Veeti Mäkelä

Internal Platforms in Business Ecosystems

A qualitative case study on a manufacturing company

School of Management
Master's thesis in Strategic
Business Development

Vaasa 2026

UNIVERSITY OF VAASA
School of Management
Author: Veeti Mäkelä
Title of the Thesis: Internal Platforms in Business Ecosystems : Qualitative case study on a manufacturing company
Degree: Master of Science in Economics and Business Administration
Programme: Strategic Business Development
Supervisor: Anni Rajala
Year: 2026 **Sivumäärä:** 65

ABSTRACT:
Manufacturing companies have become increasingly interconnected in recent years as digitalization has expanded the value-creation span beyond the traditional supply chain to guide and control larger networks of partnering companies. Platforms have emerged as key tools to support the new needs of connected companies, but their role remains relatively unknown in the manufacturing context. The limited research has examined how the platforms function as coordination mechanisms and tools for enabling ecosystem-level value creation.

This study addresses the gap by examining the role of digital platforms in a manufacturing company. The research uses a qualitative single-case study and is based on semi-structured interviews with managers involved in the development of platform processes and functions. Data were analyzed using a Gioia-style methodology to identify aggregate dimensions across platforms, such as digital operational visibility, behavioral adaptation, and data usability.

Findings of this study indicate that platforms function as coordination mechanisms, enhancing transparency, clarifying responsibilities, and enabling real-time information sharing across actors. Platforms have the potential to improve collaboration and open up value creation of the ecosystem partners, as well as internally. This is due to better alignment, clearer communication, and faster response times. The potential benefits depend on data quality, partners' alignment, and governance structures, underscoring the importance of platform orchestration and partner commitment.

This paper contributes to the previous literature by shining light on platform effects in manufacturing companies, not only as operational tools but as mechanisms for partner coordination and value creation. The findings provide manager-level insight into how the adoption, governance, and alignment affect the effectiveness of platform results.

KEYWORDS: Internal platforms, digital platforms, manufacturing, coordination, platform governance, value cocreation, business ecosystems

Contents

1 Introduction 5

1.1 Thesis structure 8

2 Business Ecosystems and The Governance of Platforms 9

2.1 Ecosystems in the manufacturing context 11

2.2 Platforms in Ecosystems 16

2.3 Governance of Platforms in Ecosystems 22

2.4 Internal platforms in the manufacturing context 25

2.5 Theoretical framework 28

3 Methodology 30

3.1 Research strategy and methods 30

3.2 Case selection and data collection 31

3.3 Data analysis 32

3.4 Assessment of data quality 35

4 Findings 37

4.1 Digital operational visibility 37

4.2 Behavioral adoption and data usability 38

4.3 Platform-based coordination and control 40

4.4 Ecosystem integration and platform evolution 41

4.5 Summary of Findings 43

5 Discussion 45

5.1 Internal platform navigation 45

5.2 Ecosystem and platform value creation 46

5.3 Platform promotion and governance 48

5.4 Theoretical contributions 50

5.5 Managerial implications 51

5.6 Limitations and future research 53

References 55

Appendices 59

Appendix 1. Semi-structured Interview Guide 59
Appendix 2. Privacy Notice 60
Appendix 3: The use of AI 64

Figures

Figure 1: The development of the supply chain of Airbus 13
Figure 2: Visualization of platform innovation and competition (Gawer, 2014) 21
Figure 3: Value creation through digital twins, focusing on the internal platform (Rantala et al., 2023) 27
Figure 4: Theoretical framework on the internal platforms' functions and causalities in a business ecosystem in a manufacturing context. 29
Figure 5: Gioia aggregate dimensions 34

Tables

Table 1. Interview lengths and generalized roles 32
Table 2: Summary of key findings 35

1 Introduction

In the manufacturing industry, the interconnectedness between business partners is continuously increasing the need for transparency and clear communication, both internally and across the ecosystem (Suuronen et al., 2022; Vargo & Lusch, 2016). The clearer communication and better process trackability are sought to create new value-creation opportunities across multiple points of the value chain (Rantala et al., 2023; Vargo & Lusch, 2016). To address this development, digital platforms have emerged as organizational tools and mechanisms that connect fragmented activities and provide greater accessibility across partners (Gawer & Cusumano, 2014; Alghani & Kohtamäki, 2026). The platforms work by aggregating the connected interlinks into a single destination, allowing firms to integrate multiple partners, systems, and data (Kazantsev et al., 2023; Jovanovic et al., 2022). Allowing data to be possibly found faster and benefiting business functions' reporting.

Business ecosystems are characterized by interdependent actors who create value through coordinated activities, allowing results and resources beyond the boundaries of a single firm (Moore, 1993; Adner, 2017). While multiple different ecosystems have been defined, this study focuses on business ecosystems to better conceptualize the value creation in the manufacturing context. Collaboration allows firms to focus more on their own core business functions, freeing up resources. The manufacturing industry has shown the above transformation as a move towards flexible, digitally connected arrangements (Kazantsev et al., 2023). This affects the value-creation process and the coordination of common tasks.

The rapid development of digitalization in manufacturing is often referred to as Industry 4.0, and it has transformed traditional supply chain and production processes (Schmidt et al., 2021). Smit and others (2016) define Industry 4.0 as the organization of production processes based on technology and devices autonomously communicating with each other along the value chain in virtual computer models. The development related to Industry 4.0 has led to the emergence of complex, interdependent business ecosystems,

in which connected firms collaborate through shared platforms and digital infrastructure (Frank et al., 2019; Kazantsev et al., 2023). This connectedness needs orchestrators and governance functions to keep the data between actors usable and to limit harmful actions.

The conservative take on business ecosystems as collectives without the digital requirements being met is insufficient in the current times, and companies need to engage in a digitally driven internal platform that serves as a tool for cooperation and value co-creation (Suuronen et al., 2022). Platforms, then, are not only technical solutions but tools to change how firms interact, collaborate, and capture value (Gawer, 2014; Cusumano & Gawer, 2003). Platforms are a key part in how value-capture possibilities are mapped, enabling participation from multiple partners (Gawer & Cusumano, 2014; Rantala et al., 2023). While the possibilities brought by platforms are clear, they also pose some challenges. These challenges relate to the engagement, governance, and value distribution (Tura et al., 2018; Panico & Cennamo, 2022). Study of internal platforms might also prove valuable insight on the development of industry platforms as they usually start with internal solutions (Rantala et al., 2023).

The existing literature focuses mainly on digital and high-technology industries, such as phone companies and marketplaces, because empirical insights from manufacturing industries are more limited in the present (Kohtamäki et al., 2020; Rantala et al., 2023). Additionally, the literature on business ecosystems has emphasized the importance of interdependent actors and collaborative activities to create value beyond the firm’s boundaries (Adner, 2017; Vargo & Lusch, 2016). The role of the company's internal platform is less understood, particularly from the focal companies’ perspective. Internal platforms have the ability to integrate data, workflows, and processes inside the company and serve as a foundation for the coordination in a broader scope (Gawer & Cusumano, 2014; Jovanovic et al., 2022).

This thesis examines platforms and ecosystems in the manufacturing context, with the specific empirical focus on the internal platform within the focal firm. An internal platform can act as a connector within the focal company and its partners. The internal platform provides a concrete setting for researching and observing governance, coordination, and interaction in practice. This provides a lens for understanding how value creation is affected in the platform and how the platform lies within the ecosystem's other partners. By integrating processes and adding shared visibility, the internal platforms may support the alignment and value co-creation within firms and across ecosystem partners.

This study aims to answer the following research questions:

Research question 1: How do manufacturing firms utilize internal platforms?

Research question 2: What role do internal platforms play in enabling collaboration and value creation?

Research question 3: How does the focal firm promote the platform's use among partners in the ecosystem?

By answering the above questions, this thesis contributes to the previous literature on platforms and ecosystems by linking theoretical perspectives on the coordination and governance of platforms with concrete empirical insights from the manufacturing context. This thesis addresses the research gap by examining the role of an internal platform within a manufacturing firm, how it is used, the benefits it enables, and how it is offered to ecosystem partners. Additionally, this paper provides implications for managers seeking to better utilize platforms as tools for orchestration, coordination, and value creation within their own ecosystem.

1.1 Thesis structure

The rest of the paper is structured as follows. Firstly, the theoretical foundation for the paper and its themes will be discussed in Chapter 2, presenting findings from respected scientific articles. Chapter 2 also conceptualizes a theoretical framework for ecosystems and the platform's role in manufacturing companies, outlining the concepts and relationships that guide the analysis. The following section of Chapter 3 is dedicated to methodology and data selection, where the research and data collection methods are explained and justified. In Chapter 4, the research findings are analyzed in light of the foundation established in the theoretical chapter. This paper then draws conclusions in Chapter 5, discussing the results, managerial implications, limitations of this research, and possible research topics for the future.

2 Business Ecosystems and The Governance of Platforms

The chapter studies the theory and sets the theoretical foundation for the rest of the thesis, focusing on business ecosystems and internal platforms in the manufacturing context. Prior literature discusses various highly related themes, such as ecosystem types, Industry 4.0, and different platforms. The thesis uses the business ecosystem as the broader theme and focuses on a focal point of the internal platform, understood as a system to coordinate processes, activities, and data, with reach to external partners (Adner, 2017; Gawer, 2014; Jovanovic et al., 2022). The manufacturing context is used to focus on the empirical scope and not as a separate theoretical concept. The thesis moves from ecosystems to platforms and their governance, concluding with a specific emphasis on the role of internal platforms in manufacturing.

The concept of business ecosystems has gained increasing attention and prominence over the last two decades.The term can be said to have been founded or cemented by James F. Moore (Moore, 1993), who describes ecosystems as networks of independent actors across firms, suppliers, customers, and other stakeholders, which together develop around a shared platform or market space (e.g., Walmart). Similarly, ecosystems might be called organizations or networks in some instances, like in the study by Brusoni and others (2001), closely defining them as cooperation in designing, manufacturing, assembling, and marketing a specific product or service. There is a distinction between ecosystem as affiliation that sees them as communities of actors connected by their networks and platform affiliations, and then ecosystems as structure that views them as configurations for actions that are defined in the value proposition (Adner, 2017). In this time of connectedness, it feels more natural to view economies as affiliations that form based on the best possible collaborations and value-capturing opportunities. Ecosystems' prerequisite has been identified as value cocreation (Moore, 1993; Rantala et al., 2023). This means that the partners don't jump into the ecosystems without expecting a potential increase in the value-capturing possibilities.

Different kinds of ecosystems are business ecosystems, platform ecosystems, and innovation ecosystems (Jacobides et al., 2018). Innovation ecosystems are apparent in situations where it is required to change the underlying relationships of actors, activities, positions, or links between the value creation process (Adner, 2017). The second one is platform ecosystems, where many partners join the same platform, increasing innovation and economies of scope in production and production, while having governance to regulate participation and control interfaces (Gawer, 2014). Lastly, business ecosystems are collectives of actors that affect one another through their activities, crossing the boundaries of a single company (Jacobides et al., 2018). In this thesis, the discussion primarily focuses on business ecosystems.

Moore (1993) points out the distinct challenges at each stage of the business ecosystem's evolution. The key points in the birth phase are to find cooperative firms to help define a value proposition and to protect the ideas from possible rivals (Moore, 1993). In the expansion stage, a company has to bring the proposition to a large market for the possibility of quick scaling, while ensuring it establishes itself as the new standard in its class (Moore, 1993). This reflects the need for platform leaders to coordinate the growing set of partners and possible users while managing the ecosystems' growth (Gawer & Cusumano, 2014; Jacobides et al., 2018). As the market position has been established, a firm must keep providing the vision for the future to keep stakeholders tied in and fight to keep its bargaining power, and to avoid death, continuously bring new ideas and build high barriers to entry, such as establishing high switching costs for customers (Moore, 1993). These findings have been subsequently supported by studies underscoring the importance of governance, alignment, and interdependency management for maintaining competitive advantage (Adner, 2017; Rantala et al., 2023). These prove that the ecosystem drivers have clear objectives as the ecosystem evolves.

Currently, ecosystems tend to require modularity and co-innovation, rather than linear value chains or classic vertical integration (Jacobides et al., 2018). While ecosystems have been discussed, it's expected that the discussion of ecosystems as contracts and

arrangements for interdependent value creation will grow in the years to come (Adner, 2017). Modern manufacturing lines allow remote monitoring of production levels and send signals when stock levels approach lower thresholds (Frank et al., 2019, p. 18). The paper by Hobday (1998) highlights the creation and development of high-cost, complex products and systems (COPS) and how their presence affects the innovation and cooperation, as the nature is so complex, creating the need for ecosystems. CoPS products usually start as one-off projects, but stabilize into continuous development efforts after successful stints. (Hobday, 1998). This stabilizes the ecosystem for a while, but, as Moore (1993) describes, the most important factor in the development of ecosystems and overall growth is fierce competition among existing ecosystems. Ecosystems exist across all industries and fields, but the thesis focuses on those in the manufacturing context.

2.1 Ecosystems in the manufacturing context

Ecosystems have shifted from linear supply chains to flexible, easily connectable arrangements among multiple actors. Business ecosystems in the manufacturing context are complex, digitally connected, modular, and interdependent groups of companies, which include subcontractors, users, and service providers that create value in cooperation through technical platforms and governance (Suuronen et al., 2022; Hobday, 1998). This thesis will use the previous as a viewpoint in this paper. Industry 4.0 has been the biggest catalyst in ramping up the tempo of this movement from the old strict supply lines and dyadic relationships (Smit et al., 2016; Kazantsev et al., 2023; Dalenogare et al., 2018). Many manufacturing companies within ecosystems are focused on business-to-business markets (Hobday, 1998). Placement in the previous markets usually involves more strategic partnerships and more delicate communication, as there are fewer possible customers and reputation matters.

The article by Hobday (1998) defined CoPS as high-cost, engineering-intensive products, systems, networks, and constructs. Just like Company A’s products. A few exemplary industries are named in Hobday’s (1998) literature, such as avionics systems, aircraft,

and train engines. This can be viewed as one of the first research papers to conceptualize ecosystems and the need for networks, especially in manufacturing companies. The CoPS companies' ecosystem complexity is largely affected by how much technological know-how is required in design, bidding, and manufacturing to achieve a complete product (Hobday, 1998). The need for technical expertise has only grown since Hobday's article, underscoring the complexity and the need for a wider range of partners.

The study by Kazantsev and others (2023) delved deeply into the supply chain of a large aerospace manufacturer, Airbus. The direction at Airbus in recent years was to narrow down their supplier and collaboration partners, even to the point that some old suppliers couldn't compete with the largest suppliers (Kazantsev et al., 2023). This led to over-resilience toward a smaller set of partners, weakening ecosystem resilience. In the event of a sudden demand change, the old suppliers were not ready to deliver, which caused availability problems leading to the need for a new focus in the supply chain, as depicted in Figure 1 (Kazantsev et al., 2023). A smaller set of partners led the business ecosystem's adaptability to falter (Adner, 2017). The issues in its complex supply chain were that the original complementors were eliminated by suppliers competing with economies of scale. Airbus' situation shed light on the problems caused by rigid ecosystem dynamics, as partners were cut off, but integrating new partners was complex. This underscores the need for ecosystem openness to address these adaptability issues (Dalenogare et al., 2018). Previous findings also highlight that competing on cost isn't always the best strategy in manufacturing.

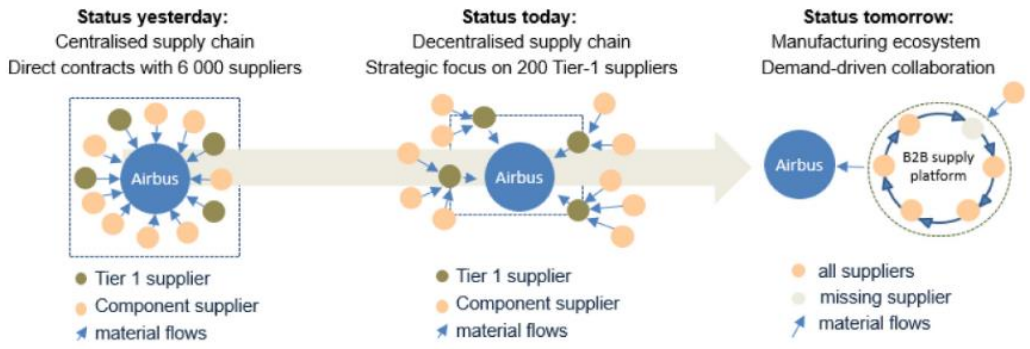

Figure 1: The development of the supply chain of Airbus

Dalenogare and others (2018), studied the effects of technological advancements on Brazilian manufacturers. Their study found many benefits in these three metrics: product, operational, and side effects. The paper also found that the IoT improves the performance relating to the optimization of manufacturing lines and lead times, while allowing after-sales services to be better marketed (Dalenogare et al., 2018). The findings suggest that technical tools and systems can create a foundation for ecosystem-level integration.

Enjoying the full benefits of the IOT and other industry 4.0-specific dimensions might require implementing a digital platform in the industry, at least in the supply chain, to support growth and provide more possibilities for value capture (Suuronen et al., 2022). The leap to a new digital ecosystem might cause negative feedback, which is why cooperation between ecosystem partners is so crucial, as acceptance is more likely when it is developed in collaboration with key members of the ecosystem (Suuronen et al., 2022). This claim is further reinforced by the paper by Rantala and others (2023), which argues that using the more specialized features in digital business ecosystems requires trust and a high level of importance placed on security measures. Digital capabilities that enhance value creation and collaboration might not be fully harnessed if the ecosystem is filled with partners with low trust among each other.

In the manufacturing sense, there is usually an overlap between ecosystems, as central companies use production machinery that results from another ecosystem's value creation (Suuronen et al., 2022). With Industry 4.0 and its focus on data collection (Gawer & Cusumano, 2014), technical leaders seek to protect their intellectual property and competitive edge (Suuronen et al., 2022), thereby shrinking openness and innovation (Gawer, 2014). This sets limitations on the possible achievements of the ecosystem and requires detailed investigation by the ecosystem's leader. Partners need to keep investing in their technical capabilities and relationships with other companies to harness innovations that develop rapidly.

A surprising finding from the questionnaire by Dalenogare and others (2018) was that big data analysis was expected to harm the product performance. This might relate to the perceived added value of cloud data integration being less optimistic in environments where the capability to handle large datasets is lower (Dalenogare et al., 2018). The level of technological readiness and investment capabilities, which can hinder the effective use of large datasets (Suuronen et al., 2022), implies prerequisites for effective data use. From these findings, it can be deduced that partners have better possibilities to utilize large data if they are ready to invest in technical development.

In ecosystems, there are naturally challenges regarding the complexity between collaboration and competition, which might both be happening at the same time (Gawer & Cusumano, 2014). In ecosystems, there appears to be a critical number of complementors inside an ecosystem, ultimately making the ecosystem less tempting to join in the eyes of new partners (Gawer & Cusumano, 2014). The leaders' role in an ecosystem is a valued one, as it acts as an enabler inside the ecosystem, working at the helm and guiding the ecosystem towards the desired direction (Suuronen et al., 2022). Leaders then need to be very strongly positioned to drive the ecosystem in the correct direction, while guiding the interaction between partners and complementors.

Platform leaders are tempted and even encouraged to increase the competition between complementors within the ecosystem to strengthen their bargaining power in relation to the companies inside the ecosystem (Moore, 1993; Gawer & Cusumano, 2014). This works as a divide-and-conquer technique to limit the power structure changes or the centralization of it. The same leaders are enabled to leverage innovative potential that exceeds the firm's or its supply chain's own capability (Gawer & Cusumano, 2014). Showing imminent results from the ecosystem participation. The benefits of investing in the business ecosystem by the central actors are paid back manifold because the contributors expect the customers to get locked in by the said investments (Moore, 1993). So it's in the ecosystem leaders' best interest to keep investing in the ecosystem. Leaders overall should be open to allowing participants to fully enter the leader's business to maximize the potential in the ecosystem (Suuronen et al., 2022). This claim is further driven as the platform's focal company has the unique possibility to harness the collaborative benefit of the ecosystem if it can stick to a vision for a more efficient future (Cusumano & Gawer, 2003). The previous statements show that the role of the focal company is crucial in boosting the growth and the amount of network effects in the ecosystem.

Managers face a huge challenge in managing the continuously changing industry amid innovations and technological developments, and a possible solution is to reinforce the business models of firms within the ecosystem to secure incentives for investment and ensure the long-term survival of the ecosystem (Gawer & Cusumano, 2014). The management of ecosystems is complex, as the agents in the ecosystem only care about its dissolution when it would cut into demand and the ability to lock participants into the ecosystem. The ecosystem leader should strive for supermodularity and low fungibility, as this helps align the current partners' efforts (Jacobides et al., 2018). Ecosystem leaders need to strike a balance, as lower fungibility might help attract partners in the early days (Jacobides et al., 2018), but as the ecosystem matures, the ease of switching between ecosystems might undermine its stability. This finding emphasizes that ecosystem leaders need to continuously review the rules and value-creation possibilities of the

ecosystem. The recognized characteristics of ecosystems require a mechanism to regulate and control the coordination and alignment of actors within the ecosystem and across companies.

2.2 Platforms in Ecosystems

Business ecosystems have changed, forcing manufacturing companies to rethink their engagement in innovation, competition, and even value creation. One of these ways is the use of platforms, which can be described as a collection of assets shared by a group of products or companies (Robertson & Ulrich, 1998). These assets are defined as components of items, processes, knowledge, people, and relationships (Robertson & Ulrich, 1998). From the previous listing, the newer research has lifted the categories of knowledge and processes to a more central role (Jovanovic et al., 2022; Kohtamäki et al., 2020). As noted above, ecosystems formed around dynamic groups of actors pose new challenges for collaborative value creation. Industrial organizations continuously search for ways to establish or to enhance their internal platforms (Rantala et al., 2023). This chapter will delve deeper into how platforms shape structure, coordination, and innovation, particularly in manufacturing contexts. Platforms can also be seen as digital twins of the enterprise, meaning they exist in a fully digital form (Rantala et al., 2023). In this thesis, the internal platform refers to the firm-specific system that integrates data and workflows, adds visibility, and possibly allows access for external actors. Instead of focusing on having the most partners, the focus is on how well the processes can be standardized within the system and how the system's use eases alignment within the organization.

Platform participation requires companies to find new ways to influence the platform and cannot rely on traditional governance methods, which won’t work (Gawer, 2014). For a platform to thrive and gain a clear foothold in the industry, it must perform a specific function with significantly higher efficiency than a technical system and solve a business problem that affects multiple users within a particular industry (Gawer &

Cusumano, 2014) and offer easy integration into the current production program and environment. So, straight from the beginning, the bar has been set high for a platform to thrive. Even though the technical prerequisites are emphasized heavily, the value creation can happen in less digitally mature levels of platform utilization (Rantala et al., 2023). These can be the visualization, communication, and training. The real value of platforms comes from the cumulative effects of firms, users, and complementors joining the platform (Gawer & Cusumano, 2014; Teece et al., 2022). Cumulative effects allow the platform users to gain more benefits than they could on their own. The platform orchestrators have to manage and account for the coordination of suppliers and different subcontractors, and additionally provide value-added services (Davies, 2004). This note also shows how the platform orchestrators must navigate within their ecosystem to achieve this result.

In the heart of digital platforms, there are product data collection, value chain expansion, and service development monitoring (Jovanovic et al., 2022). Main use for internal platform originates from the benefits of collecting data about production process and environment in a more comprehensible form (Gawer & Cusumano, 2014). Naturally, platform leaders strive for a monopoly setting, but that in itself reduces innovativeness while increasing tension between complementors (Panico & Cennamo, 2022). Monopoly situations kill all competition, so the need for the previously mentioned innovation dies. On the other hand, internal platforms constrain potential innovation by the set of guidelines, so companies need to weigh their options when deciding on joining or launching their platforms (Gawer & Cusumano, 2014). The focal companies cannot allow innovation to completely die out, as reviving it is a much harder task than maintaining it.

Opening the internal platforms requires trust, but having the platform open up and forming two-sided or multisided platforms, making the tracking of the production, for example, much more accessible, creating value on the end customers side but also in the company’s and its partners end (Hannah & Eisenhardt, 2018; Rantala et al., 2023).

The risk is that production plans or carefully constructed workflows are leaked outside the platform. Active learning between partners can create a positive spiral that fosters trust and cooperation (Hannah & Eisenhardt, 2018). Previous research shows that early trust and learning experiences between partners can pay off.

A paper written by Gawer and Cusumano (2014) delved deeply into how platforms serve as the foundation for ecosystems, how internal and external platforms differ, and their strengths. Their descriptions were as follows for internal or company-specific platforms that a company, either with suppliers or on its own, can use to develop or improve its offerings (Gawer & Cusumano, 2014, p. 2). External or industrywide platforms, on the other hand, are some sort of service product or offerings that are developed by a single firm or multiple firms to act as a building platform for any number of firms, enabling network effects and a place for collaborative or complementary innovation (Gawer & Cusumano, 2014, p. 4). These definitions of platforms are widely accepted and used as limiters in this study. Platforms gain more value in retrospect of how many users adopt or use the platform (ie Apple or Microsoft). The research done by Gawer and Cusumano (2014) on the internal platforms or ecosystems shows that they have been successful in increasing lead times, product variety, and inventory cost, especially in manufacturing inventories, which sheds light on Company A's manufacturing context.

The platforms firms utilize enable them to clearly align their data flows, technical infrastructure, and processes with multiple partners, internally and externally. When handling a manufacturing context, this usually means redesigning or aligning interfaces, operational systems, or ERP, and the provided digital services to fit and reach beyond the normal organizational boundaries (Brusoni, 2001; Hobday, 1998). The redesign or alignment usually helps companies to bring all the needed functions under one portal. It could also mean moving from product-centric to process-centric, creating visual workflows and a more comprehensible process, along with additional features (Rantala et al., 2023). Thus, giving clear benefits to the actual execution of job tasks and their tracking.

In internal digital platforms of the industrial field, there are different evolutionary phases, starting with the product platform, the first level, the second level is the supply chain platform, and the most advanced platforms are called platform ecosystems (Jovanovic et al., 2022). The data collection was heavily emphasized in Jovanovic and others' (2022) work has also been considered as one of the key activities in digital servitization (Kohtamäki et al., 2020). To be successful, a platform should offer tools to leverage internal and external resources for services such as consulting and design to complete the project's life cycle (Davies, 2004). The goal for platforms has been the machines and the company's product lines, but the possibility of also considering the role of people is raising interest (Rantala et al., 2023). The end goal of using a platform should be to enable higher rates of innovation on that platform, with a focus on long-term goals (Cusumano & Gawer, 2003). This claim can be encouraging to firms contemplating joining a platform because the platform leader benefits more from the long-term success of the participant. The above shows how the platform's innovation and collaboration are selling points for partners looking to join.

Modern business ecosystems in the manufacturing context rely on the following main subjects, such as real-time data, connectivity of machines and production lines, and the openness and proper functioning of Application Programming Interfaces (API's), which are the cornerstones for the whole platform, enabling advanced analytics (Jovanovic et al., 2022). API's allow the platform to share a real-time view of production and inventory, allowing the timing, supply reliability, and schedule predictability (Rantala et al., 2023). This allows the communication to be faster and more interconnected, for example, in maintenance cases.

The platform sponsors have been found in empirical studies to invest in the data collection of their production, enabling the use of data sets and pattern recognition (Jovanovic et al., 2022). The utilization of advanced sensors allowed even more data collection and connectedness, which could be continuously monitored with the help of

artificial intelligence (Jovanovic et al., 2022). When data is correctly analyzed and displayed, it can create a visual that shows weak points or other issues within the system or supply chain. Visualization was the first major value creator as internal platforms began to emerge (Rantala et al., 2023).

The use of open API's offered opportunities to create value beyond their core competencies, as one product portfolio manager noted in a study by Jovanovic and others (2022) that openness allows access to mutual customers between platform users and helps deliver high-volume results. Openness allows partners to develop complements more freely, driving innovation (Gawer & Cusumano, 2014). In practice, this means that actors integrating into the platform might identify opportunities for new features or process changes. Partners can also bring new perspectives to old issues, providing valuable angles and possibly making processes or systems more efficient.

Gawer (2014) presents a figure in his work (Figure 2) that explains the possible development directions of a platform on a matrix, where the Y-axis illustrates the likelihood of competition among the platform's constitutive agents. The X-axis then presents the autonomy of the platform's constitutive agents to innovate. Both are low when closing on the matrix's zero point. In an effort to ensure resources for the business, the leader in the platform might need to open up its business to recruit more members in the ecosystem, while motivating them to find new ventures (Suuronen et al., 2022).

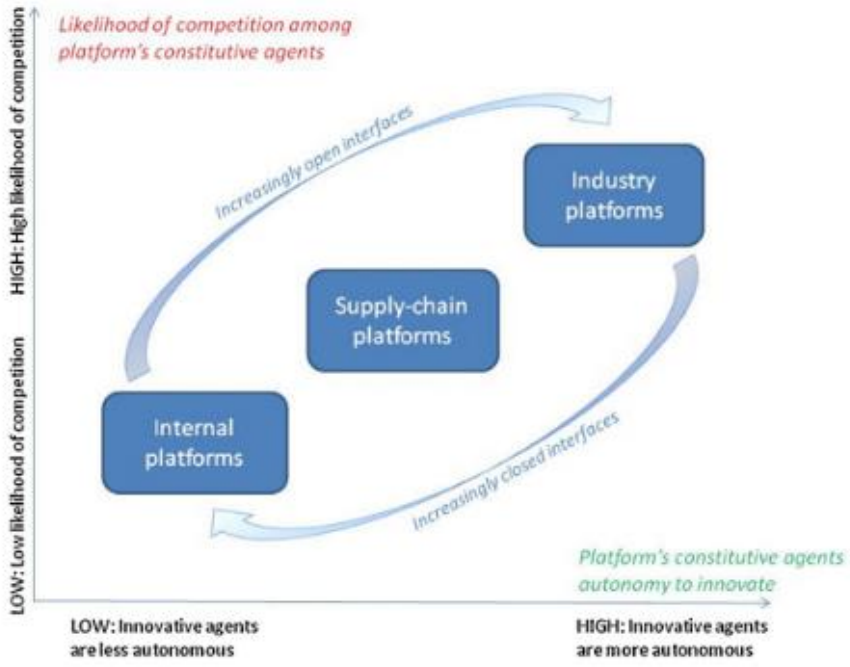

Figure 2: Visualization of platform innovation and competition (Gawer, 2014)

From the figure, it can be seen that the higher the interface openness is, the more likely competition is to arise from the constitutive agents (Cusumano & Gawer, 2003; Gawer, 2014). A countermeasure for the platform leader is to close the platform from the new competition or limit access to it, increasing the number of closed interfaces (Gawer, 2014). The level of openness and high autonomy partners also affects the platform's style, possibly shifting it from an internal to an industry platform (Gawer, 2014). Openness allows actors to create value and innovate more freely, giving the platform more room for growth (Tura et al., 2018). Too much openness might cause development to run amok, which is why the platforms need governance.

System providers or technology leaders have a risk of focusing too much on keeping the information separated and controlling the knowledge within their product, causing information to be stored in silo-like focus points (Suuronen et al., 2022). This limits the innovation rates as the users don’t have all the data for their usage. Modularization has

been increasingly important between firms, causing effects on coordination between partners on the organizational and knowledge levels (Brusoni, 2001). The information might also get stuck within a single team if it is not easily found in a hub. As internal platforms shape how interactions are conducted and who participates in what, governance takes on a larger role.

2.3 Governance of Platforms in Ecosystems

Much of the platform's longevity relies on the effectiveness of its governance (Tura et al., 2018). For ecosystems to easily share information across all acting partners, a common platform could be implemented to make knowledge sharing faster and collaboration smoother. At the start of building a platform, much of the input goes into the training, testing, and promotion of possible partners (Jovanovic et al., 2022). The order of decisions made when establishing a platform is usually the following: the platform sponsor chooses a pricing strategy, complementors either accept the pricing strategy and how much they want to innovate their complements for the said price, and finally, the customer decides on purchasing the core offering and the possible complements (Panico & Cennamo, 2022). As the partner plans to integrate the platform into their functions, this also means significant investments in both money and time. The interviewed professionals in Jovanovic's and others' study (2022) showed that delivery partners are a crucial part of value creation, and tight collaboration with them made testing and validation easier.

Platform leaders need to make hard choices among governance styles. The health of the platform strongly depends on the governance, and if platform leaders have a very strong take on the leadership, it may lead to clear growth paths (Tura et al., 2018). Balancing is also needed in selecting how much control is wanted on the platform. The delivery partners' positive experiences with the new platform allow word to spread quickly due to the large customer pool they possess. Providing the platform with a discount for a trial period helped partners gain positive experiences and encouraged more partners to hop on board with the training to get the right tools for using the platform (Jovanovic et

al., 2022). This way of building the platform works like demos. Platform leaders are constantly making strategic choices as they strive to navigate the platform's success.

Solidifying who the focal company or orchestrator is a very important step in the evolution of the platform, as possible disruptions rise, and it is time to decide who pays and manages them (Rantala et al., 2023). In the same way as in a crisis, people look for strong leaders to lean on, the same psychological effect might affect platforms. The responsibility of controlling the platform access and training the partners in the most crucial parts of the value creation process falls to the orchestrator, and this is closely tied to how well the value chain expands (Jovanovic et al., 2022). Platform leadership requires the driver to make technological and strategic decisions in coherence, and these decisions might affect multiple different parts of the organization or even the ecosystem (Gawer & Cusumano, 2014). To do this, coordination and vision of the desired direction must be clear. Otherwise, silos form, causing internal conflicts and undermining the desired goal (Gawer & Cusumano, 2014).

In the second phase, called the "value system expansion", the most important factor is to scale the services provided by the platform and share the learnings between partners (Jovanovic et al., 2022). This proves the need for active partner feedback and the platform leader's clear interest. The interviews showed that platform sponsors must invest time in finding the right customer segments, as in slow-responsive industries, there are conservative partners that need the success stories of early adopters to gain the trust to use the platform (Jovanovic et al., 2022). Platform sponsors' managers need to simultaneously manage the architecture, provided services, and the governance of the platform (Jovanovic et al., 2022). When the platform grows in size, the less profits are capturable for the complementors in the ecosystem, but the platform's sponsors or leaders capture the profits (Panico & Cennamo, 2022). The strategic choice between selecting the size of the ecosystem or the innovativeness of the complementors is heavily dependent on users' or participants' preferences regarding the entirety (Panico & Cennamo, 2022). Governance of interfaces, pricing, and level of fungibility inside an

ecosystem needs to be strict but not too hindering for the growth or even retention inside the ecosystem (Jacobides et al., 2018). Having too much control might drive complementors away to competing ecosystems, threatening the ecosystem's viability. Allowing too much freedom and opening the platform to too many partners limits the leader's capability to regulate the core interaction (Tura et al., 2018)

When opening the interfaces, there needs to be a set of common rules, regulating who owns the data, which interfaces are opened in what ERP systems, and what to show in the platform and to whom (Tura et al., 2018; Rantala et al., 2023). This is crucial as the landscape is complex, where actors might both collaborate and compete at the same time, conceptualizing that the technology allows the scope to integrate in complementary markets, driving down investment desires in the current partners (Gawer & Cusumano, 2014). Platforms' key companies need to calculate carefully how they expand so that they know if the move to a partner's market is the correct one.

System users can be seen as users in a platform, depending on the system, and depending on the size and influence of the user, they can, at some point, be seen as platform leaders if they gain power within the platform through collaborative development or acquisitions of the platform (Cusumano & Gawer, 2003). Issues arise when companies think about utilizing platforms from external partners because they need to make sure it is compatible with the current software and hardware, and additionally, they need to fit in with future technologies (Cusumano & Gawer, 2003). This showcases the needed preparations for platform integration. Platform evolution and survival largely hinge on attracting innovative yet autonomous actors to act in ways beneficial to the platform, rather than competing against it (Gawer, 2014). In a manufacturing setting, governance becomes increasingly important as the internal platforms are deeply tied to the data and process control across organizational boundaries.

2.4 Internal platforms in the manufacturing context

While the ecosystem presents opportunities and challenges, when challenges are handled and opportunities are mapped, the benefits can be reaped. Suuronen and others (2022) collected the most mentioned benefits in their literature review, and they were: new business opportunities, value cocreation, increase in innovation, competitive advantage gain, more resources and knowledge, better potential for new ventures, cost and risk management, and the modularity to fit different customer needs. Additionally, Tura and others (2018) specified time savings and, for complementors, more visibility to their brand. Gawer and Cusumano (2014) point out that all the previous positive gains and advancements should be achieved without losing any economies of scale and the manufacturing process capability. So clearly, there is a vast amount of evidence that ecosystems have the possibility to bring multiple benefits for the companies involved. New possibilities also bring in new value-capturing methods, causing the competition to be fiercer, even making some traditional products obsolete (Schmidt et al., 2021). This causes a chain reaction in which firms realize they cannot compete without strongly linked partners.

Over time, the roles and capabilities coevolve within an ecosystem, and they most commonly take the direction of the central company (Suuronen et al., 2022). While this brings benefits, it also indicates that some ecosystem partners need to modify their original direction, while they gain capabilities in return. The central partner in an ecosystem benefits from the network effects as the bonds strengthen and become core competencies in executing challenging projects (Hobday, 1998; Suuronen et al., 2022). As interfaces open on platforms, this also increases the capabilities available within the system (Gawer, 2014). Having trust in the ecosystem and opening the interfaces can have a lot of positive impacts. This balancing of value-capturing mechanisms and ecosystem attractiveness is one of the hardest things for ecosystems to master, especially in the long run and across evolutionary phases (Jacobides et al., 2018; Moore, 1993). This requires the focal company to communicate and control the participants in a manner that prevents them from being driven away.

Gawer and Cusumano (2014) introduce the concept of supply chain platforms where the complementors of the platform follow the guidelines set by the main orchestrators to deliver or innovate components or solutions to the final assembler. The benefits of this type of platform include improved efficiency and the ability to develop modular components or streamline production lines (Gawer & Cusumano, 2014). The same paper names a few negative side effects as the usual risk of innovations escaping the platform's own knowledge base and being more likely to the turbulence around the industry as other companies' situations affect more.

In Figure 3, by Rantala and others (2023), the value-creation possibilities of an internal platform are summarized, showing the same positive effects as Gawer & Cusumano (2014) identified in their work. For a manufacturing company, a few of the most useful points include streamlining and monitoring processes, identifying problem areas, optimizing workflows, and improving efficiency. As platforms evolve into two-sided or multisided platforms, more network effects are at play, allowing more value-capturing possibilities (Rantala et al., 2023). The evolution of the platforms depends on the platform leaders' wants and visions**.**

When key actors open their knowledge and business more freely, innovation grows and gives birth to possible new ventures, possible in places no one expected before, enabling multisided markets where cocreation strives (Suuronen et al., 2022). When ecosystem partners work both as customer and supplier, both sides of the interaction become familiar, and a more profound understanding accumulates. This familiarization then grows trust and deepens the collaboration. As ecosystems become increasingly interlinked, companies should be better prepared for faster changes in the partners they work with and their roles, as former machinery providers might become key players in the company's ecosystem (Schmidt et al., 2021). Using platforms among ecosystem partners might improve the ability to adapt and follow the change process.

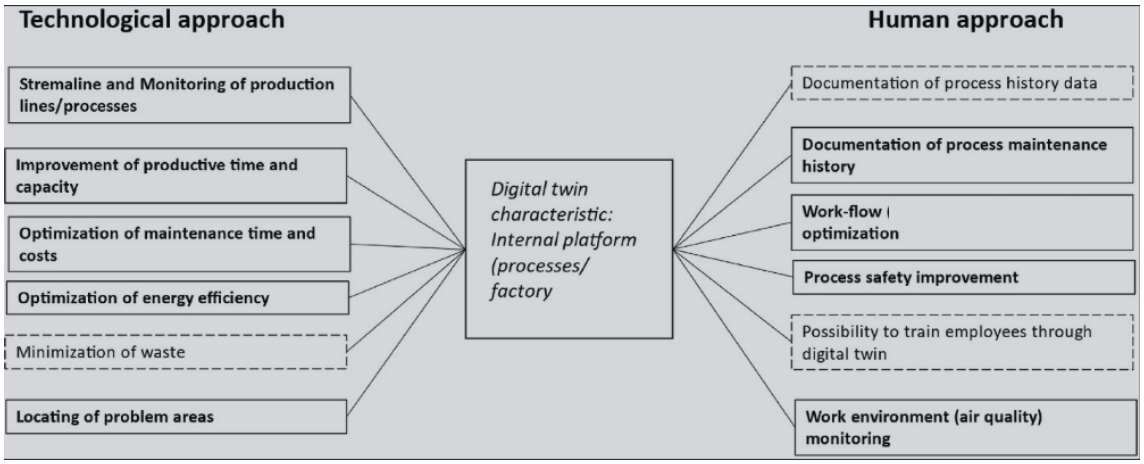

Figure 3: Value creation through digital twins, focusing on the internal platform (Rantala et al., 2023)

As deeper-functioning ecosystems require greater openness and transparency among partners, the number of players within the ecosystem might dwindle (Schmidt et al., 2021). Just as Moore (1993) describes, executives in an ecosystem need to systematically question current partners, potential future ideas, and how bargaining power will develop in the long run. Constant work to ensure the best possible chances for the ecosystem to thrive is time- and money-consuming, but the value is there. Staying on top of environmental changes helps the platform thrive and maintain bargaining power, and the platform enhances its ability to do so.

The sensor networks and AI-enabled data leveraging allowed more data than ever to be harvested and analyzed, unlocking more opportunities for value creation, if the openness is continued between participants (Jovanovic et al., 2022). Creating a multisided platform can, in the end, lead to a situation where the warehouse stock levels are monitored by partners, lead times are optimized, traceability within the process increases, and even customers' customers could monitor the process if the participants have the needed level of trust (Rantala et al., 2023). The added features add value gained in the process in a plethora of ways, for all sides of the platform.

For platform users who have emerged in the platform into their internal functions, they benefit from developing the said platform further as the platform grows in size, and thus could change its cost, especially for long-term complementors (Cusumano & Gawer, 2003; Panico & Cennamo, 2022). The cost savings might show up in implementation or running costs. Growing the platform might also shorten the span between innovations as partners collaborate. As technology advances, the opening of interfaces becomes easier, and the value provided is more concrete, but the formulation of the multisided platform is not clear yet (Rantala et al., 2023). The role of knowledge integrators, such as technology partners or engineering offices, is very prominent, especially for firms manufacturing CoPS (Brusoni, 2001). For example, manufacturing firms tend to use partners to check, design, or improve the goods they produce.

Internal platforms offer modular product architectures that streamline production processes across variants and help align partners (Gawer & Cusumano, 2014). The modular architecture might allow for easier development, as not all parts need to be changed. Industry platforms then help facilitate the innovation and development activities across a larger set of actors, forming or serving business ecosystems in manufacturing contexts (Gawer & Cusumano, 2014). When this gets taken into closer consideration, it's clear that the boosting effects of platform use in manufacturing companies exist.

2.5 Theoretical framework

In this chapter, the thesis collects the main concepts found in the literature and conceptualizes an analytical framework in Figure 4, which helps guide the empirical investigation done in the case company. The framework suggests that the complexity and interdependence of business ecosystems create a need for coordination beyond organizational boundaries.

In the manufacturing context, the need for better visualization of processes and transparent workflows requires internal platforms to integrate both data flows and

production systems. These platforms allow partners to integrate into them as they evolve, and enable the focal company to manage and orchestrate what is shared and what is kept internal. At the same time, governance is needed to regulate data access and quality, while system interfaces need to remain simple, useful, and secure. The study conceptualizes ecosystems as a set of interdependent companies forming networks, and platforms function as a tool to coordinate the mechanisms, generating operational and innovative outcomes. The interactions brought forth by integration, improved communication, and supported value co-creation lead to outcomes like increased efficiency, improved visibility, and overall easier coordination in the ecosystem.

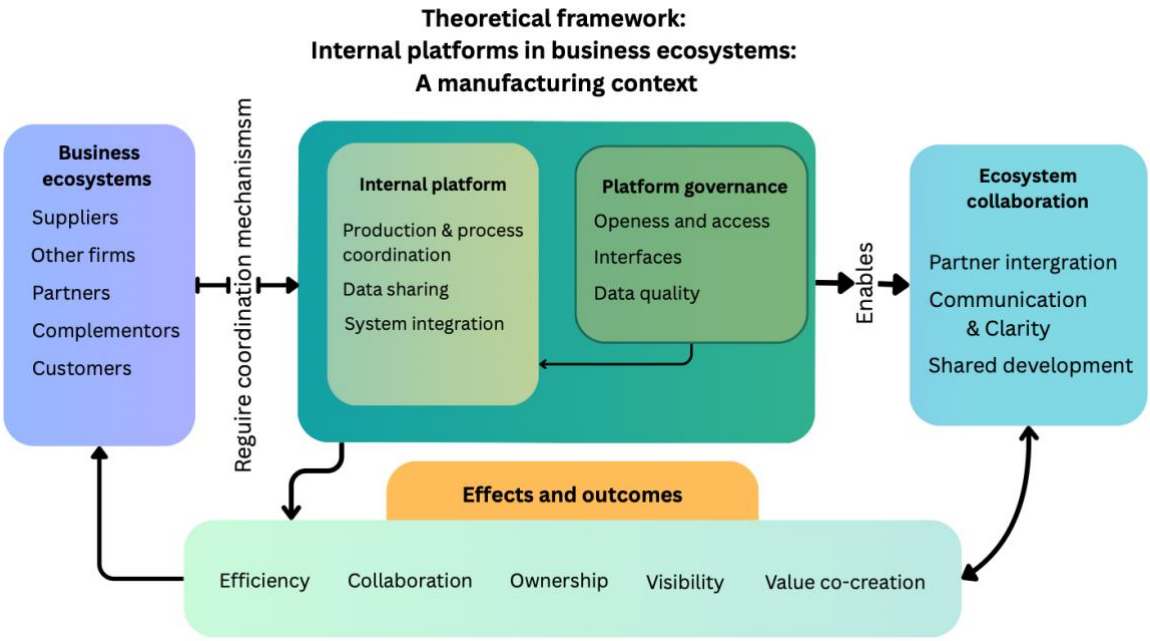

Figure 4: Theoretical framework on the internal platforms' functions and causalities in a business ecosystem in a manufacturing context.

3 Methodology

3.1 Research strategy and methods

This study adopts a qualitative single-case approach to examine how a manufacturing firm uses its internal platform in its activities, tasks, and collaboration. The single-case qualitative approach was selected because this paper aims to deepen knowledge of the role of internal platforms in enabling collaboration between actors and of how the platform development creates opportunities for value-creation, which are complex, very context-dependent, and hard to grasp themes with quantitative methods. Rather than testing predefined hypotheses, this study aims to develop a deeper understanding of how platform-related decisions are implemented and experienced in practice.

The case study approach was selected as it enables more detailed exploration of the phenomenon in a real-life setting from the people most affected by it (Gioia et al., 2013; Yin, 2014). The perspective is appropriate for getting better insight into the managers' and other experts' understanding of the choices during ecosystem complexity, platform governance, and technical challenges. Single-case design in this instance allows detailed examination of the elements of design, orchestration, and ecosystem coordination interaction within a manufacturing firm, providing findings of the challenges and tradeoffs. The case study is conducted through data collection in the form of qualitative interviews, focusing more on the views, experiences, and interpretations of the company. Eisenhardt (1989) emphasized that case studies, such as this one, use qualitative data to better understand the underlying constructs and nuances. As many of the interviewees are at a managerial level, Gioia and others (2013) noted that their views provide a better understanding of the managerial process. Interviews then have the capability to provide valuable insight from both the operational and managerial levels of the complex topics of platform navigation and ecosystem governance.

3.2 Case selection and data collection

Company A was selected because of its status as a manufacturer of large equipment and technologies and its progressive approach to machine shop production. It fits the one case study format because of its size and vast information, as a partner and orchestrator in ecosystems, while developing its systems with its partners. As the platform mainly used by the case company is relatively new, it may yield fresh findings, some of the pain points, and the longest-lasting developments. The data were collected through multiple semi-structured interviews with company experts. This helps mitigate the result as multiple views from different functions are interviewed.

The interviewed people were manager-level personnel working with various tools and processes within the platform, so they had extensive insight into the platform's current status. The interviewed people's job descriptions ranged from general manager to quality operations manager. The single case study then allows for the collection of the felt benefits and the seen value capture possibilities within the case company and its ecosystem.

For this research, a total of 5 interviews were conducted. One interviewee preferred to submit their answer in writing due to scheduling challenges. Participants were selected with the help of one of Company A's employees who worked extensively with the company's internal platform. All participants received the privacy notice (in Appendix 2) before the interviews, and confirmation of their acknowledgment was obtained during the booking process. Bookings were done via the website Calendly, and the actual interviews were conducted on Microsoft Teams. The interviews were held over three weeks, from 24.2.2026 to 31.03.2026.

Interviews were held in the interviewee's native language, and they had been given the research topics and interview questions before the actual interview (see Appendix 1). The interviews lasted between 35 and 50 minutes, giving enough time to handle the needed themes. The Microsoft team was used to record and transcribe the interviewees.

Transcripts were anonymized as soon as possible after the interviews. To maintain privacy, confidentiality, and anonymity, the interviewees were given codes from Int1 to Int5, given in the order in which the interviews were held. The table of the interview lengths and generalized roles is below in Table 1.

Reference	Generilized role	Date	Duration	Length of transcription
INT1	Production Operations Manager	24.3.2026	38 min	23 Pages
INT2	Production Operations Manager	30.3.2026	51 min	37 Pages
INT3	Quality Operations Manager	31.3.2026	44 min	32 Pages
INT4	Senior Executive	31.3.2026	40 min	21 Pages
INT5	Supply Chain & Logistics Manager	9.4.2026	Written form	No trancription needed

Table 1. Interview lengths and generalized roles

3.3 Data analysis

The study follows a theory-informed qualitative case study approach. While existing literature guided the research design and data collection, the analysis employed elements of an inductive approach, allowing themes to emerge from the data (Saunders, 2023). The literature on platforms and ecosystems guides the formulation of interview questions and narratives, and the interviews themselves yield new insights relevant to the study. Transcripts were reviewed multiple times to ensure the Microsoft Teams automation produced an accurate transcription.

Similarly, the actual interviews were carefully analyzed while ensuring transcription accuracy. As the interview data became more familiar, the most recurring themes were coded and categorized. The data was analyzed using the Gioia methodology (Gioia et al.,

2013), in which first-order concepts were derived from the interview transcripts, followed by second-order themes and the aggregate dimensions in Figure 5. For example, the statement “The system flags anomalies and automatically notifies inspectors” (Int3) was coded as a first-order concept reflecting automated monitoring, which was further interpreted as part of the second-order theme of process visibility and included in the aggregate dimension of digital operational visibility. This process allowed patterns to become clear between interviews and helped link the empirical findings to the existing theory.

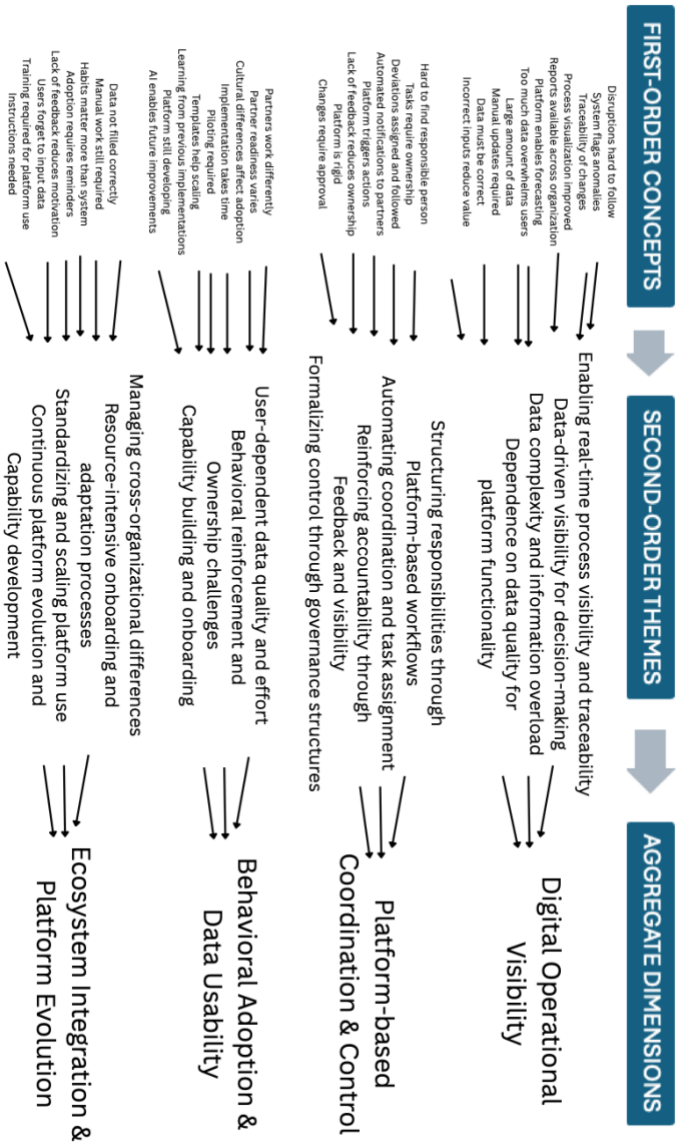

Figure 5: Gioia aggregate dimensions

The grouping of themes was eventually done in Excel, giving a clear table of the biggest findings by theme (Table 2). Findings were then examined by theme, and the most clear-cut quotations were selected to be used in the findings. All the interviews were revisited to determine whether the selected quotations fit the context.

Aggregate Dimension	Key Finding	Supporting Evidence	Implication for Platform-Enable
Digital Operational Visibility	The platform enhances real-time visibility, traceability, and data-driven decision-making, but its effectiveness is constrained by data quality issues and information overload	System flags anomalies; Reports available across organization; Traceability of changes; Too much data overwhelms users; Manual updates required; Data must be correct	Improves decision-making speed and transparency, but agility depends on data reliability and the ability to manage data complexity
Platform-based Coordination & Control	The platform structures workflows, assigns responsibilities, and automates coordination, increasing accountability and efficiency, while introducing rigidity due to governance mechanisms	Tasks require ownership; Deviations assigned and followed; Platform triggers actions; Changes require approval; Platform is rigid; Hard to find responsible person	Enhances coordination and control, but may reduce flexibility and slow down responsiveness
Behavioral Adoption & Data Usability	Platform effectiveness is highly dependent on user behavior, data input quality, and continuous training, making human factors a key constraint	Users forget to input data; Data not filled correctly; Habits matter more than system; Training required; Lack of feedback reduces motivation; Instructions needed	Limits agility if adoption is weak; highlights that human behavior is as critical as technology
Ecosystem Integration & Platform Evolution	Platform expansion across organizations is complex and resource-intensive, requiring partner alignment, adaptation, and continuous development	Partners work differently; Partner readiness varies; Implementation takes time; Piloting required; Templates help scaling; Platform still developing	Agility depends on ecosystem alignment, partner capabilities, and iterative development rather than immediate scalability

Table 2: Summary of key findings

The themes found in the empirical section of data collection and analysis were used as a structure in the findings. The themes emerging from the interviews enabled better examination, and made it easier to return to each theme, addressing one of the platform and ecosystem topics, while the interpretation of these themes remained informed by the literature.

3.4 Assessment of data quality

Quality of the study is assessed using a criterion proposed by Gibbert and others (2008), which includes internal validity, external validity, and reliability. The previous criteria help navigate the evaluation of the rigor and trustworthiness of the data collected for this study.

Internal validity concerns the credibility of the findings and whether the interpretations are well-grounded in the empirical data. In this study, internal validity gains support through pattern matching between the existing literature on platforms and ecosystems and the empirical observations gotten from the interviews. Analysis involved iterative comprehension of the held interviews and systematic coding following the Gioia methodology, ensuring that the dimensions that emerged were supported by the data.

The study's ability to capture the phenomenon under investigation is referred to as the construct validity. Construct validity was addressed by designing the semi-structured interview questions around themes of platform use, collaboration, and ecosystem interactions in the case company. Additionally, interviewing participants from different organizational roles allows this paper to display multiple perspectives on the themes. A clear link between data and findings was maintained through documented coding and quotations from the interviews.

External validity is related to the transferability of the findings beyond the selected cases' context. While the study is in a single-case format, it aims to achieve generalizable results by connecting its findings to existing theory. This allows the results to apply to a near-matching context in which internal platforms are used to manage collaboration within business ecosystems.

The reliability concerns the transparency and consistency of the research process. This was supported by using a consistent interview approach across the data collection phase, including both the interview guide and format. All the interviews were held on Microsoft Teams, which was provided by the University. Microsoft Teams was also used to record and transcribe the interviews. The analysis followed a structured process that allowed the research to be traced from raw data to the final themes. Lastly, anonymization of responses was used to ensure openness and to reduce response bias.

4 Findings

In this chapter, the paper presents and analyzes empirical data on how platform use affects internal processes and external alignment in ecosystems. The findings are presented through the aggregated themes. These dimensions can be seen in more detail in the Gioia data structure (Figure 5), allowing a better understanding of the structure of the themes.

4.1 Digital operational visibility

Throughout all the held interviews, the topic of transparency came up multiple times. The data is stored on the platform, and all updates or changes are watermarked, making it easier to follow the processes and their development. Another positive finding is that the data is visible in the platform, as it is available for reports. These reports are used at all organizational levels. To make the usage and access easier, the platform has direct links to databases where there are instructions on reporting or assembly. This cuts out the hassle and possibly makes the reporting or instruction checking less of a task, and thus improves the quality of work and data.

> *Int3 "The platform has direct links to instructions regarding a work phase where they are needed."*

> *Int1, "The biggest change to a positive direction is the better visualization of the platform."*

Many mentioned that the visibility has improved and is much more detailed, and offers more specific data on the tasks done and to be done. When the platform is used for reporting of deviations, they get taken into the reporting, and the process starts. Another positive factor of the reporting done through the platform is that it shows if the deviations are frequent for the material or phase. This allows faster identification and helps in building development cases. Additionally, notifying the inspectors automatically notifies the responsible maintenance partner if there is faulty equipment.

Int3 "The system flags anomalies and automatically notifies inspectors."

Int1 "The maintenance partner gets an automatic email notification when a disruption report is done on the equipment."

The data the platform uses lays the foundation for success, as was clear from all the interviews. The platform's effectiveness depends on the accuracy and quality of the data gathered and used. Data quality is at risk due to the high volume of data, extensive tool integration, and unclear accessibility. One interviewee noted the following when discussing the quality confirmation tool used in the process.

Int2 "There is an enormous amount of data and variants behind the tool."

Data-driven operations are a double-edged sword that enables efficiency-improving functions but requires quality data and can even cause the opposite effect if the data quality is insufficient. The benefits brought by the correct use are clearly seen in the more reliable forecasting and resource allocation. Platforms then need to choose between usability and data accuracy when utilizing the internal platform.

These previously mentioned positive effects enhance the early monitoring and response speed, keeping the maintenance and process development in the loop when issues arise. The available and accessible data inside the platform helps the correct personnel notice trends and sets the foundation for the data-driven coordination and development.

4.2 Behavioral adoption and data usability

When platforms take to using new tools that require getting used to, the behavioral aspect always gets put on a pedestal. For example, the first interviewee pointed out that when a new tool replaced an old one, it was more about people not using it, instead of not having the capability to use the tool.

Int4, "Behaviour must be reinforced for better data."

Int1, "Adoption didn't require a big change, but it needed reminding."

Int4, "Forgetting the process input can be seen from the products that get all the phases ticked in the end."

The above quotation gave a clear glimpse of how hard it is to change behavior. To solve this, it should be engraved in the actions, and the reporting should be made easier. Having clear instructions in the same place as the process step was one of the remarks made by an interviewee, and they said that a help bank for the tool was in the works, showing that the investments in the tool are seen as necessary. In relation to the same tool, there was ongoing work to provide more updates to the person who made the data input, regardless of who the reporter was.

Int3 "Without feedback, people don't feel ownership of what they report."

As the data sets and variants used for the platform are so complex, the regular updating of data requires a lot of work from the corresponding teams. While not yet possible to have more flexibility or to trust that the operators could fill data from a few different options, the possibility to do so would ease the pressure to update the datasets and their links.

Int3, "Data is not automatically updated everywhere, so there is still a lot of manual work."

Int5 "Accurate tracking helps forecast resources and material needs."

The issue then comes down to how to limit the updates to the right person so that they don't drown in the information. The platform benefits from the aligned behavior inside the platform, but that requires making the guides easy to access and reminding users of the correct way to work on the platform.

4.3 Platform-based coordination and control

The platform's structure helps especially in finding the corresponding person, so the process gets ownership, growing the possibility that the tasks get done as if there is no one responsible, which usually gets left undone, as one interviewee mentioned. When there is clear information on who is responsible, it allows follow-up and reduces the mentioned risks of tasks being left incomplete.

> *Int1 ”Before, it was sometimes hard to find the responsible person, but now the report goes directly to the right team.”*
>
> *Int3 “If no one is responsible, tasks can easily be left halfway.”*

When tasks are assigned to persons, it adds ownership and improves the coordination between tasks and business functions. The ownership again has the ability to reduce the gaps in the process fulfillment. Getting the information in one view through internal ways of working, helping especially the supervisor to follow up on the team’s tasks. Even though the interviewee emphasized the usefulness of a table view on teams tasks, mentioned that it is not in the platform, the initiatives come from there. So, the platform plays a big role in enabling coordination and speeding responses while ensuring consistent execution.

On the platform, interviews explained that centralized governance adds rigidity and that it is not easy to modify anything on the platform. The added control helps manage the data, but reduces the platform's mobility. The previous also clarifies the process or platform updates as they get accepted and implemented by the correct team.

> *Int1, “The platform is a bit more rigid, and changes are slower because they need approval.”*

Ecosystem partners are also subject to the data's governance, as mentioned in the interview Int5. Structured process approvals for modifications and clear access demonstrate that governance is maintained to improve data and result consistency.

Company A has made it so that the operational partners working in A's premises have the same access rights as the firm's own employees, but the partners working elsewhere don't get to see the platform's process steps or the stock levels.

Int5 "Partners are required to use the systems defined by the company."

Automation could have a place in updating the links between datasets and platforms or automatic stock filling, but it will require human oversight for many years to come. To maximize the benefits of technology, some control needs to be given away, but responsiveness and human supervision need to be balanced to ensure correct outcomes.

Int4, "Automation helps, but it still needs human supervision."

The platform allows the process structure to be set, but it's highly database-driven, so data governance needs to be crystal clear and standardized, at the expense of flexibility.

4.4 Ecosystem integration and platform evolution

The partners' integration and rules set for working with partners rose naturally to the surface in multiple interviews. It was clear that the platform works as an enabler for partners, but the implementation and processes need to be customized for each partner. This makes the onboarding resource-intensive, time and money-wise. At least in the earlier phase, as interviewee 4 mentioned, once the scale of implementations made for partners is large enough, some can be used as templates. This supports scaling but still leaves much to be aligned. Even so, the piloting phase is important, and communication needs to be constant, as one interviewee said.

Int2, "Each partner has different ways of working, so the platform cannot be one-size-fits-all."

Another problem arises from the high resources that the implementation requires, as well as from the partnering company. The partner needs to be ready to invest and

requires seeing clear benefits of the integration. When talking with one interviewee, it became clear that the implementation readiness does not rely on the pure size of the partner company, but more on the culture hosted there.

Int4, "Some partners are not ready to join, and it depends a lot on their culture."

Interviews pointed out that the platform improves and enables coordination and information sharing between companies, even though it was first built with intra-use in mind. The number of partners relies on the effectiveness of piloting, alignment, and investment on both sides. The platform is promoted through continuous conversation and adjusting to partners' processes and needs but requires commitment from the partner.

The platform keeps implementing new features regularly, but what is learned from previous instances is what makes the job easier. What is learned from the previous and original implementations of tools inside the platform is that the successful implementation requires thorough piloting and gradual rollout with enough support. An interviewee explained how one tool was implemented, possibly too quickly, and even though the wishes from staff were heard, the features didn't make it to the tool.

Int2, "The system was launched too quickly, and that caused problems later."

The same is true for implementing partners and growing the platform's reach across organizational borders. The timeframe is usually around one year with partners to kickoff the collaboration. Also, the quality of the implementation might set the course to failure if companies have to fight against negative presumptions. Once the platform is proven to be useful, and more partners use it, and the implementation chain is clear, scalability becomes much easier. The same goes for the development as partners have formed trust in the platform, and seen that it works, they are more open to platform development.

Int4, "With more partners, implementation becomes easier over time."

The platform has fulfilled its original purpose of providing structure to the manufacturing process, but as it offers new possibilities for features and modifications, there are many new areas to develop. As one interview revealed, the process after the assembly is where the most venues for improvement lie.

Int4, "The platform is still developing, and there is more value to be captured."

Visions for the future were also discussed in all the interviews. Usage of automation in updating the links between new data and old instructions on the platform could take away some tedious work, but risks automation failures in a very quality-sensitive industry. Use of AI could benefit the forecasting of the biggest changes or indicators for deviations further down the process.

4.5 Summary of Findings

What stood out in all the themes and interviews was that the platform's value is not achieved when it's implemented and running. The real value is conditional and depends on the quality of data input to the platform, behavior, governance balancing, and the internal and external alignment. All the interviews brought light on the positive, negative, and possibilities of the platform, which of the findings are collected in Table 2.

Findings provided insight into the research question of how platforms are utilized in companies. The platform is used first and foremost as an internal platform, as it replaced the production control system. In company A, it's used to add transparency and clarity to the process, with linkage to the instructions for the tasks or specifications on the platform. Best uses are the direct connection of the task to the corresponding teams, for example, in deviation cases. The visual standardized and guided process helps understand what phase the project is in. All these previously mentioned positive results from the use of the platform come from the data quality being sufficient and the use of

reporting and checking the process at the correct points. If these are not on the right level, it might cause confusion and poor results.

> *Int1, "Biggest change to positive direction is the better visualization of the platform."*

The done interviews also provided data on how the platforms create value and strengthen the collaboration within companies. Platforms create value as they increase transparency and the rate of coordination of internal and external platform users. Automated messages about material shortages and showing the predictions of the process timeline to partners help to plan the partners' manufacturing plan and shorten delivery times. This cuts the lead times of the projects. Automation and the shared info between actors rely a lot on how well the data is collected and agreed processes are executed.

> *Int4, "Automation makes things faster, but it still needs to be checked by a human."*

Lastly, valuable details were received on the promotion of the platform inside the ecosystem to the business partners. The platform gets promoted in the ecosystem through continuous implementation and upgrading of the features and tools of the platform, showing the focal company's investments. Also, the continuous communication allows partners to align better, and feedback is registered and can be developed into improvements, which helps partners gain trust, locking in their commitment. The platform needs to be modified to fit the unique needs of the partner, requiring investments from both parties.

> *Int4, "You can standardize processes, but partners still need flexibility."*

5 Discussion

The discussion chapter addresses the research questions by drawing on the findings and theory. Firstly, this thesis will link the findings with the theory through the themes derived from the interview data. The following chapter discusses the theoretical contributions achieved in this study. Theoretical contributions will focus on the thesis's themes, namely the platform effects on the manufacturing company's ecosystem. Managerial implications are then disclosed, providing input on managerial-level decision-making and risk assessment when discussing platform investments and expected outcomes. Before the closure, this paper will cover the limitations of the study and give proposals for future research avenues that were not covered or only scraped at the surface in this thesis.

5.1 Internal platform navigation

One of the main goals of this study was to examine how manufacturing companies use platforms in their processes and in coordinating their internal and external activities. Findings made from the data gathered by the semi-structured interviews imply that internal platforms serve as coordination mechanisms that help structure and guide the workflow, enhance the process visibility, conceptualize the activities, and provide tools for assigning responsibilities within the organization.

The findings show that the platform can improve transparency by providing timestamped process data, such as deviations, which the employees can monitor and follow the task process. The previous revelation based on data supports the earlier findings that digital platforms are tools for distributing and storing data while improving situational awareness in the manufacturing context (Jovanovic et al., 2022; Kazantsev et al., 2023; Rantala et al., 2023). In this case, the platform works almost as a hub for all the relevant links and data, thus reducing the fragmentation of the internal or external information to multiple systems.

The next-largest theme in the findings was that the platform clarifies the responsibility structure through the automatic assignment of tasks and responsibility areas to specific persons or teams. The findings support Rantala and others (2023), as the processes are visual and the flow is clear. Additionally, the ambiguity in task ownership is reduced and benefits follow-up actions through a sense of ownership, as highlighted in research on platforms' role in coordinating activities (Gawer & Cusumano, 2014). Platforms then do more than simply support technical integration, but essentially organizational coordination as well.

Interviews also revealed that too much or incorrect data can collapse the platform's effectiveness. Another issue would be if the system integration were faulty. This was also raised as an issue in the theory chapter, where it was noted that when the ability to handle large datasets is present, it can be harmful and discombobulate workers (Dalenogare et al., 2018). Findings pointed out that the platform had a complex data structure, and the need for manual data updates created a lot of work, increasing the risk of reliability issues. The above proves that data-driven platforms, where available data creates opportunities for coordination and process development, upholding the data poses risks to accuracy and usability.

Overall, the results indicate that platforms are not just digitalization tools but also play a central role in structuring processes and coordinating work within the company. Platforms can offer standardized, visual, and trackable processes, although the sheer volume of data introduces challenges in system complexity and data management.

5.2 Ecosystem and platform value creation

The thesis showed that the platforms in manufacturing companies support collaboration and allow more venues for value creation. The findings from the interviews exhibit that the internal platform originally made for the company to use extends beyond internal use and allows easier interaction and information flow with other ecosystem partners. This is also supported by the study, where it was found that internal digital platforms

usually evolve from internally focused to more open and inclusive for the business partners (Jovanovic et al., 2022).

Interviews show that the platform has improved transparency and clear communication, both within and across organizational boundaries. This is supposed to allow different partners to better align their production plans with company A. One example from the research was that the shared data on production status and automated messages to maintenance partners allows partners to anticipate the kinds of situations production will lead to. The findings strengthen prior research suggesting that platforms can enable coordination among interdependent actors (Adner, 2017; Vargo & Lusch, 2016). Additionally, the previous notation reflects the role of platforms as a structure spanning over organizational boundaries that connect actors and resources within the ecosystem (Gawer, 2014).

The platform also contributes to ecosystem-level efficiency by reducing lead times and shortening response times. Earlier studies show that the ability to share information in real time allows partnering companies to synchronize their activities more accurately, reflecting the role of digital platforms in combining and collaborative value chains, lifting the collaborative performance (Rantala et al., 2023; Jovanovic et al., 2022). Through this, the platform acts as an enabler of coordination on the ecosystem level, rather than just an internal system.

However, the data from the interviews emphasized the dependence of realized results on the process alignment and quality and accuracy of the shared data. If partner activities are too different from one another and readiness for implementation varies, the platform won't realize its full potential. This issue was identified in the theory, as the platform orchestrator must manage the coordination and alignment of different actors on the platform (Davies, 2004). Prior studies have also found that ecosystem value creation is contingent on alignment between actors (Adner, 2017). The previous part clarifies that the value-creation benefits enabled by the platform are not automatic but

require alignment from the start to the present and a strong commitment to the platform across multiple partners.

Results suggest that platforms can function as connectors among collaborating firms, enabling network benefits and value co-creation. This also requires all partners to commit to the ongoing coordination and adaptation.

5.3 Platform promotion and governance

This thesis explored how the focal firm can promote the use and adoption of the platform among ecosystem partners and how platform governance influences platform use. Findings from the data suggest that platform adaptation and use are shaped by governance rules, resource alignment, and behavioral factors.

The thesis's results show that the platform is governed by a centralized team that handles changes to the platform's logic, adds new features, and regulates data. This makes the platform become rigid but minimizes issues in data quality or functionality. Modifications that could be made by a larger set of users now require correct authorization. Even though there are discussions ongoing for more accessibility, the clear trade-off is visible in platform control and openness, where the increased control supports standardization but limits adaptability (Panico & Cennamo, 2022; Tura et al., 2018). Additionally, this aligns with prior research suggesting that platform leaders need to design and implement governance structures to balance stability and innovation (Gawer & Cusumano, 2014).

When discussing the specter of adoption, the findings indicate that the onboarding phase for partners is a highly resource-intensive process that requires time, meetings, and compromises or alignment on both sides. All partners are their own companies, meaning that the platform and its implementation cannot be fully standardized. But as one interviewee said, the implementation gets easier as more partners join, as the "library" for implementations grows, and that can be used as the template for new

partners. This supports prior findings that platform implementation requires greater investments as well as commitment and alignment across ecosystem partners (Jovanovic et al., 2022). Another finding was that the platform was originally made solely for company A's use, but its use has been broadened to include partners. This suggests that the platform is in the early days of its lifespan, as digital platforms in the industrial context start with an internal focus and broaden to become more open and inclusive to other partners (Jovanovic et al., 2022).

Results also show that behavioral factors play a significant role in the platform's adaptation rate. The effectiveness of the platform's functionality depends on how consistently the users follow agreed processes and ensure the quality of the data they input. Interviews shed light on how resistance to new practices, disregard for feedback, and inconsistent use can harm the platform's effectiveness. Earlier studies have similarly shown that the success of digital platforms depends not only on technological capabilities but also on the behavior and practices (Suuronen et al., 2022).

Continuing on the human-related topics, findings proposed that trust and perceived potential value were clear drivers of engagement. The organizational partners are more likely to adopt and commit to the platform when the benefits are clearly pointed out, and the focal company demonstrates commitment to platform development. Older studies have found that the use of special and new features, along with the opening of the company's systems, requires trust and possibly earlier success stories (Hannah & Eisenhardt, 2018; Jovanovic et al., 2022; Rantala et al., 2023). The previous paragraph shows that the focal firm's role as an orchestrator is to balance governance, incentivization, and communication between companies to ensure the best possible outlook for the platform.

Overall, this section indicates that the adoption of the platform is definitely not purely technical but a sociotechnical challenge that requires delicate balancing acts in control and flexibility, partner alignment, and enforcing the user behavior.

5.4 Theoretical contributions

The thesis builds on research on platforms as coordination mechanisms by demonstrating how the structure and the platform's ability to integrate processes within the manufacturing industry. As mentioned in the theory section of this paper, platforms have been conceptualized in prior research as mechanisms for coordinating the activities within companies and their ecosystems (Gawer & Cusumano, 2014; Jovanovic et al., 2022), but the studies have focused more on external or industry-level platforms, also not in the manufacturing context. Findings indicate that internal platforms increase transparency and structure, as evidenced by improved traceability and clear task ownership (Int1). This study delved into internal platforms as the empirical data source, finding that internal platforms can fulfill coordinating roles by enhancing transparency and task assignment, and taking advantage of real-time processes and visibility. This allows the study to highlight the importance of internal platforms as coordinators of infrastructure in the complex manufacturing sector.

Secondly, the study extends the ecosystem literature by showing internal platforms act as boundary-crossing tools that evolve some of the internally used tools into enablers of ecosystem-level coordination. The research has emphasized that value creation among the partnering organizations (Adner, 2017; Vargo & Lusch, 2016) and underscored the ecosystem's role in value-creation activities (Jovanovic et al., 2022). This study presents how ecosystem-level collaboration and coordination can originate from internally developed platforms (Int4). This suggests an evolutionary view in which internal systems can develop into mechanisms that support inter-organizational collaboration.

The thesis contributes to the platform governance literature by revealing the tension between data-driven control and flexibility on the platform, especially in manufacturing industries, where quality certifications lead to a strong focus on reporting and inspection. Prior research has accentuated trade-offs between openness and control (Panico & Cennamo, 2022; Tura et al., 2018), and governance has also been studied in terms of orchestrating participation and value capture (Gawer & Cusumano, 2014). This thesis

extends the previous perspective, showing that in data-sensitive industries, governance is shaped to ensure data reliability, as noted multiple times in interview data (Int3; Int1; Int4). The acknowledgment of governance needs introduces a dimension to the platform's governance, showing that control is not only about access and viewing rights but also about the integrity of data input into the platform, affecting its functionality and effectiveness.

Finally, this study underscores that value realization on a platform depends on behavioral alignment and data processes, rather than being an automatic outcome of the platform's technological implementation (Int1; Int2). Showing that the results of the platform don't show as intended, purely when the platform is implemented and running (Int3). As platforms are usually portrayed as coordination and value-creation enabling systems (Gawer & Cusumano, 2014; Jovanovic et al., 2022), the findings indicate that the positive effects are conditional on user behavior and high-quality data. Proving that continuous efforts in the data training and use are justified. Previous research is extended by findings that platform effectiveness depends more on user engagement and operating standards than on technological capabilities (Rantala et al., 2023; Suuronen et al., 2022).

Furthermore, the research supports the role of data in platform functionality, as the reliability and consistency of data input and use significantly affect platform usage outcomes (Jovanovic et al., 2022). The presented intertwined nature of systems and human behavior in platforms exhibits that the value gets created through alignment of platform design, data consistency, and quality, and human behavior.

5.5 Managerial implications

This study provides multiple practical implications for employees at the managerial level and invested employees on the operational level when leveraging platform use in a manufacturing context. Managers should treat platforms as coordination mechanisms rather than pure technological systems. Platforms have a very large role in integrating activities and structuring the manufacturing processes (Gawer & Cusumano, 2014). This

paper's findings imply that the biggest building blocks of value in platforms are the enhanced visibility and traceability of processes. Therefore, the focus should be on improving the real-time transparency, clarifying responsibilities, and supporting workflow monitoring. Possible actions could be adding automation or stricter follow-up marking.

Platforms' value creation extends beyond the organizational boundaries, into the broader ecosystem. As ecosystem theory describes (Adner, 2017; Vargo & Lusch, 2016), value is cocreated through interactions among business partners. The results of previous studies show that shared data and clear, continuous communication allow firms to align better with one another, leading to shorter lead times and higher responsiveness to new updates or features on the platform. Data from the interviews showed that progress has been made in clarifying information sharing. The groundwork for the platform with partnering companies is done at the start of the integration to ensure quality piloting. Ecosystem partners should be encouraged to share data and coordinate activities with the focal company to allow the platform to reach its full potential.

Managers need to balance governance and flexibility, as centralized control improves consistency in data and inputs, but rigidity slows development and limits the platform's adaptability to quick improvements. Findings from the data stress that governance methods should support standardization and responsiveness, mirroring the previous findings on the trade-offs in governance (Panico & Cennamo, 2022; Tura et al., 2018). Design should be such that governance is strict only in the most critical and data-sensitive processes, while more flexibility could be allowed in less data-centric parts of the process to boost ideas for improvement and streamlining.

Data quality should be kept under tight surveillance, as it serves as the foundation for the platform's effectiveness and the results it delivers. The responsibilities for data input and validation should be clearly set and agreed upon within the company and its

ecosystem. Investing in continuous monitoring and data governance is essential to ensure that the information the platform produces and uses is accurate.

Lastly, managerial focus should narrow down to user behavior. Results convey that users' ability to consistently follow the process and understand the meaning and weight of their data inputs affects the potential value achieved through the use of a platform. Training, clarity of instructions, and better feedback mechanisms are then subjects for managerial investment to reinforce correct use and foster a sense of ownership in the operative users (Rantala et al., 2023; Suuronen et al., 2022). Successful platform adoption among business partners as well as internally requires communication, alignment, and convincing of the platform's value to achieve long-term commitment and trust.

5.6 Limitations and future research

Despite efforts to enhance research rigor, this thesis has limitations that should be considered when interpreting the findings, the first being that the study was conducted as a qualitative single-case study. This causes the findings to be context-specific, thus limiting the possibility of generalization. The limitations do not affect the results of the study, but they do limit how the results can be projected onto another case.

Another limiting factor for this paper was the limited research done on manufacturing platforms. Most platform studies focus on marketplaces that allow multisided markets. This caused the issue of either deducting the findings from other industries or using just the core findings without going into too much detail. Future research suggestions would be to conduct broader, more comprehensive studies across manufacturing industries and their platform use.

The number of interviews used in this thesis was also limited. Interviews still provided rich insight across themes. A larger set of interviewees, possibly even from technical development and the actual operational level, could have offered more perspectives and validated the results. Future research could include case companies from different

countries or take participants from all levels of the organization who are even remotely in touch with the platform to achieve a holistic view of platform benefits and issues.

This study focused more on the focal company's perspective, which limits understanding of the partnering company's perspective. While partner-related topics were discussed, direct input or insights from the partner firm could provide more honest and comprehensible results of ecosystem dynamics and platform adoption. The venue then opens for research focusing on the ecosystem partners using the platform, with a focus on topics such as how alignment is done and how training and implementation are completed and supervised.

As noted in the paper, company A’s platform is still developing, which means that the effects of some aspects may still change, and the challenges might differ from today. As the platform evolves, new dynamics related to governance, adoption, and value creation will emerge. Longitudinal studies could provide valuable insights into how the roles within the platform and the platform itself change over time. Especially the study on how technological advancement affects data use, collection, and automation within the platform.

To conclude, based on these limitations, future research could explore platform use across multiple firms and industries, incorporate perspectives from different ecosystem actors, and examine the long-term development of platforms and their role in enabling ecosystem coordination and value creation.

References

Abed Alghani, K., & Kohtamäki, M. (2026). Toward an Integrative Framework of Industry Platform Management: A Systematic Literature Review and Agenda for Future Research. *International Journal of Management Reviews*, *28*(2), e70016. https://doi.org/10.1111/ijmr.70016

Adner, R. (2017). Ecosystem as Structure. *Journal of Management*, *43*(1), 39–58. (120132828). https://doi.org/10.1177/0149206316678451

Brusoni, S. (2001). Unpacking the Black Box of Modularity: Technologies, Products and Organizations. *Industrial and Corporate Change*, *10*(1), 179–205. https://doi.org/10.1093/icc/10.1.179

Brusoni, S., Prencipe, A., & Pavitt, K. (2001). Knowledge Specialization, Organizational Coupling, and the Boundaries of the Firm: Why Do Firms Know More than They Make? *Administrative Science Quarterly*, *46*(4), 597–621. https://doi.org/10.2307/3094825

Cusumano, M. A., & Gawer, A. (2003). The elements of platform leadership. *IEEE Engineering Management Review*, *31*(1), 8–8. https://doi.org/10.1109/EMR.2003.1201437

Dalenogare, L. S., Benitez, G. B., Ayala, N. F., & Frank, A. G. (2018). The expected contribution of Industry 4.0 technologies for industrial performance. *International Journal of Production Economics*, *204*, 383–394. https://doi.org/10.1016/j.ijpe.2018.08.019

Davies, A. (2004). Moving base into high-value integrated solutions: A value stream approach. *Industrial and Corporate Change*, *13*(5), 727–756. https://doi.org/10.1093/icc/dth029

Eisenhardt, K. M. (1989). Building Theories From Case Study Research. *Academy of Management. The Academy of Management Review*, *14*(4), 532.

Frank, A. G., Dalenogare, L. S., & Ayala, N. F. (2019). Industry 4.0 technologies: Implementation patterns in manufacturing companies. *International Journal of Production Economics*, *210*, 15–26. https://doi.org/10.1016/j.ijpe.2019.01.004

Gawer, A. (2014). Bridging differing perspectives on technological platforms: Toward an integrative framework. *Research Policy*, *43*(7), 1239–1249. https://doi.org/10.1016/j.respol.2014.03.006

Gawer, A., & Cusumano, M. A. (2014). Industry Platforms and Ecosystem Innovation. *Journal of Product Innovation Management*, *31*(3), 417–433. https://doi.org/10.1111/jpim.12105

Gibbert, M., Ruigrok, W., & Wicki, B. (2008). What passes as a rigorous case study? *Strategic Management Journal*, *29*(13), 1465–1474. https://doi.org/10.1002/smj.722

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking Qualitative Rigor in Inductive Research: Notes on the Gioia Methodology. *Organizational Research Methods*, *16*(1), 15–31. https://doi.org/10.1177/1094428112452151

Hannah, D. P., & Eisenhardt, K. M. (2018). How firms navigate cooperation and competition in nascent ecosystems. *Strategic Management Journal*, *39*(12), 3163–3192. https://doi.org/10.1002/smj.2750

Hobday, M. (1998). Product complexity, innovation and industrial organisation. *Research Policy*, *26*(6), 689–710. https://doi.org/10.1016/S0048-7333(97)00044-9

Jacobides, M. G., Cennamo, C., & Gawer, A. (2018). Towards a theory of ecosystems. *Strategic Management Journal (John Wiley & Sons, Inc.)*, *39*(8), 2255–2276. (130771714). https://doi.org/10.1002/smj.2904

Jovanovic, M., Sjödin, D., & Parida, V. (2022). Co-evolution of platform architecture, platform services, and platform governance: Expanding the platform value of industrial digital platforms. *Technovation*, *118*, 102218. https://doi.org/10.1016/j.technovation.2020.102218

Kazantsev, N., Petrovskyi, O., & Müller, J. M. (2023). From supply chains towards manufacturing ecosystems: A system dynamics model. *Technological Forecasting and Social Change*, *197*, 122917. https://doi.org/10.1016/j.techfore.2023.122917

Kohtamäki, M., Parida, V., Patel, P. C., & Gebauer, H. (2020). The relationship between digitalization and servitization: The role of servitization in capturing the financial

potential of digitalization. *Technological Forecasting and Social Change*, *151*, 119804. https://doi.org/10.1016/j.techfore.2019.119804

Moore, J. F. (1993). Predators and Prey: A New Ecology of Competition. *Harvard Business Review*, *71*(3), 75–86. (9305180275).

Panico, C., & Cennamo, C. (2022). User preferences and strategic interactions in platform ecosystems. *Strategic Management Journal*, *43*(3), 507–529. https://doi.org/10.1002/smj.3149

Rantala, T., Ukko, J., Nasiri, M., & Saunila, M. (2023). Shifting focus of value creation through industrial digital twins—From internal application to ecosystem-level utilization. *Technovation*, *125*, 102795. https://doi.org/10.1016/j.technovation.2023.102795

Robertson, D., & Ulrich, K. (1998). Planning for Product Platforms. *Sloan Management Review*.

Saunders. (2023). *Research methods for business students*. Pearson Education.

Schmidt, M.-C., Veile, J. W., Müller, J. M., & Voigt, K.-I. (2021). Ecosystems 4.0: Redesigning global value chains. *The International Journal of Logistics Management*, *32*(4), 1124–1149. https://doi.org/10.1108/IJLM-03-2020-0145

Suuronen, S., Ukko, J., Eskola, R., Semken, R. S., & Rantanen, H. (2022). A systematic literature review for digital business ecosystems in the manufacturing industry: Prerequisites, challenges, and benefits. *CIRP Journal of Manufacturing Science and Technology*, *37*, 414–426. https://doi.org/10.1016/j.cirpj.2022.02.016

Teece, D. J., Pundziene, A., Heaton, S., & Vadi, M. (2022). Managing Multi-Sided Platforms: Platform Origins and Go-to-Market Strategy. *California Management Review*, *64*(4), 5–19. https://doi.org/10.1177/00081256221109961

Tura, N., Kutvonen, A., & Ritala, P. (2018). Platform design framework: Conceptualisation and application. *Technology Analysis & Strategic Management*, *30*(8), 881–894. https://doi.org/10.1080/09537325.2017.1390220

Vargo, S. L., & Lusch, R. F. (2016). Institutions and axioms: An extension and update of service-dominant logic. *Journal of the Academy of Marketing Science*, *44*(1), 5–23. https://doi.org/10.1007/s11747-015-0456-3

Yin, R. K. (2014). *Case study research: Design and methods* (5th edition). SAGE.

Appendices

Appendix 1. Semi-structured Interview Guide

Case focus: Manufacturing firm as focal platform orchestrator

Research topic: Ecosystems and the Roles of Platforms in Manufacturing

Interview type: Semi-structured expert interview. For each topic, 1–3 questions may be selected depending on the interviewee's role and the direction of the discussion.

Estimated duration: 30–60 minutes

Background and Role

1. Could you describe your current role in the company and your main responsibilities?
2. How are you involved in the internal platform or ecosystem-related activities?
3. How long have you been working with platform or ecosystem development?

Internal platform navigation (RQ1)

4. How would you describe navigating the platform and finding the information you need?
5. What kinds of tasks or processes are handled through the platform?
6. How are conflicts or misalignments between business units handled?
7. Are there specific features or tools in the platform that you rely on most?

Benefits and Positive Effects (RQ2)

8. What effects has the platform brought to the company?
9. What kinds of information are usually shared through the platform?
10. Are there measurable performance improvements linked to the platform?
11. Has the platform changed the way you coordinate or communicate with partners? If so, how?

Promotion and Ecosystem Orchestration (RQ3)

12. Has the platform made certain tasks faster or easier? Or if not, the other way around?
13. How does the company balance openness and control within the platform?
14. How does the company manage resistance from partners?

How are rules and standards defined for platform participation?
16. When working with partners through the platform, are there clear rules or processes that guide how work should be done?
17. How does governance evolve as the ecosystem grows?

Future Outlook
18. What improvements would make the platform more useful in your daily work?
19. What emerging technologies may influence platform strategy?
20. What strategic capabilities will be most important in the future?

Closing
21. Is there anything important regarding the platform or ecosystem that we have not discussed?
22. Are there other individuals you would recommend interviewing?

Ethical Considerations
Participation is voluntary. Interviews are confidential and anonymized. Data will be used solely for academic research purposes.

Appendix 2. Privacy Notice

Informed Consent of the Research Subject

“I voluntarily consent to participate in this research project. I may withdraw at any stage without stating a reason. I may also withdraw my consent at any stage before the completion of the research project. If I withdraw my consent, the data I have provided

until that point in time may still be used in the research project, but new data may no longer be used for research purposes. (NB: It is not possible to omit data related to a single research subject from research results after they have been analyzed and published.)

Privacy Notice

Study – Internal Platforms and Ecosystems in Manufacturing Firms

We kindly invite you to participate in this interview study, which investigates the role of internal platforms in manufacturing firms and their impact on ecosystem collaboration, operational efficiency, and value creation. You are being contacted because of your role within your organization and your potential expertise related to the topic.

After reading this privacy notice, you will be asked to provide your consent to participate in the study. If you have any questions, you may contact the researcher by email. Attending the interview is considered as accepting the data collection.

Aim of the Study

The aim of this study is to examine how internal platforms are utilized within manufacturing firms and how they influence collaboration, processes, and value creation both within the organization and across its ecosystem.

Research Schedule and Stages

The study will be conducted during Spring 2026. The data collection consists of individual interviews with selected participants.

The interviews will be scheduled individually at a time convenient for the participant and conducted on Microsoft Teams

Each interview will last approximately 30–60 minutes.

Data Collection Methods

The study is conducted using semi-structured interviews. The interviews will focus on participants' experiences, perspectives, and insights related to internal platforms, collaboration, and operational practices.

With your permission, the interviews will be audio-recorded to ensure accurate data collection. The recordings will be transcribed for analysis.

Participation in the study will not be compensated.

Benefits and Risks Related to the Study

The study aims to contribute to academic research on digital platforms and business ecosystems in manufacturing context and may provide insights useful for companies in developing their operations.

Participation in the study does not involve significant risks. However, there may be minimal risks related to the discussion of company practices. Participants are not required to disclose confidential business information and may skip any questions they do not wish to answer.

Confidentiality, Processing and Storage of Data

All data collected in this study will be processed confidentially in accordance with the General Data Protection Regulation (GDPR) and the Finnish Data Protection Act.

Personal data (such as name, position, and organization) will only be used for research purposes and will be stored securely. Interview data will be pseudonymized during transcription, meaning that identifying information will be removed or replaced.

Only the researcher and the thesis supervisor will have access to the data. The data will not be shared with external parties.

The research data will be stored securely at the University of Vaasa in accordance with the university's data management guidelines and retained for a maximum of 1 year, after which it will be permanently deleted.

Privacy Protection in Publications

All results will be reported in an anonymized form. Individual participants and companies will not be identifiable in the final thesis or any related publications.

Direct quotations from interviews may be used, but they will be edited where necessary to ensure anonymity.

Voluntariness

Participation in this study is entirely voluntary. You may withdraw from the study at any time without providing a reason. Withdrawing will not result in any negative consequences.

If you withdraw, the data collected from you up to that point may still be used in anonymized form as part of the research.

Use of Data for Further Research

The collected data will be used solely for the purposes of this Master's thesis. The data will not be used for other research or purposes without additional consent.

Further Information

Further information about the study can be obtained from:

Veeti Mäkelä
University of Vaasa, Programme of Strategic Business Development
e122876@student.uwasa.fi

Appendix 3: The use of AI

Artificial intelligence (AI), specifically tools such as ChatGPT and Grammarly, was used as a supportive aid during the thesis process. Its use was limited to assisting tasks, while all analysis, interpretations, and conclusions are the independent work of the author.

1. Idea Development and Structuring
AI was used to support brainstorming, refining research questions, and structuring the thesis. All suggestions were critically evaluated and adapted by the author.

2. Literature Review Support
AI assisted in identifying relevant themes and keywords and in understanding theoretical concepts. All sources were independently verified and retrieved from academic databases.

3. Writing and Language Support

AI (ChatGPT & Grammarly) was used to improve clarity, grammar, and academic tone. The content and arguments were produced by the author.

4. Interview Preparation and Analysis

AI supported the formulation of interview questions and the structuring of qualitative analysis (e.g., Gioia methodology). All coding and interpretations were conducted independently.

Summary

AI was used only as a supportive tool to enhance efficiency and clarity. The intellectual work and academic contributions of this thesis are solely those of the author.