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AI platform for digital servitization

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Abstract

Incumbent manufacturers are increasingly developing digital servitization (DS) projects to strengthen their position in the market and meet the growing demands of personalized solutions. This emergent paradigm requires a profound, yet little understood, reconfiguration of business models (BMs) to adapt corporate activities and their structure -in particular value-capture mechanisms- to the new value proposition. The literature provides limited insights into manufacturers' BM adjustment process, hardly revealing the stages of their DS journey. This in-depth case study explores a global manufacturer in the energy sector and the development of a business-to-business (B2B) artificial intelligence (AI) platform to support the effective provision of digital solutions. The aim is to show the dynamics behind the transformation process and how the BM dimensions change, in particular the profit generation strategies, as well as B2B AI-platform functionalities that support a successful DS transformation.

Keywords: Digital servitization, B2B AI platform, energy sector, sustainability.

Introduction and Relevance of the Research

In the present age, manufacturers are put under pressure to adapt their business models (BMs) to the rising globalization and competition (Cenamor, Sjödin & Parida, 2017). Recently, a phenomenon has sparked interest among academics and businesses, modifying organizations' competitiveness: digital servitization (DS).

DS is the transformation in processes, capabilities, and offerings to progressively create, deliver, and capture value through services based on enabling digital technologies (Shen, Sun & Parida, 2023), leveraged to monitor and optimize product usage, driving value for both providers and customers.

According to the definition, DS must be accompanied by a reconfiguration of firms' BMs: it entails new ways of creating, delivering and capturing value (Sjödin, Parida, Jovanovic & Visnjic, 2020), calling, in turn, for new competencies, resources, strategies, and increased integration (Kohtamäki, Parida, Oghazi, Gebauer & Baines, 2019).

Rarely this BM redesign unfolds at once; rather it follows a processual evolution over time, which is far from easy (Kohtamäki et al., 2019; Sjödin et al., 2020).

However, understanding on how manufacturers shift to DS paradigm is still limited and rarely uses a processual approach that unveils how activities evolve during the transition (Kohtamäki, Rabetino, Parida, Sjödin & Henneberg, 2022; Tian, Coreynen, Matthyssens & Shen, 2022). Furthermore, there is a gap regarding the adjustments in BM components and, specifically, the alignment of new value-capture mechanisms to advanced digital solutions provision (Sjödin et al., 2020)

Recent literature depicts AI platform as an effective tool to enact the DS transformation: they are used to connect goods and gather, analyse and exchange field data, generating insights and enabling

advanced services provision (Cenamor et al., 2017; Delenogare, Le Dain, Ayala, Pezzotta & Frank, 2023).

However, knowledge on how manufacturers adopt and leverage AI platforms to generate value is relatively limited (Cenamor et al., 2017; Barbieri, Rapaccini, Adrodegari, Saccani & Baccacin, 2022).

By adopting an in-depth qualitative approach based on semi-structured interviews, this study examines a global B2B manufacturer in the energy sector and how it exploits a B2B AI platform for supplementing its core product (wind turbines) with digital services, leveraging data analytics and action recommendations to remotely monitor blade conditions across different sites and turbines, regardless of brand.

Our aim is, hence, to tackle the outlined gaps by answering the following research questions: how do manufacturers exploit B2B AI platform to provide effective digital solutions? What path do companies follow to successfully implement DS projects? What changes occur in BM components and, specifically, how are value capture mechanisms adapted to the new value proposition?

This study contributes to the literature, integrating knowledge about DS transformation, from a B2B AI-platform leverage lens, and the consequent BM components innovation: it elucidates the strategic and operational advantages of platform's implementation, including the ability to monitor and maintain wind turbines more efficiently, creating lower downtime and greater energy output, and it clarifies B2B platforms' functions in the energy industry and their potential to drive DS transformation.

From a practical perspective, the article emphasizes potential effects of B2B AI platform in DS, offering a knowledge base that may assist managers in successfully addressing the challenges that this transformation raises.

References

Barbieri, C., Rapaccini, M., Adrodegari, F., Saccani, N., & Baccarin, G. (2021). The Role of AI Platforms for the Servitization of Manufacturing Companies. In *Smart Services Summit: Digital as an Enabler for Smart Service Business Development* (pp. 95-104). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-72090-2_9

Cenamor, J., Sjödin, D. R., & Parida, V. (2017). Adopting a platform approach in servitization: Leveraging the value of digitalization. *International Journal of Production Economics*, 192, 54-65. https://doi.org/10.1016/j.ijpe.2016.12.033

Dalenogare, L. S., Le Dain, M. A., Ayala, N. F., Pezzotta, G., & Frank, A. G. (2023). Building digital servitization ecosystems: An analysis of inter-firm collaboration types and social exchange mechanisms among actors. *Technovation*, 124, 102756. https://doi.org/10.1016/j.technovation.2023.102756

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, 380-392. https://doi.org/10.1016/j.jbusres.2019.06.027

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

Shen, L., Sun, W., & Parida, V. (2023). Consolidating digital servitization research: A systematic review, integrative framework, and future research directions. *Technological Forecasting and Social Change*, 191, 122478. https://doi.org/10.1016/j.techfore.2023.122478

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. https://doi.org/10.1111/jpim.12516

Tian, J., Coreynen, W., Matthyssens, P., & Shen, L. (2022). Platform-based servitization and business model adaptation by established manufacturers. *Technovation*, 118, 102222. https://doi.org/10.1016/j.technovation.2021.102222