Digital Transformation in Automotive: Drivers of Effective Sales Behaviors During Servitization at a German Car Manufacturer

Joschka Andreas Hüllmann
University of Twente, j.huellmann@utwente.nl

Lorena Göritz
German Research Center for Artificial Intelligence, lorena.goeritz@dfki.de

Simon Hagen
German Research Center for Artificial Intelligence, simon.hagen@dfki.de

Jan Heinrich Beinke
German Research Center for Artificial Intelligence, jan.beinke@dfki.de

Oliver Thomas
DFKI GmbH, oliver.thomas@uni-osnabrueck.de

Follow this and additional works at: https://aisel.aisnet.org/ecis2023_rip

DIGITAL TRANSFORMATION IN AUTOMOTIVE: DRIVERS OF EFFECTIVE SALES BEHAVIORS DURING SERVITIZATION AT A GERMAN CAR MANUFACTURER

Research in Progress

Joschka A. Hüllmann, University of Twente, Enschede, Netherlands, and German Research Center for Artificial Intelligence (DFKI), Osnabrück, Germany j.huellmann@utwente.nl

Lorena Göritz, DFKI, Osnabrück, Germany, lorena.goeritz@dfki.de

Simon Hagen, DFKI, Osnabrück, Germany, simon.hagen@dfki.de

Jan H. Beinke, DFKI, Osnabrück, Germany, jan.beinke@dfki.de

Oliver Thomas, DFKI, Osnabrück, Germany, oliver.thomas@dfki.de

Abstract

Manufacturers deem servitization a competitive remedy, facing heightened customer expectations and competition amidst their digital transformation. Servitization refers to a shift from offering products to offering digital product-service systems. Although previous research inquired about traditional service operations, research into the servitization's digital nature remains nascent and insights addressing the behavioral changes associated with such transformations are lacking. This paper presents an ongoing case study at a German car manufacturer, sharing insights into which organizational and individual factors drive salespeople's behaviors during servitization based on twelve interviews and eleven workshops. The analysis suggests that usage clarity is key to mediating behaviors. Organizational factors driving behaviors include information dissemination, service orientation, and formalization. Individual factors driving behaviors include technology affinity and involvement. The paper contributes to understanding salespeople's behavioral changes during introduction of digital product-service systems. Recommendations on designing personnel training programs to improve the marketing of digital product-service systems are derived.

Keywords: Servitization, Product-Service Systems, Digital Transformation, Manufacturing, Sales Behaviors.

1   Introduction

Manufacturers increasingly deem product-service business necessary. As international competition intensifies (Barrett et al., 2015; Vandermerwe & Rada, 1988), they view *servitization* as a key lever to remain competitive (Barrett et al., 2015; Jacob & Ulaga, 2008). Servitization refers to the shift from a product-oriented business to a pure service or product-service-oriented business, as part of a service-dominant-logic (Vargo & Lush, 2004). It enables the bundling of value by integrating tangible and intangible components and focusing on customer demands (Boehm & Thomas, 2013). Consumers and businesses seek convenience, flexibility, and no high upfront investments. Barrett et al. (2015) put it as: "*standards of living rise in developed and developing economies*" (p. 135) leading to heightened expectations regarding service quality and delivery. Servitization strengthens customer relationship by co-creating value with customers. For firms, product-service business promises a constant income stream in times of complex interorganizational infrastructures and global value chains (Barrett et al., 2015). This ongoing transition is influenced by the digital transformation (Gebauer et al., 2021; Hagen

et al., 2018; Kohtamäki et al., 2022). For example, products get equipped with sensors to collect data, which can enhance the service value (Kammler et al., 2019). These systems are referred to as smart product-service systems (Beverungen et al., 2019; Maglio et al., 2009) and require a broader, interdisciplinary perspective that incorporates service, engineering, and technology (Larson, 2016).

Existing research on product-service business often focused on the firm-level, examining the determinants of successful service implementation and operations in incumbent service companies (Lightfoot et al., 2013). However, servitization and product-service systems represent a complex phenomenon requiring major changes in all sections of a firm (Golgeci et al., 2022), one being the changing role of salespeople. Salespeople must operationalize and transport the organizational change brought about by servitization (Christ-Brendemühl & Schaarschmidt, 2019). Such change demands interdisciplinary efforts that recognize the functional boundary-spanning between information technologies, strategy, personnel and training, and operations and sales (Barrett et al., 2015; Hartline & Ferrell, 1996; Jacob & Ulaga, 2008). Recent publications, such as Hartmann et al. (2018), partially acknowledged this by examining the changing role of sales in service ecosystems. They found a shift in the buyer-seller-relationship from transactional to consultative. Nevertheless, further research on sales' "connection to various fields" and "the shift to more holistic and systemic views to explain selling and sales" behaviors is required (Hartmann et al., 2020, p. 225). As a result, we ask: *How do organizational and individual factors influence salespeople's selling behaviors during the servitization of manufacturing firms?*

Closing this gap adds important insights into how to effectively organize the servitization at the frontline-worker level. These insights have implications for designing a successful digital transformation. The research question is addressed by the collection and analysis of twelve interviews and eleven workshops with employees of a large, globally operating car manufacturer in Germany. A structural model with organizational and individual factors driving effective sales behaviors is derived from the qualitative interview results to explore the research question in its real-world setting. This paper contributes to understanding how organizational structures and individual predispositions influence behaviors of salespeople. Implications for theory include the suggestion of empirically testable propositions for subsequent research. Practical implications include actionable insights on how to facilitate effective salespeople behaviors by developing personnel training. Recommendations for designing a successful servitization in the realm of digital transformation are derived.

2 Theory

Previous research investigated success factors of traditional service firms as well as the transformation to a service-oriented firm, identifying both organizational- and individual-level factors. At the organizational level, factors such as the firm's service orientation, customer focus, service strategy, and culture were recognized as essential drivers for service success (Gebauer et al., 2009). Formalization and clear structures reduce role ambiguities and help employees to perform effective service work (Oliva et al., 2012; Organ & Greene, 1981). At the individual level, attitudes towards service business, managerial motivation, and commitment are drivers for service success (Gebauer, Edvardsson, & Bjurko, 2010), along with personnel competence and training (Gebauer & Friedli, 2005). However, these are mostly firm-level analyses with a managerial perspective. Research at the individual level is missing, although it was acknowledged that the digital transformation requires a major redesign of organizational and behavioral processes (Christ-Brendemühl & Schaarschmidt, 2019).

Frontline staff attitudes and behaviors are critical for service delivery (Christ-Brendemühl & Schaarschmidt, 2019; Hüttel et al., 2019; Karatepe & Karadas, 2016), and technology significantly influences their work. Specifically sales personnel are impacted by this shift due to their essential role as an interface to the customer (Hunter & Perreault, 2007). However, previous research did not focus on how sales behaviors at the individual level are influenced during digital transformation. Instead, previous research examined sales in the context of servitization primarily at the organizational level (e.g. Rapp & Baker, 2017). For example, Hartmann et al. (2018) proposed a new theoretical foundation for

sales, shedding light on sales' role in a service ecosystem. Bolander et al. (2015) examined the importance of social networks for sales, while Terho et al. (2015) investigated customer orientation in terms of sales strategies and their success.

Consumer behaviors surrounding technology were previously researched in information systems (IS) and psychology; but not applied to salespeople offering digital services. Research indicated that technology perceptions shape behavioral intentions and actions (Ajzen, 1991; Venkatesh et al., 2003). Self-efficacy with technologies helps to reduce anxiety and engage with new technologies (Tarafdar et al., 2011). Employee engagement was shown to positively affect adaptability, performance, and job-crafting, which may translate to better service delivery (Salanova et al., 2013). Engaged employees are likelier to perform actions that help customers, coworkers, and the organization (Guidice et al., 2022). However, it remains unclear if these findings apply to salespeople selling digital services. As a result, the factors that drive employee behaviors for service business success remain opaque. It is unknown what drives employee behaviors during servitization (Christ-Brendemühl & Schaarschmidt, 2019).

3 Research Approach

This case study is part of an ongoing larger research project focusing on an automotive manufacturer headquartered in Germany. The company operates globally and employs more than 150,000 people. The case subject was chosen, because it represents a classic example of servitization and exhibits organizational challenges that other leading automotive manufacturers share. The company's headquarters decided on a new strategy to transform from product- to product-service-orientation. The *digital mobility services* offered include entertainment, smart navigation, self-driving and -parking, predictive maintenance, automatic scheduling of service appointments, and fleet management for corporate customers. Customers activate these services in their cars via paid subscriptions. However, the headquarters struggles to implement its service strategy with salespeople working in independent dealerships. Instead of selling mobility services, salespeople continue to focus on offering cars. To understand this absent behavioral change, our case study explores how organizational and individual factors influence salesperson behaviors during servitization. Following an interpretivist approach, we collected interview data to develop a theoretical model with empirically testable propositions (Benbasat et al., 1987).

The interviews were conducted in December 2021 and January 2022, ranged in duration from 25 to 47 minutes (see Table 1), and followed the guidelines of Myers and Newman (2007). Headquarters suggested the interviewee selection so that it provides diverse perspectives on the salespeople's behaviors. In addition, psychological heuristics can cause a discrepancy between the self- and other-perception (Vazire, 2010). Therefore, we included different perspectives on our research question during data collection. Product expert and salespeople are both customer-facing roles, and regional sales managers, analysts, and product managers are internal roles, supporting and managing sales staff (see Table 1). The interviewing team was limited to two researchers and one person from headquarters to reduce discomfort and social dissonance for the interviewees. The person from headquarters was familiar with the interviewees, introduced the researchers, and ensured the confidentiality of disclosures. The interviews were conducted in English or German, with simultaneous translation when necessary. A semi-structured interview guideline allowed us to adapt to the interviewees' cultures and positions. For sensemaking and interpretation, our interview data was enriched through eleven informal workshops conducted with staff from company headquarters between January to March 2022.

We recorded, transcribed, and abductively coded the interviews to develop theory by discovering variables and relationships (Dubois & Gadde, 2002). In the first round of coding, three researchers looked at the interview data and conducted open coding related to the theoretical themes identified in section 2, i.e., organizational and individual factors (Kuckartz, 2014; Saldaña, 2016). Consensual coding was applied in a second coding round (Kuckartz, 2014) until the researchers agreed upon the assigned themes and selected representative quotes. The results were discussed with headquarters in the workshops to assess their plausibility and provide an indicator of their quality.

#	Location	Position	Duration
1	South Africa	Regional Sales Manager	34:36
2	Germany	Salesperson	25:42
3	South Africa	Service Manager	39:02
4	Germany	Salesperson	39:58
5	Italy	Product Expert	33:31
6	Italy	Product Expert	30:41
7	Italy	Analyst	46:42
8	Italy	Product Manager	44:09
9	Spain	Salesperson	36:00
10	Spain	Product Expert	47:47
11	Spain	Product Manager	40:14
12	Germany	Sales Assistant	27:23

Table 1.   The collected interview data. Additionally, eleven workshops were conducted.

4   Findings

The analysis yielded various themes surrounding organizational and individual factors (see Figure 1). Organizational themes revolved around service orientation, information dissemination, and formalization. Individual themes revolved around usage clarity, technology affinity, and involvement.
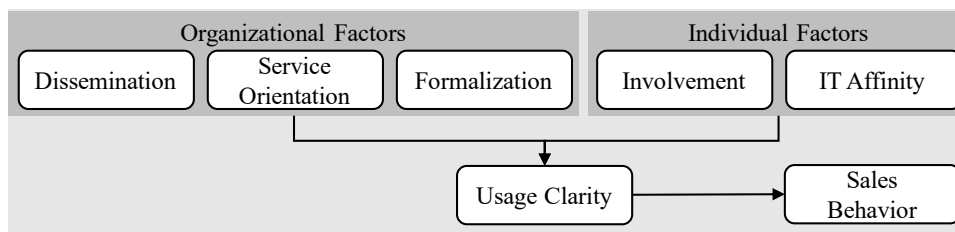

Figure 1.   Proposed research model and theoretical propositions.

4.1   Usage Clarity and Sales Behavior

The interviewees emphasized that the sales employees' usage clarity is a key factor in selling digital services: "*They are passionate about [it], but [...] they are not well trained*" (Italy). Usage clarity is crucial because it enables sales workers to explain the services and show the service's benefits to the customers: *"I feel that the general skill level of staff at the dealers are not good enough to talk with customers about it as I am almost the only at our dealer that deals with this [...]"* (South Africa).

We define usage clarity as salespeople knowing how to use the offered digital services (Meuter et al., 2005). Sales behavior describes the desired behaviors of salespeople according to headquarters. Salespeople should talk about digital services and proactively advertise them to customers. They should demonstrate the functionality and advise customers on how to use digital services. Training salespeople to ensure their clarity on using new digital offerings is an important factor influencing salespeople's customer-facing behaviors (Cuevas, 2018). Prior research hypothesized the effects of training on sales behavior and customer-service interactions focusing on salespeople's skills in using, for example, salesforce automation, customer relationship management, and self-service technologies (Ahearne et al., 2005; Meuter et al., 2005; Mullins & Agnihotri, 2022). Recent research by Mullins and Agnihotri (2022) showed that selling readiness (the belief in the ability to implement digital selling) relates significantly to salespeople's digital selling behavior. We anticipate similar effects for salespeople offering digital services. All interviewees emphasized that usage clarity was the most important for

selling digital services, rendering usage clarity key to successful servitization. As a result, we derive the proposition:

Proposition 1: *Usage clarity of the digital service offering will improve salespeople's selling behaviors.*

4.2 Organizational Factors

4.2.1 Information Dissemination

All interviewees deem information dissemination crucial for learning about the digital service offerings to sell them to customers. Against the backdrop of frequent updates of the services, the interviewees espoused feelings of being overwhelmed with new features: "*There is a lot of new change that comes on the system, and we are not always aware of it*" (South Africa). "*It is developing so fast, which is not bad, only we must not lose our employees and customers at that pace*" (Germany). Informal means of information dissemination (hall talk, peer groups) were preferred over formal means (e-learning), and frustration with e-learning during COVID-19 was mentioned. Instead, on-site learning was favored because it allows collaborative learning, transporting shifting cultural values and the service mindset: "*Without a doubt, I prefer face-to-face training sessions. It's much easier for us to exchange ideas. We can also touch the product. The feeling is completely different!*" (Italy).

Information dissemination has been widely theorized and empirically evidenced to drive firm performance (Srivastava & Shainesh, 2015). In the literature, it is understood as knowledge sharing about the offered goods, both laterally and vertically, throughout the organization. Dissemination is important for implementing an organization's business strategy (Zeithaml et al., 1988), and aligning understanding between organizational roles, for example, managers and employees (Rogers et al., 1994; Zeithaml et al., 1988). Conversely, lacking information dissemination may lead to uncertainty and ambiguity for salespeople, resulting in lower sales performance (Walker et al., 1977). Hence, providing enough information resources is helpful to yield effective sales behaviors (Weitz, 1981). Similar to our results, the literature explains how information can be provided in formal and informal ways (Kohli et al., 1993). Regarding servitization, we argue that salespeople require information about digital service offerings. For complex digital services, it becomes even more crucial for salespeople to understand, explain, and demonstrate the services to achieve high sales performance (cf. Weitz, 1981). Information dissemination enables salespeople to build this usage clarity. In turn, usage clarity effectively increases the perceived confidence in service usage which is relevant for selling services. Ultimately, salespeople need to be able to tell good stories to customers. Therefore, we propose:

Proposition 2: *Information dissemination will improve salespeople's selling behaviors, mediated by usage clarity of the digital service offering.*

4.2.2 Service Orientation

Insufficient identification with the service business results in a reluctant implementation of the service strategy by sales workers. Dealership managers fail to act as role models and do not exhibit a strong connection with the service business: "*I think, the knowledge surrounding it has not been properly communicated in a whole of the leadership*" (South Africa). Even employees eager to adopt the service mindset may be hindered by reluctant managers at the dealerships, who only "*care about selling cars*" (Spain), leading to employee frustration. Some dealerships have a skewed understanding of headquarters' service strategy. This skewed understanding is pronounced for dealerships in developing countries: "*Basically [digital service means] considering the workshop CRM order that we need to use*" (South Africa). These dealerships believe that service orientation is merely about using digital systems for after-sales and customer relationship management. Instead, headquarters' vision concerns value-adding mobility services that generate novel revenue streams and are not just a cost factor.

Service orientation refers to the extent to which managers and employees understand the value of service business and implement the opportunities it presents for the organization (Oliva et al., 2012). Previous

research showed that service orientation drives firm performance. Typically, service-oriented firms have a service strategy and focus on adapting to customer demands (Kohli & Jaworski, 1990; Matsuno et al., 2000). Servitization is a complex transformation, requiring major changes, including acquiring new knowledge and adopting a mindset that recognizes the value of service business (Oliva et al., 2012). A service strategy must be developed to navigate this change and achieve a successful transformation from top to bottom (Gebauer & Fleisch, 2007). Managers must commit to the service strategy and drive change for their employees. Employees must learn about the value of digital services offerings (Gebauer & Fleisch, 2007). Old behavioral processes must be disrupted; for example, instead of selling products, salespeople should sell product-service systems (Gebauer & Friedli, 2005). Managerial levers for achieving higher service orientation in the organization can be recruiting, training, or fostering formalized procedures (Gebauer et al., 2009; Hartline & Ferrell, 1996; Oliva et al., 2012). According to Gebauer et al. (2010), employee characteristics in a service-oriented firm include convincing customer interactions, technical and behavioral competencies, and communication skills to show, explain and sell services. As a result, we propose:

Proposition 3: *Service orientation will improve salespeople's selling behaviors, mediated by usage clarity of the digital service offering.*

4.2.3   Formalization

"*We do that for the quotas*" (Germany). Headquarters has established rules to encourage sales staff to meet target key performance indicators (KPIs); for example, a KPI about customers linking their cars with the firm's servers to enable updates and communication. Achieving the KPIs is incentivized through monetary benefits. Dealerships might have their own rules: "*It is the default procedure for my colleagues [for each digitization phase in the process]*" (Italy). However, these rules seemingly do not lead to more effective sales behaviors. Ignoring the procedures often goes unpunished at the interviewed dealerships. Furthermore, non-sales employees expressed dissatisfaction that they cannot benefit from the incentives. "*That's where I think it's a shame that we product experts are not involved in a quota*" (Germany). *"Consulting and working out the solution to the problem together with the customer is currently not remunerated by the manufacturer"* (Germany). Hence, formalization can still be improved with alternative modes of incentivization, offering prospects for driving the desired behaviors.

Organizational formalization is a key factor that has been theorized and validated to impact firm performance (Bodewes, 2002; Pugh et al., 1968). It is defined as the "*degree to which a codified body of rules, procedures or behavior prescriptions is developed to handle decisions and work processing*" (Pierce & Delbecq, 1977). It concerns codified rules and norms, and the enactment (or compliance) thereof (Bodewes, 2002). Previous research showed that formalization can reduce role ambiguity and procedural uncertainty (Hall et al., 1967; Hartline & Ferrell, 1996). In less professionalized jobs, formalization was shown to increase firm productivity (Organ & Greene, 1981). Instances of codified rules include clear goals and objectives, defined responsibilities, written work specifications, and operational procedures. According to Karyotakis and Moustakis (2016), formalization impacts learning, resource availability (e.g., information and knowledge), and employee empowerment. Formalization can increase the "knowledge of work" (Vough, 2012) and improve knowledge dissemination through personnel training (Theodosiou & Katsikea, 2013). As a result, personnel training, then, can yield higher usage clarity for salespeople regarding the offered digital services. Therefore, we propose:

Proposition 4: *Formalization will improve salespeople's selling behaviors, mediated by usage clarity of the digital service offering.*

4.3 Individual Factors

4.3.1 Affinity for Technology

Interviewees mentioned that less technology-affine colleagues do not prioritize selling digital services. They observed that these colleagues face psychological barriers: "*Wow, another system I have to deal with*" (Germany). Some interviewees painted a stereotypical picture of an older and change-resistant colleague with low affinity for technology. Such colleagues do not care about digital services and dismiss them as gimmicks or add-ons rather than value-adding primary offers. They just want to sell cars. Others described differences in affinity for engaging with technology, comparing it to a "*school with children. [...] It's not easy for some, not for all, but for some of them, it is not easy*" (Spain).

Regardless of the normative advantage of the technology, its subjective perception influences the successful integration of digital services into a manufacturing firm's product portfolio (Speier & Venkatesh, 2002). Therefore, to examine the challenges in servitization, salespeople's individual characteristics must be taken into account. The interviews showed that the usage clarity of digital service offerings among sales employees is primarily related to their general affinity for technology, that is, whether they tend to actively approach or avoid interactions with novel technical systems (Franke et al., 2019). Technology-affine salespeople can build on resources derived from their willingness to use technology in their personal lives (Lam et al., 2008). Based on this advantage, we derive the proposition:

Proposition 5: *Affinity for technology will improve salespeople's selling behaviors, mediated by usage clarity of the digital service offering*.

4.3.2 Involvement

Not only did general affinity for technology emerge as a key factor for salespeople's usage clarity, but also a deeper involvement with the specific digital services offered played a crucial role. "*At some point, [digital service] will become second nature, and at some point, it will become part of the whole*" (Germany). A shift in organizational culture is required: "*It is a great honor for me to be part of this change, even if it is not always easy*" (Italy). Yet, there is a risk that salespeople with little involvement with the new digital services will hurt this change, for example, by expressing their negative attitude towards the digital service offerings towards customers: "*It always depends on the person. If you don't approach things positively, but rather negatively, you will also pass this on to your customers*" (Germany).

This consumer-facing behavior is an important factor in customer' perceptions of service quality (Franke et al., 2019). Salespeople's involvement plays an essential role during servitization. Involvement is defined as a person's perceived relevance of a technology based on inherent needs, values, and interests (Zaichkowsky, 1985). The interviews indicated that affective and cognitive engagement with the technology influenced whether salespeople took the extra effort to engage with and learn about the new technology. Technology involvement (Tarafdar et al., 2015), attitude toward technology (Christ-Brendemühl & Schaarschmidt, 2020; Jones et al., 2002), and dedication (Guidice et al., 2022) have already been identified as key factors influencing the salespeople's usage clarity of the digital service offering. Based on this, we derive the proposition:

Proposition 6: *Involvement with service offering will improve salespeople's selling behaviors, mediated by usage clarity of the digital service offering.*

5 Discussion, Limitations, and Outlook

Through a case study at a German car manufacturer, we identified and outlined how organizational and individual factors drive behaviors among sales workers. Salespeople are responsible for implementing

servitization, making their behaviors crucial for offering digital services (Christ-Brendemühl & Schaarschmidt, 2019; Hüttel et al., 2019; Karatepe & Karadas, 2016). While previous research focused on firm-level success in traditional service business involving incumbent firms, we investigate the servitization of manufacturers and digital services (cf. Christ-Brendemühl & Schaarschmidt, 2020; Subramony et al., 2017). Following a call by Hartmann et al. (2020), we contribute insights at the individual-level into how involvement and technology affinity can steer dedicated sales behaviors. Involvement and technology affinity both describe individual predispositions with technology that can yield higher engagement and usage clarity with novel digital services. In the context of product-service systems, the significance of the digital service component is increasingly recognized. Sales employees must acquire technological expertise and, ideally, identify with the digital services. Consequently, we derive a clear objective for in-company training in the sales area. These two individual-level factors extend existing information systems research that examined how the perceptions of technology and self-efficacy with technology influence behavioral intentions and, subsequently, actions (Tarafdar et al., 2011; Venkatesh et al., 2003). Additionally, the proposed factors relate to engagement which was shown to improve service delivery (Guidice et al., 2022).

Existing research at the firm-level deemed service and market orientation important for a firm's success, along with service strategy and culture (Gebauer et al., 2009). Terho et al. (2015) found that a firm's sales strategy directly and indirectly influences salespeople's performance, emphasizing the role of transparent communication. Extending their results, this paper elucidates how formalization, service orientation, and information dissemination drive workers' behaviors. Furthermore, we find that usage clarity is an important mediator. All employees stated that usage clarity was the most critical factor driving their (and others') behaviors. The absence of usage clarity results in uncertainty and ambiguity regarding the use and explanation of digital services. Consequently, sales staff may avoid selling or discussing digital services to avoid anxiety or embarrassment for failing to demonstrate and explain the service functionality adequately. Usage clarity is vital for staff and presupposes them to enact effective selling behaviors. Companies can leverage these insights through training sessions that thoroughly explain digital services. However, it is equally important to convey the feeling and the benefits that digital services offer, rather than to focus solely on how the services operate. This aligns with findings from Terho et al. (2012), who showed that communicating customer value is a critical aspect of the sales process. In another study, Hartmann et al. (2018) demonstrate that salespeople play a crucial role in facilitating information exchange between actors. For this exchange to be effective, salespeople must possess a comprehensive understanding of the product or service. Digital product-service systems exhibit a faster rate of change compared to traditional products such as cars, making this understanding particularly important. Special attention should be given to older employees, who often lack understanding in contrast to younger employees who grew up with digital product-service systems.

In the era of servitization, effective sales staff is required for successfully designing the digital transformation. The theoretical insights can be operationalized in practice as guidelines and policies. Fostering involvement and teaching technology is crucial for effective sales staff. Personnel training and education are essential for achieving successful servitization (cf. Gebauer & Friedli, 2005) and shaping an effective transition from product-oriented to product-service-oriented manufacturing. Servitization is critical for manufacturers to remain competitive, and salespeople's behaviors have an important impact on this transformation, directly influencing overall firm revenue and performance.

As in all research endeavors, our study has some limitations. We only have a small sample of interviews. However, the insights from workshops with headquarters confirmed the general sentiments of the interviewees. We acknowledge that abductive coding is subjective, but multiple researchers were involved and reached a consensus upon the coding. The proposed research model is agnostic to the specific service functionality and quality, which are also relevant for successful service delivery (cf. Kang et al., 2020). The proposed relationships have not yet been quantitively supported. This short paper is part of an ongoing research project. Moving forward, we plan to design a survey and quantify the strengths of the proposed relationships from this paper using structural equation modeling.

6   References

Ahearne, M., Jelinek, R., & Rapp, A. (2005). Moving beyond the direct effect of SFA adoption on salesperson performance: Training and support as key moderating factors. *Industrial Marketing Management*, *34*(4), 379–388. https://doi.org/10.1016/j.indmarman.2004.09.020

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.47985/dcidj.475

Barrett, M., Davidson, E., Prabhu, J., & Vargo, S. L. (2015). Service Innovation in the Digital Age. *MIS Quarterly*, *39*(1), 135–154.

Benbasat, I., Goldstein, D. K., & Mead, M. (1987). The case research strategy in studies of information systems. *MIS Quarterly*, *11*(3), 369–386.

Beverungen, D., Müller, O., Matzner, M., Mendling, J., & Vom Brocke, J. (2019). Conceptualizing smart service systems. *Electronic Markets*, *29*(1), 7–18.

Bodewes, W. E. J. (2002). Formalization and innovation revisited. *European Journal of Innovation Management*, *5*(4), 214–223. https://doi.org/10.1108/14601060210451171

Boehm, M., & Thomas, O. (2013). Looking beyond the rim of one's teacup: a multidisciplinary literature review of Product-Service Systems in Information Systems, Business Management, and Engineering & Design. *Journal of Cleaner Production*, *51*, 245–260.

Bolander, W., Satornino, C. B., Hughes, D. E., & Ferris, G. R. (2015). Social networks within sales organizations: Their development and importance for salesperson performance. *Journal of Marketing*, *79*(6), 1–16. https://doi.org/10.1509/jm.14.0444

Christ-Brendemühl, S., & Schaarschmidt, M. (2019). Frontline backlash: service employees' deviance from digital processes. *Journal of Services Marketing*, *31*(7), 936–945. https://doi.org/10.1108/JSM-03-2019-0125

Christ-Brendemühl, S., & Schaarschmidt, M. (2020). The impact of service employees' technostress on customer satisfaction and delight: A dyadic analysis. *Journal of Business Research*, *117*, 378–388. https://doi.org/10.1016/j.jbusres.2020.06.021

Cuevas, J. M. (2018). The transformation of professional selling: Implications for leading the modern sales organization. *Industrial Marketing Management*, *69*, 198–208. https://doi.org/10.1016/j.indmarman.2017.12.017

Dubois, A., & Gadde, L. E. (2002). Systematic combining: an abductive approach to case research. *Journal of Business Research*, *55*(7), 553–560.

Franke, T., Attig, C., & Wessel, D. (2019). A Personal Resource for Technology Interaction: Development and Validation of the Affinity for Technology Interaction (ATI) Scale. *International Journal of Human-Computer Interaction*, *35*(6), 456–467. https://doi.org/10.1080/10447318.2018.1456150

Gebauer, H., Edvardsson, B., & Bjurko, M. (2010). The impact of service orientation in corporate culture on business performance in manufacturing companies. *Journal of Service Management*, *21*(2), 237–259. https://doi.org/10.1108/09564231011039303

Gebauer, H., Edvardsson, B., Gustafsson, A., & Witell, L. (2010). Match or mismatch: Strategy-structure configurations in the service business of manufacturing companies. *Journal of Service Research*, *13*(2), 198–215. https://doi.org/10.1177/1094670509353933

Gebauer, H., & Fleisch, E. (2007). An investigation of the relationship between behavioral processes, motivation, investments in the service business and service revenue. *Industrial Marketing Management*, *36*(3), 337–348. https://doi.org/10.1016/j.indmarman.2005.09.005

Gebauer, H., & Friedli, T. (2005). Behavioral implications of the transition process from products to services. *Journal of Business and Industrial Marketing*, *20*(2), 70–78. https://doi.org/10.1108/08858620510583669

Gebauer, H., Paiola, M., Saccani, N., & Rapaccini, M. (2021). Digital servitization: Crossing the perspectives of digitization and servitization. *Industrial Marketing Management*, *93*, 382–388. https://doi.org/10.1016/j.indmarman.2020.05.011

Gebauer, H., Pütz, F., Fischer, T., & Fleisch, E. (2009). Service orientation of organizational structures. *Journal of Relationship Marketing*, *8*(2), 103–126. https://doi.org/10.1080/15332660902876687

Golgeci, I., Lacka, E., Kuivalainen, O., & Story, V. (2022). Intra and inter-organizational paradoxes in product-service systems: Current insights and future research directions. *Industrial Marketing Management*, *107*, A25–A31. https://doi.org/10.1016/j.indmarman.2022.10.018

Guidice, R. M., Mesmer-Magnus, J., Barnes, D. C., & Scribner, L. L. (2022). Service amid crisis: the role of supervisor humor and discretionary organizational support. *Journal of Services Marketing*, *December 2021*. https://doi.org/10.1108/JSM-07-2021-0260

Hagen, S., Jannaber, S., & Thomas, O. (2018). Closing the Gap Between Research and Practice–A Study on the Usage of Service Engineering Development Methods in German Enterprises. *International Conference on Exploring Service Science*, 59–71.

Hall, R. H., Johnson, N. J., & Haas, J. E. (1967). Organizational Size , Complexity , and Formalization. *American Sociological Review*, *32*(6), 903–912.

Hartline, M. D., & Ferrell, O. C. (1996). The management of customer-contact service employees: An empirical investigation. *Journal of Marketing*, *60*(4), 52–70.

Hartmann, N. N., Wieland, H., & Vargo, S. L. (2018). Converging on a new theoretical foundation for selling. *Journal of Marketing*, *82*(2), 1–18. https://doi.org/10.1509/jm.16.0268

Hartmann, N. N., Wieland, H., Vargo, S. L., & Ahearne, M. (2020). Advancing sales theory through a holistic view: how social structures frame selling. *Journal of Personal Selling and Sales Management*, *40*(4), 221–226. https://doi.org/10.1080/08853134.2020.1838916

Hunter, G. K., & Perreault, W. D. (2007). Making sales technology effective. *Journal of Marketing*, *71*(1), 16–34. https://doi.org/10.1509/jmkg.71.1.16

Hüttel, B. A., Ates, Z., Schumann, J. H., Büttgen, M., Haager, S., Komor, M., & Volz, J. (2019). The influence of customer characteristics on frontline employees' customer need knowledge. *Journal of Services Marketing*, *33*(2), 220–232. https://doi.org/10.1108/JSM-11-2017-0367

Jacob, F., & Ulaga, W. (2008). The transition from product to service in business markets: An agenda for academic inquiry. *Industrial Marketing Management*, *37*(3), 247–253. https://doi.org/10.1016/j.indmarman.2007.09.009

Jones, E. L. I., Sundaram, S., & Chin, W. (2002). Factors Leading to Sales Force Automation Use : A Longitudinal Analysis. *The Journal of Personal Selling and Sales Management*, *22*(3), 145–156.

Kammler, F., Hagen, S., Brinker, J., & Thomas, O. (2019). Leveraging the Value of Data-Driven Service Systems in manufacturing: a Graph-based Approach. *European Conference on Information Systems (ECIS) 2019*.

Kang, L., Jiang, Q., Peng, C. H., Sia, C. L., & Liang, T. P. (2020). Managing change with the support of smart technology: A field investigation of ride-hailing services. *Journal of the Association for Information Systems*, *21*(6), 1594–1620. https://doi.org/10.17705/1jais.00647

Karatepe, O. M., & Karadas, G. (2016). Service employees' fit, work-family conflict, and work engagement. *Journal of Services Marketing*, *30*(5), 554–566. https://doi.org/10.1108/JSM-02-2015-0066

Karyotakis, K., & Moustakis, V. (2016). Organizational factors, organizational culture, job satisfaction and entrepreneurial orientation in public administration. *The European Journal of Applied Economics*, *13*(1), 47–59. https://doi.org/10.5937/ejae13-10781

Kohli, A. K., & Jaworski, B. J. (1990). Market Orientation: The Construct, Research Propositions, and Managerial Implications. *Journal of Marketing*, *54*(2), 1–18. https://doi.org/10.4135/9781452231426.n2

Kohli, A. K., Jaworski, B. J., & Kumar, A. (1993). MARKOR: A Measure of Market Orientation. *Journal of Marketing Research*, *30*(4), 467–477. https://doi.org/10.2307/3172691

Kohtamäki, M., Rabetino, R., Parida, V., Sjödin, D., & Henneberg, S. (2022). Managing digital servitization toward smart solutions: Framing the connections between technologies, business models, and ecosystems. *Industrial Marketing Management*, *105*, 253–267. https://doi.org/10.1016/j.indmarman.2022.06.010

Kuckartz, U. (2014). *Qualitative Text Analysis: A Guide to Methods, Practice and Using Software*. Sage.

Lam, S. Y., Chiang, J., & Parasuraman, A. (2008). The effects of the dimensions of technology readiness on technology acceptance: An empirical analysis. *Journal of Interactive Marketing*, *22*(4), 19–39.

Larson, R. C. (2016). Commentary - Smart service systems: Bridging the silos. *Service Science*, *8*(4),

359–367. https://doi.org/10.1287/serv.2016.0140

Lightfoot, H., Baines, T., & Smart, P. (2013). The servitization of manufacturing: A systematic literature review of interdependent trends. *International Journal of Operations and Production Management*, *33*(11), 1408–1434. https://doi.org/10.1108/IJOPM-07-2010-0196

Maglio, P. P., Vargo, S. L., Caswell, N., & Spohrer, J. (2009). The service system is the basic abstraction of service science. *Information Systems and E-Business Management*, *7*(4), 395–406. https://doi.org/10.1007/s10257-008-0105-1

Matsuno, K., Mentzer, J. T., & Rentz, J. O. (2000). A refinement and validation of the MARKOR scale. *Journal of the Academy of Marketing Science*, *28*(4), 527–539. https://doi.org/10.1177/0092070300284005

Meuter, M. L., Bitner, M. J., Ostrom, A. L., & Brown, S. W. (2005). Choosing among alternative service delivery modes: An investigation of customer trial of self-service technologies. *Journal of Marketing*, *69*(2), 61–83. https://doi.org/10.1509/jmkg.69.2.61.60759

Mullins, R., & Agnihotri, R. (2022). Digital selling: organizational and managerial influences for frontline readiness and effectiveness. *Journal of the Academy of Marketing Science*, *50*(4), 800–821. https://doi.org/10.1007/s11747-021-00836-5

Myers, M. D., & Newman, M. (2007). The qualitative interview in IS research: Examining the craft. *Information and Organization*, *17*(1), 2–26.

Oliva, R., Gebauer, H., & Brann, J. (2012). Separate or Integrate? Assessing the Impact of Separation Between Product and Service Business on Service Performance in Product Manufacturing Firms. *Journal of Business-to-Business Marketing*, *19*(4), 309–334. https://doi.org/10.1080/1051712X.2012.647797

Organ, D. W., & Greene, C. N. (1981). The Effects of Formalization on Professional Involvement : A Compensatory Process Approach. *Administrative Science Quarterly*, *26*(2), 237–252.

Pierce, J. L., & Delbecq, A. L. (1977). Organization Structure, Individual Attitudes and Innovation. *The Academy of Management Review*, *2*(1), 27–37. https://doi.org/10.5465/amr.1977.4409154

Pugh, D. S., Hickson, D. J., Hinings, C. R., & C, T. (1968). Dimensions of Organizational Structure. *Administrative Science Quarterly*, *13*(1), 65–105.

Rapp, A., & Baker, T. L. (2017). Introduction to the special issue on the intersection of professional selling and service. *Journal of Personal Selling and Sales Management*, *37*(1), 4–10. https://doi.org/10.1080/08853134.2017.1292099

Rogers, J. D., Clow, K. E., & Kash, T. J. (1994). Increasing Job Satisfaction of Service Personnel. *Journal of Services Marketing*, *8*(1), 14–26. https://doi.org/10.1108/08876049410053267

Salanova, M., Llorens, S., & Cifre, E. (2013). The dark side of technologies: Technostress among users of information and communication technologies. *International Journal of Psychology*, *48*(3), 422–436.

Saldaña, J. (2016). *The Coding Manual for Qualitative Researchers* (3rd ed.). Sage.

Speier, C., & Venkatesh, V. (2002). The hidden minefields in the adoption of sales force automation technologies. *Journal of Marketing*, *66*(3), 98–111. https://doi.org/10.1509/jmkg.66.3.98.18510

Srivastava, S. C., & Shainesh, G. (2015). Bridging the Service Divide Through Digitally Enabled Service Innovations. *MIS Quarterly*, *39*(1), 245–268.

Subramony, M., Ehrhart, K., Groth, M., Holtom, B. C., van Jaarsveld, D. D., Yagil, D., Darabi, T., Walker, D., Bowen, D. E., Fisk, R. P., Grönroos, C., & Wirtz, J. (2017). Accelerating employee-related scholarship in service management: Research streams, propositions, and commentaries. *Journal of Service Management*, *28*(5), 837–865. https://doi.org/10.1108/JOSM-02-2017-0055

Tarafdar, M., Pullins, E. B., & Ragu-Nathan, T. S. (2015). Technostress: negative effect on performance and possible mitigations. *Information Systems Journal*, *25*(2), 103–132.

Tarafdar, M., Pullins, E., & Ragu-Nathan, T. (2011). Examining Impacts of Technostress on the Professional Salesperson's Performance. *AMCIS 2011 Proceedings*. https://doi.org/10.1080/08853134.2013.870184

Terho, H., Eggert, A., Haas, A., & Ulaga, W. (2015). How sales strategy translates into performance: The role of salesperson customer orientation and value-based selling. *Industrial Marketing Management*, *45*(1), 12–21. https://doi.org/10.1016/j.indmarman.2015.02.017

Terho, H., Haas, A., Eggert, A., & Ulaga, W. (2012). 'It's almost like taking the sales out of selling'— Towards a conceptualization of value-based selling in business markets. *Industrial Marketing Management*, *41*(1), 174–185.

Theodosiou, M., & Katsikea, E. (2013). The Export Information System: An Empirical Investigation of Its Antecedents and Performance Outcomes. *Journal of International Marketing*, *21*(3), 72–94. https://doi.org/10.1509/jim.12.0165

Vandermerwe, S., & Rada, J. (1988). Servitization of business: adding value by adding services. *European Management Journal*, *6*(4), 314–324. https://doi.org/10.1097/JOM.0b013e318161786f

Vargo, S. L., & Lush, R. F. (2004). Evolving a services dominant logic. *Journal of Marketing*, *68*(1), 1–17.

Vazire, S. (2010). Who Knows What About a Person? The Self-Other Knowledge Asymmetry (SOKA) Model. *Journal of Personality and Social Psychology*, *98*(2), 281–300. https://doi.org/10.1037/a0017908

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, *27*(3), 425–478.

Vough, H. (2012). Not all identifications are created equal: Exploring employee accounts for workgroup, organizational, and professional identification. *Organization Science*, *23*(3), 778–800. https://doi.org/10.1287/orsc.1110.0654

Walker, O. C., Churchill, G. A., & Ford, N. M. (1977). Motivation and Performance in Industrial Selling: Present Knowledge and Needed Research. *Journal of Marketing Research*, *14*(2), 156–168. https://doi.org/10.2307/3150465

Weitz, B. A. (1981). Effectiveness in Sales Interactions: A Contingency Framework. *Journal of Marketing*, *45*(1), 85–103. https://doi.org/10.2307/1251723

Zaichkowsky, J. L. (1985). Measuring the involvement construct. *Journal of Consumer Research*, *12*(3), 341–352.

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1988). Communication and Control Processes in the Delivery of Service Quality. *Journal of Marketing*, *52*(2), 35–48. https://doi.org/10.2307/1251263