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The Strategic Management of Data Sharing and Openness Across Organizational Boundaries

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ABSTRACT

Data is increasingly recognized as a fundamental strategic asset, but its potential for both firms and society depends on how it can be used, shared, and combined across organizational boundaries. However, many organizations remain reluctant to share their data due to concerns regarding compliance, control, and ownership. This thesis addresses this dilemma by exploring how organizations can strategically design and manage data sharing and data openness to align with business models and regulatory frameworks, thereby enabling innovation and value creation.

The thesis builds on a conceptual review of data openness in the management and strategy literature, as well as a qualitative empirical case study comparing two digital platforms in the healthcare sector. Through these studies, data openness is found not to be binary in the sense of being either fully open or fully closed, as is commonly assumed, but rather multidimensional and designable through a set of identified dimensions that can be tailored to strategic purposes. By empirically investigating how data sharing is managed in practice, data sharing challenges, along with solutions implemented to address them, are identified. Such solutions are tightly connected to the business model. The thesis contributes to the understanding of how data sharing choices shape, and are shaped by, collaboration, innovation, and regulation.

Keywords: data sharing, data governance, open data, digital innovation, business models, strategy

I

LIST OF APPENDED PAPERS

Paper I
Petrén, M. and Holgersson, M. (2025). *A Conceptual Review of Open Data: A Multidimensional Design Perspective on Data Openness*.

Submitted to Technological Forecasting and Social Change.

Earlier versions of this paper were presented at the International Joseph A. Schumpeter Society conference, ISS2024, Gothenburg, 2024; the R&D Management Conference, Stockholm, 2024; the Open and User Innovation Conference, Boston, 2024; the 84th Academy of Management Annual Meeting, Chicago, 2024; and the World Open Innovation Conference, Berkeley, 2024.

Paper II
Petrén, M. and Holgersson, M. (2025). *Data Sharing, Platform Strategy, and Social Change: The Case of Healthcare*.

This paper was presented at the Gothenburg U-GOT KIES center workshop, Gothenburg, 2025. In preparation for submission.

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1   INTRODUCTION

In an increasingly digital economy, data has become the front and center of innovation and competitiveness. From the algorithms powering social interactions to personalized healthcare, data now shapes how organizations learn, act, and evolve (Alaimo & Kallinikos, 2024). But despite its potential, much of the world's data remains locked within organizational boundaries. Firms are often reluctant to share their data due to concerns over ownership, control, and compliance, even when doing so could enable collective innovation (Koutroumpis et al., 2020).

The importance of this dilemma is increasingly recognized by scholars, practitioners, and policymakers. Scholars have long described data as a non-rival resource whose value increases when reused and recombined across boundaries (Jones & Tonetti, 2020; Varian, 2019; Yoo et al., 2010). Meanwhile, in the past few decades, information technology and digitalization have really put data at the forefront of the digital economy, boosting value creation and capture (Cappa et al., 2021; Porter & Millar, 2001). The emergence of digital platforms has created new infrastructures for such sharing, while simultaneously centralizing control of data within a few powerful actors (Jacobides & Lianos, 2021; Ozalp et al., 2022). Recent policy efforts, such as the European Data Strategy, explicitly aim to promote greater data access and reuse (European Commission, 2025b) while preserving other important interests of privacy and control of industrial information (Huang, 2024). Still, the understanding of the organizational and strategic implications of these developments remains limited, and many firms struggle to operationalize data sharing in ways that align with their business models and competitive goals (Wixom et al., 2023). While research has somewhat emphasized the strategic role of data and the challenges related to platform strategy (Bhargava et al., 2025; Bhargava et al., 2020; Parker et al., 2016), little attention has been paid to how data sharing can be aligned with organizational strategy, business models, and legal frameworks. Understanding this interplay is increasingly vital as firms seek to collaborate around data in complex ecosystems that span multiple industries and jurisdictions (Coche et al., 2024).

Against this backdrop, this thesis explores how organizations can strategically design and manage data sharing and data openness to enable innovation and value creation, particularly under regulatory constraints. The study builds on two complementary perspectives: a conceptual review of open data in the management and strategy literature, which develops a multidimensional understanding of data openness as something that can be purposefully designed rather than viewed as a binary choice between open and closed; and an empirical study of two digital platforms in the healthcare sector, where data sharing is both highly valuable and highly constrained, to investigate how firms manage the strategic challenges that arise in practice.

Theoretically, the thesis contributes to the fields of strategic management, digital platforms, and data management by conceptualizing data openness as a designable apparatus, as well as empirically showing how firms implement data sharing as part of their platform strategy. Practically, it provides insights into how organizations can develop data strategies that balance openness and control, especially in highly regulated sectors such as healthcare, enabling innovation while maintaining compliance and trust.

2   FRAME OF REFERENCE

This chapter outlines the theoretical foundations of the thesis, integrating insights from strategic management, digital platform studies, and regulatory research. It first briefly situates data within the broader discourse on information and competitive advantage. Second, it examines how processes of platformization and technological advancement amplify the strategic and economic value of data. Third, it reviews the evolution of regulatory regimes and their implications for data management across jurisdictions. Finally, it explores the ongoing shift from proprietary control toward purposeful data sharing, thereby identifying key gaps that the thesis aims to address.

2.1   Data as a source of economic growth and competitive advantage

Information and data have long been sources of competitive advantage, and new technologies have further expanded these possibilities. Historically, data has been used primarily for record keeping, to count and remember occurrences, such as exchanges and observations. They have served administrative purposes, including creating and processing documentation, and have been central to informing effective and efficient business decisions (Alaimo & Kallinikos, 2024). Later, information and data became more strategically employed to improve organizational performance and competition. Early examples of how data has been used in business contexts to improve competitive advantage are customer loyalty programs, where data about members' behaviors and preferences were used to personalize offerings and build long-term relationships (Berman, 2006).

In the emergence of the digital economy, an important shift has occurred, redirecting the understanding of data as a secondary by-product from other activities, to the acknowledgment of data as a foundational strategic asset that firms can use to understand and act in relation to their surroundings (Alaimo & Kallinikos, 2022; Hartmann & Henkel, 2020; Jones & Tonetti, 2020; Khatri & Brown, 2010). Appreciating why data is valuable requires an understanding of how its technical and informational features enable the generation of meaning. The value of data seldom lies in the data itself, but in the insights that can be retrieved from accumulation and combination into larger datasets. In this sense, data becomes valuable when it is interpreted and applied for knowledge creation and decision-making (Cappa et al., 2021). Digital data can be considered as a technical representation and bearer of information that allows copying and instant transmission through digital infrastructures (Shapiro & Varian, 1999; Yoo et al., 2010). It also has the technical property of being combinable, meaning that disparate datasets can be recombined to generate new insights and value (Temiz et al., 2022; Wixom et al., 2023; Yoo et al., 2010). Standardized and machine-readable formats enable interoperability and algorithmic processing across systems, while the replicability and updatability of data allow analytical agility and scaling (Alaimo & Kallinikos, 2024; Gregory et al., 2021; Yoo et al., 2024). Some of its value further lies in its economic nature as a non-rival resource, allowing simultaneous use by several actors at the same time (Jones & Tonetti, 2020). Together, these properties make data an asset that can be repeatedly applied across contexts to produce value.

Today, data is recognized as an important resource to most organizations—private firms and public bodies alike—holding promises of competitive advantage, research, innovation, and

economic growth for society at large (Verma & Gurtoo, 2023). This reconceptualization of data has been driven by digital technologies that vastly enhance organizations' ability to collect, store, process, and share information, thereby amplifying the role of data in value creation and competition (Alaimo & Kallinikos, 2024; Cappa et al., 2021; Yoo et al., 2024). Firms now build their businesses around data, or implement new ways of generating and drawing insights from it in their existing value propositions, for example, by introducing data-collecting software in cars for the development of autonomous driving or launching software services to complement their present range of products or services. The generated data can then be used for different purposes, such as to optimize the services already on the market or to create new ones (The Economist, 2017a).

The amount of data generated from our connected products and infrastructures is unprecedented and used to inform strategic decision-making and innovation (McAfee et al., 2012). Recent phenomena, such as social media, use data to gain insights on user behavior to improve the user experience, but also create new products and services that can generate more data (The Economist, 2017a). In the current wave of AI, data is the main resource for training models that can be used for translation services, image generation, and to create a close colleague (DalleMule & Davenport, 2017; Gregory et al., 2021). In the "data economy" of today, a company's value may even be determined by data access. Facebook's (now Meta's) acquisition of WhatsApp for 19 billion dollars, despite the company having only 55 employees, illustrates this process, as the transaction was largely motivated by the immense volume of user-generated data produced through daily messaging (Rushe, 2014; The Economist, 2017a, 2017b).

On a societal level, the availability of vast data from users, firms, governments, and universities serves to increase the efficiency of operations in most areas of society, enable innovation, transform and develop public services, and provide insights for policy development. Public bodies collect and create data in areas such as traffic, weather, and geographical information in great amounts, which can be used for environmental monitoring, urban planning, and emergency response, to name a few (Ahmadi Zeleti et al., 2016; Janssen et al., 2012).

2.2 How technological developments amplify data importance

The growing power of data is closely intertwined with technological development (Varian, 2014). Digital platforms, in particular, are fundamental phenomena that both generate and depend on data capture and analytics to compete (Bhargava et al., 2020; Colback, 2023). Combined with cloud services, IoT solutions, and AI, they are enablers to speed up data flows, data capture, data analysis, and identification of user trends (Gawer, 2022; Gregory et al., 2021), and lower the cost to produce data and information (Parker et al., 2016; Shapiro & Varian, 1999).

First, a closer look at the role of data in platforms requires clarification of what platforms are. The understanding of digital platforms varies between different strands of platform literature. On the one hand, platforms are described in terms of their nature as a technical layered architecture, where each layer represents devices, networks, services, and contents (Yoo et al., 2010) or material, computation, and communication (Alaimo & Kallinikos, 2024).

This architectural perception of platforms also includes a perspective of modularity, where a modular technical architecture enables combinations of different complements (Baldwin, 2024; Baldwin & Woodard, 2009). Design decisions can be made for components in each layer, independently of the design decisions made in other layers, enabling innovation through lower friction in combination and recombination of components (Yoo et al., 2010).

On the other hand, platforms are described in terms of markets or exchange systems, coordinating and governing interactions across two or more platform sides (Gawer, 2014; Parker et al., 2016; Tiwana, 2013). Network effects play an essential role, as one side of the platform benefits from the other side growing (Armstrong, 2006; Katz & Shapiro, 1985; Rochet & Tirole, 2003). From this perspective, platforms are commonly categorized into innovation platforms, transaction platforms, and hybrids between the two, generating and sourcing value in distinct ways (Cusumano et al., 2019). Innovation platforms facilitate third-party development and distribution of complementary products and services, adding to the value proposition of the platforms. One example is Apple's App Store, providing third-party developed apps to enhance the user value of the iPhone (Cusumano et al., 2019; Cusumano et al., 2020). Governance parameters such as access control, decision power, and conditions for use encourage participation by other actors (Parker et al., 2016). Transaction platforms are intermediaries for exchanges of information, services, or products (Cusumano et al., 2019; Cusumano et al., 2020). For example, Uber facilitates interactions and transactions between drivers and riders, generating value through transaction costs and advertising.

Furthermore, Gawer (2014) forges the technological and economic perspectives and provides foundations for an extended understanding of platforms through the distinction between internal, supply chain, and industry platforms. Internal platforms are closed systems, where rules are set and capabilities are sourced within the platform firm. Supply-chain platforms connect capabilities in the supply chain structure through semi-open systems and contractual relationships. Industry platforms are open ecosystems allowing ecosystem actors to interact and create value across the ecosystem through governance and coordination.

Most perceptions of digital platforms underscore how value creation and innovation happen, or depend on, sources outside the platform firm. Distribution of control and collaboration among more users provides extensive opportunities for the platform to succeed (Parker et al., 2017). Here, the concept of ecosystems emphasizes the interdependence among market actors in jointly generating value—no firm operates in isolation. Instead, firms rely on complementary innovations by others to enhance the value of their own offerings (Adner, 2006, 2017).

Thus, ecosystems form multi-actor organizations (i.e. "organizations of organizations") where the actors are codependent (Adner, 2017; Iansiti & Levien, 2004; Kretschmer et al., 2020) or an "alignment structure of the multilateral set of partners that need to interact in order for a focal value proposition to materialize". Firms must consider strategic aspects such as resource pooling, joint direction, and alignment, without compromising their individual competitive edge. This balancing act requires attentiveness to the activities of other ecosystem actors, to optimize one's own value offering. As such, a firm's ability to adapt its strategy to the broader ecosystem is crucial for both ecosystem-wide value creation and individual competitive success (Adner, 2017).

In the context of platforms, data constitutes the core resource that fuels the algorithms orchestrating interactions between users and platform sides, which are central mechanisms to platforms' success as organizational forms. These interactions, in turn, continuously generate new data, which can be analyzed to inform strategic decisions, enhance innovation, product and service development, and refine the efficiency of platforms (Gawer, 2022; Parker et al., 2017; Van Dijck et al., 2018). Moreover, data serves as critical input not only internally in platform firms, but also among complementors in the ecosystem who contribute to co-creation and value creation. Here, it is used for orchestrating the entire platform ecosystem (Parker et al., 2016), connecting complementors and activities through data and algorithms that enable options for redirecting and scoping (Chimenti et al., 2025).

Against this backdrop, the capability to drive data network effects is one important mechanism for platforms to gain a competitive advantage from data. In data network effects, value increases not only with the number of users but also with the volume and diversity of data generated through their interactions. This data enables platforms to tune algorithms, customize user experiences, and optimize services—enhancing user satisfaction and attracting additional users who, in turn, generate more data (Cusumano et al., 2019; Gregory et al., 2021, 2022; Parker et al., 2016). With the help of data and data insights, digital platforms have indeed entered and revolutionized several important sectors, including transportation, education, and retail (Koutroumpis et al., 2020; Ozalp et al., 2022; Van Dijck et al., 2018). Yet, Ozalp et al. (2022) also identifies the importance of indirect data management as a core means to increase platform scope and enter new markets, especially when targeting regulated sectors like healthcare. This includes providing data infrastructure services to incumbents to access and analyze sensitive data. In their study, they show how Big Tech firms enter into regulated sectors by first introducing data infrastructure services, such as cloud services, and subsequently leverage the resulting data for ecosystem coordination and platform improvement (Ozalp et al., 2022).

As described here, the literature mainly illustrates how data underpins the growth and dominance of platform firms. Platforms are considered facilitators of data and data insights that increase the chances for platforms to grow and compete. However, recently, a reversed relationship has gained traction too, where data is argued to be one of the main drivers of reshaping organizations. According to Alaimo and Kallinikos (2024), how data shapes interactions and communication processes is foundational for driving platformization and ecosystem development, which have arguably become the "dominant organizational forms in the digital age" (Gawer, 2022). This perspective suggests that data and platforms are mutually constitutive. Data fuels platform growth, while platforms, in turn, provide the infrastructures through which data is continuously produced, circulated, and leveraged. Conclusively, the interplay between digital platforms and data drive the development of completely new markets and business practices by taking advantage of digital infrastructures to create new, efficient means for interactions and transactions to happen (Gawer, 2022; Parker et al., 2016).

2.3 Evolving regulations on data

Technological shifts not only redefine the importance of data and how it can be managed, but also interact with regulation, which itself evolves in response to innovation. Although

technology and regulation do not always advance in perfect synch, they are closely interdependent (Luk, 2024). This intersection and coevolution between technological and institutional environments constitute a dynamic context that platforms—and indeed any organization—must continuously navigate when engaging in data management and data sharing. The relationship between technological innovation and regulatory adaptation can shape strategic opportunities and constraints for firms. Naturally, such features are particularly pronounced in highly regulated industries, where data-related activities intersect with complex legal, ethical, and infrastructural conditions (Björkdahl et al., 2024; Holgersson et al., 2024; Ozalp et al., 2022).

Regulatory conditions on data management and data sharing are frequently addressed in the scholarly literature on data and platforms, primarily targeting regulations related to competition or privacy matters (Casadesus-Masanell & Hervas-Drane, 2020; Fenwick et al., 2023; Goldfarb & Tucker, 2012; Ozalp et al., 2022). Due to the monopoly-like position of incumbent platform firms, the increasingly acknowledged importance of data to grow into and maintain such positions, as well as the anticipated societal benefit of better data access overall, both digital platforms and data are subject to a regulatory envelopment that aims to reshape the conditions for competition in the digital era.

Hence, better data access is increasingly addressed by regulators and policymakers across the globe, contradicting the interests of private firms who want to control as much data as possible. One example is the policy program for the European Union Digital Decade Policy Program (European Parliament, 2022), including the European Strategy for Data (European Commission, 2020a). These plans explicitly aim to increase market-wide access to data while ensuring safeguards for privacy and sensitive information (European Commission, 2020b). As part of these programs, several new regulations have been implemented, targeting both digital platforms (such as the Digital Markets Act and Digital Services Act), data (such as the Data Act and the Data Governance Act), and AI (the AI Act).

Regulations addressing data balance the encouragement and restriction of data sharing in different ways. The Data Act, which recently came into force, requires firms to share data with third parties, including competitors, under certain conditions, in order to comply with the demand for data portability (European Commission, 2025a). It aims to allocate the value of primarily industrial data more fairly and to ensure that a bigger portion of the increasing amount of data generated through connected products and IoT becomes available for reuse, by governing "who can use what data and under which conditions" (European Commission, 2025a). While the aim is to provide better control, firms worry that trade secrets and intellectual property will be revealed through the data, and question the balance between transparency and confidentiality (De Noyette et al., 2025). In China, a Data Property Right System was introduced in 2022, taking a different approach than the EU by establishing property rights for organizations holding data (Huang, 2024).

Meanwhile, the European General Data Protection Regulation (GDPR) aims to enhance the integrity and control of individuals' personal data, putting restrictions on how it can be used and shared. Again, this regulatory environment somewhat contradicts other interests, such as those of firms aiming to use personal data for business purposes. Similar developments can be seen in other markets, such as China's Personal Information Protection Law (PIPL), and the US California Consumer Privacy Act (CCPA) (Khan, 2025). In combination with other

regulations, privacy restrictions constitute particularly challenging conditions in regulated and data-dependent sectors. For example, data sharing in healthcare is notoriously cumbersome due to the regulatory restrictions on sensitive data related to individuals and patients (Corrales Compagnucci et al., 2024). The GDPR, for instance, prohibits the processing and sharing of health data unless a legal basis applies (GDPR[1], Art. 9.1). Such legal bases are narrowly defined and tied to healthcare provision or public health, unless an explicit consent for prespecified purposes (GDPR, Art. 9.2). Without going too much into regulatory detail, the main idea is that these limitations raise challenges for secondary use of data by others than the one initially collecting it, or when there is a wish to use data that was collected for one purpose, like treatment, for another, like innovation (Corrales Compagnucci et al., 2024). More complexity arises in the sharing between actors of private and public nature, as these adhere to different regulatory conditions and the use of information technologies that require the data to flow across jurisdictions (Corrales Compagnucci et al., 2024).

As indicated above, regulations not only set boundaries for data management within geographical markets, but they also impact data sharing across jurisdictions. Recent research highlights the implications for businesses of a fragmented regulatory milieu across geographical markets, including data use, data transfers, data storage, and data flows (Coche et al., 2024; Khan, 2025). For example, the EU GDPR, China's PIPL, and US regulations on personal data, such as CCPA, vary to such an extent that compliance across these markets causes "increased compliance costs and weakens data flow efficiency" (Jiang, 2025). Additionally, privacy regulations also vary between countries within the EU and among states in the US. To successfully engage in data sharing in this quickly evolving regulatory patchwork, firms need to adapt strategies for data that account for these regulatory preconditions in the jurisdictions where they have business presence (Coche et al., 2024).

2.4 The shift from data control to data sharing

As platforms and ecosystems evolve around efficient data collection, processing, and circulation of data (Van Dijck et al., 2018), the more data a platform can access, the better decisions, matches, and optimization it can achieve (Ozalp et al., 2022; Parker et al., 2016; Van Dijck et al., 2018). As a consequence, data flows are to a large extent controlled by centric platform firms accessible through software and APIs (Bhargava et al., 2020; Van Dijck et al., 2018), and, as mentioned earlier, most platform research focuses on data capture and proprietary data accumulation as an often successful means to gain significant competitive advantage with almost monopolistic outcomes (Cusumano et al., 2019; Jacobides & Lianos, 2021; Ozalp et al., 2022; Parker et al., 2016).

However, the potential of data collaboration is becoming more tempting to many firms, as it enables opportunities to create greater value among actors within and across ecosystems (Bhargava et al., 2025). Extant literature identifies various motivations for firms to share data across organizational boundaries, such as new forms of collaboration and innovation (Bhargava et al., 2025; Perkmann & Schildt, 2015; Temiz et al., 2022; Wixom et al., 2023). Sharing data

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[1] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

to accommodate joint needs and innovative partnerships has also proven to be the source of industry-wide optimization, generating value for everyone involved (Candelon et al., 2024).

The need for data sharing is particularly showing in the current rise of AI developments, where large datasets are required for development and training (Parra-Moyano et al., 2024). For accuracy, such datasets also need to be diverse. Take the example of healthcare, and innovation to improve precision medicine (cures and care tailored for the condition of a specific person in individual cases, rather than a generic treatment for typical expressions of a certain condition). In this setting, algorithmic bias may underperform on patient groups that are not represented in the data selection. To reduce the risk of algorithmic bias, there is a need to use datasets that are sufficiently diverse and representative of the population that the algorithm will be used for (Arora et al., 2023). However, as is also seen in one of our empirical cases, a certain actor may have a patient group that is limited to a certain ethnicity, race, age, and/or socioeconomic group. Such actors will, in many cases, be dependent on data input from other actors to develop well-performing algorithms.

As mentioned above, increased data sharing is also encouraged from a societal point of view, especially if private sector data is included. Arguably, more value from data may be unleashed with the simultaneous use by several actors, both private and public organizations (Jones & Tonetti, 2020; Varian, 2019). In 2019, the Organisation for Economic Co-operation and Development (2019, p. 11) reported that:

"Overall, data access and sharing is estimated to generate social and economic benefits worth between 0.1% and 1.5% of gross domestic product (GDP) in the case of public-sector data, and between 1% and 2.5% of GDP (in a few studies up to 4% of GDP) when also including private-sector data.

But despite the promises of increased data sharing and access across organizations and industries, data is still not being shared to any large extent (Koutroumpis et al., 2020; Organisation for Economic Co-operation and Development, 2019). In practice, data collaborations are complex due to concerns around ownership, sovereignty, privacy, and ethics (Koutroumpis et al., 2020; Moschko et al., 2024). Thus, collaboration around data surfaces challenges related to both the content or information embedded in the data, and data as an intellectual resource of strategic value. By sharing data, a firm may unwillingly expose business information and intellectual property rights to the partner that can be exploited (Krämer et al., 2019). Sharing data with complementors may enable data leverage that becomes a means for other actors to take up competition (Bhargava et al., 2020; Romanyuk & Smolin, 2019), and smaller firms entering into collaborations with incumbent platform firms in an ecosystem may also cause long-term dependency (Krämer et al., 2019).

The same traits that make data valuable, like reproducibility and combinability, also make it difficult to control and appropriate. While data shares traits with other intellectual resources, like creative works and innovation, being intangible non-rival goods (Jones & Tonetti, 2020; Koutroumpis et al., 2020; Varian, 2019), the appropriation regime for data is not as well defined as the ones for other intellectual assets, such as trademarks and inventions. Even though such a control mechanism has been discussed, it has not not implemented (Martens et al., 2025;

Mattioli, 2014). In some geographies and jurisdictions, such as the EU, there are possibilities to protect databases, but the database right does not protect the data points or content of the database per se. It covers the *structure* of the database, provided that the database is a result of significant human efforts to create the database (cf. Axhamn, 2017). As such, databases created through automation, as is common in digital contexts where data is collected, are not protected through this database right (Data Act[2], Preamble 117). In the lack of legally enforceable mechanisms, actors aiming to share data may fear that they will not be able to capture the value of data that has already been conveyed. This is a well-known dilemma in the economics literature about the exchange and trade of information—the provider of data cannot show its value without sharing it, but once it has been shared, the buyer no longer needs to pay for the data to benefit from it (Arrow, 1962). Weak intellectual property protection discourages firms from disclosing valuable data, as they risk losing decision power and control of value creation opportunities, further complicating collaborative innovation (Mattioli, 2014; cf. McGahan et al., 2021).

This has led to organizations pursuing other ways of imposing limitations on use and access to data, such as trade secret rights, contractual limitations, and technical control mechanisms (Koutroumpis et al., 2020; Martens et al., 2025; Moschko et al., 2024; Otto & Jarke, 2019; Van Dijck et al., 2018; Wainwright et al., 2023). But the challenges are further compounded when firms also face regulatory compliance demands—particularly in highly regulated sectors like healthcare, telecom, energy, and finance. For example, data license agreements that define permitted data use and the conditions thereof, as well as the technical solutions implemented to control data access, are subject to the laws and regulations that may vary across jurisdictions (Koutroumpis et al., 2020), as illustrated in the previous section.

In the context of data sharing and increased data use, an important concept for data access is open data. Open data is often referred to as data released by governmental or public bodies to improve transparency, accountability, and efficiency between the government and the public (Habib et al., 2022; Maione et al., 2022). However, in recent years, it has also been brought forward as a driver of innovation and growth (Huber et al., 2020; Kazantsev et al., 2023), and increasingly included private actors as facilitators of data (Ahmadi Zeleti et al., 2016; Corrales-Garay et al., 2019; Perkmann & Schildt, 2015). It is primarily data that meets a set of criteria in the definition by Open Knowledge Foundation (2024) referring to open data as "Open data is data that can be freely used, re-used and redistributed by anyone—subject only, at most, to the requirement to attribute and sharealike."

The definition of data openness is wide, allowing minimum restrictions on availability and access, re-use and re-distribution (including recombination of datasets), and who can access the data for what purposes. However, a more nuanced understanding of the concept of open data has evolved, shifting from the understanding of data as either fully open or closed, to acknowledging that data may be considered open data even if it does comply with only some or other openness criteria than the ones presented here. Furthermore, in industry, the term is not only used in this manner, but also as a way to signal openness, distribution of decision

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[2] Regulation (EU) 2023/2854 of the European Parliament and The Council of 13 December 2023 on harmonised rules on fair access to and use of data and amending Regulation (EU) 2017/2394 and Directive (EU) 2020/1828 (Data Act).

power, and collaboration (Hardinges, 2020; Microsoft, 2018; SAP, 2023, 2025). This perspective is explored further in Paper I appended to this thesis.

Despite the acknowledged value of data sharing for private firms in building and maintaining competitive advantage (Bhargava et al., 2025; Bhargava et al., 2020; Chimenti et al., 2025), many organizations still lack the necessary capabilities to strategically address data sharing in alignment with their long-term business objectives, meaning, for example, sharing data for specific purposes and with selected partners (Bhargava et al., 2025; Bhargava et al., 2020; Wixom et al., 2023). The regulatory landscape and ongoing technological developments impose both constraints and opportunities for how organizations, and digital platforms in particular, approach data management. Yet, little research examines how such preconditions are navigated in practice, and data-sharing initiatives often remain disconnected from firms' core business models, especially since firms often fail to accurately invest in necessary complementary technologies and capabilities required to gain from them (Temiz et al., 2022)

Initial attempts to address this gap target decisions made by platforms to account for both the overall business objectives of the firm while also considering both regulatory requirements, dependencies, and positioning in relation to competitors and complementors (Bhargava et al., 2025; Bhargava et al., 2020; Krämer et al., 2019). Bhargava et al. (2020) highlight the interdependence of actors in a platform ecosystem, and the importance of aligning data strategy with the interests of other stakeholders, like customers, complementors, and regulators, arguing that regulations also affect the decisions and choices of customers and complementor actors.

Additionally, from a technical perspective, Wixom et al. (2023) propose some approaches to engage in strategic and proactive data sharing, as opposed to ad hoc tactical practices. These include 1) working to accomplish greater data liquidity by making data usable, available, and combinable through standardization, data quality management, and external data sourcing; 2) reducing friction through automation of processes; 3) balancing trust and equal benefits in partnerships; and 4) follow up data sharing activities like in any other innovation activity, for example, by tracking financial impact.

While these are valuable contributions, they fall short in proposing strategic guidance that includes broader legal considerations aligned with technical solutions and firm-level strategies. Hence, in the pursuit of realizing the potential of data, this thesis aims to explore how organizations can strategically design and manage data sharing and data openness to align with business models and regulatory frameworks, thereby enabling innovation and value creation.

3 METHODS

This section describes the choices of methods and approaches in Paper I and Paper II, in terms of research design, data collection, and data analysis, as well as how the study designs help to answer my research question in complementary ways.

3.1 Paper I

The study behind Paper I is designed as a structured literature review, examining and analyzing definitions, descriptions, and uses of the academically established concept of *open data*. Taking

a starting point in the concept of open data, I explore its dimensions and whether they could be used to understand data openness as a continuum, more nuanced than the perspective on data as either fully open or fully closed.

3.1.1   Sampling and data collection

Since the study stemmed from a curiosity about how organizations may strategically collaborate around and share data across organizational boundaries, I targeted the scholarly literature in the fields of management and strategy. I searched Web of Science for the term "open data", limiting the search to peer-reviewed material from journals ranked in the Charted Business School's Academic Journal Guide. The selection of relevant papers was then based on reading the abstracts, and I included the papers that somehow related to how and why organizations employ open data, as well as neighboring concepts such as *open government data* and *linked open data*. After downloading the papers in the selection in full, I searched them for definitions and descriptions of open data, which I then compiled into a structured collection of definitions.

3.1.2   Data analysis

I used open coding (Berg, 2001; Gioia et al., 2012) to analyze the actual wording of the definitions in our compilation. Through the process, I identified 25 1st order components and seven 2nd order themes that were used to highlight a plurality in the use of the concept. To increase the robustness of the analysis, I iterated the analysis several times with my co-author and coded the results in reverse.

3.2   Paper II

While Paper I is conceptual, exploring dimensions of openness based on the literature on open data, this study empirically compares how two digital platforms manage data sharing as part of their business model in practice. The study behind Paper II takes a phenomenon-based research approach, beginning in the emerging phenomenon of data sharing (Von Krogh et al., 2012), and moves into an analysis of how the case platforms share data in alignment with their respective business models.

3.2.1   Sampling and empirical context

The choice of cases was informed by the literature on platforms, and particularly platform categorization—one supply chain and one industry platform. The assumption was that data sharing would likely manifest differently in these two platform types, considering that the data requirements for each business model look different.

One of the platforms, Centro, is managed by a Swedish firm operating on the European market and providing technology to healthcare organizations, and the second, Aperto, is a US based innovative spin-off platform from a major healthcare provider. Centro is characterized as a supply chain platform that offers automated technology and a white label platform that helps healthcare organizations to court for efficient patient journeys. Data plays a secondary role in Centro's value offer—it is mainly used for coordination and to provide data-driven

decision support and other services, rather than being the core of the value offer. Aperto, on the other hand, has data at its core. It is an industry platform organized to facilitate the sharing of health data across organizational boundaries to provide for innovation and AI training. The platform has a federated structure, connecting partners in multiple countries, and enabling access to large and diverse datasets without transfers.

The empirical context of these platforms was the healthcare industry, an environment that poses extreme conditions for both digital platforms and data sharing, including heavy and complex regulation, a mix of public and private organizations with different incentive regimes, and high demands on data privacy and secrecy. This is also a setting where the data resources are vast, but highly underused, despite the pursuit to increase societal good through innovation progress.

3.2.2 Data collection

The data was collected between March 2024–March 2025 by conducting 30 semi-structured interviews with elite informants from the two platform firms—people with extensive experience and knowledge within the topic and whose position allows for decision-making and effects on the outcomes of the platform firm (Aguinis & Solarino, 2019). Starting with the founders and managers to get a foundational idea about the platforms, we used snowball sampling to identify additional interviewees inside the platform firms, as well as external stakeholders in the industry, such as partners, decision-makers, and investors. This continued until we could no longer identify additional informants that would be relevant to our study.

By interviewing people in different roles and of various expertise—spanning business, technology, and legal competence, as well as a great understanding of the healthcare and digitalization landscape—we were able to cover a wide range of perspectives on data and data sharing in our sample. The interviews with external stakeholders further served to triangulate the input we got from the interviewers with internal employees at the platform firms.

During most of the interviews, two interviewers were present to reduce bias and to catch as much information as possible. We asked the interviewees questions that were rather open-ended and slightly accustomed to their respective roles and areas of expertise. The interviews lasted between 45–90 minutes and were conducted either in person or online, depending on availability, and were all recorded and transcribed to enable revisits to the data for accuracy.

Additionally, to further inform our data, we included documentation and product offerings, news articles, and other public information, as well as other content in our study. Some documentation was found through web searches before the interviews to get a better picture of the firms and their activity, while other documentation was provided by the interviewees during or after the interviews to enrich our knowledge about a certain topic that we discussed. Our aim with this approach was to reduce bias by including perspectives from different sources of evidence.

3.2.3 Data analysis

Having collected the data, we performed both within-case and cross-case analyses. In the within-case analysis, we used the data to frame and describe the cases—their characteristics, the characteristics of the milieu they are operating in, and what data sharing solutions that we

could see in each case. The results enhanced our understanding of the business and platform models of each of the firms and the distinct properties between the two. It also helped us confirm that the platforms' business models and positioning in the ecosystem looked different and further helped us categorize the platforms into the supply chain and industry platform types by identifying their respective traits.

For the cross-case analysis, we coded the interview transcripts using open coding, from which we were able to draw a number of first-order codes. These were then sorted into themes of second-order codes. Following this, we saw that the second-order themes could be divided into data sharing challenges that the platforms were facing and corresponding solutions for data sharing implemented by the platforms to meet those challenges. After the analysis, we had a rich set of codes that could be used to understand the data sharing of the two firms.

4   SUMMARY OF APPENDED PAPERS

This section holds a summary of the papers appended to this thesis. Together, they constitute a contribution to a more nuanced understanding of how data openness and data sharing can be implemented in practice. The joint contribution of the papers is further discussed in the next section.

4.1   Paper I – A Conceptual Review of Open Data: A Multidimensional Design Perspective on Data Openness

This conceptual review aims to unpack the concept of open data. By providing a comprehensive analysis of the concept, how it is defined and described in the management literature, we identify several openness dimensions to data that we argue can be used to understand and design data openness in the prospect of innovative collaboration. This view is opposed to a common presumption of data as something that is either fully open or fully closed.

4.1.1   Problem statement and approach

No one doubts the role of data as a fundamental strategic asset any longer. Especially considering the ongoing rapid development in AI, data is being recognized as an increasingly important resource to most organizations—private firms and public bodies alike—for driving competitive advantage, research, innovation, and economic growth. The value of data may be even greater with the simultaneous use by several actors, something that the non-rival nature of the data allows. Access to data does not require ownership of it. However, due to the limited means of control, big portions of the value sourced from the data generated in society remain largely unexploited due to firms' hoarding behaviors in fear of lost opportunities of value appropriation.

I use the concept of open data as a steppingstone to understand data openness. The main scholarly focus of the open data concept has been ensuring transparency, accountability, and efficiency between the government and the public, and the data has been considered open only if a certain set of conditions has been met. In recent years, however, a conceptual variation has evolved, indicating that different scenarios warrant different levels of openness. Hence, in this

paper, we search for clues on how data openness can be designed in a purposeful way that aligns with the interests of the firm.

Drawing from neighboring research streams of open innovation and open source, which have undergone similar evolutions toward a more nuanced understanding of openness, we try to move the perception of data from something that is either fully open or fully closed to something multifaceted, dynamic, and designable. Through our review, we identify dimensions found in the definitions of the open data concept that can be used to design the openness of data in order to facilitate purposeful collaboration and data sharing.

4.1.2 Contributions

The contribution of the paper is threefold. First, we highlight the plurality of the open data concept. Second, we identify seven dimensions along which openness of data can be designed to accommodate different business models and goals: *Availability*, *Utilization*, *License Attributes*, *Cost*, *Format*, *Creators*, and *Legal requirements*. We highlight the interrelations between the concepts and explain how the Creators responsible for collecting and managing the datasets can use levels of Availability, License attributes, Format, and Legal requirements to design the accepted level of Utilization. Third, we highlight the technical properties of data that other intellectual assets lack, which allow for additional control mechanisms to complement contractual terms often used for other intellectual assets. These technical dimensions can also be used to comply with regulatory requirements of the dataset, such as privacy. Hence, Paper I provides a conceptual framework that can serve as a starting point for designing open data in practice, to complement existing research on data management and data sovereignty.

4.2 Paper II – Data Sharing, Platform Strategy, and Social Change: The Case of Healthcare

Paper II explores how data sharing across organizational boundaries is done in practice, while also aligning it with the platform strategy and business model of the firm. In Paper II, we identify what challenges digital platforms face in this regard, as well as what solutions our case firms have implemented to overcome them. We also highlight the interdependencies between data, organizations, and institutions, and contribute to the understanding of data sharing at both the organizational and the societal level.

4.2.1 Problem statement and approach

Digital platforms depend on data sharing, whether it is part of the main value proposition or if it is needed for other indirect purposes, such as coordination, matching, and product development. Data sharing also has great potential to have a positive societal impact more generally. However, data sharing is associated with several principal constraints and dilemmas. Except for the regulatory and contractual limitations to safeguard the interest of privacy for individuals and sound competition, the lack of efficient exclusion and control mechanisms to safeguard the data once it has been shared sets both Arrow's information paradox and the tragedy of the anti-commons in play.

Little previous research explores how data sharing is and can be done strategically in alignment with the overall objectives of platform firms. Taking into consideration the constraints now mentioned, Paper II investigates what challenges and strategic solutions to solve these challenges can be seen by contrasting two different healthcare platform cases. One of the cases is an industry platform, and one is a supply chain platform, where the role of data and data sharing manifests differently. We have aimed to identify whether the challenges and solutions differed depending on the nature of the platform.

As mentioned above, the rationale behind choosing the empirical setting of healthcare, where data is both sensitive and firmly regulated, is to make sure that our findings are relevant to as large a set of industries as possible: if the results apply in healthcare, they can be applied in other, less strictly regulated, sectors. Additionally, healthcare is a setting where better data sharing would generate particularly notable societal benefits, by enabling efficiency, innovation and research, and precision medicine.

4.2.2 Contributions

In this paper, we identify several challenges associated with data sharing: *Technical difficulties*, *regulatory and legal barriers*, *misaligned incentives and business models*, *legitimacy failures*, and *capability gaps*. To address these challenges, we found that the platforms implemented solutions in different domains: *Structured data formatting*, *data abstraction and deidentification techniques*, *federation and technological systems*, *contractual arrangements*, *stakeholder management*, and *cross-disciplinary organizations*.

To our surprise, the challenges of the two platforms were similar, despite their different platform models. However, they have distinct ways of managing these challenges. The solutions are shaped and combined in different ways to overcome the obstacles faced by each platform, and constitute important constructions of the organization, position, and technical characteristics of the platforms—both internally and in relation to their surroundings. Being able to explain how these solutions are strategically implemented adds to the understanding of how data strategy is intertwined with the business model of the platform, and encourages additional studies on other types of platforms as well.

In our study, we also find that data sharing efficiency is increased by institution-level factors that set out certain design parameters, for example, by institutionalizing certain data formats and standards for interoperability. However, imposing such formats may prohibit the development of new solutions that would yield benefits for data sharing practices. We encourage further studies on the interplay between organizations, institutions, and data.

5   DISCUSSION

This discussion section synthesizes insights from the conceptual and empirical chapters to show how legal, technical, and strategic measures intersect in governing data openness. The chapter highlights the intersection between data sharing and business models, as well as how regulatory awareness, integrating legal perspectives in strategic decision making around data, can enable innovation and create competitive advantage. It also suggests avenues for future

research on the intersection between law and strategy, suggesting that organizations need to develop new capabilities to manage strategic data sharing.

5.1 From concept to practice in designing data sharing and business models

This thesis is supported by studies that address my research question in supplementary ways. First, in Paper I, I develop a foundation by identifying key dimensions that can be used to design the openness of data by examining the literature. These are *availability*, *utilization*, *license attributes*, *cost*, *format*, *creators*, and *legal requirements*. The findings from this study highlight the multidimensionality of data openness and provide a conceptual framework that can serve as a starting point for data sharing that aligns with the business models and strategic goals. The framework facilitates an important shift in our understanding of data openness and reveals opportunities to shape a data sharing strategy according to these dimensions.

However, the study is fully conceptual and grounded in literature. There is also a need to understand how these dimensions relate to strategy and business models in practice. By empirically comparing two digital platforms, Paper II addresses this gap by exploring how different design dimensions can be used in conjunction to design data sharing, as well as how these dimensions are strategically implemented. The study identifies several challenges associated with data sharing that both platforms share to some extent. As exemplified below, the findings demonstrate that Centro and Aperto have developed distinct combinations of measures, implemented in alignment with their respective business models. Although the study focuses on only two cases in the specific setting of healthcare, this comparative insight itself is noteworthy as it highlights that there is a clear interdependence between the platform business model and data sharing conditions. Building on this finding, future research could further explore how strategic design choices are made across other types of digital platforms, firms, and industries.

The challenges identified in the study are categorized into the following themes: *technical difficulties*, such as limitations in data quality, structure, and processing capacity that impact interoperability and transferability of the data; *regulatory and legal barriers*, commonly privacy restrictions, heterogeneous legal systems that are difficult and costly to navigate, and limited registered rights to intellectual property rights that limit control; *misaligned incentives* and business models, like reluctance in sharing data to the benefit of others, even though it may also benefit the own business; *legitimacy failures*, of hesitancy and skepticism towards the adoption of new processes that would benefit data access and quality; and *capability gaps*, relating to the full ecosystem, where both the platforms themselves, their customers, as well as supervision and law enforcement authorities lack the necessary capabilities in terms of technological capacity, as well as legal, and business knowledge. These correlate well with previous research on data sharing challenges (Hulsen, 2020; Van Panhuis et al., 2014) and confirm the conditions that firms building business models around data sharing must consider when developing their business idea and direction.

To address these challenges, the platform firms have developed solutions to enable data sharing, manifested as *structured data formatting*, *data abstraction and deidentification techniques*, *federation and technological systems*, *contractual arrangements*, *stakeholder management*, and *cross-disciplinary organizations*. As noted above, these solutions are

developed and combined as integral elements of the business model of the respective platform. Some of the measures serve multiple purposes. For example, Aperto's federated setup simultaneously helps to manage 1) access, control and trust among the participating parties that incentivize data sharing (cf. Parra-Moyano et al., 2025; Wixom et al., 2023), 2) distribution of computational resources that would otherwise be required for one single party to process all the data, and 3) the heterogeneous regulatory system, by enabling the use of data without actually transferring it across organizational and geographical borders (cf. Coche et al., 2024; Corrales Compagnucci et al., 2024; Khan, 2025). This structure also enables individual customizations concerning the regulatory requirements of a specific country or region, while still operating on a standardized layer.

By allowing a strategic balance between openness and control, organizations can use these parameters in conjunction to collaborate around data without intellectual property rights, allowing increased data access, use, and reuse by other actors without fearing the loss of options for value appropriation (Arrow, 1962; Koutroumpis et al., 2020; Moschko et al., 2024; Otto & Jarke, 2019; Wainwright et al., 2023). One of the dimensions shown in both papers—*license agreements* or *contractual arrangements*—is especially interesting from this perspective, as a well-known tool for sharing and trading intellectual resources. Licenses provide great versatility in the options for designing openness—also in data (Coche et al., 2024; Koutroumpis et al., 2020). The most frequently used definition of open data actually has its origins in the open source movement and follows a very similar terminology to open licenses (Lindman, 2014; Open Knowledge Foundation, 2024). However, one limitation of exclusively using contractual means for data is the issue of enforcement, where the characteristics of data as being possible to copy and distribute at incredible speed across digital infrastructures make infringements difficult to both prevent and detect (Alaimo & Kallinikos, 2024; Shapiro & Varian, 1999). Thus, technical solutions, such as standards and API:s, may be advantageously employed to complement contractual means as both inclusion and exclusion mechanisms for strategic partnerships, to regulate availability and permitted use and reuse (Wainwright et al., 2023; Wixom et al., 2023). This points to the opportunities of value appropriation facilitated by the unique technical element of data, as not only information but also technologically manifested bits as representations of content (Alaimo & Kallinikos, 2024).

Notably, none of the platforms provides data per se, as the main part of its value offering. Compare this to data market platforms selling data, where data is traded as a commodity (Koutroumpis et al., 2020). Instead, the platforms manage and structure data on behalf of their partners to facilitate coordination and collaboration around data flows. According to the interviewees, this setup is related to challenges of control, ethics, and compliance perceived by the partners. Consequently, the platforms must carefully align and manage partner expectations, needs, and concerns related to regulatory requirements and control aspects of data sharing as part of their overall business strategy, in a way that best provides the solution that meets these requirements (Bhargava et al., 2020). In doing so, the platforms adopt an ecosystem perspective, considering not only their own operations but also the interdependencies and strategic positions of partners to identify both opportunities and threats to competitiveness (Adner, 2017).

Within this broader context, Aperto and Centro leverage their data capabilities and cross-disciplinary expertise held within the organization to design openness through solutions that

reflect the notion of their respective ecosystem conditions, both on actor and institutional level. For example, their approaches demonstrate how contractual arrangements and technical mechanisms are jointly employed to enhance legitimacy and trust, which are crucial for attracting partners and customers. This interplay between openness, trust, and technological architecture indicates a promising direction for future research, that could connect concepts of openness and modularity in platform design (Baldwin & Woodard, 2009; Yoo et al., 2010). Further exploration of this relationship could improve the understanding of how open technical architectures foster data collaboration within digital platform ecosystems.

5.2   Regulatory contexts shaping data strategies and business models

The differences in strategic choices between the two platforms can further be linked to regulatory distinctions in the respective jurisdictions of the US and the EU. One such condition that can be used for illustration is privacy regulation, governing the processing and sharing of personal data, including health data. While this has been discussed on a general level in the literature on data and platforms, little is known about how compliance conditions should be met in practice by strategic implementation.

In Centro's case, data sharing and further use of health data—which is, for instance, originally collected by a healthcare provider for the provision of health treatment—is very restricted (Corrales Compagnucci et al., 2024). Contractual arrangements, in this case bilateral agreements with customers, position the company as a data processor, which allows Centro to access data without the customers losing ownership and decision rights. Processing happens strictly on behalf of the customer. But this also imposes limitations on what Centro can do with the data, as it can only be used according to the instructions of a given customer (European Data Protection Board, 2021). Rather than being able to use data for its own purposes, like for development to increase the product and service range, the business mainly revolves around managing and structuring data and data flows in a way that enables the provision of insights in aggregated form to the customer. The restriction of personal data transfers further encourages the data to be aggregated in a way that minimizes the occurrence of identifiers of individuals in data flows, as complete anonymization of data is not considered possible from a legal perspective. In a European context, even pseudonymized data is considered personal data.[3] Hence, Centros offer is limited to services where aggregated data use is sufficient. Taken together, this steers the value proposition of Centro into providing services of coordination and structuring data into comprehensive knowledge that is then sent back to the customer. Clearly, this regulatory condition of restricted use and sharing of health data also impacts the business model of Centro, shaping it into a supply chain platform (Gawer, 2014).

Contrastingly, Aperto's value offer depends on the sharing of more granular data. Aggregation techniques implemented in the case of Centro would not enable data sharing in the valuable way that Aperto provides it. This is a well-known dilemma—increased privacy often entails the removal of data points, diminishing the utility and value of the data (Parra-Moyano et al., 2025). Contrary to the GDPR, according to the legal experts interviewed at

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[3] However, this might be changed following the recent decision by the Court of Justice of the European Union (CJEU), Case C-413/23 P. See Press Release No 107/25, Luxembourg, 4 September 2025, https://curia.europa.eu/jcms/upload/docs/application/pdf/2025-09/cp250107en.pdf, accessed October 23, 2025.

Aperto, the US HIPAA (Health Insurance Portability and Accountability Act) regulation on health data allows a risk-based approach to de-identification of data. Aperto takes advantage of this opportunity by replacing names, dates, and addresses with other names, dates, and addresses in a way that does not diverge too far from the original data. Using this method makes it hard to detect if a piece of information has been overlooked, for instance, if a name was missed in the replacement, because it is not obvious whether a name has been altered or not. Consider the alternative of replacing names with numbers. If a name is overlooked, the breach is apparent. Through this method, the probability of re-identifying a person in the dataset can be significantly lowered, without the loss of data quality due to too many removed data points.

Regulation further allows the technical federated solution provided by Aperto, which enables ecosystem-wide data access through a common infrastructure. In a European context, or at least a Swedish one, it is unlikely that this technical solution would be considered compliant with the GDPR (Integritetsskyddsmyndigheten, 2023). Here, it can be noted that Aperto does not have any European partners at the moment, due to the strict regulatory context. Hence, the regulatory setting of Aperto allows the industry platform model (Gawer, 2014), as well as the contractual and technical means to implement it, and sets the boundaries for avenues of expansion and development (Coche et al., 2024; Khan, 2025). It also allows different value propositions than the options of Centro, where more granular data can be accessed by Aperto's partners to fulfill the needs for algorithmic training.

These are some examples of how regulatory conditions around data use and data sharing shape both technical solutions, contractual models, and, by extension, the business model of each of these platforms—and vice versa. The findings illustrate how platform firms shape their data sharing strategy in relation to their business model, but they also underscore the importance of regulation to both determine what is technically and contractually feasible, as well as to identify possible avenues for value propositions. This exemplifies how conditions for data sharing shape business models and platforms (Alaimo & Kallinikos, 2024), but also highlights the need for platforms to develop capabilities that enable navigation of both regulatory compliance and the lack of appropriability regimes surrounding data. Arguably, this will become even more important as the regulatory system continues to evolve, for instance, considering the challenges posed by the Data Act and the requirements to share industry data among both complementors and competitors (De Noyette et al., 2025).

5.3   Building legal strategy capabilities for data sharing

Evidently, data sharing is shaped by business models and the regulatory environment in which they operate. Additionally, data itself embodies both economic and technical characteristics that make it valuable but difficult to appropriate (Jones & Tonetti, 2020; Temiz et al., 2022). The complex interplay between data sharing, business models, and regulation calls for collaboration across heterogeneous disciplines of knowledge within organizations, that take into account strategy, technology development, and institutional conditions such as regulations, to identify possible business opportunities and solutions around data sharing.

This practice has been successfully managed by both Aperto and Centro, by building cross-disciplinary teams to navigate their respective regulatory and strategic conditions. For example, by placing the main value offering in providing data management services, rather than the data

itself, they find creative business opportunities despite regulatory constraints to data sharing. Centro provides data management and coordination services, and Aperto facilitates data sharing through formatting, structuring, and technical infrastructure. It is unlikely that these particular integrations could have been strategically pursued without the understanding of, and capability to combine, legal, technical, strategical perspectives. Thus, legal awareness and technological understanding coevolve as complementary capabilities that allow firms to adapt to regulatory shifts. By including legal reasoning into such design choices, firms can not only ensure compliance but also control access and use in advantageous ways. This opens up for interesting avenues for research on how interdisciplinary organizations facilitate the identification and implementation of new business opportunities.

In the context of data sharing embedding legal strategy into the business model, that align data strategies and the overall objectives of the firm, can generate competitive advantage—especially in ecosystem contexts (Bird & Orozco, 2014). The intersection between law and strategy is relatively unexplored in the academic literature, but Bird and Orozco (2014) offer an initial attempt at a broader perspective, identifying five legal approaches: *avoidance*, *compliance*, *prevention*, *value creation*, and *transformation*. Their perspective on legal strategy incorporates both avoidant, defensive, and proactive strategies, for instance related to compliance and intellectual property, and argues that investment in legal resources can serve not only as a means to mitigate risk, but also to gain competitive advantage through legal insights and implementations what are very difficult to imitate (Bird, 2008, 2011; Bird & Park, 2016).

This contribution highlights both the importance of regulatory awareness and decisions regarding organization and prioritization of resources to improve the use of the law as a strategic tool. In platform and ecosystem contexts, this can entail leveraging regulatory insight not merely to comply but also to shape standards, contracts, and technical solutions that determine who can access and use data (Adner, 2006; Wixom et al., 2023). A similar dynamic is observed in how platforms integrate into heavily regulated sectors, where the exploitation of technical capabilities play a key role in entering and strengthening their position within the ecosystem (Björkdahl et al., 2024; Holgersson et al., 2024; Ozalp et al., 2022).

Thus, from a capability perspective, the complexities of the data sharing environment amplifies the importance for a firm to develop dynamic abilities to integrate diverse competences in response to regulatory and technological shifts (cf. Teece et al., 1997). These dynamic capabilities enable better capacity to discover and interpret changes in both technological and institutional conditions (Björkdahl et al., 2024; Teece et al., 1997), enabling firms to reconsider and shape their business models when new data regulations, such as the EU Data Act or privacy laws, changes the opportunities for value creation. In practice, this could, for instance, entail new organizational structures and teams that can help raise multidisciplinary knowledge and change the perception of the law among managers, enhancing the strategic role of law in managerial practice (Downes, 2004; Siedel & Haapio, 2010). Future studies could explore how firms work to develop and integrate such competencies over time to navigate evolving data regulations. This would deepen the understanding of how legal strategy becomes a capability that enables firms to adapt their business models in rapidly changing regulatory landscapes (cf. Helfat & Peteraf, 2003).

6   CONCLUSION

This thesis contributes to the understanding of how organizations can strategically design and manage data sharing and data openness to enable innovation and value creation, particularly under regulatory constraints. It provides a multidimensional perspective on data openness, moving beyond the prevailing view of data as either fully open or closed. Rather, data openness is conceptualized as a designable construct shaped by legal, technical, and organizational choices that can be aligned with strategic objectives and regulatory environments.

Conceptually, the thesis identifies key dimensions along which openness can be designed, offering a framework for organizations to balance openness and control in collaborative settings. Empirically, by examining two healthcare platforms, it highlights how firms manage data sharing challenges through combinations of technical solutions, contractual arrangements, and cross-disciplinary collaboration. These findings show that while overarching challenges—such as technical limitations, regulatory barriers, and misaligned incentives—are similar across contexts, the strategic solutions are tightly coupled to each platform's business model and regulatory environment.

The thesis underscores that data strategy, regulation, and business models are intertwined. It illustrates how regulatory conditions not only constrain but also shape business opportunities, and how integrating legal strategy into organizational decision-making can generate competitive advantage. By bridging insights from strategic management, data governance, and law, this thesis provides a nuanced understanding of how firms can navigate the complex interplay between openness, compliance, and innovation in the evolving data economy.

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