumulated legitimacy, and the capacity to operate within a governance system the platform does not own. The result is not that platform scaling becomes impossible, but that it follows a different strategic logic from that described in the mainstream literature.

Against this background, the thesis addresses the following research question: ***How do digital platforms scale in weak network-effects environments?***

To answer this question, the thesis draws on two qualitative case studies of digital health platforms in Sweden, reported in two appended papers, and synthesizes them in this cover paper to develop a broader theoretical account of platform scaling under institutional constraint (Eisenhardt & Graebner, 2007; Langley, 1999). Healthcare provides a particularly revealing empirical context for examining how platforms scale under such conditions, because it combines all three structural features in unusually pronounced form: strong professional and regulatory authority, fragmented public–private governance, and high legitimacy demands on any new entrant. The analysis shows that scaling in regulated sectors cannot be understood primarily as a matter of user growth. Rather, it depends on how platforms configure and reconfigure their scope, learn and repeatedly restore alignment with the ecosystems they seek to enter.

The thesis makes three main contributions. First, it identifies weak network-effects environments as a theoretically important boundary condition for the dominant platform scaling logic. Second, it develops an alternative account of scaling in such environments, showing that growth is driven less by demand-side self-reinforcement than by the interaction of scope management, reusable and recursive learning, and provisional alignment. Third, it

shows that different entry configurations can generate distinct but viable scaling trajectories, thereby shifting attention from universal platform playbooks toward processual and context-sensitive explanations of platform growth.

The remainder of the thesis proceeds as follows. Chapter 2 reviews the literature on digital platform scaling, elaborates on the boundary condition of weak network-effects environments, and establishes the theoretical tension that motivates the study. Chapter 3 outlines the methodological approach and research design. Chapter 4 summarizes the appended papers and positions them as the empirical basis for the synthesis. Chapter 5 presents the core thesis-level contribution by comparing the two cases and theorizing the mechanisms through which platforms scale in institutionally governed environments. The thesis concludes by discussing managerial implications, limitations, and directions for future research.

2. Frame of References

2.1 Digital platform scaling

Scaling is a central concept in this thesis that warrants brief clarification. Palmié et al. (2023) define scaling as an increase in the size of a focal subject accompanied by a larger-than-proportional increase in the performance resulting from that subject, and identify four dimensions along which scaling can occur: financial (economies of scale), organizational (processes and capabilities), market (geographic and segment expansion), and volume (production ramp-up). Bohan et al. (2024) emphasize the processual and time-bound character of scaling, highlighting internal transformation and super linear input–output relationships driven by economies of scale, scope, learning, and network externalities. Coviello et al. (2024) further foreground managerial agency, digital resources, and internal organizational transformation, distinguishing scaling as a process from scalability as a capability and scale-up as a phase of development.

Building on this body of work, scaling is defined in this thesis as the organizational process (Bohan et al., 2024; Coviello et al., 2024) through which a platform achieves a larger-than-proportional increase in performance relative to the inputs deployed, spanning the financial, organizational, market, and volume dimensions identified by Palmié et al. (2023). Having clarified scaling as a multidimensional concept, the remainder of this section examines the dominant logic through which digital platforms are theorized to scale.

The conceptualization of platforms within business strategy has its roots in traditional product development research. Early literature defined platforms as internal, firm-level architectures, that is a common set of subsystems and interfaces used within a single firm to efficiently generate families of derivative products (Gawer & Cusumano, 2002; Meyer & Lehnerd, 1997). In this view, platforms primarily enabled economies of scope in supply through modular product design. With the rise of the digital economy, the concept expanded beyond the boundaries of the firm toward external or industry platforms (Gawer, 2009; Gawer & Cusumano, 2014; Gawer & Cusumano, 2002). Cusumano et al. (2019) define digital platforms as "a foundation product or service that many people and organizations can use to exchange information and goods or to sell complementary products and services" emphasizing their role in facilitating interactions and ecosystem-level value creation. Gawer (2014) conceptualizes platforms as evolving organizations or meta-organizations that coordinate multiple autonomous agents, create value through economies of scope in supply

and/or demand, and rely on a modular core–periphery architecture. This integrative view highlights the organizational and governance dimensions of platforms beyond purely technological or market-based interpretations (Chen et al., 2022; Kretschmer et al., 2022). The literature distinguishes between transaction platforms, which mediate exchanges between distinct user groups, and innovation platforms, which provide technological foundations for third-party development. Increasingly, however, many digital platforms operate as hybrids that simultaneously support both transactional and innovation activities (Cusumano et al., 2019).

Digital platforms are widely portrayed as scaling unusually fast (Henfridsson, 2020) , benefiting from direct and indirect network effects which create reinforcing feedback loops that accelerate adoption and can generate winner-take-most dynamics when multihoming frictions and incompatibilities are present (Cennamo & Santalo, 2013; Eisenmann et al., 2006; Katz & Shapiro, 1985; Parker & Van Alstyne, 2005; Rochet & Tirole, 2003). Direct (same-side) network effects arise when users on the same side of a platform generate positive externalities for one another through direct interaction, and indirect (cross-side) network effects arise when growth on one side of a two-sided platform enhances value for users on the opposite side, and vice versa (Cusumano et al., 2019; Eisenmann et al., 2006). Network externalities in digital platforms are inherently self-reinforcing. Each new participant increases the attractiveness of the platform to prospective entrants, generating a positive feedback loop that, once triggered past a critical mass threshold, accelerates adoption and deepens cumulative advantage (Cusumano et al., 2019; Parker et al., 2016). This concentration dynamic follows a continuous transition pattern as network effects intensify from market sharing among competing platforms, to winner-take-most dominance, and perhaps to winner-take-all monopoly (Cennamo & Santalo, 2013; Cusumano et al., 2021; Parker et al., 2021) . A more recent addition to this literature is the concept of data-network effects (Gregory et al., 2021). A platform exhibits data-network effects when learning derived from one user's data improves the product or experience for other users, and when such improvements occur rapidly enough to increase the platform's current value for existing users (Gregory et al., 2022). Because AI enables scalable data-driven learning that enhances prediction speed and accuracy, data-network effects constitute an additional mechanism driving platform scaling by continuously increasing user value as the user base grows. Digital platforms also benefit from a set of digital affordances, including zero marginal reproduction costs, modular architecture, instantaneous global distribution, and real-time data feedback

loops (Henfridsson, 2020; Yoo et al., 2010), that lower the friction of onboarding new participants and amplify the speed at which network effects take hold.

Central to this mainstream view is that digital platforms create their own ecosystem, that is parallel, compete and potentially substitute the established ones (Holgersson et al., 2024). They redefined how value is delivered, making the older models largely obsolete. Many real-life examples are poster children of this. For instance, Netflix disrupted the video rental market by replacing physical stores like Blockbuster with an on-demand streaming model, eliminating late fees and physical media altogether. Similarly, Spotify replaced CDs and downloads with a subscription-based streaming service that made music instantly accessible from anywhere. Amazon disrupted brick-and-mortar retail by offering a vast online marketplace with faster delivery and personalized recommendations, leading to the closure of many physical stores. Dogru et al. (2019) find that for every 1% increase in the supply of Airbnb rentals in a location, hotel revenues were lowered by 0.02-0.04%.In most of these instances the platforms have agency and autonomy in devising governance models to incentive and control participants (Chen et al., 2022), in way that may differ from the prevailing institutions , to favor their position in kicking off and sustaining network effects. Many of these platforms also started by finding a way to amass considerable user base without adhering to the regulations of the sectors they are operating in and competing with. For instance Uber portraying themselves and tech companies instead of transportation company at the onset, to find a way around transportation rules with helped them to acquire a huge base of users, which in turn serve as powerful political advocates, later (Büge & Ozcan, 2021; Cusumano et al., 2019). A pattern that is apparent amongst most including Amazon, Apple, Meta, and Google, & recently ChatGPT.

Activating network effects, however, is not costless. Platforms aiming for winner-take-all or winner-take-most outcomes frequently face the classic chicken-and-egg problem ; that is the need to attract both sides of the market before either perceives sufficient value to participate; One common strategy often compels them to subsidize one or both sides simultaneously (Cusumano et al., 2019; Rochet & Tirole, 2003). Such a strategy may trigger platforms embrace aggressive capital expenditure. This logic underpins what Hoffman and Yeh (2018) term “blitzscaling” ,the intentional pursuit of hyper-growth through high burn rates in networked markets, where the speed of user acquisition matters more than short-term efficiency. Büge and Ozcan (2021) extend this perspective by framing rapid scaling as the

activation of three mutually reinforcing loops, a network loop, a data loop, and a capital loop, wherein early growth not only deepens network effects but simultaneously amplifies the platform's attractiveness to investors, whose capital and expertise in turn fuel further expansion. Uber's simultaneous subsidization of both drivers and riders stands as a canonical illustration of this dynamic, by demonstrating how capital-intensive early-stage strategies can serve as the precondition for eventual market dominance.

Emerging research nonetheless challenges the scale-free view of digital platform growth. Cennamo (2021) conceptualizes platform competition as a tension between platform size and platform identity, arguing that excessive expansion may dilute distinctiveness and undermine competitive performance. Other studies demonstrate that rapid scaling can generate coordination costs, governance complexity, quality dilution, and cross-side imbalances (Kohler, 2018; Stallkamp et al., 2022), and that geographic expansion introduces institutional and cultural frictions that make scaling an iterative and resource-intensive process rather than a frictionless one (Varga et al., 2023). In B2B contexts, network effects appear systematically weaker than in consumer markets, because participation is governed by long-term contractual relationships, professional standards, and institutional accountability rather than by open market entry (Ritala & Jovanovic, 2023; Springer et al., 2025). In such settings, the number of participants matters less than the depth and governance quality of relationships, and rapid user accumulation may actively undermine the trust and coordination on which value creation depends (Wlcek et al., 2025). Taken together, these critiques suggest that the dominant platform scaling logic is neither universal nor unconditional: scaling can be costly, contested, and constrained even in relatively open market environments. These challenges are amplified, however, when platforms enter sectors subject to strong institutional oversight, where the very conditions that the mainstream logic presupposes are fundamentally absent. It is to these contexts that the discussion now turns.

2.2 Weak Network-Effects Environments: Where the Dominant Platform Logic Breaks Down.

The mainstream platform literature treats network effects as the primary engine of platform growth and competitive advantage. As more users join, the platform becomes more valuable to all participants, generating self-reinforcing dynamics that can, in some markets, lead to rapid dominance and the entrenchment of leading platforms (Parker & Van Alstyne, 2005; Cusumano et al., 2019). This logic has been validated empirically across a range of

consumer-facing markets, including social media, ride-hailing, e-commerce, and digital advertising, where it has produced some of the most valuable firms in economic history. Yet in a significant and growing class of sectors, the same scaling logic has repeatedly struggled to deliver comparable results; see for instance Babylon & Google Health (Clay, 2025; Talbot, 2011). I argue that the dominant logic of digital platform scaling is not universally applicable, and that its core assumptions are systematically undermined in environments where institutional forces constrain the very mechanisms on which it depends. I refer to such settings as weak network-effects environments. I define a weak network-effects environment as a setting in which open participation, low coordination costs, and freely accumulating user spillovers — the structural prerequisites of demand-side self-reinforcement — are constrained by regulatory frameworks, professional gatekeeping, and institutional governance structures that the platform does not control (Greenwood et al., 2011). In such environments, value generation depends instead on institutional fit, accumulated legitimacy, and the capacity to operate within a governance system the platform does not own. Throughout this thesis, I use the terms regulated sectors and institutionally governed environments as descriptive shorthand for such settings, while retaining weak network-effects environment as the theoretical designation that identifies the underlying structural condition rather than merely the industry context. These institutional forces, namely regulatory bodies, professional licensing authorities, public agencies, and entrenched incumbents with statutory power, govern who can participate, at what pace, and on whose terms.

Healthcare is the empirical context of this thesis and provides the clearest instantiation of these conditions (Essen et al., 2023; Hermes et al., 2020; Holgersson et al., 2024). Broadly analogous dynamics have been observed across other non-platform institutionalized sectors, that is, settings in which an established institutional order predates and structurally constrains platform entry (Essen et al., 2023; Hinings et al., 2018). In financial services, central banks, financial supervisory authorities, and conduct regulators determine who may operate, at what scale, and under what compliance conditions; licensing cycles, anti-money-laundering audits, and capital adequacy requirements follow regulatory timelines that capital investment cannot compress, thereby delaying the activation of network effects on both sides of the market (BIS, 2021; Büge & Ozcan, 2021). In regulated energy markets, transmission and distribution infrastructure is governed by statutory monopolies and national regulatory frameworks that determine grid access, pricing, and market participation

conditions; a platform cannot unilaterally connect energy producers and consumers on its own terms but must instead negotiate access to institutionally controlled infrastructure held by incumbents whose authority precedes its entry (Llorca et al., 2024; OECD, 2022). Across these sectors, the shared structural condition is not the absence of digital technology but the presence of pre-existing institutional governance that determines participation terms before any platform arrives. This is precisely the condition that disables the conventional scaling logic and defines the weak network-effects environments theorized in this thesis. In the following, I examine why the fundamental assumptions underlying the dominant platform logic fail to hold in these environments.

First, network effects are structurally muted. In consumer platforms, adding users creates positive externalities for existing participants: more buyers attract more sellers, more content creators attract more viewers, and the platform's aggregate value grows roughly in proportion to the size and diversity of its network (Parker & Van Alstyne, 2005; Rochet & Tirole, 2003). This dynamic is fundamentally altered in weak network-effects environments because participation is governed institutionally rather than commercially. Who can join the platform, on what terms, and in what capacity is determined not by the platform but by external authorities, including licensing boards, regulatory agencies, and reimbursement bodies, whose decisions follow regulatory logic rather than network logic (Hermes et al., 2020; Holgersson et al., 2024). As a result, the platform cannot open or accelerate participation to trigger positive feedback loops; it can only operate within the participation boundaries that institutional actors define. Beyond restricting who can participate, these conditions also mute the value generated by additional users. In sectors characterized by highly personalized, episodic, or expert-mediated interactions, adding another user on either side of the platform does not generate the same cross-side spillovers that characterize consumer platforms. In healthcare, for instance, a patient's primary need is clinical resolution of a specific condition, not access to a larger patient community; and adding a physician does not meaningfully expand clinical choice given the standardized and tightly governed nature of medical practice (Holgersson et al., 2024). On this basis, I argue that the positive feedback loops that platform scaling theory depends upon are consequently weak in these environments, not because the platform is poorly designed, but because the structural conditions for their activation are simply not present.

Second, the "blitzscaling" logic is structurally disabled. The conventional scaling strategy treats capital as a substitute for time: by subsidizing participation heavily on one or both

sides of the market, platforms compress the timeline to critical mass and trigger self-reinforcing dynamics before rivals can respond (Büge & Ozcan, 2021; Cusumano et al., 2019; Hoffman & Yeh, 2018). This substitution breaks down in weak network-effects environments because the barriers to participation are institutional rather than financial, and capital cannot compress them. Regulatory certification processes, professional licensing cycles, and compliance audits follow their own timelines set by institutional authorities, not by the platform's investment decisions (Gajarawala & Pelkowski, 2020). On the demand side, users in institutionally governed sectors do not adopt platforms based on promotional pricing or subsidized access. In healthcare, patients require demonstrated clinical safety, data protection, and care continuity before adoption; in financial services, consumers demand regulatory authorization and demonstrated security; in both cases the adoption preconditions are institutional rather than economic, and cannot be purchased through aggressive user acquisition (Borges do Nascimento et al., 2023; Essen et al., 2023). The consequence is that capital investment accelerates neither regulatory acceptance nor sustainable user adoption. This is well illustrated by the trajectories of Babylon Health and Teladoc in healthcare: both raised substantial capital, pursued aggressive growth, and achieved significant user numbers; yet both encountered severe financial strain before the institutional preconditions for profitable scaling were in place (Lee, 2025; Levingston et al., 2023). Therefore, I argue that the blitzscaling logic, which presupposes that capital can compress the path to critical mass, loses its generative force in institutionally governed environments, where the relevant timelines are set by regulatory authorities that capital cannot influence.

Third, platforms in these environments cannot govern the ecosystems they seek to enter. A central source of platform power in consumer markets is the capacity to position itself as the rule-setting authority at the center of an ecosystem it has itself constituted: Uber defines the terms on which drivers and riders interact; Apple determines the conditions under which developers access iOS; Facebook sets the norms governing content and identity on its network (Cusumano et al., 2019; Parker et al., 2016). This governance capacity rests on the platform's ability to create its own ecosystem from scratch, establishing its own norms, incentive structures, and access conditions before incumbent interests can organize resistance. In weak network-effects environments, this founding moment is unavailable. The relevant ecosystem already exists: it is entrenched, institutionally governed, and controlled by actors with statutory authority whose legitimacy precedes and supersedes that of any new entrant (Holgersson et al., 2024). Of particular significance, the assets held by these

incumbents are not peripheral to the platform's value proposition but structurally necessary for it: in healthcare, clinical legitimacy, patient relationships, and interoperability with existing health records systems; in financial services, licensed infrastructure, customer trust, and regulatory relationships. These assets cannot be replicated or bypassed; they must be accessed through the incumbents who hold them. Digital platforms entering these environments therefore cannot disrupt the existing order; they complement it, leading not to displacement but to integration. As Björkdahl et al. (2024) demonstrate through the concept of platform grafting, success in mature institutionalized ecosystems depends not on building parallel value chains but on embedding digital capabilities within incumbent workflows, governance structures, and resource configurations. In a similar fashion, Muthukannan et al. (2026) find that platforms in financial services advance not by accumulating users but by progressively adapting to and reshaping regulatory demands over time. Ozalp et al. (2022) corroborate this, showing that platforms entering highly regulated industries must work through incumbent authority rather than around it, confirming that integration, not displacement, is the structurally available pathway. I argue that this distinction between displacement and integration is consequential for how we understand platform scaling: unlike platforms in consumer markets that independently set membership rules, pricing structures, and access conditions, platforms in weak network-effects environments enter as low-agency members of a pre-existing institutional order (Essen et al., 2023), unable to unilaterally define participation terms, set incentive structures, or govern ecosystem actors on their own terms.

These three mechanisms, muted network effects, capital-resistant participation barriers, and pre-constituted institutional governance, are analytically distinct but mutually reinforcing. Together they define the structural character of weak network-effects environments and explain why the dominant platform scaling logic fails to transfer to them. The implication is not that scaling is impossible in such environments, but that it requires a qualitatively different strategic logic, one that the existing literature has not yet adequately theorized.

2.3 Toward an Alternative Logic of Platform Scaling

The preceding sections establish a theoretical tension. Section 2.1 showed that the dominant account of digital platform scaling rests on three interrelated pillars: self-reinforcing network effects that enable rapid user growth, capital-intensive strategies that subsidize early adoption to reach critical mass, and the platform's capacity to create and govern its own ecosystem. Section 2.2 demonstrated that these pillars are structurally weakened or absent in what I term

weak network-effects environments, where institutional conditions constrain participation, limit the strength of network effects, and restrict the platform's ability to unilaterally shape ecosystem dynamics. The result is a theoretical impasse: existing explanations of platform scaling rely on mechanisms that do not hold in the very sectors where platforms are increasingly expected to operate.

Yet empirical observations suggest that some digital platforms do scale successfully in such environments, particularly in healthcare. This raises a fundamental question: how do platforms scale when the conventional drivers of scaling are structurally constrained? Accordingly, the research question guiding my thesis is: ***How do digital platforms scale in weak network-effects environments?***

Emerging literature on digital health platforms begins to point toward an alternative logic of scaling. Rather than relying on rapid expansion driven by strong network effects, platforms appear to scale through three interrelated dynamics. First, platforms tend to define a selective scope (e.g. deciding on specific services, activities, or market segments (Björkdahl et al., 2024; Holgersson et al., 2024)), which is subsequently adjusted and reconfigured over time (e.g. through business model innovation (Essen et al., 2023)). Second, scaling is underpinned by learning, as platforms rely on experimentation, feedback, and capability development to improve their offerings and adapt to complex and evolving environments (Holgersson et al., 2024). Third, successful growth depends on alignment with incumbent structures, requiring platforms to integrate with existing institutions, governance arrangements, and legitimacy expectations rather than pursuing purely disruptive trajectories (Björkdahl et al., 2024; Essen et al., 2023).

The aforementioned insights suggest that platform scaling in healthcare is not driven by rapid, self-reinforcing expansion, but by a more gradual and adaptive process. However, while this emerging literature has identified scope, learning, and alignment as the relevant dimensions, it has so far stopped short of theorizing them as interacting mechanisms whose continuous interplay shapes the scaling process at the level of the individual platform trajectory. What these dimensions consist of in practice remains underdeveloped; how learning accumulates and travels across institutional contexts, how scope is sequenced and reconfigured over time, and how alignment is built, lost, and restored as scaling unfolds.

Building on these insights, and guided by the empirical analysis, this thesis identifies three analytically distinguishable but empirically intertwined mechanisms through which platform

scaling unfolds in weak network-effects environments: (1) scope reconfiguration, through which platforms iteratively adjust and expand their domain of activities and markets; (2) reusable and recursive learning; and (3) provisional alignment with pre-existing institutional and governance structures, through which platforms continuously adapt to and shape their surrounding ecosystem. These mechanisms were not predefined but emerged through an iterative engagement between empirical observations and existing literature. Rather than operating in isolation, they interact and co-evolve over time, jointly shaping the trajectory of platform scaling.

I investigate these mechanisms through two longitudinal case studies of digital health platforms in Sweden. My thesis uncovers how platforms scale not despite institutional constraints, but through iterative adaptation to them. In doing so, it contributes a more dynamic and mechanism-based account of platform scaling, extending existing literature toward a more adequate understanding of how platforms grow in institutionally complex and regulated environments.

3. Methodology

The purpose of this thesis is to generate new insights on how digital platforms scale in weak network-effects environments, with particular focus on heavily regulated sectors such as healthcare. This chapter outlines the methodological approach that underpins the research and explains the reasoning behind the key design choices made along the way. It covers the epistemological assumptions that guided the inquiry, the overall research design and the logic behind case selection, the data sources employed across the two empirical papers, and the analytical strategy used both within individual papers and across them in the synthesis that forms the core of this cover paper. While the appended papers include their own methodological descriptions, this chapter provides a unified account of the research process as a whole, including how the two papers relate to one another methodologically and how the integrative argument presented in Chapter 5 was developed.

3.1 Epistemological Stance and Research Approach

This thesis adopts an interpretive epistemological stance. The underlying assumption is that social reality (how organizations make strategic decisions, navigate institutional environments, and develop capabilities over time) is not objectively given, but is constructed through the meanings that actors assign to their situations, actions, and constraints (Bell et al., 2019; Orlikowski & Baroudi, 1991). Understanding how digital platforms scale in regulated sectors therefore requires attending to how platform managers interpret their institutional context, how they make sense of regulatory demands and stakeholder expectations, and how these interpretations shape, and are reshaped by, the choices they make over time. This is not a phenomenon that can be adequately captured by measuring variables across a large sample; it requires getting close to the actors, processes, and contexts involved. A positivist approach, oriented toward measuring and generalizing from standardized variables, would flatten precisely the kind of contextual complexity that this thesis seeks to explain (Guba & Lincoln, 1994).

Consistent with this stance, the research follows an abductive logic of inquiry (Dubois & Gadde, 2002). Rather than beginning with a set of propositions to be tested against data(deduction), or deriving theory purely from raw observations (induction), abduction involves iterative movement between empirical data and theoretical concepts (Bell et al., 2019). Surprising or anomalous patterns observed in the data prompt a search for theoretical

explanations; in turn, theoretical concepts provide language and structure that sharpen how the empirical material is read and interpreted. This back-and-forth characterized the entire research process. The conceptual framework presented in Chapter 2 was not fully formed before the empirical work began; rather, it was progressively refined as the case analyses deepened and as engagement with the literature clarified how the observed patterns related to, and departed from, existing theory on platform scaling. This abductive orientation is well-suited to the research purpose for a specific reason. The scaling of digital platforms in regulated sectors is a phenomenon that existing theory addresses only partially. Mainstream platform literature, built primarily on consumer-facing markets characterized by strong network effects, provides limited analytical traction for regulated contexts where the mechanisms of scaling are fundamentally different. An abductive approach allows the research to take existing theory seriously as a point of departure while remaining genuinely open to developing new concepts that the empirical material demands. The goal is not to confirm or disconfirm prior theory, but to extend and partially redirect it in ways that better account for the realities of platform scaling under institutional constraint.

3.2 Research Design

The empirical foundation of this thesis consists of two qualitative case studies of digital health platforms operating in the Swedish healthcare sector, one comparative and one longitudinal. The choice of qualitative methods is not incidental but follows directly from the nature of the research questions. In this thesis I ask how platforms scale under institutional constraints, a question that call for in-depth, contextually sensitive accounts rather than the statistical aggregation of variables across a large sample (Eisenhardt, 1989; Yin, 2018). Scaling is not a discrete event but an unfolding trajectory shaped by sequences of decisions, institutional reactions, and organizational adaptations over time (Bohan et al., 2024). Capturing this kind of processual complexity requires longitudinal data collection spanning multiple years, close enough to the phenomenon to observe how strategies evolve, how tensions emerge and are managed, and how learning accumulates and is redeployed across successive episodes (Langley, 1999; Pettigrew, 1990).

The thesis adopts a qualitative case study approach combining a comparative multiple-case study and a longitudinal process study. The decision to work with more than one case, rather than investing all resources in a single in-depth study, was deliberate. Multiple cases allow the researcher to distinguish between patterns that are specific to a particular firm and those that reflect more general mechanisms, a distinction that is particularly valuable when the goal

is to develop theoretical claims rather than to describe a single instance in depth. It is important to note, however, that the two empirical papers within this framework employ distinct but complementary research designs; treating them as methodologically equivalent would misrepresent the research. Paper I is a comparative multiple-case study built around a deviant case logic (Eisenhardt & Graebner, 2007; Gibbert et al., 2020). DigiCare is identified as a deviant case against a broader set of Swedish digital health platforms that followed the mainstream broad-scope playbook; the analysis is oriented toward understanding what DigiCare did differently and why that configuration produced a divergent scaling outcome. The study traces strategic choices and their consequences over time, but its primary analytical focus is comparative rather than processual. Paper II, by contrast, is a longitudinal process study (Langley & Tsoukas, 2010) of DigiHealth, explicitly tracing how the platform's business model and scaling trajectory unfolded through successive episodes of reconfiguration between 2016 and 2025. The two papers are therefore analytically complementary: Paper I illuminates what strategic configuration produces divergent outcomes; Paper II illuminates how a scaling trajectory unfolds over time.

3.3 Case Selection

The two focal cases, DigiCare and DigiHealth, were selected through theoretical sampling (Eisenhardt & Graebner, 2007). They were not chosen for statistical representativeness of a broader population of healthcare platforms, but because they offered strong theoretical leverage for addressing the central research questions of this thesis. Access to both cases was facilitated through the supervisory research network, which enabled the depth and longitudinal character of data collection required by the research design, including repeated interview access and close proximity to strategic deliberations within the firms.

Three considerations guided the selection of the cases, each reflecting deliberate methodological choices rather than mere convenience. First, both platforms operate within the same institutional environment: the Swedish publicly funded healthcare system. This shared context holds institutional conditions largely constant across the comparison. It is characterized by regulatory oversight from national and regional health authorities, mandatory procurement processes, strong professional norms among clinicians, and complex multi-level governance across 21 autonomous regions. This matters because it reduces the risk that observed differences between the two platforms are artefacts of different regulatory regimes or market structures rather than the result of the platforms' strategic choices. Both platforms were also founded in 2016 and remain active today, meaning that their scaling

trajectories unfolded over the same regulatory and technological period of digital health development in Sweden. Differences in scaling trajectories can therefore be attributed more confidently to the platforms' configurations and decisions. Second, the cases were selected for their empirical prominence within the Swedish digital health ecosystem. Both DigiCare and DigiHealth represent successful and influential actors in the market. DigiCare has established itself as one of the largest digital care providers in Sweden, achieving significant market share and reaching profitability early in its development. DigiHealth, in turn, has become a major platform provider for public healthcare organizations, with its infrastructure adopted by a large majority of Sweden's regional health authorities. Both platforms have also begun expanding beyond the Swedish market, further illustrating their relevance as cases of platform scaling. Studying such prominent actors increases the analytical value of the cases, as their trajectories provide rich insight into how digital platforms navigate institutional constraints while achieving substantial market penetration. Third, and most critically for the theoretical argument, the two cases represent markedly different approaches to scaling trajectories. The logic of selecting contrasting cases is well established in qualitative theory-building research, as such cases maximize observable variation on theoretically relevant dimensions and often make underlying mechanisms easier to detect and interpret than cases that differ only marginally (Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Pettigrew, 1990).

3.4 Data Sources

Data collection for both empirical papers was extensive and longitudinal. Multiple complementary sources were used across both papers in order to enable triangulation and build accounts of each platform's trajectory that no single source could provide alone (Pettigrew, 1990; Yin, 2018). The scope and composition of data collection differ between the two papers, reflecting their different research designs, and each is described in turn.

Paper I drew on a comparative multi-case design spanning five Swedish digital health platforms studied over 2020–2025. Data collection included 52 semi-structured interviews in total: 12 in-depth interviews (Bell et al., 2019; Kvale & Brinkmann, 2009) with DigiCare's three co-founders and operational staff; 27 interviews with informants from the four dominant-pattern platforms ,covering co-founders, clinical directors, operations managers, product leads, and software engineers; and 13 interviews with external healthcare stakeholders including regulators, regional health authority representatives, and primary care center directors. Secondary data comprised trade press, regulatory and policy reports, and

company materials. One member of the research team served as a mentor to DigiCare's management team prior to and during the research period, participating in over 50 business meetings. This retrospective insider engagement provided unique access to strategic deliberations and internal decision-making that would not have been accessible through interviews alone. Potential bias arising from this proximity was mitigated through systematic triangulation with external interview data and documentary evidence, and through transparent reporting of the role's nature and scope in the paper itself (Alvesson & Sköldberg, 2018; Liu et al., 2022). Some of the interviews and observational material in Paper I were collected prior to the start of this PhD project as part of an ongoing research collaboration within the supervisory team. These data were subsequently integrated into the study and complemented with additional data collection during the doctoral research period.

Paper II drew on a single longitudinal process study of DigiHealth spanning 2016–2025. Primary data comprised 13 semi-structured interviews with DigiHealth's leadership team (CEO, CMO, CTO, commercial and product leads, customer success management), conducted across three waves in 2020, 2024, and 2025 to capture both retrospective and real-time perspectives. The multi-wave design was particularly valuable here: collecting data at multiple points in time allowed the research team to combine retrospective accounts of earlier strategic episodes with contemporaneous perspectives on more recent developments, rather than relying entirely on hindsight reconstruction. To capture ecosystem-level dynamics, 27 further interviews were conducted with external actors, including regional regulators, public healthcare providers, insurance companies, pharmacy chains, and technology partners. Secondary data comprise 18 regulatory and policy documents (MDR guidance, regional procurement frameworks, EU AI Act consultations), and 41 firm press and media articles — all spanning the 2016–2025 study period. Secondary data were particularly important for reconstructing the decision chronology and for establishing the institutional context in which strategic choices were made, including how regulatory shifts such as reimbursement cuts in 2017 and 2019 functioned as triggers for business model transformation. Parts of the interview material in Paper II, including the first wave of interviews (5 interviews) conducted in 2020 and several ecosystem interviews, were collected by members of the supervisory research team prior to the start of my doctoral project. I subsequently extended this dataset through additional interviews and document collection.

DATA SOURCE	DIGICARE— PAPER I	DIGIHEALTH — PAPER II
FOCAL INTERVIEWS	12 interviews: co-founders (3), medical doctors, product lead, developers	13 interviews: CEO, CMO, CTO, commercial lead, product lead, customer success
COMPARATIVE / ECOSYSTEM INTERVIEWS	27 interviews across four dominant-pattern platforms + 13 stakeholder interviews (regulators, regions, primary care)	27 interviews: regional regulators, public healthcare providers, insurance companies, pharmacy chains, technology partners
REGULATORY & POLICY DOCUMENTS	MDR guidance, procurement frameworks.	18 documents: MDR guidance, procurement frameworks, EU AI Act materials
MEDIA & TRADE PRESS	36 Firm press releases, 2 podcast transcripts	41 Firm press release
DATA COLLECTION PERIOD	2020–2025	2020–2025
EMPIRICAL COVERAGE	2016–2025	2016–2025

Table 1: Data sources

All interviews across both papers were semi-structured, guided by protocols that covered strategic decision-making, platform evolution, scope choices, navigation of institutional requirements, and the management of tensions and trade-offs. Interviews were audio-recorded and transcribed in full. The inclusion of informants across multiple roles— from co-founders and executives to clinical leads, product managers, and external regulators — was deliberate, ensuring that the accounts produced were not confined to any single perspective within or around each platform. Triangulation across the different source types was used throughout to corroborate interpretations, surface contradictions, and cross-check retrospective accounts against contemporaneous records (Bell et al., 2019; Denzin, 1989).

3.5 Analytical Strategy

The analytical work in this thesis operates at two distinct levels, and it is worth being explicit about this distinction from the outset. The first level is the analysis conducted within the appended papers themselves. The second level is the synthesis conducted in this cover paper, that is the cross-case comparison and integrative theorizing that sit on top of the papers and constitute the thesis's own intellectual contribution.

Level 1: Within-Case Analysis (Paper Level). The analytical foundation of the thesis was built through independent, in-depth within-case analyses conducted as part of writing Papers I and II. These analyses are described in full in the appended papers themselves; what follows is a summary of their logic and procedures as they feed into the kappa-level synthesis. The two papers employed different but complementary coding approaches, each appropriate to its

specific design. For Paper I, data were analyzed using thematic analysis (Braun & Clarke, 2006) through open coding to surface recurrent themes, strategic patterns, endpoints of divergence across the five platforms (Braun & Clarke, 2006; Strauss & Corbin, 1998). The analysis proceeded through four iterative phases: detailed within-case narratives were first developed for each platform; cross-case pattern identification then established the shared dominant logic across the four comparison platforms; deviant case analysis focused specifically on DigiCare's departures from this dominant pattern, using axial coding to uncover the underlying mechanisms; and theoretical integration synthesized the emerging insights into propositions about alternative platform scaling logics. Two researchers independently coded the data, with peer debriefing sessions used to resolve discrepancies and build interpretive consensus (Lincoln & Guba, 1985; Patton, 2015).

For Paper II, data analysis followed a narrative-based approach suited to the longitudinal and processual character of the study (Langley, 1999; Pettigrew, 1990).Rather than beginning with formal coding, the analysis started by building a detailed chronological account of DigiHealth's trajectory from the full body of interview and documentary data. As this narrative took shape, recurring patterns began to emerge, specifically, a repeated sequence in which a misalignment between the platform's business model and its institutional environment triggered a strategic reconfiguration, which in turn produced a period of renewed alignment before new tensions surfaced. Recognizing this pattern allowed the data to be organized into three analytically meaningful episodes using temporal bracketing (Langley, 1999): 2016–2019, 2019–2023, and 2023–2025. Each episode was defined not by calendar time alone but by the internal logic of their configuration cycle it contained.

The constructed timeline and episode structure were then brought back to the DigiHealth CEO in a dedicated follow-up conversation, who was asked to verify the accuracy of the chronology, clarify specific events, and reflect on how the transitions between episodes had been experienced from the inside. This member-checking procedure (Lincoln & Guba, 1985) served both a validity function to confirm that the empirical reconstruction was accurate, and an analytical one, as the CEO's responses to specific questions about events generated additional data that refined the theoretical interpretation. Throughout this process, the empirical account was developed in iterative dialogue with the theoretical literature on business model transformation, institutional alignment, and platform grafting, with theoretical concepts used to sharpen the interpretation of observed patterns rather than imposed as a predetermined framework.

Level 2: Cross-Case Comparison (Cover paper Level). With the within-case analyses established at the paper level, the kappa introduced a second analytical layer: a systematic cross-case comparison between DigiCare and DigiHealth. This comparison does not appear in either paper, it is an analytical move that belongs specifically to this thesis, made possible by having the two completed case analyses available side by side. Following the logic of replication (Eisenhardt, 1989; Yin, 2018), the comparison involved identifying patterns, parallels, and contrasts between the two platforms along theoretically relevant dimensions: their initial scope configurations, the institutional challenges encountered, the learning mechanisms developed, and the tensions each needed to manage. The goal was not simply to catalogue similarities and differences, but to ask how and why the two trajectories diverged as they did and what that divergence reveals about the mechanisms governing platform scaling in regulated environments. Building on this comparison, the analysis was further abstracted into a set of underlying mechanisms that shape platform scaling trajectories.

3.6 Research Quality

Assessing the quality of qualitative research requires criteria suited to its interpretivist and context-sensitive character, rather than the reliability and internal validity standards developed for quantitative inquiry (Bell et al., 2019; Carcary, 2020; Guba & Lincoln, 1994; Lincoln & Guba, 1985). The relevant criteria, namely credibility, transparency, dependability, confirmability, and transferability.

CRITERION	MEANING	APPLICATION IN THIS STUDY
CREDIBILITY	The extent to which findings accurately represent the studied phenomenon	Strengthened through longitudinal data collection (2020–2025) covering trajectories since 2016, multiple informant roles across organizations and ecosystem actors, and systematic triangulation across interviews, documents, and external sources. Independent coding and peer debriefing in Paper I further supported interpretive consistency.
TRANSPARENCY	Clarity and openness in reporting research design, process, and researcher role	The thesis provides a detailed account of research design, data sources, and analytical procedures. Differences between papers are explicitly explained. The insider role in Paper I is disclosed and critically reflected upon, and the abductive and iterative research process is described openly.
DEPENDABILITY	Consistency and traceability of the research process over time	Ensured through structured analytical procedures, including thematic analysis (Paper I), narrative analysis and temporal bracketing (Paper II), and the sequential logic of within-case analysis followed by cross-case comparison. These create a clear audit trail from data to findings.
CONFIRMABILITY	Degree to which findings are grounded in data rather than researcher bias	Supported through multi-source triangulation, systematic comparison of data sources, and explicit handling of researcher positionality. Analytical procedures make the link between empirical material and theoretical interpretation transparent.
TRANSFERABILITY	Extent to which findings can inform other contexts	Achieved through analytical (not statistical) generalization. The comparative design and rich empirical descriptions enable readers to assess applicability to other regulated and institutionally complex platform contexts.

Table 2: Quality Assessment

4. Summary of Appended Papers

This chapter provides tight, analytical summaries of the two appended papers. The purpose is not to reproduce the papers, but to position them as the objects of analysis for the synthesis that follows. For each paper, the summary outlines its research question, data, core findings, and its specific contribution to the overall thesis.

Summary of Paper I: False Assumptions & Old Truths – Rethinking Digital Platform Scaling in Healthcare

Research Question: How can digital platforms achieve scale in healthcare when the traditional network-effects logic fails?

Design and Data: Paper I employs a comparative multiple-case study with deviant case analysis (Gibbert et al., 2020; Siggelkow, 2007). The study covers five leading Swedish digital health platforms studied between 2020 and 2025. Four Swedish health platforms serve as dominant-pattern cases, establishing the prevailing industry logic against which the deviant case is assessed. DigiCare is the deviant case: a platform whose scaling trajectory departs markedly from both the dominant industry pattern and conventional platform literature. Data collection comprised 52 semi-structured interviews in total — 12 with DigiCare's co-founders and operational staff, 27 with informants from the four comparison platforms, and 13 with external healthcare stakeholders including regulators, regional health authorities, and primary care center directors — supplemented by trade press, regulatory reports, and company materials. One member of the research team had retrospective insider access to DigiCare's strategic deliberations as a mentor to the management team; this pre-understanding was systematically triangulated with external data to mitigate bias.

Core Findings: Paper I first documents the dominant platform logic in Swedish digital healthcare. The four comparison platforms followed the mainstream industry platform playbook: broad service portfolios, capital-intensive user acquisition, aggressive scope expansion into specialist care and physical clinics, and international rollout — all sustained by venture capital rather than operational profitability. Despite substantial resources, none achieved sustained profitability, and several faced structural financial difficulties analogous to high-profile international failures such as Babylon Health. The paper argues that these failures reflect a fundamental misalignment between the industry platform playbook and healthcare's institutional realities: network effects are structurally muted by the episodic and highly personalized nature of care interactions; blitzscaling is disabled because participation

barriers are institutional and regulatory rather than financial; and platform firms cannot govern the ecosystems they enter because governance authority resides with regulators, professional bodies, and public health agencies.

Against this backdrop, DigiCare's trajectory is strikingly anomalous. The platform entered through a single, tightly defined clinical condition — urinary tract infections in women — deliberately chosen for its high patient burden, clinical clarity, remote treatment feasibility, and low regulatory risk. Rather than competing on breadth, DigiCare expanded one condition at a time, following a consistent prioritization logic anchored in clinical urgency, healthcare system burden, and remote treatability. The platform developed distinct consumer-facing brands for each condition ("Urine check", "Acne check", "Lyme check") rather than a unified brand, enabling condition-specific digital marketing while preserving the depth and focus of each offering. Architecturally, each "Check" functioned as a distinct front-end module built on a shared back-end covering data, payments, and authentication — mirroring the logic of product platforms such as Volkswagen's MQB architecture, where separate brand identities share a stable core. DigiCare was bootstrapped and charged patients from the first day of operation, validating each service's clinical safety, market viability, and regulatory compliance before committing resources to the next. This "pay-as-you-learn" economic discipline — in sharp contrast to competitors' reliance on subsidized user acquisition — enabled the platform to achieve profitability early and fund development incrementally through revenue rather than investor capital, transforming institutional constraints into a source of competitive advantage.

Contributions: Paper I makes three principal contributions. First, it challenges the universality of the dominant industry platform playbook by demonstrating that network-effects-based scaling is structurally constrained in healthcare, and that the repeated failure of well-resourced actors reflects a deep misalignment between the playbook's assumptions and the sector's institutional realities — not a failure of execution. Second, it revives an earlier, largely forgotten lineage of platform thinking rooted in internal product platforms (Baldwin & Clark, 2000; Wheelwright & Clark, 1992) — pre-dating digital transformation — and shows how its principles of modularity, learning, and architectural reuse are not obsolete but essential in sectors where network effects are weak or difficult to realize. By building a modular back-end that supports multiple condition-specific front-ends, DigiCare achieved scale through cumulative capability reuse rather than user aggregation, generating economies of learning rather than economies of scale. Third, it introduces two interrelated mechanisms

that together constitute an alternative scaling pathway: vertical mastery, in which depth-before-breadth expansion generates reusable clinical protocols, compliance routines, and data architectures that lower the marginal cost and regulatory friction of each subsequent launch; and recursive learning, in which structured learning cycles tied to each new service codify tacit knowledge into transferable modules, enabling the firm to "learn a platform into existence" rather than design one ex ante. Underpinning both mechanisms is the economics of disciplined growth: validated legitimacy — not network size — serves as the primary driver of scalable, sustainable expansion in trust-sensitive and regulated environments.

Summary of Paper II: Transformation Through Iteration — Scaling Platform-Based Transformative Business Models in Established Ecosystems.

Research Question: How do platform-based transformative business models achieve and sustain alignment with mature ecosystems during the scaling process?

Design and Data: Paper II is a longitudinal process study of DigiHealth, a Swedish digital health platform, spanning 2016 to 2025. DigiHealth was selected as a. critical case given its distinctive strategic trajectory and its position as the platform infrastructure for 19 of Sweden's 21 healthcare regions. Primary data comprised 40 semi-structured interviews — 13 with DigiHealth leadership conducted across multiple waves between 2020 and 2025, and 27 with external ecosystem actors including national regulators, incumbent healthcare providers, and strategic partners. These were triangulated with regulatory reports and firm press materials. Data analysis followed a narrative-based approach organized through temporal bracketing into three analytically meaningful episodes: 2016–2019, 2019–2023, and 2023–2025, each defined by the internal logic of a recurring cycle of misalignment, reconfiguration, and provisional realignment.

Core Findings: DigiHealth entered the Swedish healthcare market in 2016 with a dual B2C/B2B business model — offering a direct-to-patient care service while simultaneously developing a software platform for public healthcare providers. This dual configuration served as a market creation and legitimacy-building instrument but exposed a fundamental institutional misalignment: the capitation funding structure of Swedish primary care gave public providers a financial disincentive to adopt a platform that directly competed for their simplest, most profitable patient cases. Regulatory changes further eroded the B2C arm's viability, while a landmark regional B2B contract in 2018–2019 confirmed the B2B opportunity but made the dual model structurally unsustainable. In response, DigiHealth

legally separated and subsequently divested the B2C arm by 2022, pivoting to a standardized, multi-tenant SaaS architecture aimed at replication across regional healthcare buyers. The COVID-19 pandemic accelerated B2B demand dramatically, enabling rapid geographic and service expansion. However, this breadth-first scaling revealed a new constraint: many clients had contracted the platform without embedding it deeply in everyday clinical workflows, producing what leadership described as "contract debt." The limiting misalignment had shifted from institutional resistance to shallow adoption within client organizations. The third episode saw DigiHealth reconfigure around value realization rather than market access — creating a dedicated Customer Success Unit, splitting its commercial team into "hunters" and "farmers," consolidating its international footprint to three markets, and introducing AI-enabled functionalities including clinical note transcription and natural language triage. This episode remains in an open-ended state, with new tensions emerging around AI governance, data processor constraints, and regional implementation inconsistencies.

Theoretical Contributions: The paper introduces two core concepts. Subtractive scaling captures the paradox that in institutionally dense ecosystems, scaling may require progressively narrowing the business model scope rather than expanding it — each subtraction making the platform more compatible with the requirements of the established ecosystem and therefore more capable of transformative impact. This extends the concept of platform grafting (Björkdahl et al., 2024) by showing that grafting is not a one-time act but requires actively removing elements of the platform's own configuration that create structural incompatibility with incumbent structures. Provisional alignment describes the condition in which the platform achieves sufficient compatibility with ecosystem elements to operate and scale at a given stage, while that very scaling eventually generates new misalignments. The paper identifies three qualitatively distinct levels of deepening integration — surface alignment, operational alignment, and systemic alignment — and shows that the limiting misalignment shifts across different ecosystem elements (institutions, artefacts, activities, actors) as embedding deepens. The broader theoretical contribution is a process model of iterative alignment in mature ecosystems, advancing transformative business model research toward a processual understanding in which transformation emerges not from a single business model configuration but from a cumulative sequence of reconfigurations through which the platform progressively deepens its integration with the established ecosystem.

5. Discussion

This chapter presents the core contribution of the thesis. Section 2.2 identified three structural conditions that disable the conventional scaling logic in weak network-effects environments: muted network effects, capital-resistant participation barriers, and pre-constituted institutional governance. The discussion that follows does not propose mirror-image replacements for each disabled pillar. Instead, it identifies three interacting mechanisms that together constitute an alternative scaling logic: scope configuration and reconfiguration (Section 5.1), reusable and recursive learning (Section 5.2), and provisional alignment with pre-existing governance structures (Section 5.3). Learning offers an alternative engine of growth in which institutional and operational knowledge, rather than user counts, accumulates as the platform expands. Provisional alignment shows how platforms work within rather than around existing institutional structures, repeatedly restoring fit as scaling itself destabilizes it. Scope reconfiguration enables platforms to calibrate their institutional exposure as learning and alignment evolve.

The synthesis of the two appended papers reveals that these mechanisms are closely intertwined. Early scope choices shape what the platform can learn, what kinds of legitimacy it can build, and how deeply it must integrate with incumbent structures. In turn, learning enables subsequent scope expansion or subtraction by clarifying which parts of the offering can be replicated, which must be adapted, and which generate unsustainable institutional friction. As the platform grows, however, previously achieved fit is repeatedly destabilized by new services, new geographies, and deeper embedding in the ecosystem. Scaling therefore becomes a recursive process in which platforms alternate between expansion and recalibration, using learning and scope reconfiguration to restore provisional alignment.

5.1 Neither Narrow nor Broad: Entry Choices, Scope Reconfiguration, and Platform Scaling

A central integrative insight emerging from the synthesis of the appended papers is that digital platform scaling in weak network-effects environments is fundamentally shaped by how platforms manage — define, sequence, and reconfigure — scope over time. While dominant platform research has emphasized scaling through rapid expansion, user growth, and network effects (Cusumano et al., 2019; Parker et al., 2016), the findings suggest that in institutionally dense sectors such as healthcare, scaling is less about continuous expansion and more about managing the boundaries of what the platform attempts to do, for whom, and under what institutional conditions. From this angle, scope functions as a strategic

mechanism through which platforms navigate regulation, legitimacy, and operational complexity during scaling.

The synthesis of the two empirical cases demonstrates that early scope design choices play a path-shaping role during scaling. Across the two cases, early scope choices led to distinct scaling paths rather than convergence toward a single dominant model. In one trajectory, Paper II shows that a broader initial scope enabled the platform to engage multiple stakeholders and address a wider set of healthcare needs. This breadth facilitated learning, legitimacy-building, and market access, but it also oriented scaling toward diversification into related markets and the development of a more comprehensive system. This path increasingly required deep integration with incumbent healthcare infrastructures, including public providers, procurement systems, and professional workflows. Such integration-oriented scaling is consistent with ecosystem research showing that platforms operating in regulated and interdependent environments often grow by embedding themselves within existing structures rather than displacing them (Adner, 2017; Björkdahl et al., 2024; Jacobides et al., 2018) . However, broad scope amplified integration complexity, given the heterogeneity and fragmentation of the healthcare ecosystem (Hermes et al., 2020), generating repeated scope adjustment episodes that progressively narrowed the platform's focus.

In another trajectory, Paper I demonstrated how platforms can begin with a deliberately narrow scope, using focus as a means of reducing institutional coupling and accelerating time-to-market. By limiting the service domain and standardizing delivery, the platform minimized regulatory exposure, reduced coordination requirements, and enabled faster replication. This approach reflects classic arguments from competitive strategy regarding the benefits of differentiation focus and segment-level positioning (Porter, 1980), as well as economic perspectives on achieving scale and scope efficiencies (Panzar & Willig, 1981) by means of disciplined modularization (Baldwin & Clark, 2000). In this trajectory, scope management manifested through gradual broadening into adjacent services and new regions, where each expansion required decisions about which elements of the offering could be replicated unchanged and which required adaptation to remain operationally and institutionally viable. Taken together, these two trajectories extend prior work emphasizing the importance of institutional integration in regulated sectors (Björkdahl et al., 2024; Essen et al., 2023) by showing that such integration is not uniform. Instead, platforms become embedded in healthcare institutions to varying degrees depending on early scope choices and subsequent scope reconfiguration. Rather than bypassing regulation altogether (Büge &

Ozcan, 2021), scaling unfolded through scope strategies that produced tighter or looser forms of institutional embedding over time, shaping the extent to which platform growth depended on close alignment with regulatory, procurement, and professional infrastructures.

This thesis shows that scope management is not a one-time strategic decision but a continuous scaling capability, and that it is not unidirectional. I conceptualize continuous scope reconfiguration as a dynamic capability (Teece, 2018b) that enables platforms to navigate the institutional frictions inherent in scaling within weak network-effects environments. As platforms grow, they repeatedly confront institutional pressures that require adjustments to the boundaries of the offering, the customer segments targeted, and the organizational arrangements through which value is delivered. The degree and frequency of reconfiguration differed markedly between the two cases. Paper II, where DigiHealth began with a broad dual B2C/B2B configuration (Springer et al., 2025), required deeper and more substantial scope reconfiguration over time compared to the narrow-first trajectory in Paper I. This contrast points to a broader insight: broad-first entry in B2B contexts may be strategically rational as a legitimacy and market-creation instrument, even when it is not a viable long-term configuration. The dual model created demand, demonstrated viability, and built credibility with public-sector actors, serving as a precondition for the deeper B2B integration that followed. However, the organizational and institutional costs of maintaining breadth eventually outweighed its strategic benefits, triggering the reconfiguration episodes that defined the subsequent trajectory. This distinction between configurations that serve entry and those that enable embedding echoes the subtractive scaling argument advanced in Paper II, and suggests that broad-first strategies in B2B contexts should be understood as transitional rather than terminal configurations (Wlcek et al., 2025).

This section makes three contributions to research on platform scope. First, it qualifies existing prescriptions for B2B platform entry (Wlcek et al., 2025) by showing that broad-first strategies can be strategically rational in institutionally dense contexts, serving as transitional configurations that create legitimacy and market access before reconfiguration toward a narrower, more embeddable model. The relevant question is not whether to start broad or narrow, but what purpose each configuration serves at each stage of the scaling trajectory. Second, the thesis extends work on platform scope boundaries (Gawer, 2021) by demonstrating that early scope design choices have enduring consequences for scaling trajectories, and that the process of scope management is not unidirectional. Rather than expanding boundaries progressively, platforms engage in ongoing calibration — alternating

between expansion and narrowing as institutional pressures evolve across successive stages of scaling. This oscillatory dynamic resonates with Putra et al. (2026), who show that incumbents in a nascent IoT ecosystem do not fix scope once and for all, but cycle between broader and narrower configurations as managerial frames shift between shaping and adapting to the environment. The present healthcare cases confirm this oscillatory pattern while situating it in a fundamentally different context. Digital health platforms scale within a mature, institutionally dense ecosystem that they must integrate with rather than shape. Accordingly, repeated scope adjustments in this context are driven not by the pursuit of open economic opportunities, but by the structural demands of achieving workable integration with existing regulatory, professional, and infrastructural arrangements. This positions ecosystem maturity — and the integration imperative it generates — as a key boundary condition for platform scope oscillation theory. Third, the thesis extends the concept of institutional relatedness (Punt et al., 2022) into the context of regulated digital platforms by demonstrating that scope decisions are governed not only by technological or data-driven proximity (Giustiziero et al., 2023; Lanzolla et al., 2025) nor by shared industry membership and value chain linkages (Rumelt, 1982), but primarily by shared regulatory pathways, reimbursement logics, procurement categories, and professional jurisdictions.

5.2 Scaling Through Reusable and Recursive Learning

The findings suggest that digital platform scaling in weak network-effects environments is a process of learning accumulation and reuse. Rather than being primarily driven by network effects, as often assumed in platform research (Cusumano, 2022; Cusumano et al., 2019; Henfridsson, 2020), scaling in weak network-effects environments emerges as a cumulative capability-building process in which platforms progressively convert situated experience into reusable, multi-dimensional knowledge (Argote & Miron-Spektor, 2011; Ringov et al., 2026). Across the cases, learning accumulates along multiple interrelated dimensions — institutional (e.g., regulation and legitimacy), operational (e.g., clinical workflows), and product (e.g., triage and service design) — with data-driven learning acting as a cross-cutting mechanism that enables their refinement and reuse. This view aligns with the broader innovation management argument that learning capabilities shape firms' growth trajectories by enabling them to absorb external knowledge, translate it into routines, and redeploy it across contexts (Cohen & Levinthal, 1990). It also resonates with research on replication as strategy, which emphasizes that scaling depends on the creation of a transferable template that can be reproduced with acceptable fidelity across new sites (Winter & Szulanski, 2001).

However, the synthesis indicates that in institutionally governed sectors, the transferable template is not limited to technical infrastructure or service design. Instead, what becomes scalable is a set of institutional and operational routines that allow the platform to repeatedly navigate regulation, professional expectations, and public governance arrangements. In this thesis, learning is reusable when it is codified into templates that travel across settings, but also recursive because each new institutional context reactivates uncertainty and forces renewed alignment work, even when prior knowledge exists. In other words, learning is reusable but not fully transferable: each new institutional context reactivates uncertainty, requiring the reinterpretation and partial reconstruction of previously codified templates.

The thesis extends the body of knowledge on learning by showing how learning manifested multidimensionally (regulatory compliance, practitioner workflows, patient experience, clinical safety) but via contrasting scope logics. *The first learning pathway* adopted a deliberately narrow initial scope, breaking down market, domain, and institutional complexity into bounded and manageable components rather than confronting them as a single overwhelming barrier. By limiting the early scope to specific patient pathways, the platform effectively reduced environmental uncertainty, allowing for the development of repeatable compliance routines, clinical decision protocols, and safety mechanisms. Once these institutional routines are codified within a single niche, they functioned as a validated template that could be systematically reused across adjacent services. *The second learning pathway*, illustrated in Paper II, concerns scaling through public-sector viability generated by an initially broad B2B2C configuration. Rather than narrowing scope to decompose regulatory complexity, the platform engaged simultaneously with patients and public providers, using consumer interaction as a learning laboratory to refine service design, usability, and clinical workflows prior to institutional scaling. This early engagement was instrumental in improving the platform's robustness and credibility toward B2B health providers. Through repeated interaction with public health actors and municipalities, the platform also accumulated experiential knowledge regarding procurement rules, reimbursement structures, and accountability requirements. Crucially, this learning informed scope reconfiguration by clarifying which service components could be standardized and replicated across regions and which required narrowing, adaptation, or redesign to remain institutionally viable. Importantly, the findings show that while such learning can be codified and reused, it is rarely transferable without friction. Expansion into new clinical domains or governance settings often reopens legitimacy questions and requires renewed interpretation of

regulations and workflows, meaning that learning must be repeatedly re-established rather than simply applied.

Papers I and II show that scaling is enabled by learning, corroborating recent research emphasizing the role of learning effects in scaling health platforms (Holgersson et al., 2024). Various elements of this learning are data-driven, enabling the platform to improve efficiency and reliability without relying on classic demand-side feedback, and to develop and refine core products such as smart triage systems. Data-driven learning can also support institutional acceptance by generating legitimacy assets. By monitoring and disclosing internal practices (e.g., prescribing patterns) and using performance data to engage regulators and external evaluators, platforms may reduce legitimacy concerns and make subsequent scaling steps more feasible. Although data-driven learning is discussed in the dominant logic of digital platforms (Gregory et al., 2022; Hagiu & Wright, 2023; Ozalp et al., 2022) this thesis extends this literature in two important ways. In Paper II, the initial B2C configuration functioned as a learning infrastructure. Operating as an online doctor service generated rich patient interaction data and experiential insights that enabled the platform to refine service design, triage logic, and clinical workflows before translating these improvements into a standardized and credible artifact for public healthcare providers. Moreover, direct engagement with patients through the B2C model strengthened domain legitimacy by demonstrating practical medical competence. The findings extend (Ozalp et al., 2022) by showing that data accumulation alone does not generate advantage; learning becomes valuable when the platform is embedded in the field and operates as a recognized participant in the regulated ecosystem. In a related but distinct fashion, Paper I qualifies dominant data-driven learning arguments in platform research, which often assume that learning advantages primarily accumulate through scale and interaction volume (Gregory et al., 2022; Hagiu & Wright, 2023). This thesis shows that in weak network-effects environments, starting from a hyper-narrow scope enables platforms to develop deep institutional and operational knowledge regarding regulation, clinical workflows, safety standards, and patient experience before scaling. Rather than learning being primarily a function of user counts, focused early engagement within a bounded domain can generate disproportionately reusable knowledge that later supports systematic replication across adjacent services. In this context, learning is qualitative and institutional as much as data-driven. Compared with dominant platform growth logic, the cases introduce a boundary condition: in mature and heavily regulated

ecosystems, deep domain learning can precede and shape scaling, rather than scale being a necessary precondition for valuable learning.

Finally, the synthesis suggests that learning plays a critical role in shaping the speed of innovation and scaling in regulated sectors. Prior research has often attributed the slow pace of innovation in healthcare to regulatory uncertainty and institutional complexity (Büge & Ozcan, 2021; Chen & Jin, 2023). Papers I and II extend this perspective by demonstrating that platforms can actively reduce regulatory uncertainty through learning. Whether through a narrow scope that decomposes regulatory complexity into manageable components, or through a broader configuration that enables early interaction with public actors and regulators, learning functions as a mechanism that progressively clarifies institutional expectations. The pace of scaling in regulated sectors is enabled not by bypassing regulation — as seen in platform strategies of regulatory avoidance in other industries (Büge & Ozcan, 2021; Cusumano et al., 2019) — but by developing the institutional capabilities to interpret, internalize, and operationalize regulatory requirements. In this way, regulation becomes not a barrier to be circumvented, but a domain of competence to be mastered. This reframes a central assumption of dominant platform literature. Where Hoffman and Yeh (2018) treat capital as the decisive currency for compressing the timeline to critical mass, the cases in this thesis show that in weak network-effects environments, regulatory certification, professional acceptance, and procurement cycles run on timelines that investment cannot compress. The decisive currency is instead accumulated institutional knowledge: the platform that learns fastest, not the one that burns fastest, is the one that scales.

5.3 Provisional Alignment and Tension Management: Sustaining Institutional Fit During Scaling

A third integrative insight is that scaling in weak network-effects environments is governed by provisional alignment: even when platforms achieve a workable fit with incumbent institutions, that alignment is temporary and repeatedly destabilized as scope expands, services evolve, and platforms enter new organizational and geographic contexts. Consistent with work emphasizing that digital health platforms must integrate with mature ecosystems rather than substitute them (Björkdahl et al., 2024; Essen et al., 2023), Paper II shows that alignment is not a one-time achievement but a process that unfolds through iterative mutual adjustment between the platform firm and public-sector actors. This process is co-evolutionary in the sense that scaling attempts reshape institutional responses — including procurement demands and clinical governance expectations — while institutional feedback

reshapes the platform's business model, routines, and scope (Adner, 2017; Jacobides et al., 2018; Lewin & Volberda, 1999). Scaling itself generates tensions that produce misalignment; restoring alignment then depends on the platform's ability to manage these tensions by leveraging the mechanisms discussed in Sections 5.1 and 5.2 — scope reconfiguration and learning (Teece, 2007, 2018a).

In less regulated sectors, platforms such as Facebook or Spotify may scale while postponing deep integration with incumbent governance structures. In weak network-effects environments, by contrast, alignment with institutional actors is an immediate precondition for viability. This alignment is provisional: it begins at a relatively superficial level and deepens to reach systemic level as scaling progresses yet remains prone to misalignment. As platforms expand their scope, geographic reach, or stakeholder base, new frictions emerge that destabilize previously achieved fit. Scaling, therefore, does not simply extend alignment, it generates tensions that require ongoing management. This synthesis focuses on the two most salient tensions that were palpable across the appended papers.

Breadth versus Depth emerges prominently across Papers I and II. The platform that started broad and sought to scale rapidly encountered a recurring tension between expanding breadth and sustaining depth of use. As the platform grew quickly across regions, services, and customer segments, expansion outpaced embedded usage in everyday clinical routines, producing implementation strain and shallow adoption. This growth trajectory also generated resource contention, as limited clinical, technical, and organizational capacity had to be distributed across competing scaling fronts. Strategic attention was repeatedly pulled between domestic stabilization and international growth, and between improving clinician engagement and pursuing new contracts. Managing this tension required repeated recalibration — including reorganizing internal teams, strengthening customer success and implementation functions, redesigning features to improve adoption, and, at one stage, partially de-internationalizing to refocus resources on core markets. Alignment was thus restored not by continued expansion, but by temporarily narrowing scope to stabilize usage and rebuild institutional fit. In Paper II, the breadth of the initial B2C configuration did not merely strain resources. It generated a structural incompatibility, as the platform simultaneously competed with and sought to serve the same public healthcare providers as B2B customers. Restoring alignment required not recalibration but divestiture: the B2C arm was shed entirely, transforming the platform's identity from a care provider to a neutral enterprise technology partner. Paper I, by contrast, reflects a depth-first trajectory in which scope was deliberately

constrained until the platform became embedded in everyday clinical routines. By stabilizing compliance mechanisms, practitioner workflows, and service delivery within a narrow domain, the platform reduced implementation strain and avoided repeated organizational restructuring. Taken together, the two cases suggest that aggressive breadth expansion makes tensions more salient and costly if not managed in a timely manner (Lindgren et al., 2019), and that in regulated ecosystems, breadth tensions can escalate beyond operational strain into configurational contradictions that require more fundamental remedies than scope narrowing alone. In regulated sectors, delayed stabilization is particularly risky because adoption depends on trust, professional acceptance, and integration with public-sector routines — making depth of use a prerequisite for sustainable scaling (Björkdahl et al., 2024; Essen et al., 2023). This adds a boundary condition to the blitzscaling logic common in digital markets, where firms often tolerate inefficiencies and fix problems later in order to expand rapidly (Hoffman & Yeh, 2018). In institutionally dense sectors, delayed stabilization increases legitimacy risk and implementation debt, meaning that scaling must be paced not only by market access but by institutional embedding capacity — making depth of use a core scaling constraint rather than a post-scaling outcome.

Standardization versus Adaptation tension emerges prominently across both appended papers. Scaling often depends on replicating a transferable artifact, technical infrastructure, service model, or organizational routines, across new contexts. However, replication is rarely straightforward, as contextual differences create sustained pressure for adaptation. Scaling therefore becomes a balancing act between the efficiency gains of standardization and the necessity of contextual adjustment (Tippmann et al., 2022; Winter & Szulanski, 2001). This applies equally to digital platforms, despite their scale-free assets and attributes (Varga et al., 2023). This thesis aligns with this view and extends it by showing that in regulated sectors, adaptation is not only required across countries but also within the same national system. Expansion into new clinical domains or regions often involves different procurement practices, professional routines, and governance arrangements, meaning that standardized templates must be continuously modified to remain institutionally viable. At the same time, adaptation is resource-intensive and can outpace platform capacity, particularly when it occurs simultaneously across multiple scaling fronts. In Paper II, rapid expansion across different markets and domains increased coordination complexity, as the platform had to manage multiple adaptation processes in parallel, including localization of workflows, contractual arrangements, and implementation routines. Such multi-front adaptation becomes

especially demanding when expansion involves high institutional and psychic distance (Ghemawat, 2001), where assumptions about governance and service delivery no longer transfer smoothly. This challenge also affects the accumulated learning discussed in Section 5.2. Although platforms codify reusable routines, learning does not travel seamlessly across institutional contexts. Expansion into new regions, clinical domains, or governance settings often reactivates uncertainty and requires renewed interpretation of regulations, workflows, and stakeholder expectations. As illustrated in Paper I, prior knowledge provided a foundation, but entry into a new national context still necessitated restarting parts of the learning process to rebuild institutional fit. In this sense, standardization and adaptation are not opposing endpoints but recurring poles of an ongoing calibration process driven by the institutional demands of each new scaling context.

The two tensions identified across the papers point to a broader theoretical insight: scaling in weak network-effects environments is not a self-reinforcing process but a tension-laden one, in which provisional alignment must be actively and repeatedly restored. This thesis conceptualizes tension management as a dynamic capability (Teece, 2007, 2018), not in the traditional sense of reconfiguring tangible resources, but in the sense of continuously recalibrating the platform's institutional position as scope expands and contexts shift. The mechanisms through which this capability operates are those developed in Sections 5.1 and 5.2: scope reconfiguration allows platforms to adjust their institutional exposure, while learning enables them to interpret and internalize the expectations of new contexts. Learning and scope reconfiguration enable the continuous but provisional restoration of alignment as platforms scale under institutional constraint. In this sense, the three interacting mechanisms of this thesis are not independent contributions but components of a single underlying logic: scaling platform in weak network-effects environments is governed by the capacity to manage institutional complexity dynamically, rather than resolve it once and for all.

6. Managerial Implications

The findings of this thesis carry several implications for managers building or scaling digital platforms in regulated sectors. The first implication is that managers should be cautious about importing platform growth playbooks developed in consumer markets. Strategies centered on rapid user acquisition, subsidized expansion, and early breadth may be effective where participation is open and network effects are strong, but they can be deeply misleading in settings where access, legitimacy, and value creation are institutionally mediated. In such environments, faster expansion does not necessarily create stronger competitive advantage. It may instead magnify misalignment, implementation strain, and legitimacy risk.

A second implication is that managers should treat scope design as a central strategic decision rather than as a secondary matter of product packaging. The cases show that what a platform chooses to do at entry strongly shapes its subsequent scaling trajectory. A narrow entry may be advantageous when the goal is to reduce regulatory exposure, validate operational routines, and build transferable knowledge under controlled conditions. A broader entry may be useful when the platform needs to create a market, build visibility, or engage multiple stakeholders simultaneously. However, managers should recognize that the strategic value of breadth or narrowness is stage-dependent. Scope should therefore be managed dynamically, with explicit attention to when expansion creates value and when subtraction or modular separation becomes necessary for deeper embedding.

A third implication concerns learning. In regulated sectors, managers should not view learning merely as an outcome of scale; they should build the organization around the deliberate accumulation and codification of institutional knowledge. This includes learning how to interpret regulatory requirements, work with professional users, navigate procurement processes, structure implementation, and demonstrate credible performance. In practice, this means investing in routines that capture experience and translate it into reusable templates, playbooks, protocols, and governance mechanisms. The platform that learns fastest how to operate legitimately may scale more effectively than the one that merely acquires users fastest.

Fourth, managers should recognize that alignment with incumbent structures is not a one-off hurdle at market entry. It is an ongoing managerial task. As platforms expand into new services, geographies, or user segments, new tensions will emerge around implementation, governance, standardization, and value realization. Management teams should therefore

monitor not only market growth indicators but also signals of institutional strain: shallow adoption, implementation backlogs, stakeholder resistance, regulatory ambiguity, and growing dependence on localized workarounds. Such signals often indicate that scaling has outpaced embedding.

Finally, the thesis suggests that managers in regulated sectors should treat legitimacy as a productive asset rather than merely as a compliance requirement. Clinical credibility, regulatory trust, implementation reliability, and alignment with public-sector routines are not external constraints standing in opposition to growth. They are central ingredients of sustainable scaling. Platforms that build legitimacy progressively may appear slower in the short term, but they are often better positioned to expand without destabilizing the very relationships and structures on which their growth depends.

7. Limitations and Future Research

As with all qualitative and theory-building research, this thesis has limitations that also open productive avenues for future work. The first limitation concerns empirical scope. The thesis is based on two in-depth case studies in a single national context, namely Swedish healthcare. This design was appropriate for developing a processual and context-sensitive explanation of platform scaling under institutional constraint, but it also limits the range of variation observed. Swedish healthcare is a particularly distinctive institutional setting, shaped by strong public-sector governance, regional autonomy, and specific reimbursement and procurement arrangements. Although the thesis aims for analytical rather than statistical generalization, future research should examine whether the mechanisms identified here operate similarly in other regulated sectors and national settings.

A second limitation concerns the sectoral focus of the study. Healthcare is especially well suited for exploring weak network-effects environments because institutional mediation is strong and legitimacy demands are unusually salient. At the same time, this very distinctiveness raises the question of how far the argument can travel. Future studies could extend the analysis to sectors such as financial services, energy, education, or public administration in order to examine which elements of the proposed framework are sector-specific and which are more generally characteristic of institutionally governed platform environments.

A third limitation relates to the case composition. The thesis focuses on relatively successful scaling trajectories rather than on a balanced set of successes and failures. Such a focus on successful trajectories was theoretically useful because it allowed close examination of how platforms can scale despite institutional constraints, but it also means that the study is better positioned to explain viable pathways than to theorize collapse, stagnation, or persistent non-scaling. Future research could therefore compare successful and unsuccessful platform trajectories more systematically, particularly to understand when scope reconfiguration, learning, or alignment efforts fail to restore viability.

A fourth concerns the weak network effects environments. While this thesis theorizes weak-network-effect environments as a distinct structural condition, it does not follow that all regulated sectors constitute such environments. The structural condition obtains only where institutional forces are sufficiently pervasive to mediate the core mechanisms of platform value generation and appropriation. Future research should examine the boundary conditions

more precisely, perhaps by identifying which configurations of institutional density, incumbent authority, and governance structure activate weak networks-effect dynamics and which do not.

A fifth limitation concerns the temporal status of the findings, especially in relation to artificial intelligence and evolving digital-health regulation. Some of the tensions identified in the thesis, particularly those related to data processing, AI-enabled triage, and governance responsibilities, are likely to intensify as regulatory frameworks continue to develop. Future research could therefore investigate how AI changes the balance between standardization and adaptation, or whether data-driven capabilities alter the nature of learning and alignment in weak network-effects environments.

These limitations point to several broader directions for future research. One promising avenue is comparative work across institutional settings in order to refine the boundaries of the concept of weak network-effects environments. Another is longitudinal research that follows platform trajectories over even longer periods, especially beyond early growth into maturity, consolidation, or decline. A third is more explicit theorization of institutional relatedness, that is, the degree to which adjacent services or markets share governance structures, professional jurisdictions, and legitimacy requirements. Such work could deepen understanding of how platforms make scope decisions when technological adjacency and institutional adjacency do not coincide.

8. Conclusion

This thesis examines how digital platforms scale in weak network-effects environments. It began from the observation that dominant platform literature explains scaling primarily through network effects, rapid user acquisition, and platform-led ecosystem orchestration, yet these assumptions appear increasingly strained in heavily regulated sectors such as healthcare. In response, the thesis developed the concept of weak network-effects environments to capture settings in which the mechanisms through which platforms typically generate and appropriate value are structurally mediated by institutional forces beyond the platform's control, and in which value generation depends instead on institutional fit, accumulated legitimacy, and the capacity to operate within a governance system the platform does not own.

Drawing on two case studies of digital health platforms in Sweden, the thesis shows that platform scaling in such environments follows a different logic. Rather than being driven primarily by user aggregation, scaling depends on how platforms configure and reconfigure scope, accumulate and redeploy institutional knowledge, and repeatedly restore alignment with pre-existing governance structures. These mechanisms are mutually reinforcing and form an interdependent system through which scaling unfolds. Early scope choices shape what the platform can learn and how deeply it must integrate with incumbent actors. Learning, in turn, enables later scope adjustment and more effective navigation of institutional complexity. Yet alignment remains provisional because each new phase of scaling introduces new tensions that destabilize previously workable configurations. Scaling in weak network-effects environments is therefore not a linear trajectory but a recursive one, in which platforms repeatedly cycle between expansion, learning, and realignment.

The thesis contributes to platform research in three main ways. First, it identifies weak network-effects environments as an important boundary condition for dominant theories of platform scaling. Second, it proposes an alternative explanation of how scaling occurs in such settings, one centered on the interaction of scope management, reusable and recursive learning, and provisional alignment rather than on self-reinforcing network effects alone. Third, it shows that different entry configurations can generate distinct but viable scaling trajectories, thereby shifting the analytical focus from universal platform playbooks to context-sensitive and processual accounts of growth.

Although the empirical grounding of this thesis lies in Swedish healthcare, the analytical logic developed here speaks to a broader trend. As digital platforms continue to expand into institutionally dense sectors, research must move beyond models derived primarily from open consumer markets. The strategic challenge in such environments is not simply to grow faster, but to grow in ways that are institutionally workable, operationally sustainable, and capable of generating legitimacy over time. Platform scaling without strong network effects is therefore not an anomaly at the margins of digital strategy. It is a theoretically important form of growth that becomes increasingly central as platforms move deeper into the regulated domains of the contemporary economy.

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