

Health Data Access Barriers in a Finnish Insurance Company: A Case Study

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Abstract

The insurance industry in Finland is making a shift towards providing proactive healthcare services. Increasing availability of health data can provide means for creating personalized healthcare services. However, insurance companies are facing obstacles to access health data. This paper presents a case study of a large Finnish insurance company that is currently dealing with barriers of access during their transition to a more proactive organization. We identified nine barriers which fall into three categories – institutional, legislation, and use and participation. By identifying these barriers, we reveal critical factors for companies that seek to make use of their customers' health data are likely to face.

Keywords: health data access, proactive service, qualitative case study, barriers.

1. Introduction

As is the case with many organizations today, especially those that act within the broader context of healthcare, the insurance industry is facing barriers that plague their advancement into the digital health paradigm. Where once services being provided required face-to-face communication, technology has enabled a plethora of actionable choices for businesses to interact with their customers in a connected fashion. At the core of this interaction is data – data that represents a person, both as a patient and a customer. The collection of data is intrinsic to healthcare and is carried out through a number of practices such as patient record keeping, policy demands, medical imaging, doctor notations, or prescriptions in a wide variety of heterogeneous formats. Furthermore, the advancement of the wellness sector represents an overall contribution to the vastness and complexity of health data collected through social media, the Internet of Things (IoT), home sensing, and wearables. Data plays a crucial role in the change taking place in the healthcare and wellness ecosystems, and the role of technology for empowering individuals to take a more active role in their health [1].

Even if our aging demographics are indeed a red herring in the healthcare industry [33, 42], there are also several other pertinent challenges in the healthcare paradigm. The strain of keeping a healthcare ecosystem current with up-to-date information, combined with the implementation of advancements both medical and technological [7] are contributing to the

colossal techno-socio-economic burden bearing down on the healthcare sector. A burden which ultimately affects all stakeholders in the healthcare context. Originating from the efforts made to resolve this crisis, a paradigm shift in the healthcare industry has been gathering momentum for the last three decades, where a traditionally reactive healthcare system is shifting towards proactivity [18, 31]. Central to the aforementioned shift, we find Connected Health [5] which aims to empower customers with control of their wellness, medical treatments, and continuity of care (proactive) [38]. Which is opposed to the traditional approach of the ‘biomedical model’ in which a patient interacts with a healthcare professional, who is charged with diagnosing, treating, and managing the disease (reactive) [20, 22].

A similar shift is facing the insurance industry. For insurance providers, increasing costs of healthcare translate to increased healthcare insurance premiums [27]. Therefore, insurance companies have recently started to take an interest in the competitive potential of the access to health data. Having access to health data makes it possible to develop services that reduce the more traditional insurance customer needs for employing traditional healthcare services, thus reducing the costs the insurance companies would face. All while simultaneously increasing the value the insurance company can provide to their customers through improved quality of life. However, companies in the healthcare ecosystem, including insurance companies, are facing barriers towards the access of health data. Among these barriers are difficulties that arise from having multiple stakeholders; such as providers, payers, and manufacturers, resulting in data silo barriers for interoperability and regulatory pressures to maintain privacy [13]. In addition, the recently enacted General Data Protection Regulation (GDPR) that will be enforced in the European Union (EU) from May 25th of 2018, restricts the use of health data for companies [32, 37]. To navigate this access conundrum, insurance companies aim to offer proactive services that intend to help their customers maintain their health. In order to understand the challenges these companies face regarding the acquisition of health data required for the creation of such services, we seek to answer the following research question: “*What are the health data access barriers in a Finnish insurance company transitioning from a reactive to a proactive company?*”

To answer this question, we examine health data access within the context of a Finnish insurance company with the aspiration to transform from a purely reactive company to a more proactive partner with customers. This focus intends to identify which barriers the Finnish insurance company will face as they traverse the shift towards the digital healthcare paradigm.

2. Background

In this section, we first present important definitions and outline the context for this paper. We then proceed to discuss why access is pivotal to how organizations can sense and respond in changing environments, and finally we explore examples of organizational barriers for data.

2.1. Definitions of Health Data and Access

The General Data Protection Regulation (GDPR) is scheduled to replace the current data protection from 1995, Directive 95/46/EC, in May of 2018. These data rules determine how personal data, including health data, can be used. Personal data is considered to be any data that can identify an individual and is considered a blanket term that encompasses a type of sensitive data that is named under ‘special categories’ in the GDPR that pertains to a person’s health. Data defined within the ‘special categories’ of the GDPR places stricter control over the processing and use of the data that falls within this category. The possibility to utilize health data requires the fulfilment of a set of conditions or exceptions to occur, explicit consent, or pre-defined processing circumstances [32]. In Act. 4 section 15 of the GDPR [32], health data is defined as “... personal data related to the physical or mental health of a natural person, including the provision of healthcare services, which reveal information about his or her health status.” For the purposes of this paper, this definition of health data will be used, although with the recognition that the generation of health data is not exclusive to a patient-clinician

interaction, but also subject to additional veracious data sources such as fitness trackers, or even social media at the individual level [29].

The concept of access for health data is a multi-faceted one which lends consideration to the different avenues of how access can take place. The term ‘access’ in healthcare has been heavily deliberated upon by researchers for over four decades [19, 28]. From the perspective of the customer or patient, access is regarded as “... the opportunity to identify healthcare needs, to seek healthcare services, to reach, to obtain or use healthcare services and to actually have the need for services fulfilled” [19]. However, since the purpose of this paper considers access to health data from the organizational perspective, the definition is everted. Organizational access concerns being given access to health data from the customer or other relevant stakeholders and managing access to existing health data. All while allowing the customers to access and control their own data within the organizational context. In order to prevent confusion, it is pertinent to mention that the use of the terms “customer” and/or “patient” largely depends on the context, but both indicate the primary stakeholder. Considering healthcare data, the person whose data is accessed can be referred to as patient in the context of traditional healthcare services, but also as customer in the context of insurance business.

2.2. Organizational Agility and Data Barriers

Change is part of the world that we live in today. However, what the boundless sea of change means for an organization is a certain level of a uncertainty [11]. Planning for uncertain futures requires organizations to be agile in order to sense and respond to environmental changes. In a framework proposed by Overby et al. [25] an organization has to balance leveraging their capabilities to detect environmental change with their capabilities of reacting to the changes found. The role of Information Technology (IT) in an agile organization supports both the sensing and responding activities taking place. For example, an organization may sense that their customer’s preferences are evolving through market intelligence, and opt to respond to their request by developing a new service that aims to meet new customer demands, or make a different offer [11]. Part of this framework highlights the important role that IT plays in leveraging sensing and responding capabilities. However, IT can also prevent organizational agility through subpar management or poor investment choices. More specifically, inadequately designed systems may create data silos in which accessibility and interoperability of data becomes challenging for different stakeholders, including customers. Thus, it illustrates the importance of managing IT. Including comprehensive planning to sense environmental changes, and respond accordingly through implementation and maintenance of IT [25].

Part of sensing environmental change is the utilization of organizational resources towards building an understanding of the landscape of transformation; an understanding which can be classified into barriers. In contemporary literature, when looking at barriers of access for healthcare, the majority of research addresses specific groupings of barriers of literal access for a patient in categories such as the role of ethnicity [8] or physical location [10] restricting access. Others, such as Janssen et al. [16], Smith and Sandberg [34], and van Panhuis et al. [26] systematically inform on data barriers in granular and meaningful detail.

Table 1. Interpretive Summary of Open Data Adoption Barriers

Category	Summary of Barrier Concerns	Category	Summary of Barrier Concerns
<i>Information Quality</i>	Difficulties of open data properties including invalid or missing data	<i>Task Complexity</i>	Practice challenges due to usefulness of existing open data
<i>Institutional</i>	Internal reflections of organizational constraints due to imbalances in perceived transparency or valuable-based actions	<i>Technical</i>	Lack of standards and definitions that support access and use of open data

	around open data, partially due to culture		
<i>Legislation</i>	Constraints and demands of policy for open data, including security and privacy requirements	<i>Use and Participation</i>	Capabilities and willingness of open data users including a lack of incentives and knowledge for participation

Janssen et al. [16] identified 6 overarching categories of barriers to adopt open data accessible to open governments (see Table 1). Delving into two of the categories; use and participation as a category identifies one type of barrier as the lack of knowledge of the public sector towards the utilization of open data. The technical category represents a barrier of poorly accessible data that lacked a common format that would be required for adoption in open government. Smith and Sandberg [34] further push the understanding of data use for innovation in an open government setting. They show that different phases in a service life cycle and across user types have varying barriers. Which in addition, corroborate some of Janssen et al. [16] findings by demonstrating that one of the design phase barriers was rooted in the format of the data, which inhibited usage. Furthermore, they showed that during the transition phase the desires of open government data users to leverage data in innovate ways was hindered by data access practices. van Panhuis et al. [26] revealed 6 categories of public health data access barriers: economic, ethical, legal, motivational, political, and technical. Of them, economic, motivation, and technical are well-established barriers that are rooted in the comprehensive challenges of health information systems; however, ethical, legal, and political barriers are less straightforward and require a more abstract approach to manage the complexities represented by health data access [26]. Facilitating access to health data through electronic health records (EHRs) has been shown to be empowering for patients who seek advice, comfort, or companionship with other patients with similar diseases. One example of this can be found in the case of PatientsLikeMe and similar communities pertaining to amyotrophic lateral sclerosis (ALS) [9, 39]. Patients in these communities have shown their willingness to give access to their health data in a symbiotic environment.

Previous research has addressed the question of data access barriers mainly from the customer or patient perspective for open or public data [16, 26]. However, research on private organizational access to customers' health data is weakly represented in earlier literature. This gap is noteworthy, considering that access to data is a fundamental competitive advantage for organizations [15, 29]. This paper aims to contribute insight in this area and take a step towards closing this gap.

3. Methodology

3.1. Case Context

This paper explores a single case study of a Finnish mutual insurance company, that we, in this paper, lend the moniker 'Omega'. Traditional Finnish insurance companies were built upon principles established in the 18th and 19th century, reflecting the ideals surrounding social welfare of that time. Today, Omega is part of the oligopoly of leading insurance companies within Finland and aims to offer the people of Finland support and access for a safer and healthier life. Omega has service coverage for both business and personal purposes in: 1) life - people and animals, 2) non-life - travel, vehicles, accommodation, property, luggage, and legal expenses, and 3) pension - revenue based labour earning returns. One of Omega's visions is to provide a better quality of life for their customers, and Omega is taking action by inaugurating the offering of holistic health, life, and security services to their customers. This vision will be referred to as 'Holistic Life Insurance' in the present paper. As part of this vision, Omega wants to provide more proactive services to their customers than are currently available. However, in order to provide these services which would be more personalized to the customer's experience,

Omega seeks access to health data which allows services such as predictive analytics to be utilized.

Presently, the most proactive services Omega has to offer exist within the Workplace Health and Safety department, where general preventative measures are taken by providing corporate customers with safety demonstrations through channels such as YouTube that establish workplace practices for safety. Another example of Omega's movements towards a proactive service is the 'digital hospital' where customers are able to contact frontline support nurses through various mediums including instant chat messaging and over the phone. This remains a more reactive approach to healthcare as the customer has to contact Omega, but plans are in motion to use the digital hospital as a stepping stone towards more meaningful implementations of proactive services through the collection, storage, and analysis of customer data which would then be used for personalization of health services. The intended end result of these proactive, personalized health service offerings would be to create value for the users through reducing their need for healthcare services, which would also reduce the amount of medical claims paid for by Omega. Based on Omega's vision, it is a suitable case company for this study.

3.2. Data Collection

The study was conducted as a qualitative case study. A case study is suitable when the focus of the research is on 'studying a contemporary phenomenon within some real-life context' and when the 'investigator has little control over events' [40]. As this study seeks answers to the contemporary phenomenon of companies wanting to make use of persons' health data in a real-life context (i.e., the insurance company), and as the investigators had no control over events transpiring in Omega, the case study is a suitable approach to answering the research question. Semi-structured interviews were chosen as the primary data collection method for this case study due to the exploratory nature of the research question. Interviews have been a long-established tool in the Information Systems (IS) discipline for gathering qualitative data [21]. The semi-structured interviews designed for the case study followed the general guidelines of having prepared questions in advance but probing of interesting answers in an ad hoc nature during the interviews themselves. The core themes of the interview questions were: health data, organizational transformation, and value co-creation. The ten interviews took place in August and September of 2017. All interviews were conducted in English together with another co-author, lasted between 60 to 90 minutes, and were conducted in person in Finland. Table 1 below outlines the interviewee respondents, their role, and their area of expertise. The interviewee identifier (01-10) will be used in Section 4 in connection to direct quotations. Due to considerations of the native language of the interviewees not being English, the nature of speech to be imperfect, the goal of the research not being a discourse analysis, and wishing to extract meaning and perception, a denaturalized transcription process was utilized [24]. A denaturalized transcription 'cleans' the transcription whilst keeping it as close to the authentic interview as possible; instead the denaturalized transcript relies upon authentic representation by denoting meaning and perceptions of the text. A high-level analysis took place during the transcribing process where interesting or overlapping ideas were collected for later review.

Table 2. Summary of Interviewees

<i>Interviewee</i>	<i>Interviewee Position</i>	<i>Area of Expertise</i>
01	Unit Director	Business – Workplace Health and Safety
02	Unit Director	Business – Worker's Compensation
03	Development Manager	Customer Experience Research
04	Unit Director	New Business Development
05	Development Manager	Digital Healthcare Services
06	Chief Digital Officer	Digital Healthcare Services
07	Program Director	Digital Healthcare Services

08	Communications Manager	Public Relations
09	Development Manager	Corporate Business – Worker’s Compensation
10	Development Manager	Data – Business Intelligence and Analysis

3.3. Data Analysis

For the analysis of the interview data, we opted for a thematic analysis process. Which is a qualitative tool that, through an abstraction process, encapsulates meaning from the interviewees that aligns with the research purpose in order to generate an improved understanding of the data. To imbue rigor to the analysis process, transparency of the qualitative technique is important. Initially, a familiarization process of the data took place where the data was listened to, transcribed, and then read through. Second and third was the identification of key themes and typologies followed by indexing for ease of further reference and use in the future. Fourth, the identified themes/concepts were arranged according to the goals of this research and finally, they were interpreted by mapping the phenomena to offer explanations around the research question. No pre-defined nodes or lenses were used to identify the barrier themes revealed in the data. However, after identifying the barriers through the analysis process, we mapped them to the six categories of open data adoption identified by Janssen et al. [16]. Our findings fall within three of these six categories: institutional, legislation, and use and participation. These were supported with nine barriers in the data. We will present them below in more detail.

4. Results

The results are classified into three categories: institutional, legislation, and use and participation, which contain nine barriers. Table 2 summarizes our findings and classifications.

Table 3. Barriers of Health Data Access

Categories	Barriers
Institutional	<ul style="list-style-type: none"> • Diverging interpretation of customer’s willingness to share data • The perceived stigma of insurance organizations
Legislation	<ul style="list-style-type: none"> • Restrictive data collection and use capabilities • Cost of compliance • Internal interoperability constraints to use data • Safety and privacy demands • Different rules for insurance organizations
Use and participation	<ul style="list-style-type: none"> • Lack of know-how to use social media data • Lack of incentives for customers to share data

Institutional - Part of the transition process for Omega towards becoming a more proactive company is being able to provide digital health services that utilize health data. Access to this health data require the consent of the customer towards sharing their health data. Having access to this data is necessary in order to provide proactive services to the customer. However, we found that there is something of a contradiction in how interviewees see the customers’ willingness to sharing health data. Across all the interviews it became quite apparent that there was a divergence of understanding around the customers’ attitudes for health data sharing. This ultimately affirmed an internal lack of understanding of the customers’ willingness to give Omega access to their health data. Several interviewees highlighted the customer to be quite conservative regarding their healthcare data: *“My perception is that the average Finn is very scared of giving out any data at all...”* 03. On the other hand, some interviewees argued in favour of customer willingness or compliance to share their data, as expressed by Interviewee

04: “(...) *I have not yet seen that that the customer would say that they don't want to share the data.*” Diverging opinions around the point-of-view of understanding the customer's attitudes for health data sharing is obfuscating their organizational ability to properly understand their customers. Whether the customer is seen to be willing or unwilling to provide their health data (or less sensitive personal data) to Omega acts as a barrier for the considerations of proactive service implementation.

Echoed by many of the participants was the negative affiliation insurance customers create during their experience with Omega. The insurance industry is subject to varying stigmas from customers with the current reactive model. For instance, customers contact their insurance providers mainly seeking compensation after an incident occurs, thus affiliating negative experiences. From a customer perspective, being able to trust those who will provide and provision for you is an implicit part of the company's responsibility. *“Somehow people trust doctors, and I guess some people would see that insurance experts would have more of his own interest [than a private sector doctor] would have. I don't know what [the truth is], but that's how people perceive it.”* 07. This illustrates a certain level of awareness of the barrier stigma creates. Omega is also aware of the need to delineate how health data will be used: *“We have to be honest to our customers, and we have to tell the reason to our customers for why we are collecting your data, and what is the proposed cases (in which) we are using your data. In that sense, transparency is the issue...”* 06.

Legislation - There are two main types of policy that externally affect the possibilities of Omega to provide more proactive services to their customers due to health data access restrictions. The first policy is the GDPR which is a European ‘blanket’ regulation coming into effect in May of 2018. This regulation is aimed at improving privacy and protection for personal data (including health data) for all persons living within the EU [32]. All companies within the EU are obligated to follow the provisions set forth, but leave them open for interpretation for adopting and adapting the changes within an organization [37]. The GDPR affects the provision of proactive services in two ways. The first barrier restricts the way Omega can collect and use their customers' health data. The second barrier is the burden of compliance related costs, which Omega would have to shift onto their customers. Half of the interviewees expressed concerns regarding the GDPR in terms of the financial burden it carries. From an adherence perspective, four interviewees indicated the influence of the GDPR towards reactive responses to adapting in Omega. Violation and non-adherence of the GDPR carries a hefty fine, while obliging the demands of the GDPR means additional costs for Omega. The implications of the costs for adherence (both compliance or defiance) are costs that, in turn, fall on the customer: *“... GDPR, it is of course adding a cost (...) we will somehow have to get that back from our clients, in order to be able to maintain in this business and serve them.”* 06.

The second type of policy regards the legal aspects of data use at the national level; these regulations are authoritarian in the insurance world. The regulations prohibit the use of data between departments or drawing connections across customer services. In addition, the use of health data is also affected by the legal requirements for technical compliance for data safety and privacy: *“There has to be taken into account quite many data safety and also those privacy issues.”* 02. These are the third and fourth barriers. Thus, despite the capabilities of technology for storage, retrieval, and analysis, the policy adherence requirements challenge how Omega governs health data. For Omega, these regulations have implications that several respondents see as problematic: *“I feel that the legal issue is the only real issue, in practice.”* 03.

Finland is now navigating through its second healthcare reform to make better use of health data. This reform has numerous social implications and ultimately impacts the workings of Omega as the reform incentivizes Omega to enter the healthcare ecosystem. Part of this healthcare reform is about societal value alignments around realizing the potential of health data: *“... I would say that in the future, people will be even more aware of the value of this data.”* 07. The ever-increasing awareness of the potential value of health data cultivates a competitive market in the insurance industry. However, the fact that Omega is an insurance company and not a health provider makes it subject to different rules, indicating the fifth barrier. These rules affect their rights to access health data. For example, as an insurance company, Omega is restricted from storing certain health-related data. As a result, Omega has entered

partnerships with pertinent facilitators to digital health services in order to circumvent the restrictions they face as an insurance company: “(...) [in the future we might have] our own company which gives healthcare services but now it's not possible because we are insurance company and we need partner....” 05. This is a step towards being able to provide more proactive services to their customers in future.

Use and participation - In the context of access to customer data, social media is slated to play an important role. One requirement of a proactive organization is accurate, longitudinal data. Omega has an opportunity to access and gather a large amount of longitudinal personal data through customer social media channels. The barrier in this context is represented by the lack of know-how when dealing with social media data. Although Omega sees the potential in social media, they do not know how to utilize this data in a meaningful way. Largely, this is due to the insurance industry tempo for making changes as it is relatively slow: “And it's very easy to see that our history is affecting the pace (of which) we are adopting new things. Social media, among them (...)” 06. Questions of the role and potential value of social media in form of publicly available data has forced Omega to acknowledge the power of social media and consider how social media might play a role in the organization and for customer interaction. Now, Omega is taking a step towards engaging customers and inculcate customer experience using social media: “(...) [we want to] switch gears and start to somehow link it more closely to the customer experience, and somehow try to increase our presence and be more relevant for our customers [in social media].” 08.

As earlier outlined, one critical factor in successfully traversing the proactive paradigm shift is having customers share their data with Omega. However, there is a barrier of incentivizing customers to share data. In a typical transaction, reciprocity is implied; you give something to get something in return. For Omega, the abstraction of insurance being able to give something back to the customer when they share their data is limiting how digital services are being created. Without the customer being willing to share the data, the service cannot be provided, but the situation is a catch-22 where Omega wants to provide personalized and proactive services but cannot until customers participate in the sharing of their data over a period of time: “The biggest barrier is that if they decide to share the data (...) why will people [put in effort] to give the data?” 04. Further issues within the context of this barrier was found in the respondents' reflections on customer beliefs. The customer believes that if they do share their data, they will have it used against them to prevent insurance payment, or in other harmful ways: “(...) if they share this information, they think that they don't get the payment for insurance is one thing.” 10. Providing personalized services will require an imbalance that is reliant upon the customer to act first through data sharing.

In summary, barriers to health data access found in this study related to the institutional, legislation, and use and participation categories.

5. Discussion of Findings

In this study, we set out to identify health data access barriers in the context of providing proactive digital health services in a Finnish Insurance company. The importance of understanding what barriers any organization is facing is crucial for organizational agility and management of the implications they are accompanied by [6, 25]. Since data is intrinsic to the operation of many organizations, awareness of what barriers affect their work is crucial for movements towards proactive solutions. In Omega's business practices, health data access is critical to strengthen its competitive position in the overall insurance market [14]. With the current day Omega heading towards a company vision of 'Holistic Life Insurance' that acts beyond traditional, reactive claims handling, in an effort to become a proactive 'life partner'. There are health data barriers that need to be addressed to reach this vision. We discuss how our identified barriers affect the transition into a proactive company through implications found in this study, as well as possible solutions.

The institutional category highlights diverging internal opinions to understanding the customer's willingness to share data. Other studies corroborate these findings, where patients are less willing to share their health data with insurance organizations as they consider them to

be non-essential health providers [4, 17]. This correlates with the second barrier where insurance companies are facing a constant societal stigma that paints their organizations in a negative light. When it comes to including customers in the processes of managing health data barriers, the inclusion process aims to orient a company proactively around the customer. Blocker et al. [7] argue that “[p]roactive customer orientation refers to a provider’s capability to continuously probe customers’ latent needs and uncover future needs, possibly offering ideas even before customers realize they had such a need; from the customer’s perspective, it reflects customers’ perceptions that providers have proactive processes and skills to successfully anticipate their latent and future needs.” This proposition goes along with building a culture of transparency to break down the stigma barrier, in which the inclusion of customers in the organizational processes improves the transparency of a company’s practices around the utilization of health data. Through facilitating a better relationship between the customer and the insurance organization. The possibilities to sense the customer’s attitudes for health data sharing and the possibilities to respond to those attitudes are improved accordingly.

The legislation category brings to light health data barriers which we found to be tied to policy and in the context of European and National policies. These are equally relevant for other (insurance) companies in the EU. For Omega to transition into a more proactive organization, use of data derived from the healthcare context is required. Both the EU-wide GDPR, which causes additional costs for Omega, and the policies that restrict the access of health data despite its availability, weaken Omega’s possibilities for developing more proactive services from the customer data they have collected through various services, such as the digital hospital. The GDPR calls for a higher standard of data storage, protection, collection, and processing for every business and organization that is within or does business with the EU [36]. Since insurance companies are already heavily regulated in Finland, it is likely that many insurance companies already comply with a majority of the changes the GDPR imposes. Despite the concerns around the restrictions of data use from a policy perspective, which affects how services can be provided, one divination rings true - the customer. Since the customer has been empowered by laws (new and old), the restrictions of the laws can be successfully traversed as long as the customer gives informed general consent [23], affording companies the opportunity to adapt to the pressures the external barriers are creating.

Business models are being explored in the context of emerging paradigms, such as the proactive paradigm, where “competition will center on personalized co-creation experiences, resulting in value that is truly unique to each individual” [30]. Organizations are increasingly making movements towards including and engaging the customer through social media platforms such as Facebook and Twitter in a more meaningful way. Social media holds immense potential for organizations to shift away from traditional customer relationship management (CRM) models into a more social CRM [12] approach. The use and participation category highlights two barriers along this path. Organizations lacking an understanding of how to use social media data that is available, and how to incentivize customers to share their health data. It is important for organizations to understand how customers would facilitate access, and if social media data is valuable for either party. Permission to collect and use social media data is complicated by regulation and a lack of policy for clear and concise policies that advocate for the use of social media that “highlight the importance of its institutionalization in organizations” [3]. One implication of our findings is that companies who want to make use of social media data should develop clear high-level policies around social media to embrace and exploit the collection, access, and use of social media data towards interacting with the customer through social platforms, and utilizing publicly available data from social media contexts [2, 35]. Particularly for health and wellness as social influence has been shown to positively incentivize healthy habits such as exercising more frequently [41]. Or in cases of social platforms as PatientsLikeMe where patients are motivated to facilitate access to their health data in order to form symbiotic relationships as they perceive value in sharing actions [9, 39].

What is most interesting about the nine barriers that culminate in half of the specific categories identified by Janssen et al. [16] is how well they fit, considering this paper focuses on a private organization (as opposed to an public organizational setting). Omega has just started to sense their environmental changes, and the organization is quite slow to respond

(illustrated in part by the adoption rate of social media practices). As such, overcoming these barriers are part of the journey to transform into a more proactive organization. Furthermore, we discovered indications for future research to include more stakeholders towards the provision of a wider scope of barriers, and other meaningful insights.

6. Conclusion

In this paper, we asked what the health data access barriers are for digital health services in a Finnish insurance company that wants to transition from a reactive to a proactive service provider. We conducted a qualitative case study in one Finnish insurance company who seeks to become a proactive provider of health services and identified nine types of barriers in three categories: institutional, legislation, and use and participation. We discussed how and why these barriers are affecting the transition to a proactive paradigm. Moving forward with barrier management for health data will require resources in the form of experts to analyse and make sense out this new environment and plan how to solve the barriers identified in our study.

We also like to acknowledge some limitations of this study, where the biggest one primarily relates to the case study being conducted in a single case company. By either studying additional insurance case companies or longitudinally extending the Omega case, we may have identified additional barriers that fit all six categories. Part of the reason why only three of the six categories were found might be due to the interviews being conducted primarily with management roles, which may explain why barriers in a category like technical were overlooked. Also, our case study specifically focused on health data which affects the understanding of other data types. However, looking to future research areas is axiomatic with the limitations of this study, where expanding the identified barriers across a wider insurance and data context could broaden the understanding of the contemporary barriers insurance companies are facing.

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