Entering non-platformized sectors: The Co-evolution of legitimacy debates and platform business models in digital health care

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ABSTRACT

Digital platforms have deeply transformed a wide variety of sectors. However, new platform business models often face critical legitimacy challenges. Consequently, new entrants must continuously design and redesign their business model components, particularly when entering non-platformized sectors that are highly regulated. We draw on a longitudinal case study of the emergence of digital healthcare platforms in Sweden between 2013 and 2020. The analysis unravels a dynamic process of redesigning platform business models and their constituent components in response to legitimacy debates, suggesting that permission to operate can be fragile and subject to continuous negotiation. Our findings contribute to current insights into platforms, business models, and digital innovation in complex institutional contexts. Furthermore, our work carries implications for managers and policy makers in the digital health area.

1. Introduction

The potential of digital technology to radically transform the creation and the transaction of business (Elia et al., 2020), the entrepreneurial processes (Nambisan, 2017), and the conception of innovation opportunities (Yoo et al., 2010) is at the forefront of current research. In particular, contemporary research provides ample illustrations of how establishing digital platforms can radically transform established sectors (Amit and Zott, 2020; Cohen et al., 2017; Huotari and Ritala, 2021; Kretschmer and Peukert, 2020; Rietveld and Schilling, 2021). Specifically, recent research highlights several novel types of value enabled by platforms in the areas of blockchain technologies (Massaro, 2021; Spanò et al., 2021), telemedicine (Biancone et al., 2019; Drago et al., 2021), and business intelligence, artificial intelligence, and information systems (Basile et al., 2022; Dicuonzo et al., 2022; Madhavan et al., 2021). However, early-stage platformization (i.e., the process through which new entrants attempt to introduce digital platforms into previously non-platformized industries and sectors) has been given much less theoretical examination. Prior platform research highlights that digital platforms can proliferate in settings with information-based values, simple and modular transactions, and fault-tolerant natures (Brown, 2019; Parker et al., 2016). Platformization may, therefore, be especially challenging in sectors relying on physical assets, complex and interdependent transactions, heavy regulations, low tolerance for failure, or a mixture of private and public funding as in the healthcare sector (Secinaro et al., 2020; Ozalp et al., 2022; Pesch et al., 2020). However, the question of how platforms enter into and develop in such institutionally complex and traditional settings remains largely unanswered.

Recent research has applied a business-model perspective to the analysis of platformized (rather than non-platformized) industries. For example, it has identified the business model characteristics of disruptors and non-disruptors (Trabucchi et al., 2019), business models for frugal innovation in emerging markets (Winterhalter et al., 2017), and business models for electric cars (Secinaro et al., 2020). In fact, the Covid-19 pandemic impelled many organizations to redesign their business models into digital platforms (Bagnoli et al., 2021; Vaska et al., 2021). Recent studies, however, have mostly highlighted static aspects of successful and failed cases (Biancone et al., 2019; Cerchione et al., 2022; Chakraborty and Paul, 2021; Shaygan and Daim, 2021). Specifically, multi-criteria models have recently been proposed as the means to assess the performance of blockchain-based EHR systems (Cerchione et al., 2022), technology management maturity (Shaygan and Daim, 2021), telemedicine acceptance (Biancone et al., 2019), and apps’ brand love (Chakraborty and Paul, 2022). Studies acknowledge that platform
business models and other digitally-enabled entrepreneurial processes not only shape but are also shaped by the institutional environment in which they operate (Yi et al., 2022; Jovanovic et al., 2021; Nambisan, 2017; Urbinati et al., 2019). Moreover, the literature on new ventures more generally emphasizes that what is considered legitimate by existing ecosystem actors represents one major aspect here (Garud et al., 2020; Fischer et al., 2016; Kwak et al., 2019). However, how the design and redesign of platform business models are shaped by the perceptions of legitimacy in the surrounding ecosystem has been largely overlooked.

This paper aims to fill this gap by analyzing the early stages of new platform business-model design and redesign in the healthcare sector as a representative case of a non-platformized sector. We address the following research question: How does striving for legitimacy influence the business-model design and redesign of nascent platforms entering non-platformized sectors? We draw on an embedded case study (Yin, 2014) on the introduction and early establishment of four digital platforms that connect patients and medical professionals in Swedish primary care (hereafter called netdoctors) – between 2013 and 2020. Based on our analysis of interviews with netdoctor employees and with other ecosystem actors, such as incumbent care providers and authorities, observations of seminars, and about 150 media items (opinions and articles in daily and medical newspapers and magazines), we provide a process model (Langley, 1999; Langley et al., 2013) of the co-evolution of platform business models and legitimacy debates in non-platformized sectors.

The paper contributes to the platform literature by conceptualizing multifaceted and adaptive platform-entry approaches, which extend current insights into platform strategies (e.g., Ben-Slimane et al., 2020; Dushnitsky et al., 2020; Kretschmer et al., 2020) and platform business models (Fu et al., 2022; Täuscher and Laudien, 2018). Specifically, our work highlights how platform entrants continuously design and redesign their business models when entering non-platformized sectors. As we demonstrate, this involves a wide range of interrelated and continuously revised decisions based on the reactions of the institutional context. These insights are especially relevant for contexts in which platform spread is still limited, and they extend our understanding of the early stages of platformization (Brown, 2019; Parker et al., 2016). Furthermore, we contribute specifically to the emerging literature on legitimacy in platform settings (Fisher et al., 2016; Garud et al., 2020) by providing rich illustrations of the interaction between legitimacy debates and the transformation of platform business models in a highly regulated sector.

The proposed conceptual model also contribute to the business-model literature, which has suggested that legitimacy is important (Donner and de Vries, 2021; Klein et al., 2021; Press et al., 2020; Snihur et al., 2021; Massa et al., 2017; Perkmann and Spicer, 2010) but has not theorized how business-model design and redesign can be a vehicle to pursue enhanced legitimacy. We outline how continuous adaptation of critical platform business-model aspects related to value creation, delivery, and capture occurs in response to – and generates new – legitimacy concerns among incumbent ecosystem actors over time.

Finally, on a more general level, our work adds to the literature on digital innovation and digitally-enabled entrepreneurship (Cohen et al., 2017; Elia et al., 2020; Yoo et al., 2010; Nambisan, 2017) by conceptualizing how the borders around entrepreneurial initiatives, such as digital health platforms, are determined not only by the potential of new digital technologies but also by institutional elements (Nambisan, 2017). These factors enable and constrain what digital opportunities are available and how they can be exploited by entrepreneurs who need acceptance and permission to operate from their stakeholders.

In the next section, we discuss the literature about entry into non-platformized sectors, new platform business models, and legitimacy. Then, we explain the materials and the methods of the study, and we present the findings. Finally, we discuss the theoretical and managerial implications, and we indicate the limitations and the lines for future research.

2. Theoretical background

2.1. Entry into non-platformized sectors as nascent markets

Platforms epitomize how digital technology creates new opportunities for radically new business models and entrepreneurial actions that move beyond and change traditional industry boundaries (Rippl and Secundo, 2019; Nambisan, 2017; Yoo et al., 2010). Sectors subject to platformization or threats of platformization can, therefore, be seen as nascent markets – namely, “business environments in an early stage of formation, often appearing in emerging ‘organizational fields’” (Santos and Eisenhardt, 2009, p. 644). Although nascent markets typically emerge from technological developments, when different industries or sectors converge with unmet user needs (Kuratko et al., 2017), they also can appear within the boundaries of an existing industry or sector (Ozcan and Santos, 2015). Platform entrants enable both the creation of new markets through technological features for the as-yet-unmet needs and the disruption of established markets through new ways of interacting (Parker et al., 2016; Cohen et al., 2017; Nambisan, 2017).

Regarding the latter, many traditional sectors possess characteristics that facilitate their disruption through platformization – for example, information-based value, simple and modular transactions, fault-tolerant natures, and lack of heavy regulations (Brown, 2019; Parker et al., 2016). In contrast, platform entry into non-platformized settings that do not exhibit these characteristics and are less “prone” to platformization (Parker et al., 2016) provides many challenges. That is to say, platformization may be especially challenging in sectors that are reliant on physical assets, complex and interdependent transactions, heavy regulations, low tolerance for failure, and a mixture of private and public funding as in the healthcare sector (Secinaro et al., 2020; Presch et al., 2020). However, the question of how platforms enter into and evolve in such institutionally complex and traditional settings remains largely unanswered. Understanding the changing dynamics in nascent markets from the platform startups’ approach (McDonald and Eisenhardt, 2020; Peprah et al., 2021) is, in consequence, required to shed light on what platform entry into such settings involves.

2.2. New platform business models: continuously adapted to context

The literature has extensively examined the concept of business models over the past decade (Massa et al., 2017; Teece, 2010; Zott and Amit, 2010; Bagnoli et al., 2018). Business models answer to the firm’s product and services attributes, activities, and processes to deliver value to customers, and revenue streams that support business activities. These three components – value creation, value delivery, and value capture (Vaska et al., 2021; Winterhalter et al., 2017) – constitute important analytical concepts in our study. They amount to a broader notion than specific entry strategies, going beyond the firm’s traditional boundaries (Foss and Saebi, 2018; Henike et al., 2020; Zott and Amit, 2010; Huo et al., 2020).

Business models can be used in various ways (Foss and Saebi, 2018; Henike et al., 2020), such as linguistic/cognitive schemas or formal
conceptual descriptions of how companies do business (Massa et al., 2017; Ritter and Lettl, 2018). They have also been perceived as either aspirational guides or blueprints of actual activities. Recent research proposed that startups in nascent markets often combine these approaches in designing and redesigning their business models (McDonald and Eisenhardt, 2020). In nascent markets, startups address unclear customer demands and poorly defined product or service attributes (Agarwal et al., 2017; Deno et al., 2021; Osyievsky and Dewald, 2015; Ozcan and Santos, 2015).

A platform business model is one where value creation, delivery, and capture are heavily reliant on a network of distinct stakeholders, and the interactions and information exchanges between these stakeholders (Rohr et al., 2021; Fu et al., 2022; Yi et al., 2022). Platform business models thus rely largely on intangible assets, such as information (Atuah, 2013; Biancone et al., 2019). The platform itself may have less control over product and service transactions than traditional business (van Alstyne et al., 2016; Cohen et al., 2017).

Prior literature on platform strategies provided fragmented clues about critical business-model components that could influence the success of platform entrants (Trabucchi et al., 2019; Wan et al., 2017; Zhu and Iansiti, 2019). For example, pricing decisions have been shown to affect monetization of the entrant’s activities (Dashnitsky et al., 2020), and decisions on modularization and standardization can influence value creation via the type of services offered (Kapoor et al., 2021). However, designing a business model is a continuous process that requires constant adaptation or redesign according to the surrounding ecosystem conditions (Jovanovic et al., 2021; Lingens et al., 2021; Elia et al., 2020; Gawer, 2020; Kretschmer et al., 2020; Urbinati et al., 2019). In fact, the redesign of some business-model aspects may reinforce positive paths or condemn the emerging business model to disappear.

Atari’s openness (Gallagher, 2012) and Groupon’s discounts (Cennamo, 2019) exemplify business-model decisions that jeopardized these firms’ positions in nascent markets. Thus, the platform entrants’ design of business models is dynamic by nature. This dynamic character may be particularly evident in nascent markets because many startups enter with tentative or preliminary business models and redesign them over time based on the reactions of the actors in the nascent market (McDonald and Eisenhardt, 2020).

Hence, the legitimacy of new business models from the community of actors in a nascent market represents a critical aspect in initial business-model design and redesign (Ben-Slimane et al., 2020; O’Neil and Ucbasaran, 2016). The following definitions and insights from legitimacy literature informed our study of this relationship.

### 2.3. Business models and legitimacy

Legitimacy is defined as “a generalized perception or assumption that the actions of an entity are socially desirable, proper or appropriate within some socially constructed system of norms, values, beliefs and definitions” (Suchman, 1995, p. 574). Sociopolitical legitimacy refers to the perceived appropriateness of the new venture according to regulations and norms. Hence, sociopolitical legitimacy involves an active form of legitimacy evaluation – one that involves a judgement about compliance with norms or laws. Whereas sociopolitical legitimacy refers to public acceptance, cognitive legitimacy refers to public awareness of a new venture, defined as “the spread of knowledge about a new venture” (Aldrich and Fiol, 1994, p. 648). Cognitive legitimacy, therefore, involves a more passive, subconscious legitimacy evaluation, reflecting the “taken-for-grantedness” of the object under evaluation (Alexiou and Wiggins, 2019). Thus, legitimacy resides in the hands of significant others. That is to say, legitimacy as a property of an entrant or group of entrants depends on the perception of legitimacy among the actors in an entrant’s ecosystem (e.g., Bergek et al., 2008; Mair and Reischauer, 2017). Such actors may include public authorities, governmental agencies, public interest groups, media (Deephouse and Suchman, 2008), incumbents, and other new ventures (Kwak et al., 2019; Mair and Reischauer, 2017). Being perceived as legitimate by such key stakeholders may be particularly challenging for new platform entrants because they suffer from the liability of newness (Stinchcombe, 1965). Key stakeholders may question their existence (Tracey et al., 2016), in particular when technologies depart significantly from users’ prior experiences and schemes (Ben-Slimane et al., 2020).

Consequently, platform entrants must overcome legitimacy challenges that impede their preferred position in the ecosystem (Logue and Grimes, 2019; Thomas and Rita, 2021). To address these challenges, entrants aim for a strategic position that balances the opposite need to conform to and differentiate from existing cognitive and sociopolitical settings (Zhao et al., 2017). Specifically, entrants may facilitate knowledge and acceptance of their platforms by fitting some business-model components into existing institutional arrangements while differentiating other components from existing models (Logue and Grimes, 2019). Finding this optimal distinctiveness is complex. It entails legitimation processes that go hand in hand with transforming the new platform business models (Kwak et al., 2019; Thomas and Rita, 2021).

With a few exceptions (Boon et al., 2019; Garud et al., 2020), prior research has overlooked how new platform entrants adapt to the multifaceted legitimacy challenges they may face (Ben-Slimane et al., 2020). Garud et al. (2020) highlighted how Uber, while enjoying increasing cognitive legitimacy, addressed the lack of sociopolitical legitimacy from not being legally compliant and not fitting into existing regulatory categories. Yet, extant research has not theorized the adaptation of platform entrants’ business-model components in response to such legitimacy challenges over time. It would therefore seem of crucial importance to shed further light on changes in the business-model components (i.e., value creation, delivery, and capture) of platform entrants as they interact with cognitive and sociopolitical legitimacy challenges over time.

Against this background, our study draws on the concepts of cognitive and sociopolitical legitimacy to analyze the legitimacy challenges faced by digital health platforms entering non-platformized sectors. In particular, we mobilize the three components of a platform business model (value capture, value delivery, and value creation) to study how these are redesigned in response to legitimacy challenges.

### 3. Materials and methods

#### 3.1. Research approach and sampling

Given our aim to theorize the multifaceted relationship between legitimacy challenges and business-model design and redesign over time, we used a case study – namely, “an empirical inquiry that investigates a contemporary phenomenon (the ‘case’) in depth and within its real-world context” (Yin, 2014, p. 16). The analysis was abductive (Dubois and Gadde, 2002, 2014), using multiple iterations between
3.2. Empirical setting

Healthcare is an appropriate setting to explore the design and redesign of platform business models in non-platformized sectors for several reasons. The healthcare sector has key barriers to entry, and previous efforts to introduce platform-based business models resulted largely in failure (Brandt and Rice, 2014). This sector encompasses a large ecosystem of heterogeneous actors whose activities intertwine in complex transactions, involve multiple layers of public and private suppliers of a wide variety of products and services, and serve end consumers while receiving payment from combinations of end consumers, insurance firms, and governments (tax money) (Secinaro et al., 2020). Moreover, healthcare has traditionally been categorized as highly regulated (Moors et al., 2018). This means that new entrants must conform to rules, regulations, norms, and expectations (Dacin et al., 2007). In this respect, regulations set boundary conditions for new entrants proposing new interactions among ecosystem actors. However, after the sector’s multiple attempts to digitize, recent advances in digital technologies – together with regulatory changes – are enabling the introduction and emergence of new digital health platforms (Denoo et al., 2021; Presch et al., 2020).

3.3. Data collection

We collected more than 150 documents of secondary data about the four netdoctors’ entry into the Swedish primary-care sector and associated events from daily newspapers, trade press, and public television and radio, as well as reports on regulatory and legislative activities published by governmental agencies between 2013 and 2020. Appendix A provides a detailed list of all sources reviewed. In the following sections, we refer to a subset of these reviewed documents using numerical [in brackets] references to Appendix A. In parallel, we conducted 30 semi-structured interviews and 12 observations of health seminars (Table 1), which are also referred to in [brackets] below.

The 19 interviews with employees in strategic positions at the four netdoctors revolved around challenges they encountered since they assumed their current positions and how they addressed them. We used insights from secondary data to probe respondents on specific events discussed in the media (e.g., “How did you react to this critical event?”). We interviewed other key stakeholders in the ecosystem, including employees at four regions and municipalities, two healthcare agencies, two public-care providers, two business-to-business providers of health information technology (IT) platforms or technology (e.g., health-monitoring devices or suppliers of technological platforms on which the netdoctors operated), and one expert commentator. These interviews were conducted between 2016 and 2020.

Table 1 Data Sources.

<table>
<thead>
<tr>
<th>Method</th>
<th>Key insight</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews with key employees: Netdoctors</td>
<td>Interviewees’ experience of key milestones, challenges since inception of employer’s organization, reactions among other stakeholders in the field, and how Netdoctors addressed them (2016–2020)</td>
<td>19 interviews (11 individuals) ≈300 transcribed pages, 40–90 min (6 face-to-face (F2F); 13 via video) Positions occupied: Founder, chief executive officer, chief medical officer, marketing manager, head of support, key customer account manager, platform manager, business developer, communications, public affairs</td>
</tr>
<tr>
<td>Interviews with key employees: stakeholders</td>
<td>Interviewees’ insight into/experience of building relationships with/ regulating/operation and acceptance of Netdoctors (2016–2020)</td>
<td>11 interviews (40–90 min) ≈300 transcribed pages Employees at regions and municipalities (4), healthcare agencies (2), business-to-business health IT providers (2), physicians at incumbent public primary-care providers (2), expert commentators (1); 5 F2F, 6 videos</td>
</tr>
<tr>
<td>Observations of key events</td>
<td>Contrasting views of Netdoctors as articulated in presentations and real-time public discussions; on/offline seminars and meetings attended by Netdoctors and stakeholders (2016–2020)</td>
<td>12 seminars/meetings/open webinars attended by stakeholders, such as regions, national government, health agencies, incumbent primary-care providers, specialist professionals, media where Netdoctors and their environment were discussed (total ≈ 600 min; ≈100 pages of field notes) (2 at SSE, 2 Vitalis, 1 SOU, 2 SNS, 5 health policy events)</td>
</tr>
<tr>
<td>Archival data: Netdoctors in media</td>
<td>Netdoctor activities and features applauded/criticized in media, views of stakeholders interviewed in articles</td>
<td>News and opinion articles about Netdoctors in the daily news, trade press, websites tied to the public television and radio news, including interviews with incumbents, politicians, Netdoctors (2013–2020), ≈150 articles, ≈400 pages (Appendix A)</td>
</tr>
<tr>
<td>Archival material: regulations</td>
<td>Regulatory environment; Prevailing/suggested legislation, recommendations, inquiries creating prerequisites; Netdoctors</td>
<td>Reports and inquiries published by national health agencies, regional associations, or ordered by the government (2008–2020). Regulatory/legal documents provided by the Swedish parliament. 20 documents, ≈300 pages (Appendix A)</td>
</tr>
</tbody>
</table>
interviews focused on the netdoctors’ roles and actions from the stakeholders’ perspectives. The interviews lasted 40–90 min; they were recorded and transcribed.

Field notes from observations at seminars where politicians, healthcare professionals, health-tech firms, and other stakeholders participated, and where online doctors were discussed in Sweden (12 occasions, 2014–2020), provided insights into the ways these stakeholders referred to netdoctors.

3.4. Data analysis

The existence of an interaction between the perceived legitimacy of the netdoctors’ operations by incumbents in the Swedish primary healthcare sector and the netdoctors’ adjustments to their business model over time became apparent as the data-collection phase unfolded. To explore this further, our inductive approach (Dubois and Gadde, 2002, 2014) involved three data-analysis stages. This aligned with the view of the case-study analysis as a “linear but iterative process” (Yin, 2014, p. xxiii). We used Word, Excel, and Drawio to code and summarize our emerging analysis in tables and figures.

3.4.1. Stage 1: mapping the longitudinal process and identifying key sensitizing concepts

We began reading all material and writing notes summarizing the netdoctors’ journey from inception in 2013 until 2020. Triangulating across multiple data sources (Denzin, 1978), we constructed a crude narrative including timelines of key events (activities that netdoctors and other stakeholders undertook) and important milestones (first customer, etc.) as evident in media articles, interview transcripts, and observational notes. At this early stage, the influence of critical and supportive arguments about the appropriateness of the activities of netdoctors, combined with increasing familiarity with the netdoctors, was salient across all data sources. Hence, of the various legitimacy types, we identified cognitive and sociopolitical legitimacy (Aldrich and Wiggins, 1994) as the sensitizing concepts (Blumer, 1954) that appeared important in the narrative at hand. In more specific terms, we tentatively identified a pattern in which the negative judgements articulated by incumbent actors on the appropriateness (sociopolitical legitimacy) of platform entrants prompted the entrants to defend the appropriateness (sociopolitical legitimacy) of their business models. We tentatively referred to this combination of articulated negative perceptions (Alexiou and Wiggins, 2019) and defensive responses as legitimacy debates.

These debates seemed to further influence and be influenced by the gradually increasing awareness and perceived comprehensibility (cognitive legitimacy) among incumbents of the netdoctors’ business model. We found that the debates focused on different aspects of what the new entrants were doing. Returning to the literature by deploying abductive logic, we identified the business-model components in order to theorize where the critical and supportive sociopolitical legitimacy arguments were geared. We started by applying the two legitimacy concepts and three business model dimensions (Teece, 2010) to organize our data. We used sentences and paragraphs as coding units (Dubois and Gadde, 2002) and labelled them as negative or supportive articulated perceptions of the legitimacy of the netdoctors’ value creation, capture, or delivery. We also coded sentences and paragraphs as indicating increasing cognitive legitimacy of the business-model components. Appendix B outlines how we operationalized the legitimacy constructs as sensitizing concepts in combination with the three business-model components.

3.4.2. Stage 2: identifying discrete development phases

We sought to organize how the legitimacy debates evolved over time. We therefore created a draft chronological map that depicted the changing focus of the legitimacy debates over time relative to the current status of the netdoctors’ business-model components. The analysis allowed bracketing into three phases (Langley, 1999) based on critical junctures (Tracey et al., 2018) –that is to say, points in time “that transform previous structures and practices” (Sewell, 1996, p. 843) and that start each phase. More specifically, the founding and initial funding of the first netdoctor, followed by three others, triggered Phase 1 (2013–2016). The establishment of the first contract between a net-doctor and a region, followed by others, triggered Phase 2 (2017–2018), and the netdoctors’ establishment of offline primary-care centers triggered Phase 3 (2019–2021).

Going back to our first-order concepts of the legitimacy debates, we engaged in a new round of coding. This resulted in second-order themes that abstracted the legitimacy debates around each business-model component in each phase. Finally, we abstracted the themes into aggregate dimensions in terms of the one major question with which the legitimacy debates were concerned in each phase. In this iterative process, we created emergent themes from the data, but we continuously alternated between the data, the theoretical frameworks, and the analyses (Dubois and Gadde, 2002).

3.4.3. Stage 3: refining relationships between the legitimacy debates and business-model design and redesign

We then explored in detail how the legitimacy debates in each phase triggered adjustments to the netdoctors’ business models at the end of each phase. Our return to the empirical material produced a new list of first-order concepts, second-order themes, and aggregate dimensions (Dubois and Gadde, 2002). This list reflects our abstraction of the netdoctors’ underlying purpose and efforts to adapt their business-model components in response to legitimacy debates.

During the process, we presented our ideas and conceptualizations on two occasions to peers who provided feedback that we integrated into our study findings. As noted by Yin (2014, p. 199) this procedure is “a way of corroborating the essential findings and evidence presented in a case report”.

4. Results

Enabling regulatory changes in Sweden [1] allowed the netdoctors to enter the market. The netdoctor firms, named here as Netdoctors 1 to 4, entered the Swedish market for tax-funded primary care between 2013 and 2016 [2]. To become a legally mandated healthcare “provider,” the netdoctors needed to comply with a set of national and regional requirements (e.g., [3]). By fulfilling these requirements, they were formally granted “permission” to enter the market.

In Sweden, primary-care services are tax funded (Vengberg et al., 2019) and characterized by a decentralized governance structure. The national government and authorities provide strategic priorities and regulations (e.g., national wait-time guarantees). Twenty-one regions then collect taxes and provide the lion’s share of primary healthcare funding (Anell et al., 2012). The regions are relatively autonomous. They choose which care providers to employ and how to reimburse them. Although services are tax funded, patients typically pay a smaller out-of-pocket fee for each service (150–300 SEK, or 17 to 35 USD, to see a physician; individuals 19 years and younger, or 85 years and older, are often exempt) [4]. The Swedish primary healthcare sector can, therefore, be understood as an ecosystem with a mix of public and private primary-care providers, regulatory bodies, patients, and other actors such as technology, platform, and ancillary-service providers.

After market entry, key ecosystem actors intensively discussed the appropriateness of the netdoctors’ business models (i.e., sociopolitical legitimacy) from 2013 to 2020 and repeatedly raised questions of

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1 We refer to the primary care market in the empirical sections because this word is used in many grey reports and by informants. However, we refer to sector in the remaining parts of the paper when referring to healthcare as a non-platformized setting because it does not operate as a pure market (given third-party purchasing actors etc).

When entering the Swedish healthcare sector (2013–2016), the netdoctors’ idea was to offer a narrow set of online services to private paying consumers, mainly through complementary insurance and potentially through the public (tax-funded) healthcare system in the future [5,6]. Their sector entry raised questions about the appropriate-ness (sociopolitical legitimacy) of online care as a potential new service, particularly concerning overall feasibility of the introduced services.

4.1.1. Legitimacy debates about platform-service feasibility

4.1.1.1. Value creation. Introducing the idea of remote, video-based care, the netdoctors challenged the prevailing need for consumers to travel to physical primary-care centers (PCCs). For instance, Netdoctor 1 presented itself in the media as Sweden’s first digital PCC, “allowing the consumer to sit at home, at work, or anywhere and get in touch with a doctor” [7]. However, the possibility and relevance of eliminating the need to travel and of increasing consumer access to care was immedi-ately questioned. Critics argued that only individuals with no “real” medical problems would want to use such services, making the services irrelevant because they would address simply “health anxiety” and “the need to talk to someone” rather than issues requiring professional attention [8] [Observation notes, Vitalis, 2016].

4.1.1.2. Value delivery. Not only the relevance but also the technolog-ical possibility of addressing care needs – even light ones – via video was contested from 2013 to 2016 [8,9]. Regions, healthcare professionals, and incumbent PCCs all questioned whether it was realistic to try to offer care via video meetings. Indeed, they questioned the sociopolitical legitimacy of the netdoctors’ value-delivery methods. As a physician employed at a physical PCC noted:

“... We were very critical towards the idea of analyzing even simple needs, such as a patient’s eczema, through a screen right from the start. No matter how great the resolution is, you will miss the information from a physical touch and feeling the patient’s skin character in other parts of the body ...” [Physician 2, PCC, conversation, 2020]

Related concerns were raised about infrastructural requirements. What kind of technology would be needed to ensure an uninterrupted video meeting of sufficient quality? Was it a good idea to introduce services requiring high-tech assets and significant bandwidth capacity?

<table>
<thead>
<tr>
<th>Phase 1: 2013–2016</th>
<th>Targeted users do not suffer from significant medical problems that need treatment (N)</th>
<th>Relevance of need addressed (value creation)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Targeted users suffer from needs that incumbents cannot or struggle to satisfy within reasonable time limits (P)</td>
<td>Platform-service feasibility</td>
</tr>
<tr>
<td>Healthcare involves a set of activities that can be performed only face to face (N)</td>
<td>Applicability of service process technology (value delivery)</td>
<td></td>
</tr>
<tr>
<td>Healthcare can be delivered online from both technical and medical perspectives (P)</td>
<td>Reimbursement level (value capture)</td>
<td></td>
</tr>
<tr>
<td>Given shorter duration/lower facility costs of online care delivery, a digital meeting should not cost as much (N)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online care requires heavy investment; there is a need to encourage digital development (P)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 2: 2017–2018</td>
<td>Online diagnoses are not completely accurate; effectiveness and reliability of the online treatments can be questioned (N)</td>
<td>Medical quality of platform services (value creation)</td>
</tr>
<tr>
<td>Online diagnoses and treatments reach accuracy and effectiveness requirements and are more efficient than in traditional healthcare system (P)</td>
<td>Platform-service integrity</td>
<td></td>
</tr>
<tr>
<td>Providing online care at low/no cost to consumers will drive over-consumption of care (N)</td>
<td>End-user subsidization of platform services (value capture)</td>
<td></td>
</tr>
<tr>
<td>Subsidizing online care will encourage desirable shift of consumers from physical to digital care (P)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Netdoctors cannot guarantee patients’ privacy and integrity (e.g., sexual harassment) (N)</td>
<td>Privacy/confidentiality of patient data (value delivery)</td>
<td></td>
</tr>
<tr>
<td>Unethical behaviors are exceptional and depend on specific doctors who are automatically removed (P)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 3: 2019–2021</td>
<td>Online services cannot offer integrated, continued treatments; just one-time consultation for non-complex diagnoses (N)</td>
<td>Platform capacity for integrated and continuous care (value creation)</td>
</tr>
<tr>
<td>Online features offer continuity (e.g., to continue with the same doctor and to juxtapose all medications into an integrated list)</td>
<td>Platform-service recipients</td>
<td></td>
</tr>
<tr>
<td>Netdoctors lack wide-ranging experience required to address varying needs of patients visiting a physical primary-care unit (N)</td>
<td>Quality of offline platform services (value delivery)</td>
<td></td>
</tr>
<tr>
<td>Netdoctors are particularly able to address varying problems characterizing offline care because they have the right technological infrastructure to synthesize and visualize data (offline) at the point of care (P)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax-based payments to Netdoctors drain public resources that are greatly needed elsewhere (N)</td>
<td>Adequacy of tax-funding platform services (value capture)</td>
<td></td>
</tr>
<tr>
<td>Netdoctors provide services that citizens desire and that release resources within the public care system (P)</td>
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differing varieties. Table 2 outlines the coding structure regarding the content and foci of the legitimacy debates. Appendix C provides additional empirical illustrations of the legitimacy debate content in each phase.

The following narrative focuses on the most consequential and pressing questions relative to the netdoctors’ business-model design and redesign. For each phase, the narrative presents the incumbents’ concerns, followed by the netdoctors’ defensive rhetorical responses and business-model redesign. Table 3 outlines the coding structure for the business model redesign in response to the legitimacy debates per phase.

### 4.1. Phase 1: 2013–2016

When entering the Swedish healthcare sector (2013–2016), the netdoctors’ idea was to offer a narrow set of online services to private paying consumers, mainly through complementary insurance and potentially through the public (tax-funded) healthcare system in the future [5,6]. Their sector entry raised questions about the appropriate-ness (sociopolitical legitimacy) of online care as a potential new service, particularly concerning overall feasibility of the introduced services.

4.1.1. Legitimacy debates about platform-service feasibility

4.1.1.1. Value creation. Introducing the idea of remote, video-based care, the netdoctors challenged the prevailing need for consumers to travel to physical primary-care centers (PCCs). For instance, Netdoctor 1 presented itself in the media as Sweden’s first digital PCC, “allowing the consumer to sit at home, at work, or anywhere and get in touch with a doctor” [7]. However, the possibility and relevance of eliminating the need to travel and of increasing consumer access to care was immediately questioned. Critics argued that only individuals with no “real” medical problems would want to use such services, making the services irrelevant because they would address simply “health anxiety” and “the need to talk to someone” rather than issues requiring professional attention [8] [Observation notes, Vitalis, 2016].

4.1.1.2. Value delivery. Not only the relevance but also the technological possibility of addressing care needs – even light ones – via video was contested from 2013 to 2016 [8,9]. Regions, healthcare professionals, and incumbent PCCs all questioned whether it was realistic to try to offer care via video meetings. Indeed, they questioned the sociopolitical legitimacy of the netdoctors’ value-delivery methods. As a physician employed at a physical PCC noted:

“... We were very critical towards the idea of analyzing even simple needs, such as a patient’s eczema, through a screen right from the start. No matter how great the resolution is, you will miss the information from a physical touch and feeling the patient’s skin character in other parts of the body ...” [Physician 2, PCC, conversation, 2020]

Related concerns were raised about infrastructural requirements. What kind of technology would be needed to ensure an uninterrupted video meeting of sufficient quality? Was it a good idea to introduce services requiring high-tech assets and significant bandwidth capacity?

### Table 2

<table>
<thead>
<tr>
<th>1st-order concepts: content of articulated arguments expressing negative (N)/positive (P) judgements about the sociopolitical legitimacy of the platform entrants’ business model</th>
<th>2nd-order themes: legitimacy debates organized according to business-model component</th>
<th>Aggregate dimension: summative label of focus of legitimacy debate in each phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1: 2013–2016</td>
<td>Targeted users do not suffer from significant medical problems that need treatment (N)</td>
<td>Relevance of need addressed (value creation)</td>
</tr>
<tr>
<td>Phase 2: 2017–2018</td>
<td>Online diagnoses are not completely accurate; effectiveness and reliability of the online treatments can be questioned (N)</td>
<td>Medical quality of platform services (value creation)</td>
</tr>
<tr>
<td>Phase 3: 2019–2021</td>
<td>Online services cannot offer integrated, continued treatments; just one-time consultation for non-complex diagnoses (N)</td>
<td>Platform capacity for integrated and continuous care (value creation)</td>
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One professional asserted that “People were worried that video meetings would be interrupted due to Internet breakdowns or failing computers on the user side” [Medical chief, Netdoctor 2, interview, 2020].

4.1.1.3. Value capture. Due to few paying customers and no contracts, the value capture debate was less intense. However, some concerns about the potential reimbursement levels were raised (Appendix C offers illustrative examples).

Overall, cognitive legitimacy was low. The idea of meeting one’s doctor – or patients – online seemed alien to a large segment of the public, to most professionals in Swedish healthcare, and to journalists. This low familiarity influenced the perceived appropriateness of the netdoctors’ value creation and delivery propositions. As a founder of Netdoctor 1 explained:

“… We often faced comments like: This idea seems strange. You don’t understand what care is about. Care is not like the car manufacturing industry. Care requires intimate contact … This lack of understanding of what we we’re actually trying to offer made people imagine us as malevolent profit hunters …” [Guest lecture SSE, Netdoctor 1, 2016].

4.1.2. Platform business model redesign: demonstrating need and usefulness

The netdoctors actively participated in the public debate, responding to questions on the relevance and feasibility of their offerings. They emphasized that travel to and from physical primary care involved significant costs to individuals and society (e.g., waiting time, travel costs, and work absenteeism). They referred to studies suggesting that the potential reimbursement levels were raised (Appendix C offers illustrative examples).

Consequently, although broadening their value creation scope to address a few more needs among existing patient groups, the netdoctors in this phase focused primarily on patients with lightweight needs (allergies, colds, urinary infections, etc.) and on health professionals seeking a more dynamic and flexible working environment [7,9,10]. In the initial phase, business-model adaptations were incremental, involving clarification of the needs addressed. The primary focus was to grow the platforms by recruiting more patients, limit barriers to trying the services, and smooth the way for patients and professionals to “try online care at least once, and to show that our services did not require anything advanced, only a computer and ordinary Internet connection” [co-founder, Netdoctor 1, 2016, guest lecture SSE].

Although technologies enabling more advanced services (e.g., in-home monitoring devices) were available, the netdoctors did not exploit such opportunities. They kept technological complexity low for value delivery. Moreover, concerning value capture, their initial strategy to go for the private market (via complementary insurance) did not quickly yield a critical number of users. Hence, the netdoctors pursued the opportunity to provide the services at low or no cost to patients through contracts with regions.

4.2. Phase 2: 2017–2018

From 2017 to 2018, Netdoctors 1, 2, and 4 established contracts with Regions A and B, who were willing to use tax money to pay for the netdoctors’ services. Region B fully reimbursed the services. Because Swedish citizens were granted the legal right to request primary care anywhere in Sweden [2], the netdoctors could suddenly serve consumers throughout Sweden via Regions A and B and at a low or zero cost using the service. The chief medical officer of Netdoctor 1 noted:

“… There was this mentality that… why should we take the risk of trying these new services?… The limited scientific studies available were not always readily applicable to our context. We ran into a tricky problem: How can we prove it is safe before anyone has tried it?” [Medical Chief, Netdoctor 1, interview, 2020].

Table 3

<table>
<thead>
<tr>
<th>Phase 1 concepts</th>
<th>2nd-order themes</th>
<th>Aggregate dimension</th>
</tr>
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<tbody>
<tr>
<td>Exploit ways to subsidize end-user consumption; establish contracts with regions with fully/highly subsidized care</td>
<td>Mobilize users and highlight demand (value capture)</td>
<td>Demonstrate need and usefulness</td>
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<tr>
<td>Market services as being available for all regions through inter-regional care</td>
<td>Focus on low-complexity application (value delivery)</td>
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<td>Focus service development on features that do not involve high bandwidth requirements</td>
<td>Focus on basic and common medical needs (value creation)</td>
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<tr>
<td>Avoid using combinations of new, radical technologies in service delivery</td>
<td>Enhance process transparency (value delivery)</td>
<td>Broaden scope/formalize online delivery</td>
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<tr>
<td>Emphasize that services target non-acute healthcare needs</td>
<td>Add new revenue sources (value capture)</td>
<td></td>
</tr>
<tr>
<td>Articulate what needs are not addressed</td>
<td>Expand into new basic and common segments (value creation)</td>
<td></td>
</tr>
<tr>
<td>Phase 2 Invest in transaction monitoring (automated reports of prescription patterns, etc.)</td>
<td>Add automated prompts for divergent behaviors among health professionals/consumers</td>
<td></td>
</tr>
<tr>
<td>Add automated prompts for divergent behaviors among health professionals/consumers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 3 Add more digital service categories to nuance reimbursement levels</td>
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<tr>
<td>Partner with pharmacies</td>
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<td>Add psychological services</td>
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<tr>
<td>Add nursing services</td>
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<tr>
<td>Invest in integrating physical/digital service delivery to address more severe needs requiring manual examination</td>
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<td></td>
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<tr>
<td>Invest in partnerships with municipalities to provide care services to elderly with comorbidities</td>
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<td></td>
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<tr>
<td>Buy existing physical primary-care centers (PCCs)</td>
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<td>Establish new physical PCCs at central locations</td>
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<td>Add ‘clinics’ at physical stores (e.g., within grocery stores)</td>
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<tr>
<td>Secure longer term revenue sources through long-term contracts with end consumers (e.g., ‘list’ patients)</td>
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<tr>
<td>Providing additional services (e.g., vaccines)</td>
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<td></td>
</tr>
<tr>
<td>Invest in integrating physical/digital service delivery to address more severe needs requiring manual examination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Target more advanced user needs (value creation)</td>
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to the end consumer.

For the remaining 19 regions, however, providing digital services formally “delivered” via Regions A and B proved much more expensive than internally produced care due to various administrative fees. Although care was delivered to consumers at no out-of-pocket cost, the regions in which those consumers lived paid 900 to 1200 SEK (100–140 USD) for each touchpoint with a netdoctor in 2017 [11,12]. Nevertheless, the increased availability of netdoctor services led to growing numbers of users. Thanks to their venture capital, the netdoctors could provide attractive salaries for healthcare professionals, whom they either employed or contracted per hour [12–14].

Increasing adoption among patients and health professionals in Phase 2 lessened the debate around the netdoctors’ appropriateness (sociopolitical legitimacy). For instance, the patient inflow indicated a need for online care among an increasing number of citizens, that it “worked” technologically, and that health professionals found it feasible and attractive. The netdoctors further enjoyed increasing awareness of and familiarity (cognitive legitimacy) with their services. After first contracts were established, “they did not have to keep explaining – as much as before – how on earth anyone could ‘meet’ online anymore” [CEO, B2B health IT provider, interview, 2021]. This in turn defused the explosivity around some questions. Instead, the netdoctors’ fragile acceptance and lack of perceived sociopolitical legitimacy were reflected in more concentrated questions about the quality of services delivered (value creation), privacy issues (value delivery), and payments (value capture) – all delving into the how online care should be implemented to protect medical quality, data integrity, and sustainable payment schemes (i.e., platform-service integrity).

4.2.1. Legitimacy debates about platform-service integrity

4.2.1.1. Value creation. The netdoctors’ expansion prompted questions on how their services measured up against medical standards. Regional reviews of the netdoctors’ compliance with medical guidelines found several cases of faulty diagnoses and, in many cases, patients had been improperly prescribed antibiotics. This led to stricter rules delimiting the diagnoses that netdoctors could address in some regions (Blix and Jeansson, 2018). Moreover, the network against antibiotic resistance (STRAMA) argued that there was a lack of scientific evidence supporting the remote prescription of antibiotics by netdoctors. They argued to completely ban netdoctors from prescribing antibiotics or making certain diagnoses (e.g., pneumonia) online [15].

4.2.1.2. Value delivery. Concerns were raised regarding the netdoctors’ data management and information security procedures. In 2018, the media reported several cases of aggravated sexual assault/abuse against children related to a netdoctor physician downloading software-enabling screen recordings and screen dumps. An internal analysis suggested security gaps in the Netdoctor 1 digital platform, which could infringe patients’ privacy. This and other scandalous cases involving sexual misconduct fortified the ongoing debate over the netdoctors’ ability to maintain the high security level required to prevent breaches and health data leaks [16–18].

4.2.1.3. Value capture. The legal but complex and – according to some actors, morally debatable – interregional payment model that the netdoctors used was questioned [19]. For instance, Netdoctors 1, 2, and 4 were accused of rent seeking by exploiting the prevailing policies. The debate was further fueled because a large proportion of the netdoctors’ users/customers comprised individuals under 20 years old or parents seeking care for their children, and national regulations freed these groups from primary-care fees [20].

Marketing campaigns further magnified an already tense debate. For instance, in 2018, Netdoctor 1 advertised at subway stations and on online gaming sites: “Hello child daycare illness, fall conditions, and times of colds. Meet a doctor within 30 min – without leaving your home.” Politicians and the Swedish Medical Association reacted negatively, claiming these advertisements contributed to unjustified over-consumption of healthcare – for which all taxpayers paid – while the end consumer paid little (or nothing). Although this debate eventually led to some policy adjustments (e.g., minimum patient fees and lower reimbursement per online consultation), the debate remained intense [20–22]. It reflected the lack of approval, acceptance, and perceived appropriateness of the netdoctors’ value capture model. Netdoctors “were really in the hot air in relation to these commercials, journalists, traditional care providers. Unions seemed furious; it amounted to a phenomenon: ‘net doctors’ really got a negative connotation” [Founder, Netdoctor 3, discussion, Health Policy Event 3, 2018].

Overall, the persistent attention increased public awareness of and familiarity with (cognitive legitimacy) the operations and solutions the netdoctors provided. As a primary-care physician noted:

“... netdoctors got free publicity! They were in the media every second day and, despite heavy criticism, many consumers were on their side. They continued to increase their market shares and people got accustomed to them being available for choice. ... We all got to know them, whether we wanted or not ...” [Physician, PCC2, conversation, 2021]

4.3. Platform business-model redesign: broadening the scope and formalizing online service delivery

The netdoctors responded with intensity to the criticism of their ability to maintain medical standards. Arguing that the accusations of inappropriate prescription behavior were biased, they countered that their own transaction data showed the criteria on which the diagnoses were made and the pharmaceuticals prescribed. Indeed, they did so in a more sophisticated way than those in the existing PCCs who were trying to falsify the accusations [23]. Sharing their prescription statistics in the Journal of the Medical Association, Netdoctor 1 reported prescription levels far below the limit set by STRAMA. For acute bronchitis, it was below the Stockholm Region level overall.

The netdoctors’ responses prompted new rounds of debate about how prescription levels should be monitored, but it also provided netdoctors with a unique opportunity. By digitally monitoring the health professionals tied to their platforms and accumulating transaction data, they could demonstrate medical compliance as a viable strategy and signal that they were capable of adequate value creation in terms of ensuring medical quality. In Phase 2, the netdoctors further expanded the services they provided, such as offering psychological services (value creation).

In response to the more unusual and scandalous cases of suspected sexual abuse, Netdoctor 1 signaled that they disapproved strongly of such behaviors. They filed a so-called Lex Maria report of 13 suspected cases involving a doctor’s video investigations that were not medically motivated [24]. They focused their value delivery improvement efforts on formalization to prevent and identify divergent behaviors among health professionals. These efforts included vetting health professionals more extensively before approving their participation, providing more elaborate guidelines to govern health professionals’ behavior on the platforms, and implementing more elaborate data-security standards.

In response to the critique of generating volumes of intraregional care, the netdoctors argued that the higher costs incurred by the regions were the consequence of the legislation [10]. Moreover, the intraregional care indicated that some regions were incapable of serving their citizens within a reasonable time. The netdoctors also emphasized that their online services had significant hidden back-office costs that justified their reimbursement levels. As with any PCC, netdoctors had to maintain a quality insurance organization. However, unlike other PCCs, they also invested heavily in digital technologies in ways that could benefit the overall healthcare system. Yet, the continued debates about
value capture reminded the netdoctors of their weakness in terms of the fully subsidized model and that reimbursement levels may be further lowered in the future. This prompted the netdoctors to adapt their value capture design to create other revenue streams through partnerships with pharmacies and grocery stores [25,26].

4.4. Phase 3: 2019–2020

In 2019, a governmental report [27] concluded that the netdoctors should operate as “traditional,” “full-fledged” PCCs, thus mandating the netdoctors to establish physical PCCs to receive patients who could not be treated online. The underlying rationale was to prevent the netdoctors from cherry-picking patients with only lightweight needs and to promote continuity of care. Although the netdoctors’ initial response was largely negative, they opened their own physical centers beginning in 2019 [28].

In Phase 3, the COVID-19 pandemic also moderated the intensity of the sociopolitical legitimacy debate in favor of the netdoctors, given the clear surge in demand for online care [29–33]. Due to this external fat-tail event, the netdoctors were suddenly filling an obvious gap by meeting the need for remote digital care. Many regions had no online platforms or were early in the upscaling process. Hence, cognitive legitimacy increased, and the sociopolitical legitimacy debate in Phase 3 no longer concerned feasibility or the integrity of online care as a general phenomenon. Instead, certain issues on who benefitted from the services and who might be potentially disadvantaged were raised. In particular, discussion arose on the netdoctors’ ability to offer value to any listed patient (value creation) and ensure a competent workforce to meet the need for remote digital care. Many regions had no online platforms or were early in the upscaling process. Hence, cognitive legitimacy increased, and the sociopolitical legitimacy debate in Phase 3 no longer concerned feasibility or the integrity of online care as a general phenomenon. Instead, certain issues on who benefitted from the services and who might be potentially disadvantaged were raised. In particular, discussion arose on the netdoctors’ ability to offer value to any listed patient (value creation) and ensure a competent workforce through their digital-heavy omnichannel models (value delivery). Moreover, there was a vigorous debate on the increasing flow of tax money to the netdoctors (value capture).

4.4.1. Legitimacy debates about platform-service recipients

4.4.1.1. Value creation. Allowing any patient to “register” at their PCC implied that the netdoctors were responsible for any primary-care need their patients had. This triggered an intense debate about whether the netdoctors were capable of offering the integrated and continued treatments that many of these patients would need [28,34]. Critics argued that, even if the netdoctors opened a few physical PCCs, they still would continue to specialize in one-off online consultations for non-complex diagnoses, and their services did “not satisfy, for instance, older patients with comorbidities and chronic conditions” (Expert commentator, interview, 2019). Such patients desired continuity of care by seeing the same doctor over time and benefitted from a care provider who grasped the “overall” picture. Netdoctors offered quick access to a doctor rather than the same doctor [35,36].

4.4.1.2. Value delivery. Whether the competence development of the netdoctors’ workforce (that would be needed to treat the wider range of patients) could be maintained was also questioned [27] (Observation SOU, 2019). Critics argued that because netdoctor health professionals historically focused on “lighter” needs, few could develop the competence achieved through exposure to the full scale and breadth of patient cases [Observation, Health Policy Event 5, 2020]. That is to say, although the netdoctors were establishing “flashy” physical centers, their primary idea was to utilize the online channel, which meant severe restrictions on peer-to-peer learning opportunities. How would a physician, working from home, learn from others? At regular PCCs, physicians could ask peers at the coffee machine. This was impossible online and would negatively affect the delivery of the services provided [Observation, Health Policy Event 4, 2019].

4.4.1.3. Value capture. Finally, becoming a “complete” primary-care provider meant that the netdoctors “listed” patients and received fixed-level reimbursement (capitation) for each patient for whom they assumed responsibility (versus per-service reimbursement). Primary-care physicians claimed that the netdoctors “listed” patients and, therefore, other PCCs lost patients and the associated capitation (Physician 2, PCC, interview). This, in turn, meant that traditional PCCs could no longer afford to pay their employees. Furthermore, they argued, some netdoctors used foul patient-recruitment methods. The specific point they made was that patients did not understand that, by registering online at a netdoctor, they were delisting themselves at their previous traditional PCC. These debates again raised the more fundamental question of what tax money should be used for [37–42].

4.4.2. Platform business model redesign: diversifying and integrating online and offline services

Facing questions about their ability to provide continuous and holistic care, the netdoctors argued that they could achieve this by using information seamlessly, allowing health professionals an overall and longitudinal image of each patient that the fragmented and obsolete IT systems of traditional care providers could not achieve (Observation, Health Policy Event 5). These debates prompted the netdoctors to adjust their value creation strategy by giving patients the choice to meet the same doctor over time (even if this meant longer waiting times) [34]. This called for an expansion of employment from the health professionals’ hourly contracts [44, 45]. The netdoctors also sharpened their value delivery focus on integrated and continued care by offering an optimized combination of PCCs and digital solutions. Although every interaction was begun online, processes were developed to easily route “complex” patients to their new physical centers. They also invested in automated check-up questions and in-home monitoring devices that allowed patients to self-monitor and share data (e.g., Medituner) with the netdoctors between visits [45–48].

Responding to the value delivery issues raised concerning competence development, the netdoctors asserted that their platforms allowed significant peer-to-peer learning through digital means, and they pointed to their regular online case discussions. Nevertheless, the debates induced the netdoctors to further develop chatting functions and online communities for health professionals’ use before, during, and after patient encounters to ask for second opinions on particular cases. They also increased their investment in algorithms and advanced data analytics to monitor – not “blame” or “accuse” – the professionals’ behaviors and allow the providers to learn from the feedback and accumulated data on the patients [Medical chief, Netdoctor 2, interview, 2020, cf. [501]]. By investing in technological features to synthesize and visualize data at the point of care, the netdoctors hoped to build capacity so that they could consistently deliver high-quality care offline as well as online [50,51].

Finally, the netdoctors responded to the criticism about value capture in which they were accused of enticing patients to list themselves on their new physical PCCs. Several argued that they were complying with existing regulations and that the regions did not object to them being established or to the way patients were able to list themselves using their app. The Swedish CEO of Netdoctor 1 said in a media interview, “I have a hard time understanding the critique that is constantly directed at us. We are running a care center just like everybody else and have the patient’s best interests in focus” [40].

Overall, the netdoctors maintained that they did not crowd out or drain the stretched public-healthcare system. Instead, they were leveraging resources by effectively triaging patients, addressing lighter needs online, and offering much wider opening times – referring patients to self-care when possible and thus preventing patients with light needs from visiting overburdened emergency clinics during weekends [52]. They argued that some of the patients they met had tried unsuccessfully to get appointments at public PCCs [49].

Some researchers and politicians in the early adopter regions supported the argument that netdoctor services could free up capacity in traditional primary care. Yet, it was difficult to determine whether visits
to the netdoctors actually reduced visits to other PCCs, visits to emergency care units, or calls to the national phone-based care line. Some studies indicated the opposite [52].

In summary, the netdoctors’ business-model adjustments shaped and were shaped by the issues raised regarding their sociopolitical legitimacy debates from 2014 to 2020. Publicity surrounding the debates contributed to increased public awareness and, thus, the cognitive legitimacy of the netdoctors. In 2020, the netdoctors were well known and, by and large, taken for granted. In other words, their cognitive legitimacy had increased since the early days: “Few of us think that they will not stay, in some form,... in contrast to their early days, when we never thought they would stay more than a week” [Physician 1, PCC, conversation, 2020].

Netdoctors consequently grew in the number of consumers and health professionals tied to their platforms. In 2019, they received more than 1.1 million patient visits (compared to 600,000 in 2018; Cederberg, 2020a). In March 2020 alone, they serviced 206,000 visits, an increase from the previous month’s 126,000 visits (Cederberg, 2020).

5. Discussion and implications

This study set out to explore how striving for legitimacy may influence the business-model design and redesign of nascent platforms entering non-platformized sectors. Based on an exploratory–abductive analysis of a group of platforms entering the Swedish healthcare sector, we provide a process model (Fig. 1) (Langley, 1999; Langley et al., 2013) outlining the evolution of legitimacy debates and business model redesigns over time.

More specifically, our model depicts how, in the early stages of the studied platforms’ life cycles, legitimacy debates concerning platform-service feasibility triggered business-model redesigns aimed at demonstrating both need and usefulness. Subsequently, the mobilization of demand following these adjustments elicited new legitimacy concerns about platform-service integrity, which prompted business-model redesigns to broaden the scope and formalize online delivery. Finally, legitimacy debates concerning platform-service recipients impelled platforms to focus on diversifying and integrating online and offline services to demonstrate the broad societal relevance of their services. In sum, these insights relate to business models research (Jovanovic et al., 2021;
Urbiniati et al., 2019) by identifying the evolution of value creation, delivery, and capture over time. Specifically, our findings point to the critical business-model decisions and legitimacy debates that new entrants take into consideration at the different phases of their entry in non-platformized sectors.

In line with recent insights on blockchain technologies (Massaro, 2021; Spano et al., 2021), telemedicine (Biancone et al., 2019; Drago et al., 2021), and business intelligence, artificial intelligence, and information systems (Basile et al., 2022; Dicuonzo et al., 2022; Madhavan et al., 2021), this study highlights that more traditional and highly regulated sectors undergo disruption via platformization. In this respect, the results indicate a non-linear and challenging platformization process. Specifically, it is expected that such platformization will be characterized by a wider range of legitimacy debates and ensuing platform business-model adjustments compared to platformized industries, which by and large are characterized by high levels of digital maturity and relatively simple transactions (Amit and Zott, 2020; Huotari and Rita, 2021; Kretschmer and Peukert, 2020; Ozalp et al., 2022; Rietveld and Schilling, 2021).

5.1. Theoretical implications

Our work contributes to several streams of literature. First, relative to the platform literature, we extend current insights on platform strategies (Ben-Slimane et al., 2020; Dushnisky et al., 2020; Fu et al., 2022; Kretschmer et al., 2020; Täuscher and Laudien, 2018) by outlining a set of interrelated business-model decisions implemented by platform entrants over time. This provides a more complete understanding of the spread of platforms compared to the individual analysis of specific decisions such as pricing (Dushnisky et al., 2020) or modularization and standardization (Kapoor et al., 2012) performed in other platform contexts. The approach suggested in this paper, which is based on platform business models, facilitates an integrative and longitudinal analysis of decisions related to value creation, delivery, and capture. This adds to recent research applying a business-model perspective to analyze platformized (rather than non-platformized) industries (Trabucchi et al., 2019). However, similar to the literature on platform strategies, this mostly highlights static aspects of successful and failed cases and (implicitly) overlooks the process of designing and redesigning platform business models over time.

As a second contribution to the platform literature, the dynamic perspective provided by our conceptual model adds a multifaceted and empirically rich description of the early stages of platformization (Brown, 2019; Parker et al., 2016). Although retrospective analyses of successful platforms may suggest a critical decision that determined the dominance of the platform (den Hartigh et al., 2016), the early stages of nascent markets are generally characterized by highly changing decision processes (McDonald and Eisenhardt, 2020). In this respect, our analysis uncovers the transformation process of a platform business model for entering non-platformized sectors. A third contribution to the platform literature concerns legitimacy building in platform settings by providing implications, however, apply primarily to managers of healthcare platforms and, by extension, to managers of other types of platforms entering non-platformized markets and sectors.

5.2. Managerial implications

Due to the nature of the longitudinal, embedded case study employed, the managerial implications are highly context specific. Other companies and sectors can learn from this case but must draw their own specific implications by means of analogy. That said, our research provides actionable implications not only for managers of incumbent health care organizations who encounter digital platforms but also for regulators and other government officials. The managerial implications, however, apply primarily to managers of healthcare platforms and, by extension, to managers of other types of platforms entering non-platformized markets and sectors.

First, this paper provides insights into a wide range of legitimacy challenges that platforms entering highly regulated and non-platformized settings, such as healthcare, may encounter. These challenges must be managed proactively and, here, we outline a rich set of possible business model adjustments for such challenges. As Fig. 1 depicts, these include business-model transformations geared to mobilizing use. They are particularly relevant because many startups struggle to design their business models to attract a critical mass of users.

Second, our results underscore the requirement that the business model should not be thought of as a coherent whole. It seems that legitimacy challenges or “attacks” to undercut legitimacy are often geared to a specific component of a business model. Our paper provides ideas on how to respond to such challenges by revising and innovating individual or multiple business model components. As we demonstrate, both business model adjustments and legitimacy challenges unfold dynamically over time. The conceptual model proposed, which outlines three phases of platform business-model design and redesign for entry into highly regulated sectors, can act as a sense-making device for other firms and sectors to analyze their particular challenges. Here, adequate responses may transcend the purely digital and involve combinations of digital and physical actions in so-called omni-channel strategies.

Third, permission to operate can be fragile and need continuous negotiation, a reality that our case study underscores. A legal mandate to operate is thus not sufficient, and emergent platforms should pay particular attention to the social license to operate. Here, proficiently dealing with legitimacy challenges seems key.

Finally, it should be noted that, although the netdoctors studied have gained significant market share, they have yet to make a profit; they are still largely reliant on venture capital. Hence, their current business models are highly provisional and should not be seen as fully corroborated. Debates on regulatory changes are ongoing, and the future is indeed uncertain. Not least in relation to the Covid-19 pandemic, the netdoctors have, however, demonstrated their ability to provide much needed opportunities for remote care, which indicates that digital health
platforms can play a role in making health care systems more resilient and in providing one of the many building blocks of anti-fragile strategies (Cobianchi et al., 2020a,b).

6. Conclusion, limitations and future research

This study conceptualizes the co-evolution of legitimacy debates and the transformation of platform business models in non-platformized sectors. We show how this process involves interactions between platform entrants’ tentative and continuous adaptations of their business models, on the one hand, and incumbent ecosystem actors’ questions about the appropriateness and “fit” of the business-model components, on the other hand. Our conceptualization opens possibilities for future research to focus on those aspects of a platform that may trigger legitimacy debates and ensuing platform adjustments, as well as the incumbent ecosystem. Studying such processes will most likely take researchers on various productive journeys and illustrate a wide variety of legitimacy debates and business-model transformations that transcend those typically emphasized in today’s academic and popular discussions on digital healthcare platforms.

This study has several limitations that may further inspire future research. First, the study examines new platform business models without highlighting specific differences between companies. This is in line with the generally popular imitatibility during the early stages of nascent markets (McDonald and Eisenhardt, 2020). However, platform research has traditionally claimed that some early-stage decisions may explain the subsequent dominance of a particular platform (den Hertigh et al., 2016), and it has recently identified different market-entry strategies in the digital domain (Aversa et al., 2021). In this respect, future research could extend our findings by identifying various strategic-decision paths in designing and redesigning new platform business models and analyzing their implications in terms of market share over time.

Second, this paper focuses on a context in which startups are the companies proposing the new platform business models. However, large companies from other sectors, such as Google, Apple, Facebook, Amazon, and Microsoft, may have incentives to exploit synergies by entering non-platformized markets and sectors (Brandt and Rice, 2014). Future research could explore how the differences in resources and capabilities of startups and large technology companies may explain differences in their design processes for their new platform business models. In this respect, the dynamics between their actions and the differences in their outcomes may further clarify the management of platformization.

Finally, we highlight in particular the legitimacy issues around platforms in early formation stages and nascent markets. Future research could usefully explore how new platform business models may be prepared in uncertain regulatory scenarios, which can be expected in the early stages of platformization. Specifically, research could investigate different components of platform business models that may be affected by new regulations. Topics of interest could include: value creation, how the platform frames the problem that it claims to solve, and for whom; value delivery, the underlying technology, and way of processing data, managing suppliers, and interacting with consumers; and value capture in terms of revenue sources, pricing, and, in public contexts, the implications of redistributing public funds.

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Appendix A and B. Supplementary data

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