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Pricing configurations in digital servitization: How industrial firms make digital services commercially viable

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ABSTRACT

As industrial business-to-business firms increasingly pursue digital servitization to generate recurring revenues, making digital services commercially viable remains difficult, especially when value capture depends on customer access, data permissions, and intermediary-governed contractual arrangements. Although prior research has emphasized value creation and capability development in digital servitization, we know little about how industrial firms make digital-service pricing commercially viable. In this paper, we undertake a longitudinal exploratory qualitative case study of a leading European OEM operating in a mission-critical context. Our findings make three contributions. First, we develop a pricing-conditions perspective by showing that digital-service pricing depends on data access and interpretability, measurability and attribution, governance positioning, and service architecture and repeatability. Second, we identify four digital-service commercialization patterns of SLA-enhancing, incident-based, predictive, and planning-oriented, and enabling and infrastructural services that explain why digital services differ in how they can be packaged and defended commercially. Third, we develop four pricing configurations, i.e., ad hoc, customized, standardized, and value-based pricing, showing that pricing viability depends less on selecting a pricing approach than on aligning the service's commercial role, customer-value locus, feasibility conditions, and commercial and governance arrangements. In this sense, pricing in digital servitization is better understood as a configurational approach than an isolated price-setting decision and strategy. By doing so, the study extends research on digital servitization and industrial pricing, offering a configurational understanding of how, and under what conditions, digital-service pricing becomes commercially viable.

1. Introduction

Digitalization is arguably one of the most consequential forces reshaping industrial competition, prompting original equipment manufacturers (OEMs) to seek new ways of creating, delivering, and capturing value (Lamperti et al., 2024; Sjödin et al., 2020, 2023). Among the most transformative elements of this shift is *digital servitization* (Favoretto et al., 2022; Hsuan et al., 2021; Tronvoll et al., 2020), which involves integrating digital technologies into service offerings to enhance value creation, generate recurring revenues, and strengthen customer relationships. These offerings leverage emerging technologies, such as cloud platforms, digital twins, the Industrial Internet of Things, and advanced analytics, to enable services like remote diagnostics, predictive maintenance, and outcome-based arrangements (Frandsen et al., 2022; Linde et al., 2021; Sjödin et al., 2020). Nonetheless, most OEMs struggle to monetize their digital services or fail to do so. Thus, many firms experience what is referred to as the "digitalization paradox", whereby they fail to realize the benefits from investments made to support their digital strategy, which are expected to yield long-term benefits (Gebauer, Fleisch, et al., 2020; Tóth et al., 2022). Numerous organizational barriers and difficulties inhibit the potential of digital-service commercialization, such as legacy arrangements, capability gaps, or sales misalignment, which are well-documented (Boldosova, 2020; Tronvoll et al., 2020), as do external constraints like customers' reluctance to share operational data or entrust mission-critical systems to digital platforms (Eggert et al., 2022).

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This difficulty becomes especially visible when it is time to reap the benefits of digital servitization through value capture. Extant research has shown why firms pursue digital servitization and how digital technologies enable new forms of service provision (Chen et al., 2021; Coreynen et al., 2017; Favoretto et al., 2022), but we still know less about how digital services become commercially viable in practice. At the same time, the promise of recurring revenue, data-enabled service relationships also makes the commercial realization of digital servitization more demanding, as firms must convert this promise into workable mechanisms for capturing value. Thus, pricing is pivotal in this respect, yet it is also uniquely complex in the context of digital servitization because it must translate evolving, data-mediated, complex value propositions into terms that are measurable, defensible, and enforceable across multiple actors in sophisticated industrial networks. As such, pricing in digital servitization is seldom reducible to a simple charging formula or to a sales decision taken after the service has been developed. It is the process through which a firm translates a value proposition into a viable commercial claim about what should be paid, by whom, for what, under which conditions. Thus, it is necessary to understand whether the offering can be specified, interpreted, supported, and justified in ways that customers and industrial partners will accept. In business markets, the challenge is particularly acute because pricing approaches must be translated into workable pricing conditions under conditions of uncertainty, interdependence, and uneven measurability (Karami et al., 2024; Markfort et al., 2022; Raja et al., 2020; Töytäri et al., 2015).

This question becomes even more pressing in business-to-business (B2B) relationships where commercialization is mediated by powerful intermediaries (Davies et al., 2007; Johnson et al., 2021; Kohtamäki et al., 2019). In many B2B settings involving advanced solutions, systems integrators (SIs), as independent organizations that integrate various complex product-service systems from different suppliers (Davies et al., 2007; Johnson et al., 2021), occupy a pivotal position between OEMs and end customers. They can control customer relationships, access to the installed base, service-level commitments, and data interfaces. Hence, they shape what the provider can promise, deliver, and monetize (Kohtamäki et al., 2019; Sjödin et al., 2023). However, although existing research on digital servitization has illuminated capability development and procurement transformation (Hsuan et al., 2021; Iriarte et al., 2023; Sjödin et al., 2023), it still offers rather limited insight into how such intermediary-governed conditions shape the commercial viability of specific digital services. Moreover, recent research suggests that servitized manufacturers often operate hybrid service portfolios in which different service logics coexist, creating organizational and commercial tensions rather than a simple linear shift toward more advanced offerings (Spadafora & Rapaccini, 2026). This is a consequential omission because digital services do not enter industrial markets as homogeneous offerings. They differ in what they do, what they require, how clearly their value can be attributed, and how far their commercialization depends on contractual position and network access.

We approach this problem configurationally (Meyer et al., 1993). A configurational perspective attends to how multiple interdependent conditions combine into coherent patterns, rather than to the net effects of isolated factors. It is well-suited to phenomena marked by conjunction (pricing viability arises from how conditions combine rather than act singly), equifinality (more than one pathway may lead to a viable arrangement), and causal asymmetry (the conditions enabling advanced pricing are not simply the inverse of those underpinning ad hoc ones) (Fiss, 2007; Furnari et al., 2021). Viewed this way, whether a pricing approach becomes viable depends not on any single condition like data access, measurability, or contractual position but on whether these conditions cohere. This is precisely what remains poorly understood, as prior research has identified many individual drivers and barriers of digital-service commercialization (Brekke et al., 2024; Classen & Friedli, 2022; Coreynen et al., 2020; Peillon & Dubruc, 2019), yet rarely examined how they combine to make particular pricing approaches viable.

Against this backdrop, we ask the following research question: *how do industrial firms make digital-service pricing commercially viable under different pricing conditions?* To address this question, we draw on a longitudinal qualitative case study of RadarTech, a pseudonym for a leading European OEM operating in an advanced mission-critical setting, where the commercialization of digital services is shaped by technical complexity, installed-base heterogeneity, and intermediary involvement. This setting is analytically valuable because it embodies pricing and value-capture challenges in a uniquely complex context and makes the conditions of pricing viability especially visible.

Drawing on this case and analysis, the paper makes three integrated contributions. First, it advances a pricing-conditions perspective on digital servitization by showing that digital-service pricing viability is shaped by the interplay among data access and interpretability, measurability and attribution, governance and contractual positioning, as well as service architecture, installed base, and repeatability. Second, it extends research on digital service commercialization by identifying four patterns and showing how services differ in whether they strengthen SLAs, support bounded interventions, enable predictive planning, or provide infrastructure for future value capture. This contribution also shows how SIs shape whether services can be packaged, defended, and monetized through customer access, SLA positioning, data permissions, and back-to-back alignment. Third, it contributes to industrial pricing research by theorizing ad hoc, customized, standardized, and value-based pricing as configurations rather than as a menu of pricing choices. Cumulatively, these contributions show that pricing in digital servitization cannot be "bolted on" after service development. The paper's integrative insight is that pricing viability depends on coupled alignment among the service's commercial role, the customer value it seeks to capture, the conditions that make it specifiable and supportable, and the commercial and governance arrangements through which it is delivered. Importantly, the configurations presented in this paper should not be interpreted as a linear maturity path or as a normative ranking of pricing approaches for firms to follow. Instead, they explain how different pricing approaches become viable under varying constellations of service, data, and governance conditions that firms need to understand.

2. Literature review

2.1. Digital Servitization and value capture

Digital servitization is defined as "the transition toward smart product-service-software systems that enable value creation and capture through monitoring, control, optimization, or autonomous function" (Kohtamäki et al., 2019, p. 383). As digitalization on its own is gradually becoming commoditized, market differentiation increasingly hinges on the new practices and customer-facing value logics it enables (Sklyar et al., 2019). In this context, digital servitization offers new possibilities with digital technologies, enabling new service offerings (Coreynen et al., 2017). It allows for a shift in commercial logic away from one-off product sales or episodic after-sales work toward ongoing, data-enabled service relationships that can sustain recurring revenues and deepen customer engagement over time (Linde et al., 2023).

This shift builds on a mature and diverse servitization literature that has built up over the past three decades (see the following for detailed reviews: Lightfoot et al., 2013; Rabetino et al., 2018; Raddats et al., 2019; Zhang & Banerji, 2017). More recent attention has also turned to reviewing how digital technologies further transform servitization by altering manufacturers' offerings, organizational arrangements, B2B relationships, and data-related dependencies (see Favoretto et al., 2022; Paschou et al., 2020; Smania et al., 2024; Zhang et al., 2023). Together, these review studies of both servitization and digital servitization provide cumulative insights into how the field has developed. Yet, how

data-enabled digital services are converted into commercially viable value-capture arrangements requires further attention.

For instance, it is well documented that firms frequently encounter the "digitalization paradox," where substantial investments in digital initiatives do not translate into commensurate returns (Gebauer, Arzt, et al., 2020; Gebauer, Fleisch, et al., 2020; Tóth et al., 2022). In digital servitization, this paradox often crystallizes as value-capture tensions. This issue is essentially about whether firms can make digital offerings payable, measurable, and governable in use. For example, the tension exists between the need for access to (and the right to use) operational data to specify, price, and govern digital services, and customers' and partners' incentives to restrict data sharing and retain control over data interfaces, with implications that extend well beyond competitive benefits (Eggert et al., 2022). Yet data analytics remains inextricably intertwined with digital servitization and is a crucial enabler of data-driven offerings (C. G. Eggert et al., 2022; Raja et al., 2024; Struyf et al., 2021). For example, "new output-based asset efficiency services such as remote monitoring and software customization depend crucially on data analytics" (Tronvoll et al., 2020, p. 294). Thus, analytics both enables and intensifies value-capture tensions by making measurement and accountability simultaneously more feasible and more contested.

This points to a broader issue in digital servitization: value capture depends on making digital offerings commercially viable amid data dependence, interorganizational interdependence, and measurement challenges. Recent research on selling and sales management in servitization reinforces this point by showing that commercialization, at its core, involves how firms engage customers and organize the processes through which services and solutions are sold (Kowalkowski et al., 2025). More broadly, the extant literature offers limited insight into how firms translate digital service offerings into workable pricing arrangements under heterogeneous data, service, and governance conditions. As such, research on industrial pricing is particularly relevant to servitizing firms.

2.2. Industrial pricing in business markets

Industrial pricing research offers a useful starting point for understanding the pricing of digital services. In industrial markets, pricing has long been understood as a strategic activity shaped by internal and external conditions, including costs, market conditions, customer value, product characteristics, information asymmetries, and competitive dynamics (Forman & Hunt, 2005; Noble & Gruca, 1999). Noble and Gruca (1999) define *pricing strategy* as "the *means* by which a pricing objective is to be achieved" (p.436, italic emphasis in original). This is important because pricing strategy should be distinguished from pricing models or revenue mechanisms. Pricing strategies refer to the underlying logic through which price is devised and justified, such as cost-, competition-, or value-based pricing (Hinterhuber, 2004; Töytäri et al., 2015). *Revenue mechanisms*, by contrast, concern how charges are structured and levied, for example, through one-off fees, subscriptions, bundles, usage-based charges, or outcome-linked contracts (Noble & Gruca, 1999; Raja et al., 2020; Rapaccini, 2015; Töytäri & Rajala, 2015). This distinction is essential for the present study because pricing in digital servitization often combines pricing strategies, contractual forms, and revenue mechanisms in ways that are easily conflated.

Recent review research also suggests that commercialization-facing questions remain comparatively underdeveloped within the servitization research domain. Specifically, Kowalkowski et al. (2025), for example, show that selling services and solutions requires collaborative, cross-functional customer engagement throughout the purchase journey, yet also note that sales-related questions have often remained secondary considerations in the broader servitization discussion. This observation is consequential because pricing and value capture in digital servitization remain even more fragmented, especially where services are data-dependent, contractually mediated, and delivered through multi-actor networks.

As manufacturers move from products toward services, solutions, and product-service systems, they must price offerings that are more relational, data-dependent, and difficult to delimit than conventional products (Smania et al., 2024). Rapaccini (2015) succinctly captures the difficulty, stating: "setting prices of these offerings is anything but straightforward" (p. 1248). Servitized firms may sell services separately, bundle them with products, embed them in service agreements, or link remuneration to use, availability, outcomes, or shared risk (Frandsen et al., 2019; Rapaccini, 2015). More advanced services and solutions also require stronger pricing and selling capabilities, because value must often be identified, quantified, communicated, and verified with customers over time (Keränen et al., 2023; Raja et al., 2020; Töytäri & Rajala, 2015). Recent research on value-based selling and product-service systems further shows that, beyond usual claims of superior value, customers need credible value communication, assessment tools, and signals that shift attention from component-level prices toward the value-in-use of the broader solution (Nijssen et al., 2026). At the same time, studies of free-to-fee service transitions show that customers may resist paying for services that were initially provided free or treated as part of the product relationship, especially when the value of the service remains difficult to isolate (Keränen et al., 2026).

All in all, this literature shows that industrial pricing is conditional, organizationally embedded, and closely tied to how value is made visible to customers. Yet it provides only partial guidance for digital servitization. Much of the pricing literature explains how firms select or implement pricing strategies (Indounas & Avlonitis, 2011; Rapaccini, 2015), develop pricing capabilities (Dutta et al., 2003; Liozu & Hinterhuber, 2013), or communicate value to customers (Eggert et al., 2018; Raja et al., 2020). However, it says less about the specific conditions under which a pricing approach becomes commercially viable for digital services whose value depends on software functionality, data access, measurement, service interfaces, and contractual commitments. In digital servitization, whether firms can standardize, customize, bundle, or link charges to outcomes depends not simply on the willingness to pay or value communication, but also on whether the offering can be specified, measured, supported, and governed across organizational boundaries. As such, this necessitates shifting the analytical focus from identifying a universally preferable pricing approach to explaining when, and under what service, data, and governance conditions, different pricing logics become commercially viable.

2.3. A configurational approach to pricing feasibility and contractibility in digital servitization

In digital servitization, value capture is often fragile because customers may treat digital services as "included" and resist paying premiums, making pricing central to the commercial viability of recurring-revenue ambitions (Linde et al., 2023; Raja et al., 2017). Against this backdrop, pricing in digital servitization is best approached as part of a broader value-capture arrangement. Following Jaakkola's (2020) distinction between domain and method theory, digital servitization, and value capture form the substantive domain of this study, while a configurational approach helps explain how different conditions combine to shape pricing feasibility. A configurational approach, as adopted in our research, directs attention to multidimensional constellations of distinct yet interdependent attributes that tend to co-occur in coherent patterns, rather than to the net effects of isolated factors (Meyer et al., 1993). It is particularly applicable to phenomena marked by conjunction and equifinality—that is, where multiple factors jointly shape an outcome and where more than one path may lead to a viable outcome (Furnari et al., 2021). For the current study, we suggest that pricing feasibility is unlikely to follow from any single condition alone; rather, it will depend on how service characteristics, contractual arrangements, data access, and governance conditions come together in workable combinations.

Viewed this way, pricing in digital servitization can be conceived as the outcome of a configuration in which commercial intent, solution architecture, measurability, data rights, and governance position must cohere. Put differently, the same nominal pricing approaches may be viable or even critical in one setting but unviable or even harmful in another because the surrounding conditions differ. This is precisely where the configurational approach highlights conjunction (i.e., pricing viability arising from interdependent conditions), equifinality (i.e., more than one pathway to commercially viable pricing), and causal asymmetry (i.e., the conditions that enable more advanced pricing are not simply the inverse of those associated with ad hoc or customized arrangements) (Fiss, 2007; Furnari et al., 2021; Misangyi et al., 2017). In the context of digital servitization, this means that pricing feasibility depends on patterned alignment among what the service is expected to do, how its value can be evidenced, whether the necessary data can be accessed and legitimately used, and whether contractual arrangements allocate responsibility in a way that makes the offer governable. A configurational approach, thus, shifts the analytical emphasis from identifying a universally preferable pricing strategy to explaining why distinct pricing configurations become viable under different commercial and interorganizational conditions, and why apparently attractive pricing strategies often fail when that broader alignment is absent.

While more advanced pricing approaches, such as value-based pricing, may better reflect the complexities and opportunities involved in digital servitization, they may also be laden with tensions and challenges regarding their application (Töytäri et al., 2015). These tensions are important and warrant further investigation, particularly regarding the assumption of unrestricted access to customer data and its implications for pricing digital offerings. Consequently, firms are compelled to craft their pricing approaches and contractual arrangements thoroughly and diligently, carefully weighing the trade-offs associated with different options, and aligning value creation and value capture through implementable pricing approaches (Sjödin et al., 2020). Seen configurationally, however, these challenges point to patterns of alignment in which some combinations of conditions support pricing feasibility, while others render similar pricing approaches difficult to sustain.

Critically, pricing in digital servitization is not separable from the configuration of the digital solution and the contractual design through which it is delivered and governed. Because digital services are specified through software features, data flows, service processes, and performance commitments, monetization logics (e.g., standardized tiering vs. value-based outcomes) require commensurate service architecture, measurement, data access, and governance provisions in contracts. This interdependence provides a central motivation for examining pricing alongside service feasibility conditions and the commercial and governance arrangements through which digital services are delivered.

While the pinnacle of digital servitization is becoming a fully integrated, advanced solutions provider (Kohtamäki et al., 2022), the sheer scope and complexity of some product-service systems often prevent manufacturers from achieving this on their own. This opens space for SIs. SIs are "responsible for the overall system design and integrating product and service components supplied by a variety of external suppliers into a functioning system" (Davies et al., 2007, p. 184) and rely on combinatorial capabilities to combine diverse knowledge bases (Johnson et al., 2021). As such, while they may enjoy unique privileges, their central position can create asymmetries: SIs may withhold critical knowledge or access from suppliers to strengthen coordination, and in value-capture terms, they can effectively determine which contractual arrangements and pricing approaches are viable, especially when they control customer access, service-level commitments, and data interfaces. In configurational terms, SI positioning is thus not a contextual backdrop but one attribute in the broader constellation that shapes whether a given pricing and contracting logic can be sustained. Yet, how SI dominance constrains smaller suppliers' value-capture efforts in digital servitization remains insufficiently understood and warrants further empirical investigation.

To summarize, although scholars have begun to recognize the importance of value capture in digital servitization, existing research has yet to provide detailed insights into how firms make digital-service pricing commercially viable under heterogeneous service and governance conditions. A configurational perspective sharpens this gap by suggesting that pricing feasibility depends on coherent combinations of conditions. This study examines how different pricing configurations emerge from distinct combinations of service characteristics, data access, feasibility conditions, and commercial governance conditions.

3. Research methods

3.1. Research approach and case background

Since digital servitization is a relatively new phenomenon, we adopted an exploratory approach with a traditional equipment provider that has embarked on a digital strategy to understand the considerations for value capture. Given the exploratory nature of this research, an abductive approach (Sætre & Van de Ven, 2021) was deemed suitable for investigating the phenomenon at hand, which is still at a nascent stage of theoretical development (Edmondson & McManus, 2007), while also allowing us to move iteratively between emerging empirical insights and relevant theoretical discussions. Our abductive approach is best described as oscillating between data and theory (Dubois & Gadde, 2002).

The present study employs a qualitative research design, utilizing a case-based approach to examine the under-researched phenomenon of value capture from digital services. The chosen case is RadarTech (a pseudonym), which has recently developed and implemented a digital strategy. Our case selection was guided by a purposeful sampling approach (Miles & Huberman, 1994), specifically focusing on the development of RadarTech's digital servitization strategy and value-capture efforts. More specifically, we treated RadarTech as the focal case and individual digital service offerings and related commercialization efforts as embedded analytical sub-units with that case. Such a design was deemed appropriate because the phenomenon of interest was how pricing and contractual arrangements become more or less feasible across a heterogeneous digital service portfolio. The case is well-suited for examining digital-service monetization because value capture is mediated by (i) mission-critical operating conditions that constrain data access and service delivery and (ii) the presence of SIs that frequently mediate customer access and contractual positioning. In addition, the case offered meaningful variation across digital services in measurability, installed-base dependence, data access, and intermediary involvement, enabling comparative within-case analysis.

RadarTech is a market leader in mission-critical defense and security technologies, serving aerospace, maritime, and critical infrastructure sectors across multiple regions. Its offering combines radar and mission-system solutions with lifecycle services (e.g., SLAs and engineering support) and, more recently, a digital platform featuring a portfolio of digital services, including remote diagnostics, monitoring, predictive maintenance, alerting, and software. RadarTech sells both directly to end customers and through SIs, which frequently procure and govern solution delivery through competitive tendering. Table 1 provides an overview of RadarTech.

3.2. Data collection

The main source of data comprises semi-structured interviews. The primary interview dataset comprised 25 interviews with RadarTech employees conducted over three years at regular intervals. The interviews averaged over 90 min in duration, with the shortest lasting 30 min and the longest just under three hours. They were carried out online or in person at the company's offices. The initial interviews involved top management and personnel responsible for developing digital services at the firm. These interviews allowed the research team to gain an

overview of the business, the strategic direction, and the current state of digital services and development activities. Additionally, they facilitated a snowballing approach to identify relevant individuals within the firm for interviewing. Table 2 presents an overview of the interviews conducted.

An interview protocol was designed to facilitate open-ended discussions with respondents about digital servitization and value capture. As the study developed, the protocol increasingly focused on how specific digital services were developed, specified, sold, governed, and priced, and on the conditions that supported or constrained their commercialization. The protocol included questions such as: Can you describe your digital strategy? Can you tell us about the digital services you offer? How do the digital services differ from one another? How are these services sold and governed in practice? What commercial, contractual, and data-related challenges and obstacles do you encounter in developing, selling, and capturing value from digital services? What actions do you need to take to address these challenges? How do you price digital services? Respondents' responses were clarified, and follow-up questions were asked to elicit more detailed and nuanced insights. In some cases, respondents were interviewed multiple times throughout the study as their digital strategies evolved and were implemented. This repeated engagement over time made it possible to revisit particular services and trace how pricing and contractual thinking changed over time.

In addition to the interviews, the research team accessed three other forms of online data. These included (i) online sessions with customers discussing digital services, (ii) meetings with a leading pricing consultancy to offer insights on digital services, and (iii) selected interactions involving SIs and end customers to triangulate key governance, contracting, and data-access conditions surrounding digital services. During online sessions with customers, information about the digital services was shared, and the chat function was monitored for participant questions and responses. These materials were particularly useful for corroborating how particular services were framed commercially, what forms of customer acceptance or resistance emerged, and how intermediary actors shaped service positioning and contractual expectations.

The research team also accessed relevant documentation that is publicly available or provided by RadarTech upon request. This included details about the (digital) services portfolio, planned development of digital services, the digital roadmap for services, pricing information, relevant spreadsheets and PowerPoint presentations, annual reports, and customer information. This allowed for data triangulation to ensure the authenticity of the accounts provided in interviews (Corbin & Strauss, 2015). The documents were also used to compare how particular services were described internally, how they were intended to be commercialized, and how pricing and contractual assumptions varied across offerings. Moreover, it is noteworthy that RadarTech, the focal organization under study, was part of an industrial research project (IRP) that examines digital servitization. The IRP regularly convened bi-annual meetings attended by multiple representatives from RadarTech, who actively participated in discussions and delivered presentations. In this research endeavor, the research team meticulously recorded all data collected in a detailed research log.

3.3. Data analysis

The data analysis steps undertaken in this research are best described as employing a thematic analysis following Braun and Clarke (2006). In practical terms, we combined iterative coding and theme development with the data-structure logic presented by Gioia et al. (2013), transitioning from informant-centric concepts to researcher-centric themes and aggregate dimensions. As an initial step, we prepared *for fieldwork* by reviewing the existing literature and case firm information available (e.g., websites, annual reports, business press) to devise the interview protocol. Next, we became *familiar with the data* by reading and re-reading interview transcripts, watching and listening to recordings, and reviewing notes from meetings and workshop observations. This allowed the research team to prepare notes, summaries, and reflections regarding their initial impressions of the data by posing questions that would help insights emerge. Then, we conducted open, informant-centric coding to capture participants' terms, meanings, and problem framings, and we continually compared codes across interviews, roles, and data sources to refine and consolidate them. We then developed second-order themes by relating recurring patterns to sensitizing concepts from the literature on digital servitization and value capture, iterating abductively between data, emerging interpretations, and prior research until the thematic structure stabilized (Grodal et al., 2021). Lastly, we aggregated second-order themes into a small set of overarching dimensions that organize the findings and inform the study's data structure. To enhance analytical rigor, multiple authors reviewed and discussed coding decisions, maintained an audit trail of iterations, and validated key interpretations through follow-up exchanges with knowledgeable informants. The final data structure from data analysis, detailing the codes, coding categories, and aggregate themes, is presented in Fig. 1.

Consistent with Yin's (2018) distinction between holistic and embedded case designs, we treat RadarTech as the focal case and the individual services within its portfolio as embedded sub-units of analysis. This analytical move was important because the phenomenon under study was internally heterogeneous: different digital services varied in their measurability, data dependence, contractual logic, intermediary involvement, and commercial role. Following the logic of methodological fit in field research (Edmondson & McManus, 2007), this embedded comparison allowed us to align the revised research question more closely with the empirical structure of the case. Following this thematic stage, we conducted a second, comparative stage of analysis across the embedded service-level offerings. Here, we compared focal digital services and related commercialization efforts in terms of their customer-facing function, service-specific commercialization issues, observed pricing or packaging logic, and associated commercialization patterns (see Table 3). The service-specific commercialization issue column in Table 3 synthesizes more detailed analytical observations concerning data access, measurability and attribution, intermediary positioning, contractual arrangement, and pricing feasibility. Appendix A provides additional illustrative evidence for these service-level interpretations. This comparison allowed us to move beyond firm-level aggregation and examine how pricing feasibility varied within the case. In practical terms, we used iterative data displays and within-case comparisons to identify recurring combinations of conditions associated with different pricing approaches. We treated recurring and contrasting patterns across service sub-units as a form of internal replication, examining whether similar relationships among data access, measurability, governance position, and pricing feasibility appeared across different services or broke down under identifiable service-specific conditions. This comparative analysis enabled us to identify four digital service commercialization patterns: SLA-enhancing services, incident-based services, predictive and planning-oriented services, and enabling and infrastructural services. In this respect, the analysis moved from coding organizationally aggregated material toward a more explicit comparison of heterogeneous service-level patterns, which in turn made recurring alignments and misalignments more visible across the portfolio.

In using the embedded service-level comparison, we treated non-provider material as especially important for assessing governance, access, and acceptance conditions. SI and end-customer perspectives were used to corroborate where customer access, data permissions, SLA positioning, and perceived usefulness constrained commercialization; documentary and webinar material were used to cross-check how services were internally framed, externally presented, and contractually positioned. Thus, triangulation primarily strengthened the analysis by clarifying the interpretation of service-level feasibility and governance conditions. This triangulated evidence is reflected in the service-level

Table 1
RadarTech firm background information.

RadarTech	Details
Core business/sector	Aerospace, Maritime, Critical infrastructure, space
Products	Radars, Mission Systems
Application/business areas	– Aeronautics – airborne solutions and manufacturing of electronics and aerostructures – Surveillance & Mission Systems – Radar surveillance to secure national borders and critical infrastructure – Space – Mission-critical products, software, and services for space missions – Support & Services – Maintenance, support, service, test equipment, and consumables
Traditional services	Maintenance, Support, Service, Equipment Testing, Consumables
Digital services	Remote diagnostics, predictive maintenance, remote monitoring and surveillance, software upgrades, apps, remote dashboard, data storage
Number of employees (Approximate)	1652
Revenue	278 million Euro

comparison in Table 3 and in the illustrative evidence in Appendix A.

Finally, after completing the coding process and the service-level comparison, we developed the pricing configurations by synthesizing the four digital service commercialization patterns, using recurring combinations of contractual arrangements, service characteristics, data access, and governance conditions as evidenced across the coding structure and service-level comparisons. We then identified four empirically recurring pricing configurations (ad hoc, customized, standardized, and value-based) that do not necessarily follow a fixed maturity path. These configurations capture recurring alignments among the commercial role of the service, the locus of customer value, service feasibility conditions, and commercial and governance arrangements. Throughout this step, we iteratively checked the emerging configuration characteristics against the underlying coded data and supporting materials. We also conducted member reflections with knowledgeable organizational informants and IRP participants to assess interpretive plausibility.

In short, our analysis involved two related but distinct tasks. The data analysis task focused on coding the collected empirical material, comparing digital services as embedded sub-units, triangulating provider, intermediary, customer, and documentary evidence, and

Table 2
Data collected.

Case Firm	Data Source	Job title	Format	Duration (mins) or quantity
RadarTech	Interview	Senior vice president	In-person	140
	Interview	Senior vice president	Online	66
	Interview	Senior vice president	Online	131
	Interview	Vice president	In-person	140
	Interview	Vice president	In-person	68
	Interview	Vice president	Online	120
	Interview	Vice president	Online	47
	Interview	Vice president	Online	133
	Interview	Vice president	Online	60
	Interview	Vice president	Online	53
	Interview	Proposal manager	Online	65
	Interview	Proposal manager - Applications, Support, and Service	Online	85
	Interview	Sales Manager		54
	Interview	Product Manager, Director	Online	60
	Interview	Product Manager, Director	In-person	116
	Interview	Director - Service, Product Management and Digital Products	In-person	173
	Interview	Director - Service, Product Management and Digital Products	Online	86
	Interview	Director - Service, Product Management and Digital Products	Online	63
	Interview	R&D Manager	Online	167
	Interview	R&D Manager	Online	34
	Interview	Business and Strategy Analyst – Aftermarket Sales	Online	53
	Interview	Director of Sales	Online	115
	Interview	Sales Manager	Online	97
	Interview	Senior Director, Head of Security Sales	Online	96
	Interview	Service Sales Manager	Online	53
	Feedback Workshops	Senior Management and R&D	Online	89, 71, 90
	Strategy meeting	Senior management	Hybrid	540
	Documents	Not applicable	Presentations, annual reports, sales and marketing material, digital roadmap, etc.	50+
	Webinars	R&D, Digital service development	Online	30
	Webinars	R&D, Digital service development	Online	30
Systems integrator 1	Interview	Manager	Online	105
Systems integrator 2	Interview	Manager	Online	29
Systems integrator 3	Interview	Manager	Online	87
End Customer 1	Interview	Senior Asset Manager,	Online	102
End Customer 2	Interview	Cyber Security and Network Specialist	Online	100
IRP meetings	Detailed observations and notes	Senior managers and executives	In-person, hybrid, and online	x7 half to full day

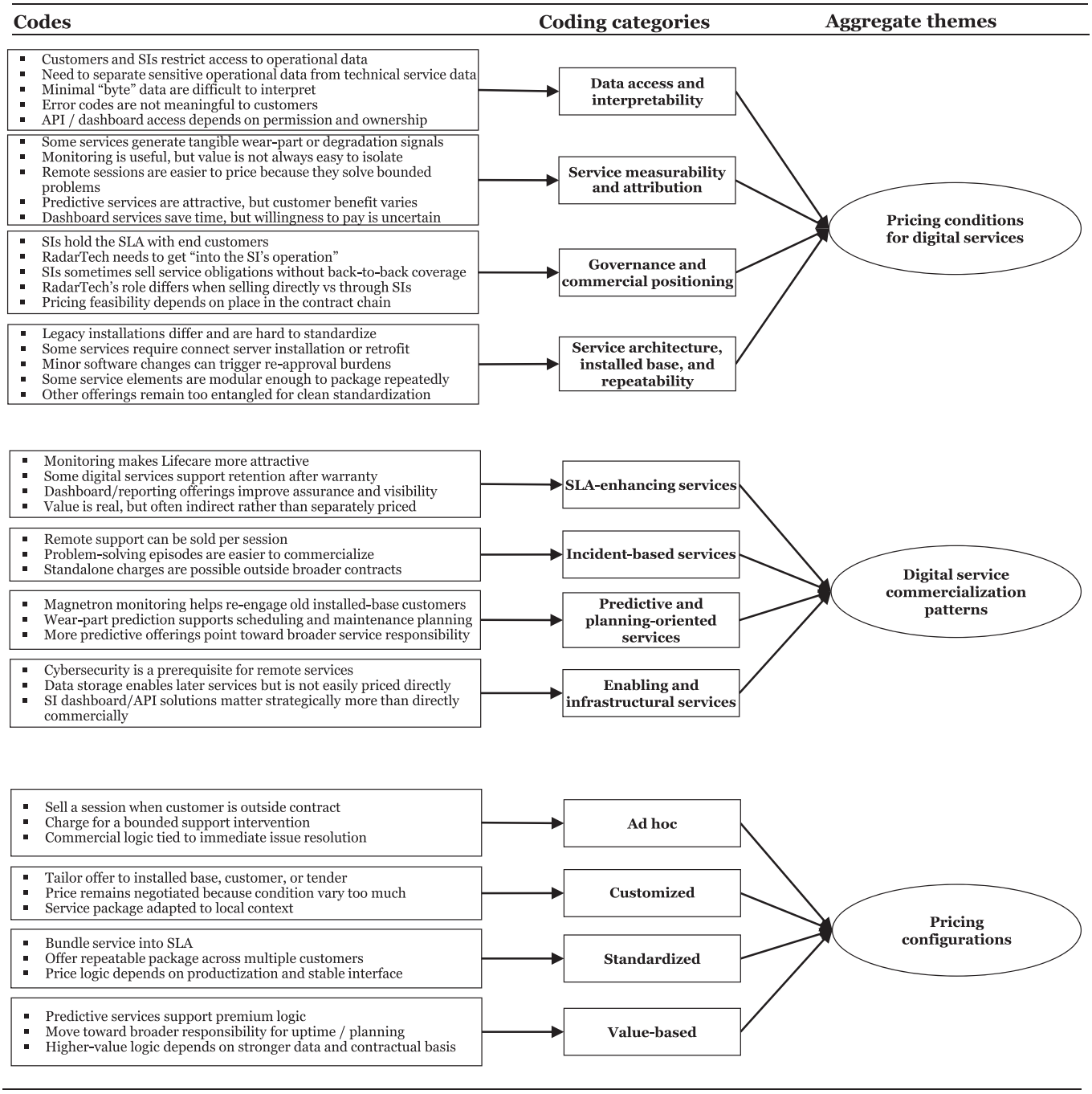

Fig. 1. Data structure with codes, coding categories, and aggregate themes.

developing within-case interpretations. The theory development task involved interpreting these empirical patterns through a configurational lens in order to conceptualize pricing configurations as an explanatory construct for understanding digital-service pricing viability. Fig. 1 summarizes this analytical progression from empirical coding to aggregate themes and pricing configurations.

In line with our abductive, embedded case design, our analytical progression was iterative rather than linear. Our focus was progressively sharpened as service-level comparisons surfaced differences in measurability, data access, governance position, and commercial role more visible across the embedded sub-units. This does not imply a wholesale reformulation of the study's purpose, but rather the refinement of an initially broader inquiry into a more focused explanation of pricing viability across the heterogeneous set of digital services studied. Based on Lincoln and Guba's (1986) trustworthiness criteria, and subsequent discussions of methodological transparency in qualitative research (see Pratt et al., 2020), we sought to enhance the study's credibility, dependability, confirmability, and transferability through triangulation across interviews and complementary materials. This was aided by iterative team-based coding, comparative analysis across service-level sub-units, and transparent documentation of the analytical process.

4. Findings

This section presents the main empirical patterns shaping RadarTech's attempts to commercialize digital services. The findings show that different services varied in what they enabled, what they required, how easily they could be specified and measured, and how far their

Table 3
Service-level comparisons of digital offerings and commercialization issues.

Digital service offering	Customer-facing function	Service-specific commercialization issue	Observed pricing / packaging logic	Commercialization pattern
Lifecare Connect Monitoring	Provides ongoing visibility into radar operational status through the Connect environment	Requires remote access, customer acceptance of monitoring, and sufficient interpretability of status information. The service makes operational status visible, but its value is difficult to isolate from the wider SLA because it is most meaningful as part of a broader service relationship.	Commonly included or bundled to make the SLA more attractive	*SLA-enhancing service*
Lifecare Connect Remote Service	Enables remote support and troubleshooting during specific technical issues	Requires remote access to customer equipment and remote intervention. The value is easier to specify because the service is linked to a bounded support need and a defined service episode, either inside or outside an SLA.	Session-based, add-on, or included within a higher-level service agreement	*Incident-based service*
Remote Diagnostics	Supports remote assessment of equipment status and fault conditions	Depends on access to diagnostic data, usable error information, and platform-enabled service interaction. Commercialization is promising but contingent on data quality, interpretability, customer access, and whether the service is framed as a bounded intervention or as part of a broader bundle.	Evolving add-on or bundled logic; potential to support more advanced service packages	*Predictive and planning-oriented service*
Active Monitoring	Enables ongoing monitoring and proactive notification of equipment conditions	Requires continuous or near-real-time data access, stable. Connectivity, and permission to monitor operational conditions. The service shifts the logic from reactive support toward proactive intervention, but becomes harder to commercialize where data are fragmented, security-sensitive, or difficult to interpret.	Recurring, bundled, or SLA-linked logic where monitoring can be specified and sustained	*Predictive and planning-oriented service*
Magnetron Monitoring / Replacement Predictor	Monitors magnetron condition in older radar installations and supports replacement timing decisions	Requires technical condition data and installed-base knowledge. Value is more attributable where degradation signals can be interpreted and linked to replacement timing, while commercialization also depends on whether value is captured through the service itself or through related parts and maintenance revenue.	Bundled, package-based, or linked to maintenance/replacement logic	*Predictive and planning-oriented service*
Wear Part Monitoring / Lifetime Predictor	Supports the prediction of wear-part replacement and preventative maintenance planning	Requires historical and operational data, interpretable wear indicators, and customer acceptance of predictive service logic. The service has higher value potential where prediction supports maintenance planning, but pricing depends on whether customers accept the value of avoided downtime or improved planning.	Premium, bundled, or planning-oriented logic; possible basis for higher-value service propositions	*Predictive and planning-oriented service*
Dashboard/reporting services	Provides visibility, assurance, and reporting for customers or intermediaries	Requires usable data visualization, relevant reporting frequency, and a clear customer benefit. Visibility alone is insufficient; the service becomes more commercially credible where reporting saves time, supports decisions, or makes the wider SLA more legible.	Usually supportive or bundled	*SLA-enhancing service*
SI dashboard / API-style data access	Supports integration with SI systems and external service interfaces	Requires interface access, API logic, shared data governance, and agreement over data ownership and permissions. Commercialization depends strongly on SI positioning because value may accrue to SI's service delivery rather than directly to the end-user.	Integration-enabling or partner-enabling logic; difficult to price without a clear contractual commitment	*Enabling and infrastructural service*
Connect Server/data storage	Provides infrastructure for data control, remote access, and future digital-service delivery	Requires installation, hosting, data-control arrangements, and customer acceptance or data handling. Value is indirect because the infrastructure enables monitoring, diagnostics, storage, and future services rather than producing an immediate customer-facing outcome.	Included infrastructure-enabling or bundled logic; difficult to monetize separately unless linked to broader services	*Enabling and infrastructural service*
Cybersecurity upgrade / secure connectivity	Supports secure remote access, updates, and trust in digital-service delivery	Requires cybersecurity architecture, customer acceptance, and confidence that remote access does not compromise operations. Cybersecurity is essential for service legitimacy but difficult to price as a standalone product because its value lies in enabling other digital services.	Included or bundled as part of the broader agreement or baseline digital-service infrastructure	*Enabling and infrastructural service*

Note: The table focuses on the digital services for which sufficient commercialization and pricing evidence was available across interviews and complementary materials. Some related offerings, such as alerting, software updates, apps, and secure connectivity functions, are treated within broader service categories where they operated as part of monitoring, dashboard/reporting, cybersecurity, or enabling infrastructure.

commercialization depended on SI intermediation and contractual positioning. Across these differences, a cross-cutting insight became clear: that pricing approaches became commercially viable only when aligned with the service's commercial role, the conditions that made it specifiable and supportable, and the commercial and governance arrangements through which access, responsibilities, and performance were organized. In what follows, we first outline the main pricing conditions for digital services, then compare the different digital services as embedded commercialization sub-units, and identify four digital service commercialization patterns.

4.1. Pricing conditions for digital services

Across the portfolio, RadarTech's commercialization of digital

services was shaped primarily by a set of recurring conditions that made some offerings easier to sell and govern than others. Its digital services varied by technical sophistication and contractibility, that is, in the extent to which they could be specified, accessed, measured, and managed. Four conditions were especially important: (1) data access and interpretability, (2) service measurability and attribution, (3) governance and contractual positioning, and (4) service architecture, installed base, and repeatability of the service solution. Together, these conditions shaped whether a digital service could be framed as a credible standalone offering, bundled into a broader SLA, or remained difficult to monetize directly. Each condition is elaborated upon below.

4.1.1. Data access and interpretability

A first condition concerned whether RadarTech could obtain, interpret, and legitimately use the data required to support a digital service. In several cases, it became clear that the commercial challenge was not merely that access was restricted, but that the data available were partial, technically opaque, or difficult to separate from more sensitive operational information. More specifically, pricing feasibility depended on whether data could support a service promise that customers, intermediaries, and RadarTech itself could understand, justify, and govern. For example, services such as remote diagnostics, active monitoring, and SI-facing dashboard or API solutions were especially shaped by this condition, since their value proposition relied on forms of visibility and intervention that were only possible if data access was both technically possible and institutionally acceptable to intermediaries and end customers.

4.1.2. Service measurability and attribution

A second condition concerned the extent to which service value could be attributed to a bounded mechanism, event, or outcome. For some services, such as remote service sessions, magnetron monitoring, and wear-part prediction, there are more concrete links between the service and the customer-facing benefit. Their value could be tied to a support episode, a degradation pattern, a replacement decision, or a reduction in operational uncertainty. Other services, especially dashboard, reporting, and broader monitoring services, generated more diffuse value. They could still be useful, but their contribution was harder to isolate and defend commercially for RadarTech. This distinction was significant because the more tangible and attributable services were generally easier to commercialize through itemized or recurring pricing, whereas more diffuse services were often folded into a broader agreement or treated as enabling components of a wider service proposition.

4.1.3. Governance and contractual positioning

A third condition concerned RadarTech's position in the existing contractual chain and the extent to which commercial responsibilities were clearly distributed among the actors. The firm rarely acted in isolation. In many cases, SIs held the primary contractual relationship with the end customer and, therefore, were able to shape SLA commitments and influence what RadarTech could promise, access, or charge for. As a result, pricing feasibility depended not only on the service itself but also on whether RadarTech occupied a position from which the service could be legitimately specified and supported. When digital services were bundled into Lifecare (SLA) or embedded within a broader contractual structure, commercialization was often more straightforward. By contrast, when obligations were mediated through SIs, negotiated across tender contexts, or complicated by a lack of back-to-back alignment, the service could remain important yet prove difficult to price cleanly.

The governance challenge was most evident where the digital service was valuable to the end-user but had to pass through an SI-controlled commercial relationship. As one manager explained, "the system integrator defines, decides, installs, in most cases, service[s] and maintain [s] the radars, but don't use them." This created a particular difficulty for Connect Monitoring, which was "designed for the end-user," but had to be sold to an SI that might see it "as a hostile threat because they don't want the end-user to have insights on how their radar is performing." The issue was not whether the services created value, but whether the actor controlling the customer relationship had an interest in making the value of the service visible to the end customer.

A more acute form of misalignment appeared when SIs made service commitments to end customers without a corresponding back-to-back agreement with RadarTech. As one manager recalled, "many of the SIs sold service level agreements to the end customers, including things that [RadarTech] had to deliver. But they didn't pay [RadarTech] for that back-to-back service level agreement." This episode highlights the pricing issue at hand for RadarTech. They could be expected to deliver service responsiveness, spares, or field-service commitments without having secured the contractual or revenue basis for doing so. In such cases, the issue became abundantly clear as it was not merely that pricing was difficult to calculate, but that the service commitment, legal obligation, and value-capture mechanism were misaligned across the contractual chain.

4.1.4. Service architecture, installed base, and repeatability

Lastly, a fourth condition concerned whether the service could be deployed and repeated across installed-base conditions without excessive adaptation or disruption. Whereas some offerings could be layered onto existing infrastructure with relatively limited modification, others depended on connect-server installation, retrofit work, stable interfaces, or customer acceptance of technical upgrades to work. Legacy variation, security constraints, and re-approval burdens further shaped how far a service could be standardized or repeated. This was not only a matter of technical age or heterogeneity, but also of imperfect installed-base knowledge. As one manager explained, once a radar had been shipped, customers or SIs could replace parts without RadarTech being informed, meaning that "the minute after we ship it, we can't trust it anymore." The implication was that the technical object to be monitored, diagnosed, or supported was not always identical to the system RadarTech had originally configured. Again, this was commercially relevant, as repeatability underpinned more stable service packaging and more predictable contractual specifications. Where the service architecture was sufficiently stable and decomposable into repeatable service elements, pricing could shift toward recurring, more standardized forms. At the same time, greater decomposability both enabled more repeatable packaging and made the boundaries between service elements visible, which could support selective purchasing by customers or intermediaries. In this respect, the architecture shaped pricing feasibility in two directions at once. It could make services easier to configure and commercialize, but it could also weaken the provider's ability to retain value within a broader service bundle. Where it remained entangled with local conditions, commercialization more often stayed bounded, negotiated, or experimentally framed.

4.2. Digital service commercialization patterns

RadarTech's digital service portfolio contained offerings that differed markedly in their commercial form. Some services were already close to existing support practices and could be framed as bounded interventions, whereas others were tied to broader SLA structures, predictive maintenance ambitions, or the digital infrastructure needed to support future services. For this reason, the services could not be treated as equivalent instances of "digital servitization." They varied in what they enabled, how their value became visible, the extent to which they depended on data access, and whether they could be separated from the contractual arrangements in which they were embedded.

Table 3 compares these digital services as embedded commercialization sub-units. Rather than treating each service as an isolated offering, the table shows how each service raised a service-specific commercialization issue, how it was priced or packaged, and how it

contributed to one of four digital service commercialization patterns, which we elaborate on below. Appendix A provides additional illustrative evidence for these patterns, including service-level excerpts from the data.

4.2.1. SLA-enhancing services

The comparison first made clear that some digital services were commercially meaningful without being easy to price independently. Lifecare Connect Monitoring illustrates this point. Managers saw the service as valuable because it increased visibility into operational status and made the wider Lifecare agreement more attractive. Yet the same service did not readily become a premium-priced digital product. One informant described the difficulty directly, noting that "a little silly app where you can see whether your radar is operational or not" would not necessarily "carry a value itself," but could still "provide value when it's in the package." The commercial issue, then, was how to capture the usefulness of monitoring when customers were more likely to recognize its value as part of an SLA than as a separately priced service.

The pattern concerned services whose value was strongest when embedded in a broader service agreement. Lifecare Connect Monitoring exemplified this pattern. The service gave customers greater visibility into radar status and helped make the Lifecare offer more tangible, especially after the warranty period had expired. Internally, managers viewed this visibility as important for strengthening the service relationship with customers. Monitoring could make customers more inclined to "sign up for service level agreements" and remain connected to RadarTech after the initial sale of products. Yet the same service was difficult to detach as a separately priced digital product. As one informant put it, the challenge was to identify "what would we do [as a] digital service that would also add revenue" and carry "a specific individual pricing"; with monitoring, "that's where we fall a little bit short." Its commercial role was primarily to support the broader SLA. In such cases, the service helped stabilize a recurring relationship, but its value was partly absorbed into the package that made it intelligible. The pattern is therefore less about weak value than about value that becomes recognizable through the agreement rather than apart from it.

4.2.2. Incident-based services

Lifecare Connect Remote Service illustrates a second pattern in which digital services became commercially viable because they addressed a bounded and recognizable support problem. The service could be included in a broader agreement or sold as a discrete remote support session when the customer was not under an SLA. Its commercial clarity stemmed from the fact that the service addressed an identifiable support need within a defined episode. As one informant explained, if a customer did not have an SLA, RadarTech could "set up a Connect Remote service session" at "a price of around fifteen hundred euros." This made the service easier to charge for than monitoring, because the customer needed service intervention, and payment for the required support was more tightly tied.

The same boundedness also made the service analytically distinct from SLA-enhancing monitoring. Put simply, the customer was not being asked to pay for an abstract digital capability, but for a defined intervention linked to a specific technical problem. As one informant described it, a remote session was "a four-hour session where we are online with the radar and do as much as we can … remotely." This made charging for the intervention more defensible. The service episode had a beginning, an end, and a customer problem against which the value of the intervention could be judged. At the same time, this boundedness, which supported session-based pricing, also limited the service's strategic role. It could solve a specific problem and introduce customers to the broader service offering, but it did not, in itself, create the same basis for recurring value capture as a more deeply embedded service arrangement. Incident-based services could open the door to broader service engagement, but the commercial relationship remained very much episodic unless the service was later folded into a more durable, signed agreement with the customer.

4.2.3. Predictive and planning-oriented services

A third pattern concerned services that connected digital insights to maintenance planning, replacement decisions, and the lifecycle performance of equipment. Predictive and planning-oriented offerings, such as Magnetron Monitoring and Wear Part Lifetime Predictor, were commercially attractive because they provided a stronger basis for value articulation than generic visibility services, precisely because their benefits could be tied to degradation signals and anticipated interventions. One manager linked this directly to pricing by explaining that "if you can have a preventive maintenance schedule" and thereby "reduce downtime," then "that would be something that could be individually priced."

These services, therefore, moved beyond making the asset status visible to the customer. They sought to turn data into a decision-relevant basis for planning, maintenance, and replacement timing. Magnetron Monitoring, Wear Part Monitoring, and the Wear Part Lifetime Predictor services were important precisely because they moved beyond general visibility and toward more attributable value. They had the added benefit of helping customers anticipate intervention needs and plan maintenance before disruption occurred. As such, the underlying commercial promise of these services was far stronger than that of services that simply displayed status information. In the magnetron case, for instance, the value proposition became more concrete when monitoring could indicate that "now it's at fourteen point two" and that "you would need to replace it on 13th February." In no small part, such specificity made the service easier to relate to in terms of downtime reduction, planning certainty, or replacement timing. It also changed the pricing conversation. The service was no longer merely a display of status; it became a way to turn degradation into a decision point.

At the same time, predictive and planning-oriented services carried heavier evidentiary demands from the customer. This meant that predictive services needed reliable data, interpretable signals, and sufficient knowledge of installed-base conditions. Without these, the service risked remaining an attractive promise but not necessarily a sound commercial offer. This pattern thus created stronger value-capture potential, but only where the underlying data, attribution, and contractual conditions could support the broader claim being made.

4.2.4. Enabling and infrastructural services

A fourth pattern related to services whose commercial importance lay in enabling other digital services. For example, cybersecurity, Connect Server, data storage, dashboard functions, and SI-facing integration created the technical and governance conditions that enabled remote access, monitoring, and future services. The value of these digital services was therefore infrastructural. In large part, they then helped make the digital service environment more secure, governable, and scalable, but they were not always obvious standalone revenue generators.

Customer-facing dashboard functions illustrate the difficulty. In customer discussions, for example, the issue was less about whether visibility was desirable and more about whether it saved enough time or effort to justify the payment. As one customer-facing note put it, "You must convince us that it makes our work easier." As such, visibility alone was thus insufficient. For dashboard and reporting services to carry a stronger commercial role, customers had to see how the information simplified work, supported decisions, or improved accountability.

The infrastructural character of this pattern was particularly clear for cybersecurity. One informant described it as "not a product," but as "an enabler" and even "a prerequisite," adding that without it, RadarTech could not "talk to the customers about all these different Lifecare services." It was precisely this indirect way that made such services important, even when they did not translate neatly into a separate, standalone price. Put simply, some digital services created the conditions of commercialization without themselves becoming the primary object of monetization. Customer control of data and secure connectivity

could reassure customers that digital access would not compromise operational control. Moreover, SI-facing interfaces could also be significant because they shaped whether RadarTech could participate in service delivery across a wider system. Such services, therefore, occupied an ambiguous position, as they were needed for digital servitization to function, but the ability to price them depended heavily on whether customers and intermediaries recognized the enabling work they performed. Their value was thus often displaced into the services, relationships, and governance arrangements they made possible.

Collectively, the four patterns explain why RadarTech's digital services could not be priced through a single commercial logic. These patterns serve to illustrate how some services strengthened the SLA, others were viable as bounded interventions, some supported predictive and planning-oriented value, and others formed the infrastructure for future value capture (see the far-right column in Table 3 as well). They identify the recurring digital service-level commercialization roles from which the pricing configurations are derived. In large part, these differences shaped how far each service could be detached, packaged, measured, governed, and defended commercially. Next, we build on these patterns by showing how they manifest into four pricing configurations.

5. Pricing configurations in digital servitization

Consistent with the configurational approach developed in the paper, we use the notion of pricing configurations to capture these recurring forms of commercial viability. The concept allows us to retain the distinction between pricing strategy and charging mechanisms

Table 4
Pricing configurations in digital servitization.

Pricing configuration	Illustrative service context	Commercial role of service	Customer-value locus	Service feasibility / contractibility conditions	Commercial and governance arrangements	Illustrative pricing expression / basis of viability
Ad hoc	Remote support sessions, bounded troubleshooting, isolated digital add-ons outside broader agreements	*Standalone intervention:* sold as a discrete episode or limited add-on	*Product/problem-focused:* addresses an immediate asset issue, fault, or support need	*Low to moderate:* • bounded value • limited repeatability • modest data and measurement demands	*Outside or alongside SLA:* • low formal integration; • limited coordination across actors; • often direct or situational	Viable when the service solves a discrete problem and can be priced as a one-off intervention without requiring extensive contractual redesign or continuous data access.
Customized	Customer- or tender-specific service bundles adapted to installed base, security, or SI requirements	*Tailored bundle:* assembled around local requirements rather than sold as a stable, repeatable package	*Mixed product/process focus:* begins with a specific asset or product issue but extends into customer-specific operating conditions, installed base realities, or tender requirements	*Moderate but uneven:* • partial measurability • access, interfaces, and service boundaries vary across customers and intermediaries	*Negotiated arrangement:* • bespoke scope; • case-specific responsibilities; • strong SI/ customer influence	Becomes viable when customer context, installed base variation, or intermediary constraints make standard packaging difficult, so pricing must be negotiated around a tailored bundle.
Standardized	Connect Monitoring, dashboard/reporting, wear-part monitoring embedded in wider service structures	*Standardized package:* repeatable service module that can be embedded in broader service agreements	*Operational-supporting:* supports recurring monitoring, maintenance, and service continuity within a defined service scope	*Moderate to high:* • interfaces and service boundaries are stable enough to specify repeated specifications • data access and measurability are sufficient, though not always outcome-level	*SLA-embedded arrangement:* • clearer contractual commitment; • repeatable packaging; • recurring service logic	Viable when the service is sufficiently productized, measurable, and contractually stable to be offered repeatedly through pre-defined packages or recurring service agreements.
Value-based	Wear Part Lifetime Predictor, broader lifetime care, uptime-oriented concepts, more predictive and planning-intensive services	*Whole package / broader service proposition:* Sold as part of a wider promise around planning, uptime, lifecycle performance, or operational improvement	*Process- and lifecycle-focused:* tied to planning, uptime, lifecycle performance, or broader customer operations	*High:* • stronger demands on data access, interpretability, measurability, and service architecture stability	*Broader service responsibility arrangement:* • stronger contractual commitment; • more extensive role alignment; • often requiring SI and end-customer acceptance • incomplete contracts with a development focus • potential risk-sharing or outcome-related governance	Becomes workable when broader customer value can be credibly defended through data access, clearer attribution, and a contractual position that supports a more ambitious service promise.

emphasized in industrial pricing research (Karami et al., 2024; Raja et al., 2020; Töytäri & Rajala, 2015), while also showing that pricing in digital servitization depends on more than the selection of a price-setting logic. Building on the service-level comparison in Table 3 and the additional illustrative evidence in Appendix A, Table 4 shows how the commercialization patterns inform each pricing configuration, and which feasibility and governance conditions make each pricing configuration commercially viable. Each configuration—ad hoc, customized, standardized, and value-based—rests on a particular alignment among the commercial role of the service, the locus of customer value, the conditions that make the service specifiable and supportable, and the commercial and governance arrangements through which responsibilities, access, and risk are organized. These configurations should not be read as stages in a maturity sequence or as mutually exclusive portfolio categories. RadarTech operated across several configurations simultaneously. The analytical point here is that different pricing approaches became defensible under different constellations of service, data, and governance arrangements.

Ad hoc pricing configuration was most evident where digital services could be framed as bounded interventions. In these settings, the service addressed a specific issue and could be priced as a one-off event or a bounded support episode, often without requiring extensive contractual restructuring or stable long-term data integration. The clearest illustration was remote support outside of broader agreements, where value could be tied to a specific incident, a specific support need, and a specific response. The pricing mechanism was visible in the way managers described customers without an SLA. Such customers could still call RadarTech, but after limited initial support, they had to be moved "into some kind of payable product," such as a remote session, spare parts, or a field technician. What made this configuration viable was precisely its limited ambition. Instead of depending on a highly developed service architecture or being embedded in broad contractual arrangements, it relied on the ability to isolate and price a clearly delimited problem for the customer. Its viability rested on boundedness, that is, the service problem could be isolated, the intervention could be delimited, and the customer could be charged without redesigning the wider contractual relationship. However, this boundedness also limited its scalability because the commercial model depended distinctively on episodic demand rather than on an ongoing contractual service relationship.

Customized pricing configuration emerged, where RadarTech could articulate service value, but the combination of customer context, installed base variation, security constraints, and SI involvement as intermediaries undermined the stable packaging and structuring of digital services. Here, services were assembled through negotiation around local conditions. The difficulty was sharpened by uncertainty over who actually held the service responsibility. As one informant explained, RadarTech was sometimes "a little bit left in the dark" because it did not know "who is actually responsible for the maintenance of the equipment at the end-user." In such situations, pricing could not rely only on the service content. It also depended on clarifying who had access, who carried responsibility, and who was able to contract for the service. The viability of customized pricing, therefore, lies in negotiated fit rather than repeatability. The service proposition often began with a product-level issue, but quickly extended into customer-specific operating realities, procurement arrangements, or intermediary requirements that necessitated a bespoke response. Pricing thus remained very much tailored and relational, not because the service lacked value, but precisely because scope, access, and responsibility varied too much across settings for a standardized approach to take hold. As such, this configuration reflects the condition of partial productization. The service is found to be sufficiently meaningful to justify a commercial offer, yet insufficiently repeatable to sustain a more uniform pricing arrangement. What distinguishes customized pricing, then, is not simply customer adaptation but the absence of the repeatability and governance stability required for a more standardized commercial form.

Standardized pricing configuration became more viable where services were sufficiently productized, measurable, and contractually stable to be embedded in recurring SLAs. This was especially evident in digital offerings that strengthened Lifecare and related SLA structures, such as monitoring, dashboards, and certain wear-part services. With these services, value was often derived less from a dramatic outcome claim than from making a broader service package more attractive and easier for the customer to understand, thereby making it easier to govern over time. The logic was visible in managers' distinction between basic inclusion and paid extensions: "You get monitoring, that's a basic … if you want to put a dashboard on it or pull-out reports, you need to pay extra." Here, the pricing logic depended on turning service elements into repeatable package components that could be specified within an SLA. What distinguished this configuration was not merely standardization in a narrow technical sense, but the presence of sufficient repeatability and contractual stability to support recurring packaging. Standardized pricing depended on services being stable enough in architecture, access conditions, and customer use to be specified and sold as part of a broader recurring arrangement. In this respect, standardization rests on the ability to embed the service within a relatively settled commercial and governance structure.

Value-based pricing configuration appeared where RadarTech could plausibly connect a digital service to broader customer value, such as improved planning, reduced uncertainty, avoided disruption, or stronger lifecycle performance. This was most visible in more predictive and planning-oriented offerings, including wear-part prediction and broader lifetime-care concepts that RadarTech had developed. Managers linked this possibility directly to predictability. One manager explained that "the predictability of the service costs is a market differentiator," and that monitoring wear parts and magnetrons would "definitely be a game changer." The pricing logic here depended on whether predictive insight could be translated into a defensible value claim for the customer. Yet this configuration also imposed the strongest demands. It required more robust data access, stronger interpretability and attribution, and a contractual position capable of supporting more ambitious service expectations. Put simply, value-based pricing was more than just an advanced pricing aspiration; it was the configuration with the heaviest demands on service feasibility and governance alignment. In large part, its viability depended on whether RadarTech could credibly defend a broader value claim and sustain it through data, interfaces, and contractual responsibilities that extended beyond a single bounded event. This is also the configuration that comes closest to the partnership-oriented logic discussed in the extant servitization and value-based pricing literature, where the provider's role shifts from selling a service element to supporting wider customer outcomes (Linde et al., 2023; Matthyssens & Vandenbempt, 2010; Raja et al., 2020; Struyf et al., 2021; Töytäri et al., 2015).

The four configurations also differed in the extent to which they were exposed to a configurability–appropriation tension. This tension was weakest where services were already sold as bounded interventions, since ad hoc pricing presupposed that the service could be detached and priced discretely. It became more consequential, however, when RadarTech sought to sustain customized bundles, standardized packages, or broader value-based offers. In these cases, a more decomposable service architecture could support clearer service specification, repeatable packaging, and more flexible recombination across customers. Yet the same decomposability could also make it easier for customers or intermediaries to unbundle high-value elements, thereby weakening the provider's ability to capture value from the broader commercial arrangement. This risk was not hypothetical. One informant recalled another firm that had "started selling the digital services as a standalone" and subsequently "couldn't sell any subscription services or SLA's" because customers would "handpick specifically the services that they needed." The concern was that once a digital element acquired an individual market price, it could become harder to sustain the broader package within which RadarTech sought to capture recurring value. Service architecture, therefore, supported configurability, but its

decomposability also exposed the package to selective purchasing. A related issue appeared in the magnetron predictor, where managers considered selling the service as a product but then reasoned that it might be better to "give [the] predictor away for free" and "capitalize on the selling of magnetrons instead." This shows that the question was not only whether a digital element carried value, but also where in the wider service and parts relationship that value should be captured.

Taken collectively, the four configurations show that RadarTech's pricing approaches differed in how commercial viability was assembled. Each configuration—ad hoc, customized, standardized, and value-based—rested on a distinct alignment among the offering logic, the customer-value locus, the service feasibility conditions, and the commercial and governance arrangements. Table 4 details these alignments. Specifically, it shows why pricing approaches that appear attractive in principle may remain difficult to implement when the surrounding service and network conditions do not support them. The broader point is that pricing viability in digital servitization does not rest on selecting a nominal pricing approach, but on coupled alignment among the commercial logic of the offering, the feasibility conditions that make the service specifiable and supportable, and the commercial and governance arrangements through which responsibilities, access, and risk are organized.

6. Discussion

The findings show that digital-service pricing is not a singular commercial problem: viability depends on how service characteristics, data access, measurability, and governance conditions converge around a given offering. The discussion below develops this insight by outlining the study's theoretical contributions, managerial implications, and limitations.

6.1. Theoretical contributions

Our study contributes to the research literature on digital servitization, industrial pricing, and interorganizational governance by showing how digital-service pricing becomes commercially viable across heterogeneous services. Our key contribution is a configurational explanation of how pricing viability is assembled through the interplay of pricing conditions, digital-service commercialization patterns, and commercial and governance arrangements.

Our first contribution to the digital servitization literature is to develop a pricing-conditions perspective on value capture. Existing research has shown how digital technologies enable new service offerings, recurring revenue ambitions, and closer customer relationships, yet it has said less about the conditions under which those offerings become commercially viable (A. Eggert et al., 2018; Kohtamäki et al., 2019; Sjödin et al., 2023). Our findings show that monetization does not follow from digital capability alone, nor from the technical sophistication of the offering. Instead, digital-service pricing depends on whether the service can be accessed, interpreted, measured, supported, and governed in ways that customers and intermediaries will accept. Building on the conditional logic of industrial pricing research, which emphasizes that pricing practice is shaped by market, customer, product, organizational, and value-related conditions (Forman & Hunt, 2005; Ingenbleek et al., 2003; Noble & Gruca, 1999; Raja et al., 2020; Töytäri et al., 2015), we identify *four* pricing conditions that shape digital-service viability: data access and interpretability, service measurability and attribution, governance and contractual positioning, and service architecture, installed base, and repeatability. These conditions explain why some digital services can be monetized even when relatively bounded, while others remain difficult to commercialize despite their technical promise. In this respect, the study brings a more explicit pricing-feasibility logic into digital servitization research by showing that value capture depends on how these conditions interact.

Our second contribution concerns research on digital servitization and interorganizational governance in B2B relationships, showing that digital-service commercialization is an ecosystem-embedded alignment problem. The literature has emphasized ecosystem actors, platform dependence, and collaboration in digital servitization (Kohtamäki et al., 2019, 2022; Sklyar et al., 2019), but it has less often shown how intermediaries shape the feasibility of capturing value once digital services move into commercialization (Davies, 2004; Davies et al., 2007; Johnson et al., 2021). Our findings identify four commercialization patterns of SLA-enhancing, incident-based, predictive and planning-oriented, and enabling and infrastructural services that show how different digital services perform different commercial roles. Some services strengthen broader service agreements; others are viable as bounded interventions; some support predictive planning and lifecycle value; and others create the technical and governance infrastructure through which future value capture becomes possible. These patterns also show that pricing viability is rarely determined by the focal firm alone. In RadarTech's case, SIs shaped commercialization through customer access, SLA positioning, data permissions, and the presence or absence of back-to-back alignment. Pricing viability was therefore negotiated across contractual chains rather than determined solely inside the focal firm. This contribution reframes value capture in digital servitization from a firm-level pricing choice to a question of whether the service's commercial role, customer value proposition, feasibility conditions, and commercial and governance arrangements can be aligned across actors.

Our third contribution to industrial pricing research is a configurational account of digital-service pricing. Prior pricing research distinguishes pricing strategy from revenue mechanisms and emphasizes the difficulty of translating value claims into workable commercial forms in industrial markets (Karami et al., 2024; Raja et al., 2020; Töytäri & Rajala, 2015). We extend this discussion by showing how pricing configurations emerge from the interaction between pricing conditions and commercialization patterns. The analysis yields four pricing configurations, which we term ad hoc, customized, standardized, and value-based. The identified configurations differ in the combinations of the commercial role of the service, the customer-value locus, the service feasibility/contractibility conditions, and the commercial and governance arrangements that sustain them (see Table 4). This configurational account contributes to industrial pricing research by shifting attention from strategy selection to configuration viability: the issue is not only which pricing approach a firm prefers, but whether the surrounding conditions make that approach defensible and implementable. Some configurations remain bounded and episodic because the service solves a discrete problem without requiring extensive coordination. Whereas others depend on a service architecture that is modular enough to support repeatable packaging, but not so decomposable that customers or intermediaries can easily unbundle the offer and weaken the provider's ability to capture value. This configurability–appropriation tension helps explain why pricing approaches that appear attractive in principle may remain difficult to sustain when service architecture, customer value, and governance conditions do not cohere. Thus, we show how pricing viability is assembled under different constellations of service and network conditions.

Together, the above-stated contributions reposition pricing in digital servitization. Importantly, we do not argue that one pricing configuration is normatively superior. Nor do we propose a maturity path for firms to follow. Instead, our contention is that different pricing approaches become viable under different constellations of service, data, and governance conditions. In doing so, we offer a more conditional and network-sensitive account of value capture in digital servitization.

6.2. Managerial implications

This study holds several practical implications for managers who are responsible for developing, commercializing, and pricing digital services. We distill these implications into four overarching

recommendations. Each recommendation is accompanied by a set of diagnostic questions that support its implementation. The value of this diagnostic approach lies in its sensitivity to conditions. The viability of any pricing approach depends on the alignment of service characteristics, data access, customer value, and governance arrangements. The diagnostic questions therefore help managers to assess their own situation, to surface the conditions that matter most, and to stimulate the cross-functional discussions that are needed before committing to a particular pricing approach.

Our first recommendation is to treat the pricing of digital services as a design issue from the outset. Managers cannot assume that a digital service will become monetizable once the technical solution exists. Commercial viability depends on whether the offering can be specified, interpreted, and supported in a form that customers and partners perceive as credible. In practice, pricing discussions need to be integrated early with decisions on service design, data architecture, access rights, and contracting. Where these elements remain disconnected, firms may still create value but will struggle to convert that value into repeatable revenue. To act on this recommendation, managers should consider the following questions: *At what point in the development of a service is pricing first discussed? Can the offering be specified, measured, and supported in a form that customers and partners will accept as credible? Which early design choices, such as data architecture, access rights, and contractual scope, will possibly constrain the pricing approaches available at a later stage?*

Our second recommendation is to manage the digital service portfolio as commercially heterogeneous. Not every service should be expected to function as a premium standalone product. Some services are more viable as bounded interventions. Others create value chiefly by strengthening broader SLAs or by making a recurring service package more attractive. More predictive offerings may justify a higher-value commercial logic, but only where measurability, data access, and contractual commitment are sufficiently strong. Managers also face a tension between configurability and appropriation. A service architecture that supports configurability helps firms to adapt offerings across customers and to build repeatable packages. However, the same decomposability may allow customers or intermediaries to unbundle high-value service elements and to purchase them selectively outside the broader commercial and governance arrangement. Services must therefore be configurable enough to support scale and adaptability, but not so separable that the package becomes easy to fragment or substitute. To act on this recommendation, managers should consider the following questions: *What commercial role is each digital service meant to play, for example, as a standalone intervention, an SLA enhancer, a predictive value driver, or enabling infrastructure? Can the value of the digital service be attributed to a clear event, outcome, or decision point? Under what circumstances should the service be itemized, bundled, offered on a subscription basis, or monetized indirectly through adjacent products and services? Would separating the service increase sales flexibility at the cost of weakening value appropriation?* Because data access, measurability, and customer acceptance evolve, these questions should be revisited periodically by managers rather than being discussed and answered once.

Our third recommendation is that managers treat governance conditions as central to commercialization, particularly where intermediaries are involved. In B2B settings where SIs or other partners control customer interfaces, conditions such as data permissions, interface access, SLA ownership, and back-to-back responsibilities shape both delivery risk and the range of pricing approaches that can be sustained. In some situations, the critical managerial challenge is not to set the right price. Rather, it is to secure a position in the contractual chain from which a service can be specified, justified, and supported. To act on this recommendation, managers should consider the following questions: *Who controls customer access, operational data, interface permissions, and SLA commitments, and is this clear before the pricing logic is finalized? Are service obligations matched by back-to-back contractual and revenue arrangements across partners? Who owns measurement, verification, and dispute resolution for digitally enabled service outcomes? Where might intermediaries benefit from keeping the value of a service invisible to end customers? Do the governance terms specify access rights, responsibility boundaries, auditability, and escalation routes?*

Our fourth recommendation is to build the organizational capability and internal readiness that the pricing of digital services requires. Firms seeking to move beyond cost-plus or reactive service logic need pricing capabilities (Raja et al., 2020; Töytäri et al., 2015; Töytäri & Rajala, 2015) that are suited to digital services capabilities. Such capabilities include stronger commercial coordination between engineering, service, digital product management, and sales. Our study suggests that recurring digital service revenue is difficult to build when firms continue to rely on product-era assumptions about value, contract scope, and customer access. The challenge is not simply to develop and provide digital services. The challenge is to package, defend, and govern the commercial promises attached to them. To act on this recommendation, managers should consider the following questions: *Are engineering, service, sales, legal, and digital product teams involved early in service design and pricing discussions? Is there a shared internal template that captures the data needs, measurability, attribution logic, contractual fit, and pricing basis of each digital service? Are new pricing approaches piloted on a small number of comparable customer cases before wider rollout? Can the sales team explain and justify not only the price but also the evidence behind the value claim of each digital service? Does the firm track commercialization learning over time, including failed offers, customer objections, and governance bottlenecks?*

Taken together, these recommendations and the accompanying diagnostic questions offer managers a condition-sensitive way to assess the commercial viability of digital services. They do not point to a single 'best' pricing approach, nor should they be used in a 'tick box' manner. Instead, they direct managerial attention to the *alignment* of service roles, value attribution, feasibility conditions, and commercial and governance arrangements on which pricing viability ultimately rests.

6.3. Limitations and extensions of the study

Although this study provides substantive contributions through insights gleaned from a single in-depth case, it is not without limitations.

First, the study is based on a single in-depth case in a mission-critical context. Such a setting is analytically rich because it makes issues of data sensitivity, service feasibility, and intermediary governance especially evident. However, it limits direct transferability to other sectors. Future research could examine whether the pricing configurations identified in this paper are relevant to less security-sensitive industries, in settings with more direct customer access, or in contexts where digital platforms and interfaces are already more standardized. The findings are therefore most transferable to settings where digital services are attached to legacy installed bases, data access is security-sensitive, customer access is mediated by intermediaries, and changes to service architecture or contractual scope may require formal re-approval.

Second, the case captures a firm still transitioning toward digital servitization. During the study, several digital services were being developed, packaged, and rethought, and some of the more ambitious pricing configurations remained emergent. The study, therefore, explains how firms assemble pricing viability under transitional and evolving conditions rather than what any finalized equilibrium forms might look like. Of particular interest in future studies could be how firms move between pricing configurations over time, what causes such movement to stall or reverse, and how changes in data access or governance conditions alter the viability of more ambitious pricing approaches.

Third, although the analysis incorporates complementary material from customers and intermediaries, the evidentiary base remains tilted toward the provider's perspective. Further research that builds more explicitly comparative designs around providers, SIs, and end customers to examine how pricing viability is understood differently across actors

within the same service ecosystem would be a welcome addition. Moreover, such work would be especially useful for studying disagreement over value attribution, data permissions, and responsibility boundaries. Future studies could use matched provider–intermediary–customer designs, combining interviews with contract analysis, meeting observations, and service performance data to examine how different actors evaluate value attribution, data rights, SLA ownership, and acceptable charging logics.

Lastly, the configurational framing developed here is qualitative and interpretive. It is intended to explain patterned alignment, not necessarily to formally test necessary and sufficient conditions. Future work could extend the present study through comparative multi-case designs or other configurational approaches to examine the robustness of these patterns across a broader range of firms and service portfolios. Such work would be particularly valuable for investigating whether similar pricing configurations arise through different paths, and whether certain ecosystems or architectural conditions repeatedly obstruct movement toward more ambitious pricing arrangements. Future research could also examine movement across configurations through studies that incorporate longitudinal portfolio studies, repeated interviews, archival tracking of service offers and pricing changes, and process research designs focused on transition episodes.

6.4. Concluding remarks

In this study, we show that value capture from digital servitization depends on addressing the specific question: under what conditions can a digital service be made commercially viable? It is our contention that the answer seldom lies in a single pricing formula or contractual device taken in isolation, but in how the offering, the customer value it addresses, the conditions that make it feasible, and the commercial and governance arrangements through which it is delivered are brought into alignment. By showing how these alignments give rise to distinct pricing configurations, the paper offers a more conditional and network-sensitive account of pricing in digital servitization and, in doing so, clarifies why some digital services remain difficult to monetize even when their technical promise is evident. As such, the configurations identified here should not be interpreted as a maturity ladder or a prescriptive sequence to be followed. Instead, they show how different pricing approaches become viable when service, data, customer value, and governance conditions are aligned.

Declaration of generative AI in scientific writing

The authors used OpenAI's ChatGPT in order to edit the text for grammar, punctuation, conciseness, clarity, consistency, language polishing, and refining sentence structure. The authors retain responsibility for the content of the article.

CRediT authorship contribution statement

Jawwad Z. Raja: Writing – review & editing, Writing – original draft, Visualization, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Ismail Golgeci:** Writing – review & editing, Writing – original draft, Visualization, Conceptualization. **Thomas Frandsen:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Funding acquisition, Formal analysis, Conceptualization. **Vinit Parida:** Writing – review & editing, Writing – original draft, Visualization, Formal analysis, Conceptualization.

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Appendix A. Illustrative evidence for digital-service commercialization patterns and pricing configurations

Digital service	Commercialization pattern/ configuration relevance	Analytical point illustrated	Illustrative quotes
Lifecare Connect Monitoring	SLA-enhancing service	Monitoring strengthens SLA attractiveness rather than standing alone as a premium digital product.	"…that would be attractive and make more people sign up for service level agreements and … sign up after the expiry of their warranty period." (Director – Services, Product Management, & Digital Products)
	SLA-enhancing service	The service is recognized as valuable, but its standalone pricing remains difficult.	"…what could we do [as a] digital service that would also add revenue … have a specific individual pricing. And that's where we fall a little bit short." (SVP)
	SLA-enhancing service; standardized configuration relevance	Value is captured through the package rather than through a separable app.	"…a little silly app where you can see whether your radar is operational or not … we feel confident that they will say no often … but it provides value when it's in the package." (Director – Services, Product Management, & Digital Products)
Lifecare Connect Remote Service	Incident-based service; ad hoc configuration relevance	Remote service can be priced as a discrete intervention outside an SLA.	"…if [the customer] do[es] not have an SLA agreement … we need to set up a Connect Remote service session for you and … there's a price of around fifteen hundred euros…" (VP)
	Incident-based service	The service has a bounded scope and duration, which makes charging more defensible.	"A Connect service session is a four-hour session where we are online with the radar and do as much as we can … remotely." (VP)
	Incident-based service; standardized configuration relevance	The same service can be sold discretely and used to support SLA uptake.	"…we put some of these sessions included in the service agreement, because it should be attractive … So it's kind of [a] teaser to get people into the SLA agreement as well." (Director – Services, Product Management, & Digital Products)
Remote Diagnostics	Incident-based service; ad hoc / bundled configuration relevance	Remote diagnostics could be framed either as a s bounded intervention or as part of a broader bundle, illustrating how the same service may sit between ad hoc and packaged commercialization.	"'Remote Diagnostics' is … something that can be included or can be priced per hour, of course, but it's easier to sell in a bundle." (Director of Service Sales)

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Digital service	Commercialization pattern/ configuration relevance	Analytical point illustrated	Illustrative quotes
	Incident-based service	Remote diagnostics is associated with problem resolution rather than continuous service.	"Remote Diagnostics, I see more [as] something that occurs or is used when you face an issue, and you need something to solve that issue." (Director in Sales)
	Predictive and planning-oriented service	More advanced diagnostic value depends on installed digital infrastructure, data access, and analytical capability.	"'Remote diagnostics' … is a little more advanced … because it really requires to have both all this installed, but also have the right to … algorithms and so on." (SVP)
Active Monitoring	Predictive and planning-oriented service	Active monitoring is linked to real-time data access and shifts the service logic from reactive support toward proactive intervention.	"Active monitoring. That's a [form] of having access to the data in real time. So, that we will monitor their equipment for them, and we will contact them proactively, if anything is wrong." (R&D Manager)
	Predictive and planning-oriented service; Value-based configuration relevance	Basic monitoring becomes commercially stronger when it enables predictive maintenance, replacement timing, workforce efficiency, and lifecycle-oriented services.	"Once you get into the actual wear part monitoring … that is worth something. Thing is, you can't do this without [active monitoring], so [it] probably comes as a bundle somehow … once you can actually say … when do I need to change them, that's nice to know. That would give increased efficiency … increased productivity … and then, of course, if I then can turn [it] into more intelligent services … predicted over the lifetime of that product … I think that's worth more than the basic services…" (SVP)
Magnetron Monitoring	Predictive and planning-oriented service; value-based configuration relevance	Predictability becomes a market differentiator and is tied to digital service development.	"You have to understand that in our market, predictability of service costs is increasingly what sets you apart … and one way we can do that is through digital services. When you can monitor wear parts and critical components in real time, you are better placed to reduce surprises, and you are then in a position to fundamentally change what you can offer the customer" (Sales Manager)
	Predictive and planning-oriented service	Measurability is stronger where degradation signals are interpretable and linked to replacement timing.	"…instead of a customer waiting for something to fail, we are in a position to tell them that based on our wear readings, you'll need to act on such and such date if you don't want any issues. So, that's fundamentally a different service conversation." (Service Sales Manager)
	Predictive and planning-oriented service	Installed-base scale and replacement economics create a commercial rationale.	"We consider it to be something like 60, 65% of our installed base … And there's another commercial angle on this one, which is that, magnetrons. And we have quite a good profit on them." (Director – Services, Product Management, & Digital Products)
Wear Part Lifetime Predictor	Predictive and planning-oriented service; value-based configuration relevance	Preventive maintenance creates a clearer basis for individual pricing.	"Basically, a structured maintenance schedule gives you something that's more stable to put a price on, rather than bundling it in with everything else." (Business and Strategy Analyst)
	Predictive and planning-oriented service; value-based configuration relevance	Even high-value predictive services may face willingness-to-pay challenges when customers recognize importance but resist paying separately.	"I do agree that predictability could potentially save the customer a lot of money. But it's like a seatbelt in the car. They are extremely important for your safety … but that doesn't mean that you are willing to pay extra." (Director of Sales)
Dashboard/reporting services	SLA-enhancing service; standardized configuration relevance	Basic monitoring can be treated as part of the service baseline, while dashboarding and reporting may become paid extensions within a tiered package.	"…you get monitoring, that's a basic … if you want to put a dashboard on it or pull-out reports, you need to pay extra…" (Director – Services, Product Management, & Digital Products)
	SLA-enhancing service	Customer value depends on work simplification, not visibility alone.	"We have to see a clear impact on our day-to-day workflows and activities … so that we are in a position to commit" (Customer 1)
	SLA-enhancing service; standardized configuration relevance	Some visibility services are perceived as "nice to have" and difficult to monetize strongly.	"Difficult to sell 'nice to have' services for a big amount…" (Customer 2)
SI-facing dashboard/ API-style data access	Enabling and infrastructural service; customized configuration relevance	API access depends on data ownership and permission.	"The radar owner is also the data owner. And basically, whoever he or she provides access to the data, will be able to provide it as API access." (Proposal Manager – Application Support & Service)
	Enabling and infrastructural service; customized configuration relevance	SI-facing integration creates a potential commercial opening, but only through governed data access.	"…in the proposal demands, [the] system integrator should be able to access radar health data in an API based form and use it in the SI operation. We would currently be the only ones that would be able to respond to that." (Director – Services, Product Management, & Digital Products)
Cybersecurity/secure connectivity	Enabling and infrastructural service	Cybersecurity is a prerequisite for digital service commercialization rather than a standalone product.	"'Cyber Security' is not a product, in my view … it is actually both an enabler for something, but … even a prerequisite … If we do not have that, we can't go and talk to the customers about all these different Lifecare services." (SVP)
	Enabling and infrastructural service	Cybersecurity enables customer trust and remote access, but one-way data flows can constrain richer digital-service functionality.	"…you could have live data, but … data only flows one way, which is … easy to explain from a Cyber-Security point of view. But then [it] is an obstacle in terms of what

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Digital service	Commercialization pattern/ configuration relevance	Analytical point illustrated	Illustrative quotes
			could I do with remote calibration of my radars." (R&D Manager)
Data Storage	Enabling and infrastructural service	Data storage is commercially important as infrastructure, even when its direct value is uncertain.	"That's really the data storage that points directly into my … digital service platform or infrastructure … I don't know yet what kind of value I can get out of it, but I'm quite convinced that there is a lot of value embedded there." (VP)
	Enabling and infrastructural service	Data storage is framed as an enabler rather than a product in itself.	"Data storage … does not cost much, but you can charge it highly … because [it is] embedded in some of the other stuff. That's really not a product in itself, that's [an] enabler." (SVP)

Data availability

The data that has been used is confidential.

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