Relational Transformation for Digital Servitization

RELATIONAL TRANSFORMATION FOR DIGITAL SERVITIZATION

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1. INTRODUCTION

1.1. Digital servitization

Digitalization is considered by both practitioners and academics as a source of competitive advantage, as it is opening up new opportunities for value creation and value capture. In light of that, manufacturers are increasingly undergoing a servitization transition from providing products to providing services and solutions enabled by digital technologies (Hasselblatt et al., 2018; Kohtamäki et al., 2019). This trend is referred to as *digital servitization* (Vendrell-Herrero & Wilson, 2017), and can be defined as *"the transformation in processes, capabilities, and offerings within industrial firms and their associated ecosystems to progressively create, deliver, and capture increased service value arising from a broad range of enabling digital technologies such as the Internet of Things (IoT), big data, Artificial Intelligence (AI), and cloud computing"* (Sjödin, Parida, Kohtamäki, & Wincent, 2020: 478). An example of digital services is ABB's remote optimization service which is offered through its collaborative operations centers for gearless mill drives, employing its technological expertise and digital technologies. Remote services can enable the provider to offer availability guarantees (Lerch & Gotsch, 2015), as remote monitoring and diagnostics allow for proactive maintenance, for example (Allmendinger & Lombreglia, 2005). Typically, providers adopt a digital servitization strategy to generate new revenue streams and differentiate themselves from their competitors (Opresnik & Taisch, 2015; Scherer et al., 2016). Though, this necessitates a transformation in provider-customer relationships to move from transactional product-centric models to

relational service-oriented engagement (Kamalaldin et al., 2020; Pagoropoulos et al., 2017; Reim et al., 2018; Sjödin, Parida, Jovanovic, & Visnjic, 2020).

1.2. Provider-customer relationships in digital servitization

Digital servitization requires the provider to undertake bigger responsibility for the customer's core processes (Lerch & Gotsch, 2015), and thus, provider-customer relationship must transform to one that is based on a logic of co-creation, long-term commitment, and high investment in the relationship. However, many companies struggle with various relational challenges, such as how to how to balance between control and trust, and between risk and reward (Reim et al., 2018), how to determine the appropriate level of customization, how to ensure transparency and data sharing, and integrate digital systems (Coreynen et al., 2017).

To address these challenges, this chapter integrates insights from literature on digitalization and servitization with the theoretical perspective of the relational view, which argues that competitive advantage is a result of inter-firm relations and joint input of partners (Dyer & Singh, 1998; Dyer et al., 2018). The relational view suggests four determinants of inter-organizational competitive advantage: complementary resources and capabilities, relation-specific assets, knowledge-sharing routines, and effective governance. Dyer and Singh suggest that these determinants can generate relational rents, defined as the "supernormal profit jointly generated in exchange relationship that cannot be generated by either company in isolation and can only be created through the joint idiosyncratic contributions of the specific alliance partners" (Dyer & Singh, 1998: 662).

This chapter conceptualizes the determinants of relational rent in the context of digital servitization, and presents a *relational transformation framework for digital servitization*. The

framework is based on four relational components that evolve as the provider-customer relationship progresses: complementary digitalization capabilities, relation-specific digital assets, digitally enabled knowledge-sharing routines, and partnership governance (Kamalaldin et al., 2020).

2. A RELATIONAL TRANSFORMATION FRAMEWORK FOR DIGITAL SERVITIZATION

The framework highlights that *complementary digitalization capabilities* represent the key trigger for initiating and preserving a digital servitization relationship, hence, complementarity is the foundation for partnership. To progress with this partnership, the provider and customer must continue to invest in *relation-specific digital assets*, and enhance *digitally enabled knowledge-sharing routines*, in order to maximize the potential of their relationship. Furthermore, *partnership governance* must be gradually transformed to a relational trust-based approach in order to fully leverage the potential of digitalization.

The following sections provide further details and elaborations on each of the relational components and explain how they evolve across three phases (*foundational, intermediate, and advanced*). These phases are empirically derived from the study of Kamalaldin et al. (2020), supplemented by insights from research describing the typical transformation process phases in the context of servitization and digitalization (e.g. Baines et al., 2020; Iansiti & Lakhani, 2014; Lerch & Gotsch, 2015). The framework is presented in Table 1, providing an overview on the different phases of digital servitization relationships.

2.1. Complementary digitalization capabilities

Having specialized competences and expertise is necessary for implementing digital technologies (Ardolino et al., 2018). Digitalization capabilities such as intelligence, connectivity, and analytics (Lenka et al., 2017) are essential for this endeavor. When a company does not have all the required digitalization capabilities, it fills the gap by partnering with other companies, and customers usually involve providers in operations that fall outside their core competences (Sjödin et al., 2018). Thus, complementary digitalization capabilities are the trigger for initiating and preserving the provider-customer relationship in digital servitization.

Foundational phase: if a digital servitization relationship is to be initiated, partners should evaluate the benefits of combining the digital expertise of the provider and the operational business knowledge of the customer. Sought after benefits include improved efficiency and optimized resource utilization through digital services, for example.

Intermediate and advanced phases: given the rapid development of digital technologies, it is vital to continue monitoring the evolution of partner's capabilities and reassess complementarity throughout the phases of the relationship. In order to maintain the rationale for continuing a partnership, partners should keep up with the speed of development that enables value creation.

Empirical example: in order improve efficiency through digital services, a mining company complemented its knowledge in mining operations and minerals processing with its provider's expertise in digital mining equipment and control systems. The provider possessed the digitalization capabilities that the mining company lacked, enabling them to integrate the machines fleet and control systems to pinpoint further optimization opportunities. This

complementarity was continuously evaluated and reassessed for subsequent projects. (Kamalaldin et al., 2020).

2.2. Relation-specific digital assets

When complementary digitalization capabilities are present, partners are motivated to invest in relation-specific digital assets. These are specialized assets of strategic importance for the relationship. For example, in order for a provider to offer availability guarantees for machines and plants, it has to link customer's plants with its digital architecture via a compatible connectivity and network (Lerch & Gotsch, 2015). However, relation-specific digital assets do not only include physical assets such as machinery, but also human assets such as know-how and staff dedicated to drive digitalization within the relationship. In particular, partners gradually invest in aligning their digital technologies, and in developing digital competence, and both evolve throughout the phases of the relationship.

Foundational phase: at this early phase of the relationship, the investments in relation-specific digital assets are largely focused on building the digital systems needed for providing the digital services. This includes, for example, installing sensors and digitally connecting the machine fleet. To facilitate this, dedicated staff are assigned to manage digital systems and services, as it is important to commit human resources to the digitalization efforts.

Intermediate phase: when the provider-customer relationship enters an intermediate phase, their focus turns to developing a tailored digital platform which facilitates the implementation of various digital services across different functions. For example, through this platform, the customer's operations team can check the performance of equipment and order optimization services, and the provider's account managers can assess how they can better help the

customer. Moreover, at this phase, both sides tend to dedicate more resources to improve staff's know-how of business processes and digital operations, potentially opening the door to further opportunities.

Advanced phase: at this phase, the digital platform can become an enabler for identifying new solutions for efficiency improvement and offer customization, and in turn, increasing the potential for further value creation. What is more, the provider and customer are likely to establish a joint analytics team, including members from both sides, in order to keep track of key operations and further develop digital competence.

Empirical example: an energy and utilities company established a relationship with a provider of automation technologies. At the *foundational phase*, the provider's applications were built on the digital systems of the energy company, and dedicated engineers were assigned for joint operations. At an *intermediate phase*, a joint digitalization center was formed, and a digital platform was developed. This platform was improved at the relationship's *advanced phase* to enable resolution to operational problems such as the positioning of water leakages. Moreover, a joint team was established for developing additional solutions. (Kamalaldin et al., 2020).

2.3. Digitally enabled knowledge-sharing routines

In addition to investing in relation-specific digital assets, partners should also set-up digitally enabled knowledge-sharing routines. These are purposefully designed processes and interactions between partners that facilitate knowledge exchange. The purpose of these routines is to enable specialized knowledge to be transferred, recombined, or created (Grant, 1996). In digital servitization relationships, these knowledge-sharing routines are, unsurprisingly, digitally enabled and data driven. Whilst digital technologies allow partners to easily

communicate and share data and information (Gago & Rubalcaba, 2007; Martín-Peña et al., 2018), this does not necessarily translate into improved knowledge sharing or performance. Thus, it is key to translate data into knowledge (Barney et al., 2001), and transform it into valuable insights and actions (Lenka et al., 2017). This can be enabled through digital services that are reliant on machine intelligence, where real-time data is automatically collected, validated, stored, and transformed into actionable knowledge (Allmendinger & Lombreglia, 2005). Consequently, partners should not only seek to enhance transparency of knowledge-sharing, but also develop the associated processes to utilize the data and knowledge; processes which should gradually evolve across the phases of the relationship.

Foundational phase: at the relationship's foundational phase, the focus is on collecting data from physical assets to monitor performance in support of the digital services. Therefore, it is important to set up the required technologies, such as sensors, as well as digital systems for storing data, from the beginning of the relationship. Naturally, data has little value if not utilized, so, partners need to collaborate to maximize value from the collected data. At this phase, insights from operational data tend to be utilized in an ad-hoc and unstructured way. For example, this can simply take the form of conversations and feedback among operators.

Intermediate phase: at this phase of the relationship, partners shift focus from monitoring to optimizing operations. The provider and customer collaborate to accumulate and connect data from multiple sources to enable further transparency and optimization. For example, accumulating data from the whole fleet of machines and from the entire process can enable partners to identify operational problems and to use analytics to optimize operations. At this phase, partners also seek better ways to utilize knowledge, and regular interactions become

more structured with the aim to integrate data into joint operations. These interactions are conducted at different levels, including operational meetings as well as managerial meetings.

Advanced phase: at this phase, the focus of knowledge-sharing routines shift from coordination to integration. Consequently, partners align incentives to enable comprehensive data exchange and analysis, with the aim of enhancing transparency and to achieve mutual benefits. This helps to maintain trust in the relationship, allowing both parties to recognize the business opportunities that may emerge from open data exchange. Thus, a key aspect of the relational transformation in this endeavor is about overcoming possible reluctance to sharing data, and this reluctance tends to be minimized when trust is built and benefits of open data exchange are recognized. In order to effectively utilize data and knowledge, partners may establish a joint R&D team at this phase to foster continuous improvement and innovation and agree on priorities.

Empirical example: a forestry company, together with an equipment provider, installed digital hardware and software for monitoring machines' performance. This laid the foundation for knowledge-sharing and ad-hoc discussions of production efficiency at the *foundational phase* of the relationship. At the *intermediate phase*, data was accumulated from various machines, enabling better site management. Additionally, semi-annual meetings were held between the forestry company's operators and the equipment provider's mechanics for discussing performance improvements. At the *advanced phase*, the partners integrated their data in order to facilitate a digital service package, and a joint team was established for exploring new opportunities and the latest digital innovations in the industry. (Kamalaldin et al., 2020).

2.4. Partnership governance

Governance may be considered as the key differentiator that allows for the development of the other relational components, as it is the safeguard for enforcing what partners have agreed upon (Dyer et al., 2018). Governance mechanisms include formal means such as legal contracts and financial penalties (Reim et al, 2018; Williamson, 1983), as well as informal safeguards like goodwill, trust, and reputation (Gulati, 1995; Larson, 1992; Powell, 1990; Uzzi, 1997; Weigelt & Camerer, 1988). In the context of digital servitization, a key paradox in governing a relationship is related to balancing between control and flexibility (Svahn et al., 2017), as the latter is necessary for innovation and exploiting new digital opportunities. Therefore, the provider and customer should agree on governance mechanisms for their partnerships, where they adjust the balance between control and flexibility over time to improve governance efficiency. Indeed, as the relationship develops, more emphasis tends to be put on informal mechanisms, given that mutual trust evolves over time. *"Digital servitization partnerships often begin with a highly contractual governance approach, then develop into the phase of transitional governance, and eventually on to a highly relational governance approach as the relationship matures"* (Kamalaldin et al., 2020: 317).

Foundational phase: at the start of the relationship, partners are inclined to initiate a highly *contractual governance* approach with high levels of control to safeguard their interests. The initial contract tends to be very detailed, as trust is yet to be built. Partners are likely to define key performance indicators to drive value creation. Partners may also account for certain scenarios that they want to safeguard themselves from.

Intermediate phase: it is obviously not feasible to anticipate every possible scenario that can occur, since unexpected events may happen throughout the relationship. Therefore, as the relationship develops, partners may consider adding contractual incentives to facilitate a

transition to a partnership built on trust. Thus, they establish a *transitional governance* approach to revise the contract and realign incentives. Mechanisms such as 'reward-penalty' and 'gain-pain sharing' may be incorporated. As the term suggests, the aim of transitional governance is to set the stage for the transition from a highly contractual governance approach to a more relational one.

Advanced phase: when the relationship progresses well, and partners feel more confident about each other's capabilities, they work to establish a *relational governance* approach that is based on trust with no tight control. This enables them to concentrate on mutually beneficial improvements rather than on monitoring partner's behavior. Trust also enables more efficient collective review of performance, as well as efficient negotiation processes.

Empirical example: at the *foundational phase* of a relationship between a telecom equipment provider and a network provider, their contract was laid out in meticulous details, including tight boundary conditions and back-stops. However, at the *intermediate phase*, they revised the contract to incorporate 'reward-penalty' mechanisms to align incentives, and data-driven KPIs formed a foundation for contract re-negotiation. At the *advanced phase*, the governance approach was transformed towards an emphasis on relational benefits and upholding a "win-win" situation in contract implementation. (Kamalaldin et al., 2020).

Table 1. A relational transformation framework for digital servitization

	FOUNDATIONAL PHASE *Exploratory phase for building the partnership's foundation with the new partner*	**INTERMEDIATE PHASE** *Developmental phase for collaborating to increase the value of the partnership*	**ADVANCED PHASE** *Strategic phase for driving long-term investments in continuous innovation*
COMPLEMENTARY DIGITALIZATION CAPABILITIES The synergy-sensitive specialized digital competences and expertise (such as connectivity) that each partner possess, which when combined, their value increases	• Evaluate the benefits of combining provider's expertise and customer's business knowledge	• Monitor partner's capability evolution and reassess complementarity	
RELATION-SPECIFIC DIGITAL ASSETS The specialized digital assets that are of strategic importance for the relationship, including both physical assets (such as machinery) and human assets (such as dedicated digital experts)	• Invest in building digital systems • Assign dedicated staff for managing digital systems	• Develop digital platform tailored to customer's systems • Allocate time and resources to gain know-how of business processes	• Enable offer customization and efficiency based on digital platform • Build joint digital and analytics team to keep track of key operational processes
DIGITALLY ENABLED KNOWLEDGE-SHARING ROUTINES The purposefully designed processes and interactions between partners that allow specialized knowledge to be transferred, recombined, or created, enabled by digital means (such as data analytics)	• Collect operational data from physical assets to monitor performance • Undertake ad-hoc discussions to utilize insights from operational data	• Accumulate and connect data from multiple sources to enable transparency and optimization • Set up regular interactions between partners to integrate data into joint operations	• Align incentives to enable increased data transparency and analysis • Establish a multi-level joint team to use data for continuous improvement and innovation
PARTNERSHIP GOVERNANCE The safeguard used by partners to enforce what they have agreed, including both formal safeguards (such as financial penalties) and informal safeguards (such as reputation)	• *Contractual governance* to safeguard partners' interests	• *Transitional governance* to revise the contract and realign incentives	• *Relational governance* to focus on mutually beneficial improvements

3. DISCUSSION

Digital servitization requires a transformation in provider-customer relationships. Failing to adapt to the new relational requirements may limit the possibility to benefit from digitalization. This chapter advances knowledge on the transformation of industrial provider-customer relationships in digital servitization by combining insights from the literature on digitalization and servitization with the relational view (Dyer & Singh, 1998; Dyer et al., 2018). The relational transformation framework for digital servitization presented in this chapter highlights four relational components that are important to consider (complementary digitalization capabilities, relation-specific digital assets, digitally enabled knowledge-sharing routines, and partnership governance), and shows how they evolve across the different phases of the provider-customer relationship. The framework carries theoretical implications for the emerging digital servitization literature, as well as managerial implications for managers who are active in digital servitization initiatives.

3.1. Theoretical contributions

By integrating the theoretical perspective of the relational view (Dyer & Singh, 1998; Dyer et al., 2018) in the context of digital servitization, we contribute to the servitization literature which has been criticized for being phenomena driven and lacking theoretical application (Rabetino et al., 2018). We show that the relational view is a useful theoretical lens for understanding provider-customer relationships, which must be transformed in order to benefit from digital servitization (Pagoropoulos, 2017). The relational view provides a more dynamic perspective compared to the resource-based view. Whilst the resource-based view highlights how a firm derives competitive advantage by having valuable, rare, inimitable, and non-substitutable resources (Barney, 1991), it does not consider the fact that these resources may

extend beyond the boundaries of a single firm and may be complemented by a partner's resources and capabilities. Due to the rapid development of digital technologies, it is evident that no firm can keep pace on its own (Bogers et al., 2018), and thus, the provider-customer relationship is an important unit of analysis in investigating digital servitization.

Furthermore, we contribute to digital servitization literature by shedding light on both sides of the provider-customer relationship. Existing literature have mainly focused on the provider perspective, and it is necessary to include the less-studied customer perspective to understand digital servitization relationships (Coreynen et al., 2017; Holmlund et al., 2016; Raddats et al., 2019; Tuli et al., 2007; Valtakoski, 2017). The framework this chapter presents takes into consideration both provider and customer perspectives, viewing them as partners who cooperatively co-create value. Thus, it provides a more holistic transformation model for the relationship at its different phases, as opposed to models that mainly focus on the provider's transformation (e.g. Lerch & Gotsh, 2014).

Whilst literature on servitization and digitalization emphasizes the necessity for relational and trust-based governance approaches (e.g. Reim et al., 2018; Sarker et al., 2012; Sjödin et al., 2019), the focus is mainly on comparing relational governance and contractual governance. The framework presented in this chapter takes a step further by illuminating how the governance approach can be progressively adapted over the different phases of the digital servitization relationship. The framework shows how partnership governance transforms from contractual governance at the foundational phase, to transitional governance at the intermediate phase, to relational governance at the advanced phase.

3.2. Managerial implications

The framework offers guidance for providers and customers pursuing transformation of their relationships to maximize benefits from digital servitization, as it underlines what to focus on at each phase of the relationship. This can help managers at both sides to make informed decisions and prioritize resources.

Moreover, the framework can serve as a template for facilitating negotiations and discussions between the provider and customer based on the activities highlighted for different phases. For example, they may discuss how relation-specific digital assets (such as a digital platform) should co-evolve with digitally-enabled knowledge sharing routines (such as accumulating data from multiple sources). This emphasizes the interconnection between the different relational components that partners should pay attention to, as focusing on one to the neglect of the other may not generate the anticipated value.

Additionally, the framework supports managers in developing governance mechanisms in the different phases of the provider-customer relationship. The framework emphasizes that the partnership governance approach should progressively develop over time to improve efficiency, and hence, managers from both sides should continuously revise it based on experience.

REFERENCES

Allmendinger, G., & Lombreglia, R. (2005). Four strategies for the age of smart services. *Harvard Business Review*, 83(10), 131.

Ardolino, M., Rapaccini, M., Saccani, N., Gaiardelli, P., Crespi, G., & Ruggeri, C. (2018). The role of digital technologies for the service transformation of industrial companies. *International Journal of Production Research*, 56(6), 2116-2132.

Baines, T., Bigdeli, A. Z., Sousa, R., & Schroeder, A. (2020). Framing the servitization transformation process: A model to understand and facilitate the servitization journey. *International Journal of Production Economics*, *221*, 107463.

Barney, J., Wright, M., & Ketchen Jr, D. J. (2001). The resource-based view of the firm: Ten years after 1991. *Journal of Management*, 27(6), 625-641.

Bogers, M., Chesbrough, H., & Moedas, C. (2018). Open innovation: research, practices, and policies. *California Management Review*, *60*(2), 5-16.

Coreynen, W., Matthyssens, P., & Van Bockhaven, W. (2017). Boosting servitization through digitization: Pathways and dynamic resource configurations for manufacturers. *Industrial Marketing Management*, *60*, 42-53.

Dyer, J. H., & Singh, H. (1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *Academy of Management Review*, 23(4), 660-679.

Dyer, J. H., Singh, H., & Hesterly, W. S. (2018). The relational view revisited: A dynamic perspective on value creation and value capture. *Strategic Management Journal*.

Gago, D., & Rubalcaba, L. (2007). Innovation and ICT in service firms: Towards a multidimensional approach for impact assessment. *Journal of Evolutionary Economics*, 17(1), 25-44.

Grant, R. M. (1996). Prospering in dynamically-competitive environments: Organizational capability as knowledge integration. *Organization Science*, *7*(4), 375-387.

Gulati, R. (1995). Does familiarity breed trust? The implications of repeated ties for contractual choice in alliances. *Academy of Management Journal*, *38*(1), 85-112.

Hasselblatt, M., Huikkola, T., Kohtamäki, M., & Nickell, D. (2018). Modeling manufacturer's capabilities for the Internet of Things. *Journal of Business & Industrial Marketing*, *33*(6), 822-836.

Holmlund, M., Kowalkowski, C., & Biggemann, S. (2016). Organizational behavior in innovation, marketing, and purchasing in business service contexts—An agenda for academic inquiry. *Journal of Business Research*, *69*(7), 2457-2462.

Iansiti, M., & Lakhani, K. R. (2014). Digital ubiquity:: How connections, sensors, and data are revolutionizing business. *Harvard Business Review*, *92*(11), 19.

Kamalaldin, A., Linde, L., Sjödin, D., & Parida, V. (2020). Transforming provider-customer relationships in digital servitization: A relational view on digitalization. *Industrial Marketing Management,* 89, 306-325.

Kohtamäki, M., Parida, V., Oghazi, P., Gebauer, H., & Baines, T. (2019). Digital servitization business models in ecosystems: A theory of the firm. *Journal of Business Research*, 104(11), 380-392.

Larson, A. (1992). Network dyads in entrepreneurial settings: A study of the governance of exchange relationships. *Administrative Science Quarterly*, 76-104.

Lenka, S., Parida, V., & Wincent, J. (2017). Digitalization capabilities as enablers of value co-creation in servitizing firms. *Psychology & Marketing*, 34(1), 92-100.

Lerch, C., & Gotsch, M. (2015). Digitalized Product–Service Systems in manufacturing firms: A case study analysis. *Research-Technology Management*, 58(5), 45-52.

Martín-Peña, M. L., Díaz-Garrido, E., & Sánchez-López, J. M. (2018). The digitalization and servitization of manufacturing: A review on digital business models. *Strategic Change*, 27(2), 91-99.

Opresnik, D., & Taisch, M. (2015). The value of big data in servitization. *International Journal of Production Economics*, *165*, 174-184.

Pagoropoulos, A., Maier, A., & McAloone, T. C. (2017). Assessing transformational change from institutionalising digital capabilities on implementation and development of Product-Service Systems: Learnings from the maritime industry. *Journal of Cleaner Production,* 166, 369-380.

Powell, W. W. (1990). Neither Market nor Hierarchy: Network Forms of Organization. In B. M. Staw & L. L. Cummings (Eds.), *Research in Organizational Behaviour*, 12, 295-336. Greenwich, CT: JAI Press.

Rabetino, R., Harmsen, W., Kohtamäki, M., & Sihvonen, J. (2018). Structuring servitization-related research. *International Journal of Operations & Production Management*, *38*(2), 350-371.

Raddats, C., Kowalkowski, C., Benedettini, O., Burton, J., & Gebauer, H. (2019). Servitization: A contemporary thematic review of four major research streams. *Industrial Marketing Management*, 83, 207-223.

Reim, W., Sjödin, D., & Parida, V. (2018). Mitigating adverse customer behaviour for product-service system provision: An agency theory perspective. *Industrial Marketing Management*, 74, 150-161.

Sarker, S., Sarker, S., Sahaym, A., & Bjørn-Andersen, N. (2012). Exploring value cocreation in relationships between an ERP vendor and its partners: a revelatory case study. *MIS Quarterly*, 36(1), 317-338.

Scherer, J. O., Kloeckner, A. P., Ribeiro, J. L. D., Pezzotta, G., & Pirola, F. (2016). Product-service system (PSS) design: using design thinking and business analytics to improve PSS design. *Procedia CIRP*, *47*, 341-346.

Sjödin, D., Parida, V., Jovanovic, M., & Visnjic, I. (2020). Value creation and value capture alignment in business model innovation: A process view on outcome-based business models. *Journal of Product Innovation Management*, *37*(2), 158-183.

Sjödin, D., Parida, V., & Kohtamäki, M. (2019). Relational governance strategies for advanced service provision: Multiple paths to superior financial performance in servitization. *Journal of Business Research*, *101*, 906-915.

Sjödin, D., Parida, V., Kohtamäki, M., & Wincent, J. (2020). An agile co-creation process for digital servitization: A micro-service innovation approach. *Journal of Business Research*.

Sjödin, D. R., Parida, V., Leksell, M., & Petrovic, A. (2018). Smart Factory Implementation and Process Innovation. *Research-Technology Management*, *61*(5), 22-31.

Svahn, F., Mathiassen, L., & Lindgren, R. (2017). Embracing Digital Innovation in Incumbent Firms: How Volvo Cars Managed Competing Concerns. *MIS Quarterly*, *41*(1), 239-253.

Tuli, K. R., Kohli, A. K., & Bharadwaj, S. G. (2007). Rethinking customer solutions: From product bundles to relational processes. *Journal of Marketing*, *71*(3), 1-17.

Uzzi, B. (1997). Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative Science Quarterly*, 42, 35-67.

Valtakoski, A. (2017). Explaining servitization failure and deservitization: A knowledge-based perspective. *Industrial Marketing Management*, *60*, 138-150.

Vendrell-Herrero, F., and Wilson James, R. (2017) "Servitization for territorial competitiveness: taxonomy and research agenda", *Competitiveness Review: An International Business Journal*, 27(1):2-11.

Weigelt, K., & Camerer, C. (1988). Reputation and corporate strategy: A review of recent theory and applications. *Strategic Management Journal*, *9*(5), 443-454.

Williamson, O. E. (1983). Credible commitments: Using hostages to support exchange. *The American Economic Review*, *73*(4), 519-540.