How can the actor-oriented architectural scheme guide organisational structure and solution offerings? A perspective on the business models of healthcare AI start-ups: A single case study

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ABSTRACT

Title: How can the actor-oriented architectural scheme guide organisational structure and solution offerings? A perspective on the business models of healthcare AI start-ups: A single case study

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This thesis investigates how the actor-oriented architectural scheme can inform both the internal organisational design and external solution offerings of healthcare AI startups. Drawing on a single-case study of Livv Health, a Norwegian digital health company developing an AI-powered platform to unify fragmented patient data, the research adopts an abductive approach, iteratively moving between empirical insights and theoretical reflection.

Building on theories of value networks, actor-oriented architecture, and dynamic capabilities, this thesis proposes a dual application of actor-oriented logic: internally, through decentralized governance, collaborative problem-solving, and shared digital infrastructure; and externally, through a platform that empowers patients to manage and share their health data across clinical ecosystems.

The analysis introduces the concept of dynamic alignment to capture how the recursive relationship between organisational design and value proposition enables continuous adaptation in response to environmental complexity. In doing so, this thesis positions actor-oriented architecture as more than an organisational form - it argues for its classification as a dynamic capability - one that supports business model innovation and strategic responsiveness in fast-evolving, regulated environments.

This work contributes to emerging literature at the intersection of healthcare strategy, digital transformation, and organisational theory by offering a framework that integrates internal and external logic of coordination. It further illustrates how healthcare AI startups can serve as laboratories for organisational innovation, reimagining not just how care is delivered, but how health systems are structured.

KEY WORDS

actor-oriented architectural scheme, healthcare AI, business model innovation, dynamic capabilities, digital health, case study

ABSTRATO

Título: De que forma a arquitetura orientada para o ator pode guiar a estrutura organizacional e a oferta de soluções? Uma perspetiva acerca de modelos de negócio de start-ups de IA no setor da saúde: Um caso de estudo

Autor: Carolina Mateus da Silva

A presente tese investiga de que forma a arquitetura orientada para o ator pode informar o desenho organizacional e as ofertas de soluções de startups de inteligência artificial em saúde. Com base num caso de estudo da Livv Health, empresa norueguesa que desenvolve uma plataforma de inteligência artificial para centralizar dados de pacientes, esta tese adota uma abordagem abductiva, alternando entre conceitos empíricos e reflexão teórica.

Apoiada nas teorias das redes de valor, da arquitetura orientada para o ator e das capacidades dinâmicas, é proposta uma dupla aplicação da lógica orientada para o ator: internamente, através da governança descentralizada, da resolução colaborativa de problemas e de uma infraestrutura digital partilhada; e externamente, por meio de uma plataforma que capacita os pacientes a gerir os seus dados em ecossistemas clínicos.

A consequente análise introduz o conceito de alinhamento dinâmico, que ilustra como a interação entre desenho organizacional e proposta de valor permite uma adaptação contínua perante a complexidade ecossistémica. Assim, a arquitetura orientada para o ator é posicionada não apenas como forma organizacional, mas como uma capacidade dinâmica que sustenta a inovação do modelo de negócio e a resposta estratégica em contextos regulados e em rápida evolução.

Esta tese contribui para a literatura na interseção entre estratégia em saúde, transformação digital e teoria organizacional, oferecendo um quadro conceptual que integra lógica interna e externa de coordenação. Demonstra ainda como startups de saúde podem funcionar como laboratórios de inovação, repensando tanto a prestação de cuidados como a estruturação dos sistemas de saúde.

PALAVRAS-CHAVE

esquema de arquitetura orientado para o ator; inteligência artificial em saúde; inovação do modelo de negócio; capacidades dinâmicas; saúde digital; caso de estudo

STATEMENT OF INTEGRITY

I hereby declare that I have conducted this academic work with integrity. I confirm that I have not used plagiarism or any form of undue use of information or falsification of results during the process leading to its elaboration. I further declare that I have fully acknowledged the Rules of Conduct and Code of Honor from both universities: BI Norwegian Business School and Católica Lisbon School of Business and Economics.

Coimbra, 1st July 2025

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1 INTRODUCTION

1.1 Problem Statement and Relevance

Healthcare (HC), one of the largest sectors in developed and developing nations, is undergoing rapid transformation. In fact, accelerated digital transformation (DT) was identified as the factor most likely to impact global health systems in 2025 (Siegel, 2025).

In 2021 alone, health spending accounted for over 10% of global gross domestic product (GDP) (Sterlin, 2024), positioning the healthcare sector as one of the most substantial and influential of global economic activity.

However, despite its size and significance, the healthcare sector has struggled to evolve in alignment with its environment. During the past several decades, as the industry has expanded, including providers, payers, life science firms, and digital health services, its core focus has fragmented (Elton & O'Riordan, 2016).

To fully understand the evolving dynamics of the healthcare sector, it is essential to revisit foundational theories that have helped shape the discourse on innovation. One particularly relevant framework is the theory of disruptive innovation, which explains how smaller or emerging players can effectively address underserved consumer needs that are often overlooked by established incumbents focused on sustaining more profitable markets (Bower & Christensen, 1995). This theory has since been applied to the healthcare sector, demonstrating how an innovation-focused lens can reveal structural and strategic issues that traditional analyses failed to capture (Christensen et al., 2009).

This perspective has sparked considerable interest among researchers and practitioners over the years. However, in 2017, it was observed that the healthcare sector had still remained notably resistant to disruption, falling short of the transformative potential originally envisioned. This resistance was attributed to the inherent complexity of the sector, the deeply established organisational structures, and the strict regulatory environment (Christensen et al., 2017).

In this context, the deeply fragmented nature of healthcare continues to constrain systemic change. The unifying objective of optimizing patient outcomes has frequently been overshadowed, though this is beginning to shift. As in other industries that have undergone digital transformation processes, healthcare now stands at an inflection point, where new entrants, new business models, and patient-centred systems are gaining increasing relevance (Elton & O'Riordan, 2016). This moment calls for more than incremental change; it requires a clear understand-

ing of how urgent challenges are reshaping the basis of competition, compelling stakeholders across the healthcare ecosystem to rethink strategies, reconfigure business models, and enhance innovation capabilities (Christensen et al., 2017). At the same time, international regulatory initiatives, such as the European Health Data Space (EHDS), are accelerating this transition by promoting frameworks that empower individuals to access, control, and share their electronic health data across borders, thus improving the continuity and coordination of care ("European Health Data Space Regulation (EHDS) - European Commission", 2025).

The concept of value in healthcare is being redefined: not only around efficiency or scale, but increasingly around connectivity, outcomes, and the ability to coordinate care within complex ecosystems (Elton & O'Riordan, 2016). This shift creates the need for a reassessment of the business models, technologies, and organisational structures that shape the sector, as well as the underlying logic by which organisations and stakeholders collaborate, share resources, and adapt to change, creating a rich research avenue for scholars. Given the sector's inherent complexity and the profound consequences of systemic failures - which impacts lives, societies, and economies - it presents a particularly compelling domain for scholarly research (Hviding et al., 2025).

The digital revolution in healthcare is fostering the emergence of new business opportunities and the development of advanced business models aimed at addressing critical challenges in medical practice, value creation, and broader societal issues (Elton & O'Riordan, 2016). However, a comprehensive systematic review on DT in HC indicates that, despite the steady increase in scholarly attention, much of the research continues to focus narrowly on the digitization of information and the integration of technology within existing healthcare structures (Marques & Ferreira, 2020). This perspective often overlooks the broader transformative potential of digital innovation in reshaping healthcare systems. Therefore, to advance a more comprehensive understanding, further research is needed on business model transformation and its role in managing the diverse interests of stakeholders within an evolving healthcare ecosystem (Kraus et al., 2021).

Recent research has shed light on how digitalization influences business model transformation in healthcare. Findings suggest that digitalization has not only increased the complexity of business models but also expanded their scope and adaptability (Hviding et al., 2025), allowing for a wider integration of different stakeholders. To fully capture how various actors within the healthcare ecosystem, such as patients, providers, and policymakers, engage with digital

transformation technologies, it is essential to adopt a multi-stakeholder perspective. However, this stakeholder dimension remains under-represented in the mainstream literature, despite its critical role in value creation and organisational success (Kraus et al., 2021).

Much of the existing literature on the intersection of healthcare and digital technologies has focused primarily on technological innovations, such as the adoption of disruptive digital tools across products, processes, and services (Bamel et al., 2023), as well as broader digital transformation trends within the sector (Kraus et al., 2021). Comparatively less attention has been devoted to understanding how digitalization drives business model transformation (Hviding et al., 2025).

Building on these insights, this thesis aims to explore how a specific organisational architecture - actor-oriented architecture - can support business model adaptability in the evolving healthcare AI sector.

I followed a Norwegian AI healthcare startup, Livv Health, over a five-month period, during which I engaged closely with both internal and external stakeholders. While the initial aim was to analyse the company as a representative example of a digital health-focused startup responding to a fragmented and underperforming healthcare system, the research process revealed that the case offered different nuances.

Using a single-case study approach, this thesis offers three contributions to future research. First, it provides a detailed empirical case study of an emerging healthcare AI startup seeking to address one of the most persistent structural challenges in healthcare: disconnection and fragmentation (Greiner & Knebel, 2003). Second, it presents an empirically and theoretically grounded interpretation of how the actor-oriented architectural scheme can inform both internal organisational practices and external solution design in the context of AI-enabled healthcare (Fjeldstad et al., 2012). This interpretation supports the development of a conceptual framework that may guide future analysis or decision-making in similar contexts and help to understand how this architecture can support business model adaptability. Third, the thesis contributes to the growing literature on the actor-oriented architectural scheme (Fjeldstad et al., 2012) and on networked configurations of care (Fjeldstad et al., 2020), an area that remains relatively under-explored within studies of healthcare entrepreneurship and digital innovation.

The actor-oriented architectural scheme observed in Livv's case invites a reconsideration of how value is created, distributed, and coordinated across complex health systems. As Fjeldstad et al. (2020) argue, networked configurations of healthcare have the potential to fundamentally

reconfigure the relationships between patients, clinicians, and researchers, while also opening the door to new forms of inquiry across all aspects of treatment and care delivery. This thesis attempts to address this call by offering a case-based contribution to understanding how such architectures emerge, function, and create value.

The next subsection outlines the research question addressed in this study and how it evolved throughout the abductive process.

1.2 Objective and Research Question

As outlined in Section 1.1, this study began with the intention of examining Livv Health as a representative digital health startup responding to a fragmented and underperforming healthcare system. However, through an abductive research process (Langley, 2021; Ridder, 2017), marked by an iterative movement between empirical observation and theoretical reflection (Eisenhardt, 1989, 2021), the case revealed a more complex and compelling story. Rather than simply offering an innovative service, Livv emerged as a firm reconfiguring both its internal operations and external solution around principles of decentralized, multi-actor collaboration. This conclusion was the result of a qualitative, single-case methodology (Gaya & Smith, 2016), based on interviews, observations, and document analysis conducted with Livv Health.

Focusing on a topic for which prior theoretical development remains limited (Fjeldstad et al., 2020), the case provided conceptual value not only through its distinctive setting, but also through the unexpected theoretical insight it generated (Eisenhardt, 2021): the dual application of the actor-oriented architectural scheme, both as an internal organising logic and as an external solution model. This duality, identified abductively, contributes to ongoing conversations at the intersection of digital transformation, business model innovation, and organisational design.

Thus, this study does not begin with the assumption that Livv follows an actor-oriented architectural scheme; rather, it identifies this logic as an emergent insight, one that offers a new perspective to add to the discussion of business models in healthcare, particularly within the AI and technology segment.

In conclusion, this study aims to identify the mechanisms - particularly the actor-oriented architectural scheme - that explain how healthcare AI startups can navigate the structural and strategic complexities in rapidly evolving environments. Accordingly, this thesis addresses the following research question:

How can the actor-oriented architectural scheme guide organisational structure

and solution offerings? A perspective on the business models of healthcare AI start-ups: A single case study

The remainder of this thesis is structured as follows: Section 2 presents a review of the relevant literature on healthcare, digital transformation and AI in healthcare, business models and healthcare, and on the actor-oriented architectural scheme. Section 3 outlines the research methodology, detailing the research design, data collection, and coding process. Section 4 introduces the case, analyses it, and presents the main findings. Section 5 connects these insights to broader theoretical debates and leads to the development of the final framework. Finally, Section 6 concludes the thesis with reflections on its contributions, limitations, and directions for future research.

2 LITERATURE REVIEW

2.1 Healthcare Contextualization

The COVID-19 pandemic dramatically reversed over a decade of progress in global health. By 2020, global life expectancy and healthy life expectancy (HALE) had reverted to 2016 levels, underlining the fragility of health systems worldwide (World Health Organization, 2024). This setback highlights the critical impact that healthcare system performance has on population health. When healthcare services are accessible, of high quality, and adequately funded, better outcomes can be achieved. However, reaching this level of performance requires robust organisational structures and careful management of resources, such as healthcare spending, which is vital for ensuring the availability of healthcare workers, goods, and services needed to prevent and treat illnesses effectively (OECD, 2023).

The healthcare sector is often marked by fragmented organisational structures and disjointed IT solutions, creating substantial barriers to efficient, patient-centred care while imposing considerable costs on governments and stakeholders (Gebre-Mariam & Bygstad, 2016). Tackling these challenges requires a coordinated, system-wide reform, yet progress has been slow (Christensen et al., 2017). In addition, the growing number of older adults and people with chronic conditions has made coordination and integration between services increasingly urgent. However, professional collaboration is often challenged by unclear roles, differing professional priorities, and systemic fragmentation. Addressing these barriers requires open communication, shared goals, and redesigned organisational systems to support integrated clinical work. Ultimately, a patient-centred approach remains crucial, emphasizing the need for providers and patients to work together to enhance care delivery (Steihaug et al., 2016).

The global healthcare landscape is falling short in its progress toward achieving universal health coverage (UHC), a central benchmark within the Sustainable Development Goals (SDGs) targeted for 2030 (“Universal health coverage (UHC)”, 2025). Additionally, the international community is lagging in meeting the World Health organisation’s “Triple Billion” targets, which are goals aiming to ensure that by 2025, one billion more people will have access to UHC, one billion will be better protected against health emergencies, and one billion will experience improved health and well-being (Cullinan, 2024). Despite these ambitious goals, improvements in health service coverage have stagnated since 2015, and the proportion of the global population facing financial hardship due to direct healthcare expenses has risen steadily since 2000. This

trend spans all regions and reflects systemic shortcomings across diverse healthcare systems ("Universal health coverage (UHC)", 2025). The setbacks caused by the COVID-19 pandemic, combined with the persistent struggle to achieve UHC, emphasize the fragility and complexity of healthcare systems worldwide.

Addressing these systemic issues requires a re-evaluation of traditional models of care delivery and leveraging transformative technologies, digital transformation, and artificial intelligence. Despite the potential of digital transformation to mitigate systemic fragmentation and improve care delivery, as will be explored further in Section 2.2, the benefits of digital transformation are contingent on the readiness of a country, including robust health data governance, strong digital security measures, and responsible deployment of digital tools for the public good (OECD, 2023). Although 90% of the OECD countries have implemented electronic health portals, only 42% allow the public to access and interact with their health data fully, and 38% lack clinical standards or vendor certification for electronic health records. This lack of interoperability is a major barrier to the effective use of health data and exposes the uneven pace of digital transformation across nations (OECD, 2023).

Amidst these challenges, one concept that has gained significant prominence in contemporary medicine and is particularly relevant to this research is preventive care. Preventive care aims to reduce the onset of chronic diseases and alleviate long-term healthcare costs by addressing risk factors before they escalate to more serious health conditions (Da Silva et al., 2023). As the global burden of chronic diseases continues to increase, preventive strategies have become increasingly critical to the sustainability of healthcare systems around the world (Alabbas et al., 2024). Common approaches include health education, routine screenings, and lifestyle interventions, which not only reduce disease risk but also support holistic well-being by addressing mental, emotional, and spiritual health (Da Silva et al., 2023).

In response to persistent structural challenges in healthcare and a new shift towards preventive care, many start-ups are entering what Casati et al. (2022) describes as "tech-propelled niche markets". In healthcare specifically, these emerging niches are being shaped by innovations such as telehealth, connected healthcare, and AI-powered diagnostics. These ventures often target overlooked or underserved needs, following the theory of disruptive innovation (Porter, 1985), offering focused, technology-driven solutions; rather than competing with established players at scale. They address narrowly defined problems with agility and precision, characteristics that make them well-positioned in a sector marked by fragmentation and inef-

ficiency. Such developments illustrate a shift in the healthcare landscape, where new value is increasingly created at the intersection of clinical needs and digital technologies (Casati et al., 2022).

Ultimately, despite countless reform efforts, healthcare systems around the world continue to struggle with rising costs, fragmented service delivery, and unmet population needs (Steihaug et al., 2016). Although the shift to patient-centred care is a step forward, it remains insufficient without parallel changes in business models and system design (Christensen et al., 2017). In particular, the industry's resistance to disruption is not just due to regulations, but also to deeply embedded structures and incentives that prioritize volume over value. As a result, a growing consensus suggests that transformative change in healthcare will only be achieved through a combination of enabling technologies, innovative organisational models, and new value networks that allow care to be reorganised around the patient (Christensen et al., 2017).

These ideas further inspire the topics of current discussions on DT and AI in healthcare. As Section 2.2 will explore, digital transformation and artificial intelligence are no longer peripheral tools; they are becoming central to how healthcare systems respond to complexity, redesign value delivery, and attempt to overcome the long-standing gaps outlined above.

2.2 Digital Transformation and AI in Healthcare

As discussed in Section 2.1, the healthcare industry is closely interconnected with the broader digital transformation process, with many of its performance challenges and opportunities linked to the pace and scope of digitalization (OECD, 2023). Moreover, in light of global trends shaped by the rapid advancement of artificial intelligence (Brynjolfsson & McAfee, 2017), it becomes essential to examine the roles of both digital transformation and artificial intelligence within the healthcare sector to effectively contextualize this research.

Although this section discusses the impact of digital transformation and artificial intelligence in healthcare, the primary objective is not to provide a deep technical analysis of specific applications, products, or services. Instead, the focus is on understanding how these technologies influence organisations from a managerial and strategic perspective. This perspective sets the stage for the following sections, which examine how digitalization influences business logic, stakeholder coordination, and strategic organisation in the healthcare ecosystem.

DT is described as a process that seeks to improve an organisation by introducing significant changes to its core attributes through the integration of information, computing, communica-

tion, and connectivity technologies. This process influences various aspects of companies and, by extension, entire industries, including the acquisition of digital tools, the development of strategies for digital growth, the restructuring of internal organisational frameworks, and the establishment of appropriate performance metrics and objectives (Kraus et al., 2021).

AI refers to the science and engineering involved in developing intelligent systems that utilize algorithms or rules to replicate human cognitive abilities, such as learning and problem-solving. Generally, AI encompasses computer technologies that simulate processes associated with human intelligence, including reasoning, deep learning, adaptation, engagement, and sensory perception (Al Kuwaiti et al., 2023).

Both concepts are widely recognized as the core drivers of the next industrial revolution, with the potential to transform interactions between organisations, industries, and society as a whole. Importantly, its impact extends beyond direct technological contributions; it also serves as an enabler and catalyst for complementary innovations, fostering broader systemic change in how value is created and delivered (Brynjolfsson & McAfee, 2017). Noteworthy, the transformative impact of AI is already evident in sectors such as manufacturing, logistics, and product design, where its capabilities support rapid adaptation and innovation. In contrast, the healthcare sector remains relatively conservative, primarily due to the high risks associated with medical errors and the presence of strict regulatory frameworks. As a result, the adoption of technologies like AI in healthcare is subject to more rigorous evaluation, validation, and control (Kulkov, 2023).

So, what is actually happening in the healthcare sector in terms of digital transformation? A systematic review covering 45 years of developments in the field identified seven primary focus areas, including integrated management of health IT, telemedicine, access to electronic health care, and protection of medical data privacy. These areas emphasize the critical importance of interoperability and secure data exchange as key enablers of improved patient outcomes (Marques & Ferreira, 2020). Based on this foundation, Kraus et al. (2021) categorized digital transformation in healthcare into five key clusters: operational efficiency, patient-centred approaches, organisational factors, workforce practices, and socioeconomic impact. Together, these focus areas and clusters illustrate how digital transformation can create value in the industry by simultaneously enhancing care delivery and fostering collaboration across the healthcare ecosystem, ultimately driving value for diverse stakeholders such as patients, providers, and policymakers.

With global health spending now accounting for more than 10% of the global GDP (OECD,

2023), stakeholders are increasingly focusing on leveraging digital innovation to reduce costs and improve outcomes (Sterlin, 2024). These advancements have the potential to transform the functioning of healthcare systems, moving away from fragmented, reactive approaches to more integrated, proactive, and interoperable models (Thacharodi et al., 2024).

While AI's applications in healthcare (Figure 1[1]) are not entirely new, the earliest instances date back to the 1950s (Olawade et al., 2024).

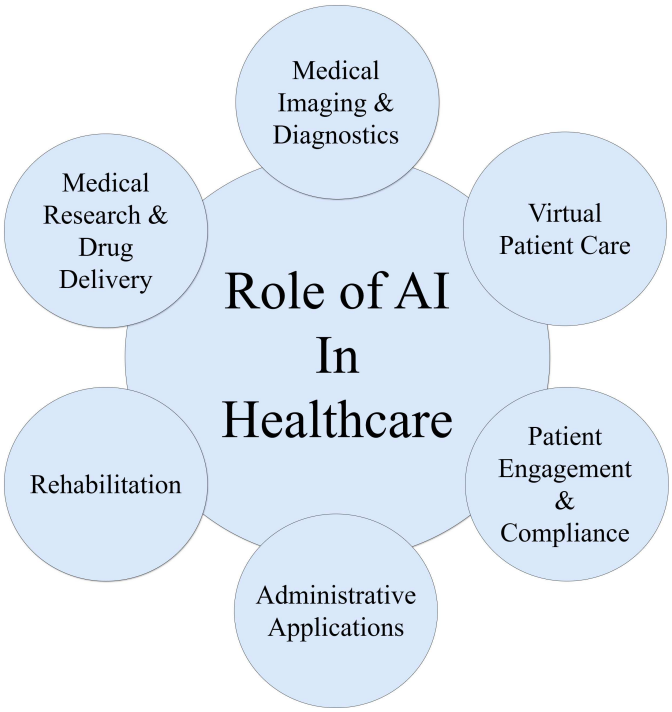

Figure 1. Applications of AI In Healthcare

[1]Adapted from Al Kuwaiti et al. (2023), *A Review of the Role of Artificial Intelligence in Healthcare*, *Journal of Personalized Medicine*, 13(6), 951. https://doi.org/10.3390/jpm13060951

The innovation, therefore, lies in its integration capabilities and in its ability to empower patients by providing more than just data; it gives them a sense of ownership over their own information (Thacharodi et al., 2024). What was once merely raw data can now be transformed into actionable insights that directly impact real lives and treatments.

In light of the previously described developments, the post-pandemic era has brought foundational changes to the healthcare sector. One key development is the increasing involvement of patients in healthcare decision-making, driven by the widespread acceptance of virtual healthcare systems and digital innovations. To meet the growing expectations of this new generation of engaged patients, the deployment of advanced digital tools has become essential. These technologies allow for better tracking of health status, improved drug adherence, and real-time monitoring, significantly enhancing patient satisfaction (Al Kuwaiti et al., 2023). AI, meanwhile, is increasingly integrating with different technologies, transforming the Internet of Things (IoT) into the "Intelligence of Things", where collected data is utilized to modify processes and influence behaviours and values (Snowdon, 2019). Intelligent medical technologies powered by AI have gained widespread acceptance as they align with the 4P model of medicine: predictive, preventive, personalized, and participatory (Orth et al., 2019).

Despite these breakthroughs, significant challenges remain in embedding AI into healthcare systems. The adoption of AI has been uneven and slower than anticipated due to various barriers, including resistance to change, infrastructure limitations, and ethical concerns (Ahmed et al., 2023).

As AI and DT continue to evolve, both are fundamentally reshaping traditional healthcare business models. These technologies are not only introducing new ways to deliver care and engage stakeholders but also challenging long-standing assumptions about value creation, coordination, and scalability in the healthcare sector (Kulkov, 2023). As the sector continues to evolve, it is critically important to examine how business models are adapting in response, particularly regarding business model portfolios, emerging market dynamics, and the alignment of business model logics (Hviding et al., 2025). As so, the next chapter will explore how business models are being reshaped in the healthcare AI sector.

2.3 Business Models and Healthcare

Over the last decade, the concept of "business model" has become central in strategic and organisational studies (Snihur & Eisenhardt, 2022). A widely recognized definition describes a

business model as the "design or architecture of the value creation, delivery and capture mechanisms employed" (Teece, 2010). In more practical terms, it refers to how a firm creates and delivers value to customers and the structures it uses to capture part of that value. It encompasses the interrelated flows of costs, revenues, and profits, and is shaped by how these elements are combined and aligned (Snihur & Markman, 2023; Teece, 2010, 2018).

Crucially, the design and evolution of business models are not static activities. Rather, it depends on a firm's underlying capabilities. Recent developments in the literature have emphasized that business model innovation is best understood as an outcome of dynamic capabilities - that is, the firm's ability to purposefully adapt, shape, and reconfigure its resources in response to environmental change. These capabilities operate at different levels. At the foundational level are operational or "ordinary" capabilities - routine activities and processes that enable a firm to efficiently run its existing operations. Above this layer are dynamic capabilities, which include "micro-foundations" as well as higher-order strategic abilities. For the purpose of this thesis, the focus is on the latter. High-order dynamic capabilities enable organisations to sense opportunities, seize them through timely and strategic action, and transform themselves accordingly. They allow firms to both reconfigure internal resources and orchestrate external partnerships in response to shifting market demands (Teece, 2018).

Historically, research on business models has often taken a static approach, emphasizing specific designs, typologies, and their performance implications. Nonetheless, there has been a shift toward a more dynamic perspective, focusing on how business models evolve and adapt over time (Hviding et al., 2025). This shift is particularly important in the context of digital technologies, as the business model concept provides a more comprehensive understanding of competitive advantage compared to the traditional, static, and firm-centric views of strategy (Snihur & Eisenhardt, 2022).

The healthcare sector, as contextualized in Section 2.1, presents a uniquely complex and regulated environment. Its reliance on diverse stakeholders and co-creative care delivery makes linear models of value creation insufficient (Fjeldstad et al., 2020; Steihaug et al., 2016).

In this context, value creation and capture become especially complex. As defined in the literature, value creation involves generating benefits such that production costs remain below the final sale price, while value capture refers to the appropriation of that value through mechanisms like pricing or stakeholder control (Zott et al., 2011). In healthcare, these dynamics differ significantly across stakeholder groups. For private companies, value capture often oc-

curs through revenue generated from products or services sold to consumers. The integration of AI into healthcare further complicates this landscape, introducing both new opportunities and structural challenges for how value is created and appropriated (Kulkov, 2023). Traditional frameworks like Porter's value chain (Porter, 1985), which emphasizes transformation of inputs into outputs in a sequential process, struggle to account for the ecosystemic nature of healthcare value creation, where interaction, mediation, and network relationships are central (Fjeldstad et al., 2020).

Building on this perspective, later work introduced a theoretical advancement over the traditional competitive strategy framework (Porter, 1985). Specifically, the model proposed by Stabell and Fjeldstad (1998) identifies three distinct value configurations as alternatives for achieving competitive advantage: the value chain, the value shop, and the value network. While the value chain remains suited to standardized production processes, the value shop is structured around activities such as problem-finding, acquisition, and solution development. The value network, by contrast, is organised to enable interactions and resource exchanges among multiple actors - a configuration particularly relevant to digitally enabled, patient-centric healthcare systems.

Relying solely on the value chain logic to analyse sectors like healthcare may obscure, rather than clarify, how value is actually created (Fjeldstad et al., 2020; Stabell & Fjeldstad, 1998). Alternative models, such as the value shop and value network, offer a more accurate representation of how organisations coordinate activities, integrate resources, and engage stakeholders to deliver value in knowledge-intensive and service-driven environments such as healthcare. This complexity challenges the applicability of conventional firm-centric business model frameworks, and instead calls for approaches that can account for multi-actor coordination and the co-production of value (Hviding et al., 2025).

Despite significant advancements in digital technologies, a notable gap remains in understanding how digital business models operate within the healthcare sector. Although the theoretical and practical relevance of such models continues to grow, research is still limited when it comes to examining how they create, deliver, and capture value for diverse stakeholders across the healthcare ecosystem (Schiavone et al., 2021). Recent scholarly investigations have highlighted how digital transformation and artificial intelligence are driving fundamental shifts in healthcare business models (Kulkov, 2023), concluding that the integration of technologies such as electronic health records (EHRs), telemedicine platforms, and AI has reshaped care delivery

while redefining mechanisms of value creation and capture within the sector. Despite these developments, a significant gap remains in the literature regarding how traditional business model theory is being challenged and reshaped in the context of healthcare AI. Recent studies have begun to address this, emphasizing the need to better understand how business models adapt in response to digital transformation and AI integration (Hviding et al., 2025; Kulkov, 2023). While much of the existing research has concentrated on technological advancements, comparatively less attention has been paid to how these innovations alter business model structures and reshape stakeholder interactions (Kraus et al., 2021).

In this light, business models, specifically in the context of healthcare, must be understood not as static templates but as evolving architectures capable of accommodating hybrid forms of value creation. These insights help to explain the growing interest in networked, platform-based models within healthcare, as they better reflect the relational, distributed, and co-productive nature of modern care delivery (Fjeldstad et al., 2020). These factors underscore the need to revisit business model theory to account for innovative configurations that can adapt to evolving demands.

This thesis aims to contribute to this discussion by incorporating the lens of the actor-oriented architectural scheme as explored in Section 2.4.

2.4 Networked Healthcare: An Actor-Oriented Architectural Scheme View

As mentioned in Section 2.1, the healthcare landscape is evolving at an unprecedented pace. While health systems continue to struggle with increasing demands for care and pressures on financial sustainability, patients and broader populations are simultaneously raising their expectations. There is a growing demand for care models that prioritize not only treatment, but also health promotion and wellness, with greater attention to individual needs and experiences (Snowdon, 2019).

In response to these shifting expectations, a central challenge facing health systems today is how to create better value in healthcare services. Traditional value-creation models, such as the value chain approach (Porter, 1985), have proven difficult to apply to the inherently complex and relational nature of healthcare (Fjeldstad et al., 2020). While Porter's model remains foundational, its linear logic does not adequately reflect the collaborative and co-productive dynamics of modern healthcare ecosystems. This limitation has led to a growing interest in more networked and collaborative models of value creation, better suited to the distributed and multi-

actor nature of modern healthcare (Stabell & Fjeldstad, 1998). The purpose of this section is, therefore, to provide a contextualization of the literature on networked healthcare, with a particular focus on introducing a key theoretical lens for subsequent analysis: the actor-oriented architectural scheme (Fjeldstad et al., 2012).

As previously discussed in Section 2.3, the framework of value configurations proposed by Stabell and Fjeldstad (1998) offers an important theoretical advance beyond linear models like the value chain. In the healthcare context, where care delivery is inherently relational, collaborative, and knowledge-intensive, the value network configuration is particularly relevant (Fjeldstad et al., 2020). Yet in practice, healthcare organisations rarely operate within a single logic. Instead, they often blend characteristics of all three configurations: combining clinical pathways (value chain), specialized treatment (value shop), and platform-based coordination (value network). The increasing prevalence of AI-driven tools, patient-centric models, and inter-organisational data sharing further accentuates the need for organisational structures that can enable fluid, actor-driven collaboration (Fjeldstad et al., 2020). This necessity is precisely what the actor-oriented architectural scheme addresses, offering an alternative to traditional hierarchical forms by emphasizing self-organisation, shared resources, and adaptive coordination (Fjeldstad et al., 2012).

An architectural scheme defines how a system is structured to coordinate activities, allocate resources, and enable value creation. Traditionally, organisations have relied on hierarchical structures, where decision-making flows from the top down, and roles and responsibilities are rigidly defined. Although this design is effective in stable environments, in today's fast-paced and highly interconnected global environment, businesses face increasing competitive pressures and must adapt rapidly to technological and market changes. This has led to a shift from strict hierarchies toward more flexible and dynamic organisational architectures (Fjeldstad et al., 2012). The actor-oriented architectural scheme responds to this change by enabling decentralized collaboration, innovation, and rapid response. It is built around three core components, which are summarized in Table 1[2].

[2]Adapted from Snow et al. (2017), *Designing the digital organisation*, *Journal of organisation Design*, 6, Article 7. https://doi.org/10.1186/s41469-017-0017-y

Table 1. Elements of an actor-oriented organisation

Element	Definition	Examples
Actors	Individuals or units with the capabilities, autonomy, and motivation to self-organise around shared goals.	Individuals or teams in an organisation. Firms in a collaborative community. Citizens, firms, and municipal agencies in a smart city.
Commons	Shared digital or physical spaces where actors accumulate and access resources, knowledge, and tools.	Shared knowledge. Shared databases. Shared situation awareness.
Protocols, processes, and infrastructures	Mechanisms that facilitate interaction, ensure trust, and enable effective multi-actor coordination.	Software apps that announce projects as well as the availability and expertise of actors. Shared norms and values. Intra- and inter-organisational collaboration.

In such systems, coordination emerges organically from the interactions of actors aligned around common objectives, rather than being centrally imposed. This allows for greater agility, which is critical in healthcare environments where conditions, technologies, and stakeholder expectations are continuously evolving. The actor-oriented architecture thus offers a powerful lens for understanding how organisations, such as healthcare AI startups, can structure themselves to thrive in complex, collaborative ecosystems.

Building on this foundation, more recent research has extended the actor-oriented architectural scheme by examining its relevance to digital organisational design (Snow et al., 2017). Born-digital companies, those created in and for digital environments, are seen as particularly well-positioned to adopt actor-oriented architectures from the outset. In these firms, digital tools serve not just as support infrastructure but as fundamental enablers of collaboration, knowledge sharing, and distributed decision making. Such “actor-oriented digital organisations” are typically collaborative, agile, and minimally hierarchical, using digital platforms to foster self-organisation, shared resource commons, and flexible coordination protocols (Snow et al., 2017).

In parallel with the evolution of digital organisational models, the healthcare management

and information systems (IS) literature has increasingly emphasized the relevance of ecosystem-based thinking for designing modern healthcare organisations (Hlongwane & Grobbelaar, 2022). One contribution proposes a comprehensive framework for value creation in health information systems (HIS) built on an ecosystem perspective. This approach highlights that sustainable value in healthcare emerges not from isolated organisational efforts, but through dynamic, multi-stakeholder collaborations that span institutional and organisational boundaries. Key elements identified include a shared value logic among actors, the development of stakeholder symbiosis to support adaptive and mutually beneficial relationships, and institutional stability to ensure trust, legitimacy, and effective coordination (Hlongwane & Grobbelaar, 2022).

These insights strongly align with the actor-oriented architectural scheme. Both perspectives stress the importance of autonomous actors, shared digital commons, and coordination protocols in enabling collaborative value creation. A particularly relevant application emerges in platform-mediated healthcare models, now central to many AI-driven healthcare ecosystems. These platforms connect diverse stakeholders - patients, providers, payers, and technology firms - through digital infrastructures that support data exchange, service delivery, and co-production of care (Hlongwane & Grobbelaar, 2022). Yet, they also introduce new governance and trust challenges: managing equitable data sharing and distributed ownership of outcomes, and balancing innovation with regulatory compliance. As the sector continues shifting toward distributed, digitally enabled ecosystems, understanding how value is created, shared, and governed across these actor networks becomes increasingly critical (Fjeldstad et al., 2020; Hlongwane & Grobbelaar, 2022).

To summarize, this thesis draws on a set of theoretical lenses to analyse the case of Livv Health. A foundational perspective is the value network configuration (Stabell & Fjeldstad, 1998), which emphasizes that in complex, service-oriented sectors like healthcare, value is increasingly created through interaction and collaboration among multiple autonomous actors. This logic is particularly suited to digitally enabled, patient-centric ecosystems. Another important concept is the actor-oriented architectural scheme, which provides an organisational design framework to analyse entities that enable decentralized coordination, operate through shared digital resources, and rely on collaborative problem-solving across actors (Fjeldstad et al., 2012). Livv Health, the case study of this thesis, is a strong candidate for analysis through this lens, as its aim to unify fragmented healthcare data and empower patients through an AI-driven platform demonstrates clear features of an actor-oriented organisational design. In ad-

dition, Livv Health engages a diverse network of actors in the co-creation of healthcare value, making it well aligned with such theoretical perspectives.

These perspectives are further supported by research from health information systems and healthcare management, which underscore the importance of ecosystem thinking, stakeholder alignment, and adaptive governance for sustainable value creation in healthcare (Hlongwane & Grobbelaar, 2022).

In addition, this thesis draws on a business model lens proposed by Kulkov (2023), which offers a systematic approach to understanding value creation in AI-driven healthcare by examining how firms articulate their value propositions, deliver value through data-enabled infrastructures, and engage with distinct user segments. This perspective complements the architectural focus by highlighting how digital health startups adapt business models to navigate regulatory complexity, address user trust, and integrate AI capabilities into care delivery.

Finally, and still on the business model domain, this thesis incorporates insights from the dynamic capabilities framework (Teece, 2018), which conceptualizes how firms sense opportunities, seize them through strategic action, and transform their operations in response.

This perspective is particularly useful for understanding how Livv Health navigates environmental uncertainty and adapts both its organisational structure and business model over time. It provides the conceptual grounding for analysing dynamic alignment [3] as a form of strategic capability.

Together, these theoretical foundations guide the analytical approach of this thesis and frame the exploration of Livv Health as a case of organisational and strategic innovation in the healthcare AI landscape.

[3] This term is introduced in this thesis to describe the evolving fit between actors, resources, and both internal and external structures during innovation in healthcare settings. It does not appear in the existing literature with a different meaning and is therefore used to name the new conceptual layer proposed in this study.

3 RESEARCH METHODOLOGY

3.1 Research Design

This research is framed within the context of Norway's healthcare system, characterized by a split governance structure in which municipal authorities manage primary care, while general hospitals are operated by the state. This structural division creates significant challenges, particularly in terms of fragmented patient data sharing and difficulties in care coordination. These issues are further intensified by Norway's highly distributed municipal landscape and strict regulatory environment under the General Data Protection Regulation (GDPR). To address these challenges, the Norwegian government introduced the Coordination Reform (*The Coordination Reform: Proper treatment – at the right place and right time*, 2009), designed to promote integrated, patient-centred care through enhanced cross-sector collaboration (Hungnes et al., 2024).

Simultaneously, broader European efforts such as the European Health Data Space (EHDS), as previously discussed in Section 1.1, aim to harmonize health data sharing across national boundaries ("European Health Data Space Regulation (EHDS) - European Commission", 2025). Together, these initiatives create a dynamic institutional landscape, opening opportunities for new types of organisations, including AI-driven healthcare startups, to emerge and address these systemic gaps.

Within this institutional context, this thesis focuses specifically on Livv Health, a Norwegian healthcare AI startup dedicated to addressing data fragmentation by offering a patient-centric platform powered by advanced artificial intelligence[4].

Livv Health was selected as the single case study for this thesis due to its revelatory potential (Ridder, 2017), providing an opportunity to examine an emerging organisational model situated at the intersection of digital innovation and public-private healthcare duality. Given its extensive involvement with various stakeholders, including municipalities, healthcare providers, insurers, patients, and regulatory bodies, Livv Health represents a particularly rich empirical setting for investigating the actor-oriented organisational design and associated business models.

Following established guidance on case study research design, this thesis aims to explicitly identify and address gaps in existing theory with the objective of advancing theoretical explanations, as outlined in Section 1. The research question was formulated and refined through

[4] A detailed description of the organisation can be found in Section 4.1 for further reference

a systematic literature review, clarifying specific theoretical gaps and shaping the "how" and "why" questions central to this inquiry (Ridder, 2017; Yin, 2014).

Throughout the study, an iterative question - "What is this a case of?" - was repeatedly revisited as new data and insights emerged. This reflexive practice allowed the research to remain open to unexpected patterns and theoretical developments, facilitating continuous movement between empirical evidence and conceptual understanding. The abductive nature of this approach supported progressive analytical refinement, ultimately contributing to robust and grounded theoretical insights (Hungnes et al., 2024; Langley, 2021; Plakoyiannaki & Budhwar, 2021).

As visually depicted in Figure 2, the research followed a structured abductive process, characterized by continuous movement between empirical inquiry and theoretical refinement.

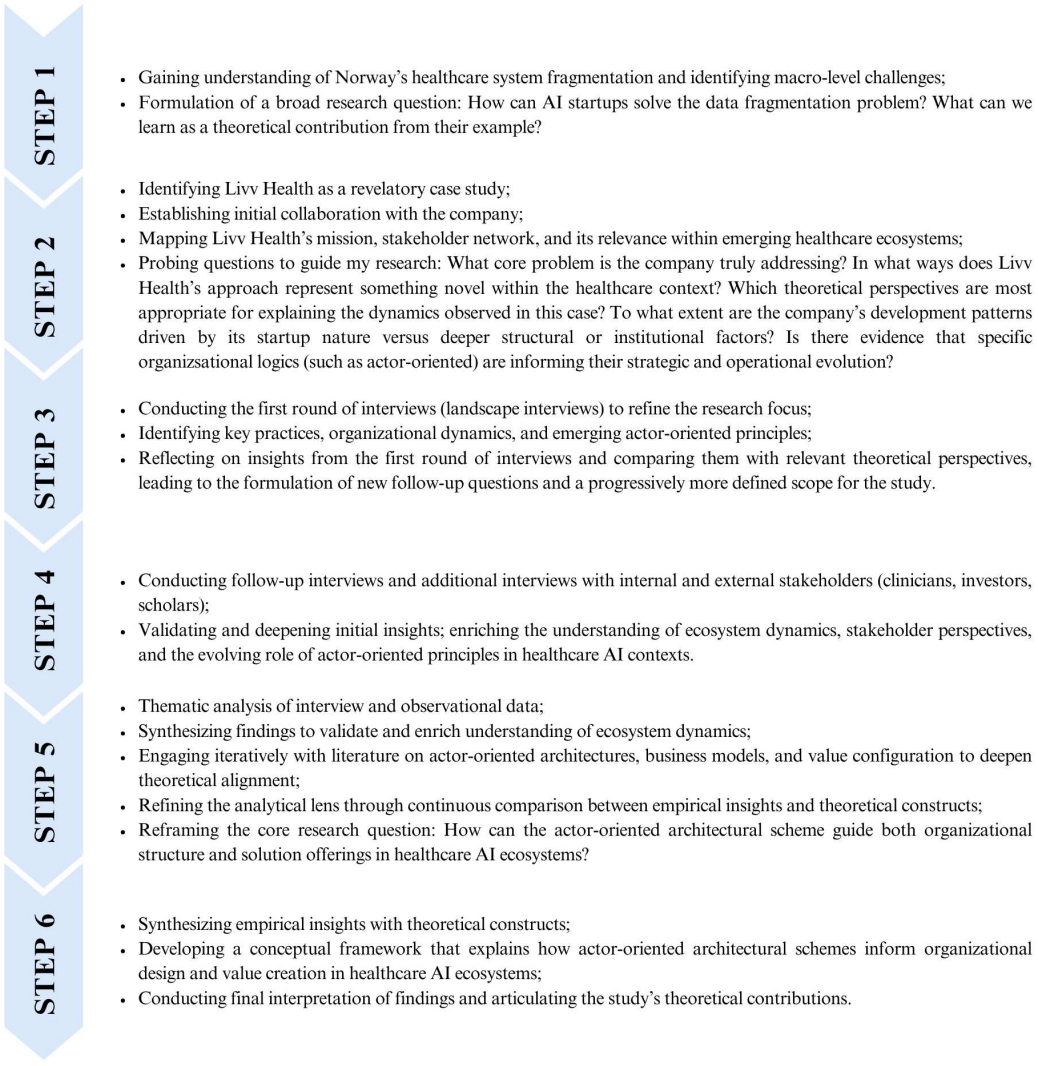

Figure 2. Analytical approach inspired by Hungnes et al. (2024)

The research process began with an exploratory phase (Step 1) focused on mapping macro-level challenges in Norway's health system and identifying how AI-driven models might address them. This laid the foundation for selecting Livv Health as a relevant case. The second phase (Step 2) involved initial engagement with Livv's team, mapping its mission, stakeholder ecosystem, and potential contributions to the emerging healthcare landscape.

A first round of landscape interviews (Step 3) with internal actors was conducted to refine the research focus. These interviews surfaced key organisational dynamics, emerging actor-oriented principles, and early insights into value creation processes. Iterative comparison with relevant theoretical perspectives informed the formulation of new research avenues, further narrowing the study's analytical scope. The following phase (Step 4) included follow-up interviews and expanded the inquiry to external stakeholders - clinicians, investors, and scholars - allowing for triangulation and validation of emerging themes.

Parallel to this, Step 5 involved thematic analysis and theoretical engagement. Interview and observational data were coded and interpreted in light of the literature on actor-oriented architecture, value configuration, and business model innovation. This iterative interpretation led to a reframing of the central research question: *How can the actor-oriented architectural scheme guide both organisational structure and solution offerings in healthcare AI ecosystems?*

Finally, Step 6 marked the synthesis and theoretical contribution phase. Here, empirical findings were consolidated with existing theory to develop a conceptual framework presented in Section 5, capturing how actor-oriented principles shape both organisational design and strategic value creation in complex healthcare environments.

3.2 Data Collection and Coding

The empirical material for this thesis was gathered through a multi-qualitative approach, structured around an abductive research process (Langley, 2021; Ridder, 2017). Data collection was conducted over five months, as summarized in Table 2, involving semi-structured interviews, structured interviews, participant observation, internal workshops, document analysis, and continuous work shadowing. My engagement with Livv Health extended beyond traditional data collection. In addition to conducting interviews, I undertook a five-month internship within the company. This immersive role enabled privileged access to internal processes, decision-making routines, and informal organisational practices. As a result, the insights presented in this thesis are grounded not only in formal interview data but also in sustained participant observation and

reflexive engagement.

Table 2. Overview of Data Inputs

Type	**Description**	**Total**
Landscape / Semi-structured interviews (˜80 min)	Initial exploratory interviews with internal stakeholders to map key themes, organisational dynamics, and areas for further investigation.	2
Follow-up interviews (˜40 min)	Follow-up interviews with the same participants from the initial interviews, to validate emerging themes and deepen understanding.	2
Structured interviews (˜55 min)	Formal interviews guided by a refined protocol aimed at theory refinement and triangulation.	6
Strategy Workshop	Full-day workshops focused on business model refinement and stakeholder alignment.	2 full days
Documents	Internal materials, workshop outputs, presentations, and product documentation.	= *Number of internal documents accessed during the 5-month internship*
Platforms	Digital tools used internally (e.g., project management, communication).	= *Number of tools used by Livv*
Meetings	Regular internal sessions, including team meetings and workshops.	*At least 5 weekly meetings*

The analytical process followed a structured two-phase coding strategy, aligned with the abductive methodology underpinning this research.

In the initial phase, open coding (McLeod, 2024) was conducted on early landscape interviews and field notes. This phase allowed a range of emergent themes to surface, reflecting the evolving dynamics of AI-driven healthcare ecosystems. Initial codes were developed without

the constraints of a predefined framework, allowing the data to "speak" and highlight novel patterns.

In the second phase, axial coding was applied to group and relate the initial codes into broader analytical categories (Simmons, 2017). This stage involved iterative movement between empirical material and theoretical constructs, gradually building a more integrated and conceptually coherent interpretation of the data.

To support consistency and transparency, a formal codebook was developed (Table 3). Codes were also cross-referenced across stakeholder groups to enable systematic comparison of perspectives and to highlight variations in experiences and interpretations across the ecosystem.

Table 3. Codebook of Analytical Themes

Code	**Definition**	**Example Indicators / Quotes**
Actor-oriented architectural scheme	Decentralized structures enabling self-organising actors and collaborative value creation.	"We are building a platform where partners can autonomously contribute to solutions..."
Incentives	Motivational structures shaping stakeholder engagement and adoption.	"What's in it for municipalities? Why would a doctor want to use this platform?"
Regulations	Institutional and legal frameworks shaping data governance and platform operations.	"GDPR is always in the back of our mind when designing data flows..."
Patient empowerment	Mechanisms enabling patients to control and utilize their own health data.	"Patients will own their data and decide who gets access."
Business Model	[In this case perspective] The evolving logic of value creation and capture.	"We are moving from a B2B model to hybrid B2B2C approaches."

Stakeholders	Identification of key actors, roles, and power dynamics.	“Municipalities are key gatekeepers; doctors are critical trust builders.”
Health data ownership	Rights and governance regarding patient data.	“Our platform architecture puts data ownership with the patient first.”
Fragmented Data	The issue of isolated and inaccessible health data.	“We are constantly facing integration issues as patients, we see and recognize that reality.”
Preventive Care	Focus on proactive interventions.	“Our algorithms can flag early risk factors, helping clinicians intervene sooner.”
Platform Openness	Degree of third-party integration.	“We need to balance openness with data security.”
Sales Strategy	Commercial and market positioning.	“It’s not necessarily the tech that makes us different, it’s the vision and who we build for.”
Holistic Care	Integrated models of patient well-being.	“It’s not just about treating disease, we want to support lifelong wellness.”
Value Network	Network-based value creation.	“The more actors contribute, the more value is created for all.”

Given my semi-embedded role within Livv Health during the five-month internship, particular care was taken to maintain a reflexive stance throughout the research process. A personal research log was systematically maintained to document potential sources of bias, monitor interpretive shifts over time, and enhance transparency. This reflexive practice sought to balance the advantages of immersive access with critical awareness of positionality and the potential influence of bias on data interpretation.

To provide transparency regarding the temporal evolution of the inquiry and the development of emerging analytical themes, Table 4[5] presents an overview of the key interviews, workshops, and themes identified during the research process.

Importantly, to mitigate potential bias in data collection, the interview strategy was designed to incorporate a diverse range of perspectives. During the initial landscape phase, interviews were conducted with both founder and non-founder members of the company. In the subsequent phase, interviews were held with both internal and external stakeholders. These included a Portuguese investor, an academic researcher specializing in actor-oriented organisational theory, and a general practitioner (GP) - all of whom had no prior involvement with, and were unfamiliar with, the company - as well as internal team members and an external investor of Livv. This approach ensured the inclusion of varied viewpoints, contributing to a more balanced and robust analysis.

Table 4. Overview of Interviews and Themes Identified

Type of Interview	**Date of Interview**	**Mode of Interview**	**Themes Identified**
Landscape/Semi-structured interviews	18/02/2025	In-person	Actor-oriented scheme; Incentives; Regulations; Patient empowerment; Business Model; Stakeholders; Health data ownership; Fragmented Data.
Landscape/Semi-structured interviews	19/02/2025	Online	Actor-oriented scheme; Patient empowerment; Business Model; Stakeholders; Fragmented Data.

[5]This table is derived from the interview matrix: an anonymized table summarizing interviewee roles, themes discussed, key quotes, and theoretical relevance.

Strategy Workshop	24/02/2025	In-person	Business Model; Patient empowerment; Stakeholders; Health data ownership; Preventive Care.
Strategy Workshop	25/02/2025	In-person	Business Model; Patient empowerment; Stakeholders; Health data ownership; Preventive Care.
Structured Interviews	31/03/2025	Online	Actor-oriented scheme; Incentives; Stakeholders; Preventive Care; Platform Openness; Fragmented Data.
Structured Interviews	01/04/2025	Online	Actor-oriented scheme; Incentives; Business Model; Sales Strategy; Holistic Care.
Structured Interviews	02/04/2025	Online	Incentives; Business Model; Stakeholders; Actor-oriented scheme.
Follow-up Interviews	03/04/2025	Online	Actor-oriented scheme; Business Model; Patient empowerment.
Follow-up Interviews	07/04/2025	Online	Incentives; Business Model; Regulations.
Structured Interviews	09/04/2025	Online	Business Model; Stakeholders; Regulations; Sales Strategy; Incentives.
Structured Interviews	11/04/2025	Online	Incentives; Preventive Care; Regulations; Fragmented Data.
Structured Interviews	09/05/2025	Online	Actor-oriented scheme; Incentives; Business Model; Value Network.

The structured abductive pathway described above provided a strong empirical and analytical foundation for the case study. Through iterative engagement with both data and theory, the research progressively clarified how actor-oriented principles are shaping both the internal structure and external offerings of Livv Health. The upcoming case description section presents a detailed description of Livv Health's organisational model, its evolving ecosystem relationships, and the specific ways in which it exemplifies actor-oriented architecture within

the Norwegian healthcare AI landscape, prompting further discussion and reflection.

While substantial guidance exists on qualitative research methodology, most scholarly attention has focused on the first three stages of the research process: study design, data collection, and coding/analysis. However, writing up findings constitutes a distinct and equally important fourth stage, one that requires careful rewriting, synthesis, and theoretical integration (Rockmann & Vough, 2024). It is with this logic in mind that the subsequent analysis and discussion are framed, aiming to connect empirical insights from the Livv Health case to broader theoretical contributions.

4 FINDINGS

4.1 Case Description

Founded in 2023 by Norwegian software engineer Sverre Sundsdal, Livv Health emerged from a clear vision shaped by years of experience in technology and healthcare innovation. Sverres's professional journey at Google had already deepened his appreciation for the transformative power of data, but it was his tenure at Babylon Health that fully illuminated the profound potential, and equally profound limitations, of AI in healthcare. Despite technological sophistication, Sverre repeatedly encountered the systemic barrier of fragmented patient data. He observed how each healthcare provider typically held isolated segments of a patient's overall health record, severely constraining the delivery of holistic, patient-centric care. What particularly intrigued Sverre was the contrast between the ease of accessing fragmented personal data through various apps and the absence of any consolidated platform that could unify these scattered pieces of health data. For him, the core obstacle to healthcare innovation was not technological capability, but rather this widespread fragmentation of patient health information.

Driven by this foundational insight, Sverre established Livv Health with the explicit goal of aggregating fragmented health data to enable comprehensive, patient-driven care. Recognizing that addressing such a complex issue required multidisciplinary expertise, he partnered closely with medical professionals. Crucially, he aligned his technical expertise with the medical knowledge of co-founder Ishita Barua, a medical doctor holding a PhD in AI and Medicine, a Fulbright alumna from Harvard Medical School, former Lead of AI in Healthcare at Deloitte, and an established author in the field of medical artificial intelligence.

Building on these complementary strengths, Livv Health began by launching a minimum viable product (MVP) focused on aggregating and consolidating patient health data. This early version featured fewer capabilities than the platform today but notably included automated translation functionalities, enabling patient records to be accessible and actionable across languages and healthcare systems. The initial reactions of healthcare professionals were mixed; while some clinicians immediately recognized the potential of Livv, highlighting how improved patient empowerment could streamline interactions and improve clinical outcomes, other clinicians expressed apprehension, concerned about shifting the traditional dynamics of patient-doctor power. These varied responses reflected broader market readiness and hinted at future challenges the startup would face in achieving widespread adoption.

As of today, Livv Health operates as a dual-sided digital platform explicitly designed to bridge patients and healthcare providers. On the patient side, there is an app that consolidates health information from multiple sources, allowing individuals to build comprehensive, easily accessible personal health records. Patients can actively manage their medical information, prepare thoroughly for consultations, and securely share selected data with their healthcare providers. For healthcare professionals, Livv provides an intuitive interface to efficiently access and interpret patient-shared information, supported by AI-generated summaries, automated translations, and transcription of consultations. This dual-platform structure addresses core pain points in healthcare data fragmentation and patient-provider interactions, enhancing clinical efficiency and patient empowerment simultaneously.

Despite initial mixed responses, Livv Health quickly evolved beyond its niche market origins to address broader demands for patient-centred care. Rather than exclusively targeting individual consumers, the company shifted to partnering primarily with private healthcare clinics. By the beginning of 2025, Livv had established itself predominantly within the B2B market while maintaining a free direct-to-consumer option. Partnered clinics gain comprehensive platform access, enabling clinicians to leverage Livv's patient-centric data-sharing capabilities fully. Individual patients can also independently use the app to facilitate collaboration even with providers outside Livv's immediate network, although with more limited functionality. This model introduced a subtle incentive, encouraging healthcare providers to enter formal partnerships to unlock the platform's full potential.

Livv's internal organisational structure mirrors its collaborative and distributed external approach. Internally, the company employs a lean, flexible operational model that avoids rigid hierarchies, fostering a dynamic environment characterized by self-organisation, frequent cross-team collaboration, and decentralized decision-making. Engineers, clinical advisors, and product developers engage fluidly, facilitating rapid responses to patient feedback and emerging market needs. As one engineer succinctly described:

> *We don't have rigid roles here. When someone spots an opportunity from feedback, we quickly act upon it. Ideas flow freely, guided by expertise rather than hierarchical position.*
> *- Livv Health's Engineer*

Significantly, Livv's actor-oriented design is not the result of a deliberate strategic decision. Instead, it appears to be inherent to its operational model, emerging organically as the company

adapted to the complexities and rapid changes in the healthcare and technology landscapes. The demands of sustaining innovation momentum, navigating regulatory shifts, and managing diverse stakeholder relationships naturally guided the organisation toward this decentralized, actor-driven approach.

Nevertheless, Livv Health continues to face considerable operational challenges. Despite rapid growth and strong user engagement, comprehensive integration with existing electronic health record (EHR) systems remains limited. Moreover, persistent resistance from clinicians remains a hurdle, particularly among those hesitant to embrace a more collaborative patient-provider/doctor dynamic, which challenges traditional healthcare authority norms. These issues exemplify broader systemic tensions encountered by similar platform-mediated healthcare initiatives. While digital transformation holds significant promise for patient empowerment and improved outcomes, it also disrupts established roles, necessitating careful management of stakeholder expectations and established professional practices.

As healthcare continues to struggle with persistent data fragmentation, rising demands for patient-centred care, and the need for integrated, proactive health management solutions, Livv's operational model offers both theoretical and practical insights. In particular, the case highlights the subtle interplay between internal organisational structure/design, external solution offerings, and ecosystem dynamics, providing valuable perspectives. These elements will be analyzed in greater depth in Section 4.2.

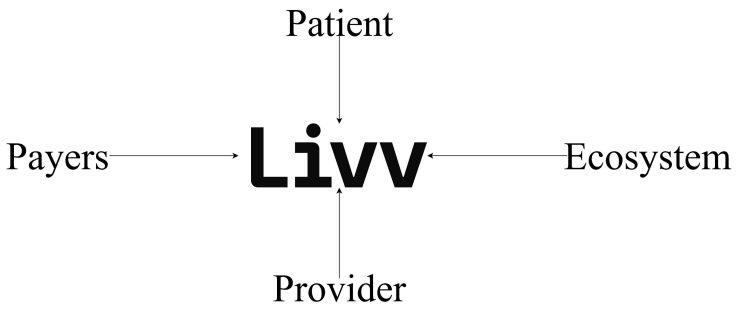

Figure 3. Livv Health Ecosystem

4.2 Case Analysis

This section analyses the Livv Health case by unpacking key themes that emerged through careful reflection. The analysis is structured around four core dimensions that collectively illustrate how Livv Health embodies the principles of: transformation - that the healthcare industry is going through -; vision-driven leadership; actor-oriented architecture; and business model inno-

vation. These insights move beyond descriptive narrative to empirically ground the theoretical contributions.

4.2.1 Theme I: Transformation in Care Processes through AI-Enabled Solutions

The rise of AI models in healthcare has introduced a new layer of intelligence into clinical workflows, enabling advanced data processing, predictive analysis, disease control, and personalized decision support. As these tools become embedded in care delivery, they shift the balance of information, authority, and interaction, fundamentally reshaping how care is coordinated, not only among providers but also between providers and patients. The growing burden of administrative tasks has led many healthcare professionals to express both openness and urgency in adopting generative AI technologies, as they actively seek practical solutions to relieve systemic pressures (Čartolovni et al., 2023).

The traditional physician-patient interaction model is thus undergoing significant transformation. AI-driven solutions are increasingly mediating and redefining care processes, leading to the emergence of what some have termed the "AI-specialist-patient" model. Within this configuration, patients are no longer passive recipients of care but become active contributors to value creation (Kulkov, 2023). This shift repositions the patient as both a source and a beneficiary of healthcare value and opens new avenues for synergies across the ecosystem.

Livv Health operates squarely within this emerging paradigm:

> *We're tackling the biggest problem in healthcare: how you facilitate and use healthcare data and how you democratize it. - Livv Health's Founder*

The company's platform aggregates and translates fragmented patient data across languages and healthcare systems, building a unified, patient-controlled health vault. These records can be securely shared with providers and are enhanced by AI-generated summaries, transcription tools, and cross-linguistic accessibility. In doing so, the platform addresses not only the issue of clinical information overload but also repositions the patient as the manager of their own health data.

> *What is missing are tools that extract what is important - we live in an era of information overload. - Norwegian General Practitioner (outside Livv's ecosystem)*

> *We're solving a trust issue: the patient needs to feel empowered, and the clinic needs to provide continuity of care. - Livv Health's Manager*

This shift in dynamics highlights a broader transformation underway in healthcare: one in which patients are empowered through data ownership, AI-enhanced tools, and digital platforms that enable more collaborative care. Livv Health illustrates how AI-enabled infrastructure can directly support this transformation, aligning with and amplifying sector-wide movements toward personalization, transparency, and distributed value creation.

It is, thus, crucial to understand how Livv Health enables this type of transformation:

1. When a patient is a user of the Livv app but the doctor is not, the patient can independently collect data from wearables, generate AI-powered summaries, track symptoms over time, and centralize medical documents. In this scenario, the patient actively produces and manages their own health records, becoming the central actor in their care journey. Before a medical consultation, they can choose what information to share, how to share it, and for how long-via a secure, all-access QR code.

2. When a doctor is also a Livv user, they gain access to enhanced patient profiles, automated document summarization, in-app chat, and customizable pre-consultation questionnaires, all within a unified interface designed to reduce clinical burden. If patients are also Livv users, this creates a co-productive relationship and real-time symbiosis. If they are not, the doctor still benefits from the infrastructure and takes on the role of updating and organising the patient's digital health environment.

In both scenarios, Livv Health demonstrates its potential to transform care processes by reconfiguring the roles of patients and providers, enabling new patterns of collaboration and value creation.

4.2.2 Theme II: Vision as a Foundation for Innovation

Tracing back to 2023 helps clarify how Livv Health's structure and trajectory have been shaped. As noted by several interviewees, the company's evolution can best be described as a growing network of actors connected by a shared understanding of a systemic problem. Like many startups, Livv emerged not from a predefined organisational model or platform, but from the founder's personal experience, professional networks, and a clear identification of an unmet

need, namely, a vision to address healthcare data fragmentation and empower patients (Kulkov, 2023).

This vision-first orientation reflects a critical condition for decentralized and collaborative organisational architectures. For such models to sustain, they must be grounded in transparency, shared values, norms of reciprocity, trust, and a collective sense of purpose (Fjeldstad et al., 2012). These attributes were consistently mentioned in the empirical data. Interviewees emphasized that Livv's evolution was not driven by strict adherence to a particular business model, but rather by clarity of intent and direction.

> *It is not necessarily the technology that makes us different, it is the vision and who we build for. - Livv Health's Manager*
>
> *We're solving a trust issue: the patient needs to feel empowered, and the clinic needs to provide continuity of care. - Livv Health's Manager*

This underscores the broader relevance of Livv's founding vision: not merely to build a product, but to create an enabling infrastructure that meaningfully addresses real, unmet needs across the healthcare system.

In today's entrepreneurial environment, abundant digital resources and open infrastructures increasingly allow actors to self-organise around new projects and novel organisational forms. One defining feature of actor-oriented systems is precisely this ability to dynamically establish collaborative relationships. The development and delivery of complex services requires mechanisms for actors to identify problems, become aware of opportunities, and engage appropriate collaborators (Fjeldstad et al., 2012). Livv Health's trajectory exemplifies this logic: its organisational and solution models emerged organically from the founder's vision rather than from a formalised blueprint.

This was echoed by a Portuguese venture capitalist investor with no prior affiliation to Livv Health, but whose portfolio includes similar healthcare technology startups:

> *It is rarely about the model at first, it is about the founder and their clarity of the problem. - Portuguese Venture Capitalist Investor (outside Livv's ecosystem)*

Finally, this orientation toward a clear vision for innovation also resonates externally. A Norwegian general practitioner, unaffiliated with Livv, commented on the need for tools that help cut through complexity:

> *What is missing are tools that extract what is important - we live in an era of information overload. - Norwegian General Practitioner (outside Livv's ecosystem)*

These insights support the following consideration: rather than beginning with predefined organisational architectures, many startups, especially in healthcare, undergo an evolutionary process, with hierarchies flattening and structures adapting organically in response to their founding vision.

4.2.3 Theme III: Business Model Evolution and Strategic Responsiveness

As Livv's development has been discussed in relation to its founding vision in the previous subsection, it is equally important to examine how its business model evolved during Livv's development, directly addressing the research question and the call presented outlined in the introduction chapter.

Livv's initial business model followed a B2C approach, offering a free app for patients. However, limited willingness to pay among patients led the company to pivot toward a hybrid B2B/B2B2C model. Clinics now serve as paying customers, while patients retain access to core features free of charge. This shift reflects Livv's strategic responsiveness and capacity to evolve without compromising its central mission.

> *You don't get paid for avoiding disease. The financial model in healthcare is prehistoric. Nobody gets rewarded for preventing illness, only for curing it, and we want to disrupt this. - Livv Health's Founder*

As revealed in interviews with internal team members and Livv's investors, this pivot was not driven by opportunism or short-term positioning. Instead, it was a response to structural limitations: even highly motivated patients often lack the willingness or financial capacity to pay directly for long-term digital health services. Consequently, Livv recalibrated its model to engage clinics, insurers, and healthcare providers as paying customers, while preserving core features for patients that support adoption, data flow, and empowerment.

This pragmatic realignment, however, surfaced divergent views among stakeholders. While Livv's internal actors and investors demonstrated alignment in understanding the logic behind this strategic evolution, one external investor, affiliated with a Portuguese venture capital firm, with no prior familiarity with Livv, offered a contrasting perspective. He explained that companies in his firm's portfolio predominantly follow B2B models, citing a higher willingness to

pay among institutional buyers and the limited market penetration of private health insurance in Portugal. Although he acknowledged similar structural and regulatory barriers to those Livv faces, he emphasised that none of their portfolio companies actively facilitate actor-oriented models, nor hybrid approaches.

This tension illustrates competing assumptions about the viability and timing of business model adaptation in the digital health sector. The Portuguese investor expressed scepticism about the feasibility of shifting models.

These differences invite reflection on an assumption that will be useful for subsequent analysis: the relationship between actor-oriented design and strategic responsiveness. Livv's trajectory suggests that such responsiveness may not simply be a strategic choice, but an emergent capability afforded by the company's actor-oriented architecture. That is, organisations that adopt (or inherently evolve into) actor-oriented forms appear better positioned to recalibrate their models in response to dynamic market and ecosystem conditions, while maintaining coherence in their organisational purpose and design logic. In contrast, firms operating in more traditional, centralised structures may lack the same capacity for agile reconfiguration.[6]

4.2.4 Theme IV: Livv Health's Actor-Oriented Architecture

Reflecting on how Livv Health delivers value reveals a deeper organisational logic that extends beyond technology: an actor-oriented architecture. A key moment during fieldwork was a conversation with Professor Øystein Fjeldstad, co-author of the actor-oriented architectural design, which offered a set of theoretical provocations that continue to shape this case interpretation:

> *Is this [Livv Health] a networking service… or is this something that, once adopted by clinics, transforms the way healthcare is organised?*
>
> *The question is… is your [Livv Health] business model trying to set how healthcare services are being organised?*
>
> *You can't start by saying they're actor-oriented. But you can ask - why would this form of organising emerge here?*

These questions prompt a shift in perspective: from asking what Livv offers to examining how its form of organising care reflects and enables a new way of delivering healthcare.

What emerged from this reflection is that Livv is not merely a provider of digital infrastruc-

[6] Concerns regarding data limitations and generalisability are addressed in the conclusion.

ture; it is enabling a new way of organising healthcare. Although the concept of an "actor-oriented architecture" was unfamiliar to the team prior to this study, their practices align closely with its core principles: enabling autonomous actors to self-organise, access shared resources, and collaborate through enabling infrastructures and coordination protocols. Crucially, this architecture was not imposed through top-down planning but emerged organically from the founders' vision and the adaptive responses to a complex, fast-moving healthcare environment.

This addresses the invitation posed by Professor Fjeldstad - to question whether Livv is simply a networking tool or a mechanism that could reshape how care is organised if adopted at scale. While hypothetical, the question also opens a valuable line of inquiry: Can an actor-oriented logic, embedded in a startup's infrastructure, scale into systemic transformation through their solutions offering?

Livv's internal organisation displays key characteristics of an actor-oriented architectural scheme, but this logic is also embedded externally, in its product offering. The platform centralizes health data, yet control remains with the patient, who actively decides what to share, with whom, and for how long. This supports dynamic and decentralized collaboration while reinforcing patient empowerment.

Livv's evolution, then, is not simply about delivering a product; it is about building a collaborative infrastructure. By linking patients, providers, and institutions, Livv enables distributed value creation across the healthcare ecosystem. It operates as a networked organisation that fosters faster interaction, replaces rigid hierarchies with flexible coordination, and builds the conditions for actor-oriented forms of organising (Fjeldstad et al., 2012, 2020).

As previously outlined in Table 1, actor-oriented architectures comprise three foundational elements: actors, commons, and protocols. In Livv's case, these components are present internally in its organisational structure; however, the point of explaining and deconstructing Livv's solutions offering is to demonstrate that there is the possibility to apply this same theoretical lens externally. To visualize this dual enactment, Figure 4 decomposes Livv's actor-oriented architecture across internal and external dimensions.

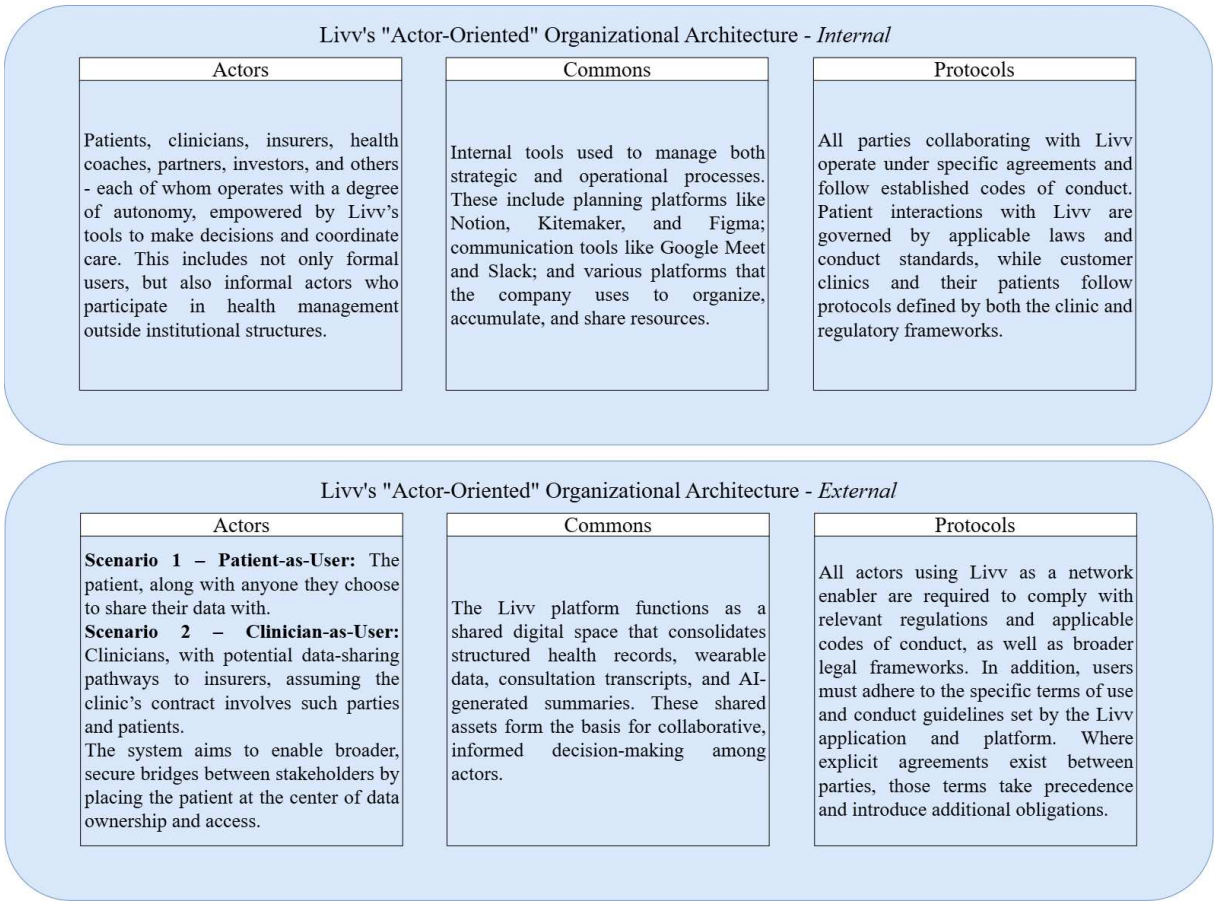

Figure 4. Internal and External Elements of Actor-Oriented Architecture

Internally, actors include clinicians, engineers, advisors, and investors who self-organise around shared objectives. Commons consist of the tools and platforms, such as Notion, Slack, and Figma, that enable collaborative work, while protocols take the form of agreements, behavioural codes, and regulatory compliance mechanisms.

Externally, the same tripartite logic applies. Patients, clinicians, and potential third-party actors (e.g., insurers) engage autonomously via the Livv platform. The platform itself provides access to commons, such as aggregated medical records, AI-generated summaries, shared patient data, health questionnaires, and protocols, which consist of conduct guidelines, user agreements, and data-sharing standards that facilitate trustworthy collaboration across institutional boundaries.

What is happening in this case is that an organisational architectural design, used internally, when applied externally, becomes the very logic embedded in the solution, enabling other actors in the healthcare ecosystem to coordinate, self-organise, and co-create value in a similarly decentralized and collaborative manner.

Taken together, this shows that Livv simultaneously enacts (internally) and enables (exter-

nally) actor-oriented coordination, both shaping its organisation and equipping others to operate more collaboratively within the broader healthcare ecosystem.

5 DISCUSSION

This thesis contributes to the literature on actor-oriented architectural schemes and business model innovation in digitally enabled healthcare ecosystems. Drawing on the case of Livv Health, I propose a conceptual framework that theorizes how actor-oriented design can simultaneously guide internal organisational structures and external solution offerings in AI-driven healthcare settings.

I organise the discussion along two interrelated dimensions and a third one that emerges naturally as a consequence of the previous: (1) the **dual enactment of actor-oriented architecture**, examining how the Livv Health case illuminates this logic both internally (as an organisational design) and externally (as a solution offering); (2) the **dynamic alignment dimension**, reflecting on how actor-oriented schemes can serve not only as a structural blueprint but also as a dynamic strategic capability in complex, regulated environments; and (3) the **proposed final framework**, which integrates these insights into a cohesive model that captures the adaptive interplay between internal configuration, external engagement, and strategic responsiveness.

Dual Enactment of Actor-Oriented Architecture

The actor-oriented architectural scheme offers an alternative to traditional hierarchical organisational designs, particularly in environments characterized by complexity, dynamism, and interdependence. This model is particularly well suited to organisations addressing ill-structured problems under conditions of uncertainty. Such organisations require a high degree of mutual adjustment among actors in order to: (1) anticipate and shape unknown futures, (2) generate and evaluate alternative strategies, and (3) implement chosen paths rapidly and effectively (Fjeldstad et al., 2012). As such, the capacity for rapid and autonomous reconfiguration becomes a strategic advantage.

Moreover, actor-oriented designs emphasize collective value creation within and across organisational boundaries. Unlike traditional structures, which rely on hierarchical brokerage or centralized coordination, actor-oriented models empower distributed actors to collaborate through shared governance, commons-based infrastructure, and flexible interaction protocols (Fjeldstad et al., 2012).

Building on this foundation, I have illustrated in the previous section how Livv Health exhibits actor-oriented characteristics in its internal organisational strategy. Internally, the com-

pany fosters a decentralized, cross-functional environment with minimal hierarchy. Collaboration is facilitated through digital commons, and teams self-organise around shared goals. Decision-making authority flows laterally, not vertically.

What is particularly interesting, however, is that the same theoretical lens that helps analyse Livv's internal configuration also applies to its external value proposition. In other words, the organisational logic is mirrored in the product logic.

Externally, Livv's platforms enable patients to own and control their health data, facilitate clinician access, and foster collaborative interaction via secure data-sharing protocols. These practices collectively operationalize the three core components of actor-oriented architecture: empowered actors, shared digital infrastructure, and collaboration protocols.

What becomes especially interesting is how these internal/organisational and external/solution dimensions interact: the flexibility and collaborative infrastructure of the internal organisation enable, and are in turn shaped by, the collaborative and responsive logic of the external offering. To properly account for this, let me go back to Theme III: Business Model Evolution and Strategic Responsiveness, in which the assumption on the relationship between actor-oriented design and strategic responsiveness was introduced. It is exactly this cyclic relationship that I propose as the explanation for the interaction between internal and external dimensions. This is an organisation that follows actor-oriented principles and that, at the same time, offers a solution based on those. This cycle of influences enables the alignment of the business model to the dynamic market and ecosystem conditions.

By observing an organisation that, independently of explicit strategic intent, both enacts and enables actor-oriented organising principles, a new layer emerges. The Livv Health case reveals not just a dual application of the actor-oriented model, but a dynamic interplay between internal evolution and external adaptation. This mutual influence constitutes more than just symmetry; it represents a feedback loop in which internal structure and external offerings co-evolve (Figure 5).

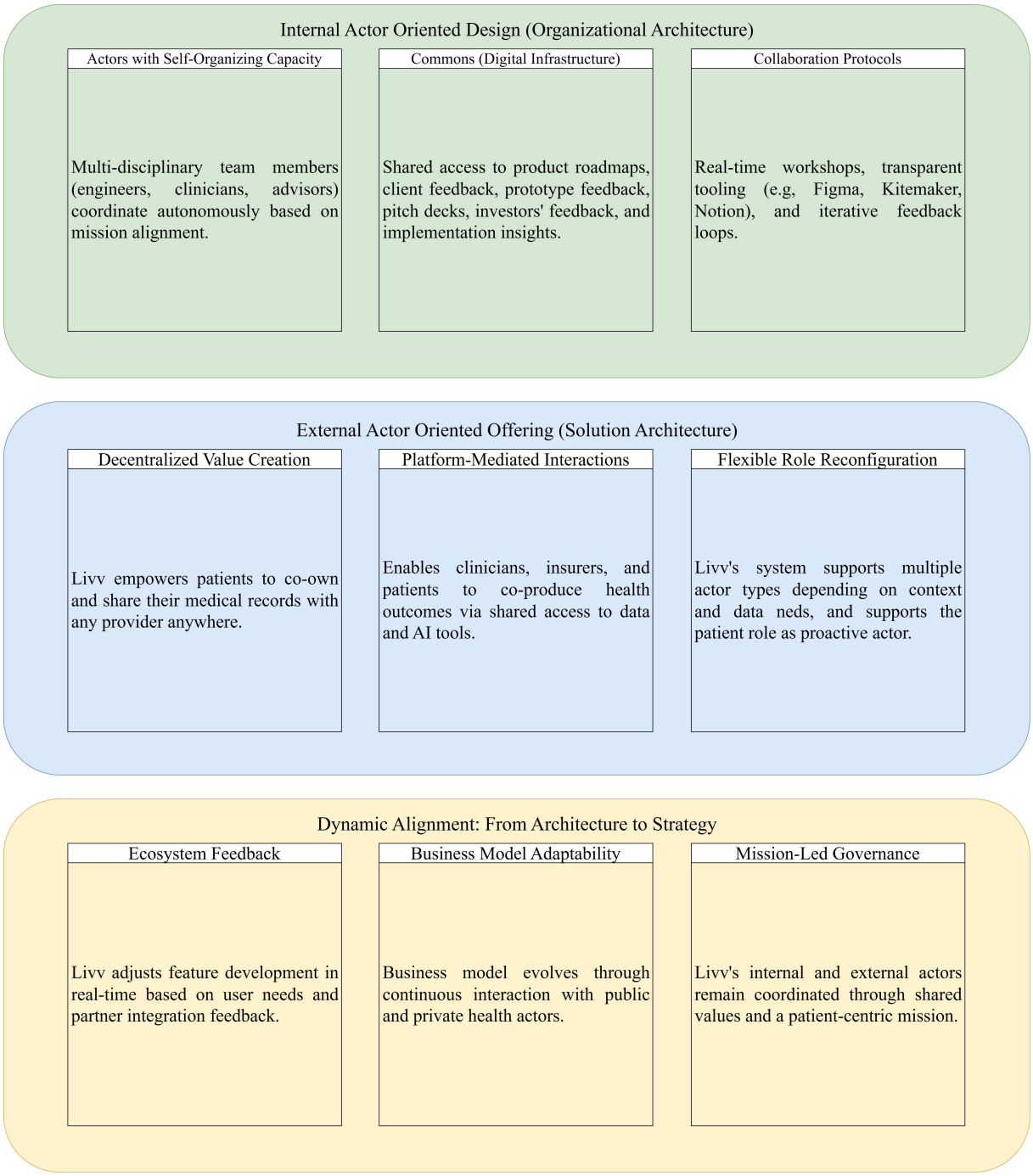

Figure 5. Extended Actor-Oriented Framework: Internal Design, External Offerings, and Strategic Alignment

Dynamic Alignment

As mentioned above, Livv's model of collaboration and operational flexibility points to an additional layer of coordination, one that links internal architecture with solutions offering (Figure 5). This motivates the third dimension of the model: dynamic alignment.

Figure 5 introduces, then, a framework comprising three components: (1) **Internal Actor-**

Oriented Design, capturing Livv's internal governance logic and coordination practices; (2) **External Actor-Oriented Offering**, describing how Livv creates value for and with its stakeholders; and (3) **Dynamic Alignment**, representing how Livv continuously adapts internal and external configurations in response to feedback, user needs, and environmental constraints.

Rather than emerging from top-down strategic planning, this alignment process unfolds iteratively through continuous interactions with patients, clinicians, and institutional partners. Livv adjusts features in response to ecosystem feedback, pivots business models based on stakeholder engagement, and maintains coherence through mission-led governance. This responsiveness, in turn, reinforces its actor-oriented architecture, enabling the organisation to scale without abandoning its collaborative foundation. This cyclic view of Livv's activities decomposes the organisation into an interdependent system of evolving dimensions, where internal structures and external offerings are continuously realigned through recursive feedback loops.

The proposed framework thus contributes to theory in three important ways. First, it bridges the gap between internal design and external value creation by highlighting their recursive relationship. Second, it shows how actor-oriented architectures can emerge organically, through experimentation, context-specific adaptation, and stakeholder co-creation, rather than through prescriptive design. Third, it reframes actor-oriented architecture not simply as an organisational form, but as a dynamic capability that enables firms to navigate complex, regulated, and multi-actor environments, such as healthcare AI.

The interpretation of the actor-oriented architectural scheme as a dynamic capability is supported by the literature on business model-dynamic capability interactions (Teece, 2018), as previously discussed in Section 2.3. From this perspective, business models are enabled by dynamic capabilities, in the sense that a dynamically capable organisation is able to rapidly design, test, and refine new or revised business models in response to changing conditions. In this light, actor-oriented architecture can be understood as an organisational design that facilitates business model innovation by enhancing the firm's capacity to orchestrate resources, adapt to environmental change, and experiment with new value configurations. These characteristics support its conceptualization as a dynamic capability and justify the introduction of the third dimension in (Figure 5). In the case of Livv Health, the decentralized and flexible nature of internal structure enables rapid feedback loops between user needs, internal operations, and external offerings - what this thesis refers to as dynamic alignment. As Teece (2018) has noted, advancing our understanding of business model innovation, implementation, and evolution also

contributes to broader insights into the workings of dynamic capabilities.

Proposed Final Framework

To synthesize these insights, Figure 5 is extended into a final conceptual framework (Figure 6) that expands from the case study presented into a generalized model that highlights how actor-oriented architecture can operate as a dynamic, capability in digitally enabled ecosystems. This model draws theoretical support from research on actor-oriented organising in digital environments (Fjeldstad et al., 2012; Snow et al., 2017), strategic responsiveness and learning health systems (Fjeldstad et al., 2020), value configuration analysis in complex service networks (Kulkov, 2023; Stabell & Fjeldstad, 1998), and business model and dynamic capabilities (Snihur & Markman, 2023; Teece, 2010, 2018).

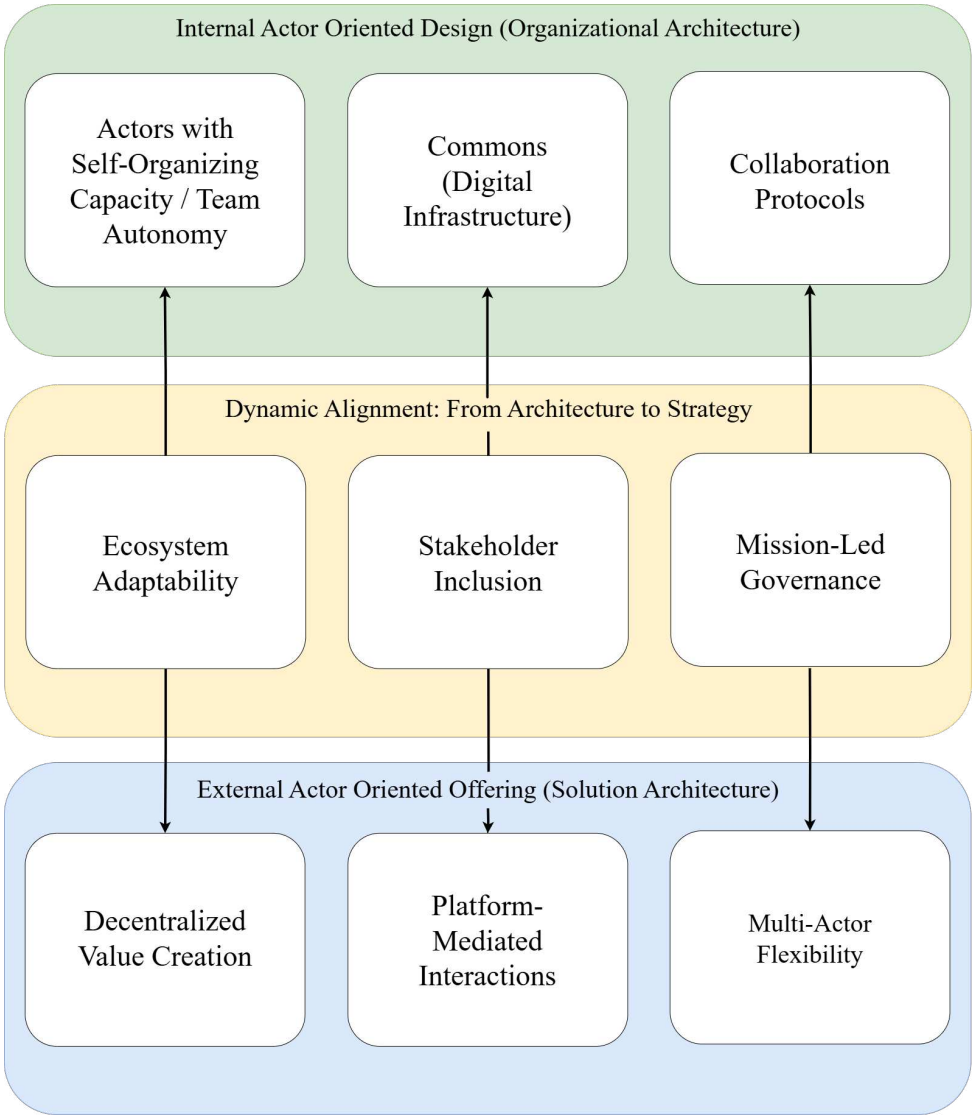

Figure 6. Dynamic Actor-Oriented Framework: Recursive Alignment Across Organisational Layers

In this final framework, internal architecture, external value offering, and strategic alignment are conceptualized as interconnected layers within a recursive system. Arrows indicate feedback loops that enable continuous adjustments: strategic decisions feedback into structural reconfiguration, which then informs the solution logic, and so on.

This proposed framework is particularly relevant in light of the growing recognition that healthcare service systems require a fundamental redesign. Value in healthcare is not created through linear, industrial-style processes, but through the coordination of diverse resources and actors around the specific needs of individual patients. Co-producing health services, rather than simply delivering them, requires architectures that can flexibly support shared decision-making, personalized care, and context-sensitive use of resources. Traditional models focused on efficiency and standardization often fail to meet these demands, leading instead to frustration, burnout, and systemic inertia. By contrast, actor-oriented systems that enable dynamic interaction and role adaptation among patients, clinicians, and institutions are better suited to the realities of modern healthcare (Fjeldstad et al., 2020). Therefore, the looping mechanism and multi-layered structure of the proposed framework offer one way to conceptualize how such systems can be organised and scaled in AI-enabled environments.

In sum, this framework aims to propose a way of rethinking how companies operating in the evolving digital health sector can design for value creation, particularly those operating with AI, data, and digital platforms and start-ups, since a leaner structure makes them more agile. By structuring interactions across internal capabilities, external offerings, and strategic responsiveness, the framework provides a model that both captures current shifts in the industry and supports emerging business models identified by Kulkov (2023), including hybrid B2B2C logics and co-productive data platforms.

As a concluding note, it is important to highlight a specific contribution of this thesis: actor-oriented schemes can emerge organically, not only structuring internal operations but also shaping external strategic positioning. My research extends prior work on actor-oriented architectures by demonstrating their empirical relevance and adaptive function in real-world, digitally enabled ecosystems.

Ultimately, Livv Health offers valuable insights into how actor-oriented logic can enable a dual pathway for companies. Operating within Norway's fragmented but reforming healthcare landscape, Livv serves as a revelatory case: not because it was designed with actor-oriented principles in mind, but because it evolved into such a model through necessity, collaboration,

and responsiveness to contextual demands.

This study thus suggests that in complex, regulated sectors, actor-oriented architectures may not only be advantageous but may also emerge as a pragmatic necessity and, most importantly, serve as a dual-purpose lens that informs both organisational structure and strategic decision-making.

6 CONCLUSION

This thesis aimed to explore how the actor-oriented architectural scheme can inform both internal organisational design and external solution offerings in healthcare AI ecosystems. Through an abductive single-case study of Livv Health, a Norwegian digital health startup aiming to unify fragmented healthcare data via an AI-enabled platform, the research provides empirical, conceptual, and theoretical insights into the evolving dynamics of digital healthcare organisations.

Empirically, the case revealed a unique organisational trajectory shaped not by rigid hierarchies or prescriptive blueprints, but by a strong founding vision, a commitment to patient empowerment, and a collaborative approach to value creation. Livv Health exemplifies how actor-oriented principles can be enacted both internally - through decentralized governance, cross-functional collaboration, and shared digital commons - and externally - through a platform that enables patients and clinicians to co-create care.

Conceptually, the study introduced the notion of dual enactment, where an actor-oriented architecture serves not only as a form of internal coordination but also as the organising logic embedded in the firm's external value proposition. This recursive relationship supports what this thesis has termed dynamic alignment: the ability of an organisation to continuously reconfigure itself in response to shifting stakeholder demands, regulatory conditions, and technological advancements.

Theoretically, the thesis extends existing literature by positioning actor-oriented architectures not just as organisational forms but as dynamic capabilities that support business model innovation. Drawing on Teece (2018)'s work on dynamic capabilities, the findings suggest that such architectures can enable firms to sense, seize, and adapt to new opportunities in highly regulated, multi-actor environments like healthcare AI.

In line with Kulkov (2023), who emphasizes the diversity and specialization of AI startup business models, this study illustrates how actor-oriented design enables flexible configuration of value creation and delivery mechanisms tailored to the healthcare context. However, while Kulkov (2023) primarily focuses on typologies and value communication channels, this thesis advances the conversation by embedding organisational architecture into the analysis, positioning it as both a structural logic and a dynamic capability that enables ongoing adaptation and coordination

Moreover, Hviding et al. (2025) identify a gap in the literature, highlighting the lack of research on how digitalization has transformed business models beyond simple technology adoption. Responding to their call for insights into the environmental co-evolution of business models, this thesis offers an empirical and theoretical model showing how actor-oriented architectures provide the recursive feedback mechanisms needed for such co-evolution - conceptualized here as “dynamic alignment”.

As with any case study, this research is subject to certain limitations. First, the single-case design limits the transferability of findings beyond the specific context of Livv Health. While the case offers rich, in-depth insights, its contextual specificity means that caution should be exercised when applying the conclusions to other settings or sectors. Second, the relatively limited number of interviews - constrained by time and access - may restrict the breadth of perspectives captured, particularly across stakeholder groups. Although triangulation with internal and external viewpoints was attempted, a broader sample could have further enhanced the robustness of the findings. These limitations do not undermine the value of the study but point to fruitful directions for future research, including comparative case studies, longitudinal studies, and larger-scale empirical investigations into actor-oriented architectures in healthcare and other digitally transforming industries.

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