

This is an Open Access document downloaded from ORCA, Cardiff University's institutional repository: <https://orca.cardiff.ac.uk/id/eprint/157651/>

This is the author's version of a work that was submitted to / accepted for publication.

Citation for final published version:

Bıçakcıoğlu-Peynirci, Nilay and Morgan, Robert 2023. International servitization: theoretical roots, research gaps, and implications. *International Marketing Review* 10.1108/IMR-07-2020-0140

Publishers page: <https://doi.org/10.1108/IMR-07-2020-0140>

Please note:

Changes made as a result of publishing processes such as copy-editing, formatting and page numbers may not be reflected in this version. For the definitive version of this publication, please refer to the published source. You are advised to consult the publisher's version if you wish to cite this paper.

This version is being made available in accordance with publisher policies. See <http://orca.cf.ac.uk/policies.html> for usage policies. Copyright and moral rights for publications made available in ORCA are retained by the copyright holders.



**International servitization:
Theoretical roots, research gaps, and implications**

Accepted for publication: *International Marketing Review*

Nilay Bıçakcıoğlu-Peynirci*

University of Sussex Business School,
Marketing & Strategy Department
Jubilee Building Falmer
Brighton BN1 9SL
United Kingdom

E-mail: N.Bicakcioglu-Peynirci@sussex.ac.uk

Robert E. Morgan

Cardiff University
Cardiff Business School
Colum Drive
Cardiff CF10 3EU
United Kingdom

E-mail: morganre@cardiff.ac.uk

and

Copenhagen Business School
Department of Marketing
Solbjerg Plads 3
DK-2000 Frederiksberg
Denmark

E-Mail: reb.marktg@cbs.dk

Acknowledgments: The authors are grateful to Kerry Hudson for discussions on several aspects of the theoretical development underlying this conceptualization. Also, we acknowledge the support of the Scientific and Technological Research Council of Turkey (Grant 2219 International Postdoctoral Research Fellowship Program).

* *Corresponding author.*

International servitization: Theoretical roots, research gaps, and implications

Abstract

Purpose: While the servitization concept has gained increasing attention in the domestic marketing literature, there is more limited knowledge with respect to its implications within the international context. The purpose of this paper is to examine the servitization concept in the international context considering its boundary conditions and its effects on firm performance. Relying on the resource-based view and the boundary conditions function, we aim to identify a set of research gaps focusing on how strategic resource decisions (i.e., slack resources and digital marketing capabilities) help industrial firms to provide different types of service offerings (i.e., services in support of product (SSPs) and services in support of client's actions (SSCs)) that leverage their performance in international markets.

Design/methodology/approach: We illustrate international servitization strategies and the boundaries of servitization activities that firms employ through a series of case vignettes. We derive a conceptual framework, serving as a guideline for future research endeavors.

Findings: We indicate the importance of servitization strategies in international markets and identify eight research gaps, which help to build an agenda for future research. Key differences between international servitization strategies and strategic resource decisions are addressed through illustrative case vignettes from different industries.

Practical implications: The insights from this work inform marketing executives about how international servitization strategies are influential in the context of overseas markets by characterizing the servitization concept and elaborating upon the specific resources and capabilities that underpin its execution in foreign markets.

Originality/value: This conceptual paper provides a comprehensive understanding of international servitization strategies in overseas markets and identifies several research paths that contribute to the complex nature of servitization in the international context and help scholars spot gaps and research questions worthy of investigation.

Keywords: international; servitization; industrial services; resource-based view; boundary conditions

1. Introduction

Over recent decades, business-to-business demand has increasingly shifted from manufactured goods to services and integrated solutions, with the effect of growing economies and technologies throughout the world (Deloitte, 2018). Moreover, the share of services in this demand profile has achieved an accelerated growth (UNCTAD, 2020), to the extent that services have played a major role in the rapid development and international expansion of large global corporations (World Bank, 2020). More recently, many leading firms have moved to integrate service offerings into their core products, shifting from goods-dominant approach to service-centered logic to enhance customer solutions, competitiveness, and firm performance by competing through services (Kowalkowski *et al.*, 2017; Ulaga and Reinartz, 2011).

Conceptually, the strategic departure of firm emphasis from products to services is frequently referred to as “servitization”, which was first introduced by Vandermerwe and Rada (1988) and then popularized by Baines *et al.* (2007). However, it is interchangeably referred to as “service transition” (e.g., Fang *et al.*, 2008), “service infusion” (e.g., Brax, 2005), or “hybrid offerings” (e.g., Ulaga and Reinartz, 2011).

Service growth in product firms has emerged as one of the prominent research domains that is considered as a strategic research priority in services management (Ostrom *et al.*, 2015) with an extensive volume of theoretical and empirical work examining the effect of servitization strategies on firm-level outcomes within the domestic context (Fang *et al.*, 2008; Böhm *et al.*, 2017). However, the overwhelming preponderance of extant research has been devoted to the domestic setting, largely in business-to-business markets. Consequently, several scholars have observed that the literature is limited on the role of industrial services in international settings (Gölgeci *et al.*, 2021; Josephson *et al.*, 2016a; Ostrom *et al.*, 2015), except for a few studies exploring global approaches to the service business in manufacturing

companies (e.g., Kucza and Gebauer, 2011), studies examining multinational manufacturing companies (e.g., Baines *et al.*, 2020), or companies that have a global presence (e.g., Rymaszewska *et al.*, 2017).

Existing research has typically addressed the questions of “what”, “how”, and “why” of servitization—all of which are necessary to offer a well-established theory (Dubin, 1978; Whetten, 1989). However, previous research has provided limited insight to the boundary conditions function, referring to the “who”, “where”, and “when” aspects of theory that help with the generalizability of theory across contexts (Busse *et al.*, 2017; Whetten, 1989). Accordingly, drawing on the boundary conditions function, servitization strategies in the context of international markets and which servitization strategies produce better performance-related outcomes within the international settings is needed for four major reasons. First, the nature of international trade has evolved from financial-based transactions to relationship-oriented transactions (Obadia and Vida, 2011). However, building stronger relations with industrial customers is even more challenging in international markets due to the greater institutional and cultural distances between home and host market, in which service offerings help pure manufacturing companies to build superior relationships with foreign customers in international markets (Bolton *et al.*, 2007; Campbell *et al.*, 2012).

Second, servitization potentially endows the product firm with a strong competitive weapon through differentiation opportunities and becomes a critical strategy, particularly in foreign markets that are characterized with high market turbulence and competitive intensity. Third, industrial customers demand more service offerings rather than solely physical products in international markets, since services are more appealing to their target market that have demanding needs and seek innovative augmentation from their providers’ value propositions—especially, those in developed economies (Bharadwaj *et al.*, 1993; Malhotra *et al.*, 2005).

Lastly, previous literature has long discussed that a special emphasis should be given to the internationalization of services owing to the simultaneous nature of services (Grönroos, 2016). Several challenges exist for manufacturing firms shifting their focus from products to services in terms of specific characteristics of services: (a) perishability where by services cannot be inventoried; (b) inseparability, implying that service delivery and consumption are simultaneous and inter-dependent; (c) intangibility, meaning that services do not take the form of a physical entity and may require to be preserved by patents; and, (d) heterogeneity, referring to the inability of firms to make all service outputs standardized (Campbell and Verbeke 1994; Erramili and Rao 1990; Javalgi and White, 2002; Knight, 1999).

Besides, manufacturing firms need to deal with additional costs to meet specific industrial service offerings of their customers in international markets (Reim et al., 2015). Based upon the resource-based view, resources and capabilities have been identified as important stepping stones to ensure successful servitization activities (Ulaga and Reinartz, 2011). Specifically, slack resources and digital marketing capabilities are expected to aid manufacturing firms to provide basic and advanced services in global markets. Regarding the former, slack resources—referring to excess resources within an organization—play a part in absorbing organizational shocks by offsetting extra costs arising from servitization activities in international markets (Eggert et al., 2014), whereas the latter allows firms to provide industrial services to international markets in a cost-effective manner by exploiting advanced technologies (Cenamor et al., 2017).

Drawing on the recent calls for an international market perspective of servitization strategies (e.g., Khanra et al., 2021, Raddats et al., 2019), we endeavor to identify uncharted research gaps that can yield fertile areas for future research by developing a conceptual framework that accounts for the boundary conditions of servitization strategies within the context of international markets. Building on the boundary conditions function and the

resource-based view, we attempt to fill the conceptual lacuna in the literature by addressing two complementary research questions. First, *how do servitization strategies influence the performance of manufacturing firms in international markets considering different types of industrial services (i.e., services in support of the product (SSPs) and services in support of the client's actions (SSCs))?* In addition, *which strategic resource decisions (i.e., slack resources and digital marketing capabilities) help industrial firms to provide different types of service offerings that leverage their performance in international markets?*

In this regard, this conceptual paper does not seek to conduct a systematic review as there are several notable recent reviews on the specific field of subject (e.g., Baines et al., 2017; Rabetino et al., 2021; Raddats et al., 2019), but rather to stimulate theoretical developments in terms of “situational opportunities and constraints” (Johns, 2006, p. 386) by developing several propositions that connect unexplored research paths between servitization and international marketing domains of research. In doing so, we first develop our conceptual framework based upon the synthesis of extant literature, and then illustrate our theoretical reasoning with several case vignettes, providing real-life examples of firms that have implemented international servitization strategies in specific foreign markets. The vignettes complement the conceptual narrative and allow significant theoretical implications for future empirical testing to be surfaced, thus expanding the knowledge structure within this specific field of inquiry.

2. Theoretical background

2.1. Servitization in manufacturing firms

In the last two decades, several scholars and practitioners have encouraged manufacturing firms to shift their company focus from product to services, moving through a strategic change to become service providers (Evanschitzky *et al.*, 2011; Ulaga and Reinartz, 2011).

Firms increasingly pursue a transition from products to services by offering less or more advanced services, along a product-service continuum (Eggert *et al.*, 2014; Visnjic Kastalli and Van Looy, 2013), in line with the service-centered view in both marketing and strategy literatures (Vargo and Lusch, 2004).

The main premise underlying such transitions relies on the critical advantages provided through service offerings, involving enhanced customer satisfaction, improved competitive position, and increased pricing power over rivals in the era of intense global competition (Fang *et al.*, 2008). Since firms offer services not only to provide after sales support (e.g., repair, maintenance), but also to complement and enhance the products' value proposition (Neu and Brown, 2005), servitization augments firms' strategic and competitive position by adding industrial services rather than merely offering physical products (Bharadwaj *et al.*, 1993). Owing to the nature of services, products become more distinctive and appealing to the industrial customers with the characteristics of added services or solutions, whereby intangibility can be increased, obstacles to standardization or imitation can be created, and more knowledge-intensive proprietary capabilities can be developed, all of which help to enhance firm value through higher sales volume and improved margins (Vargo and Lusch 2004).

In sum, the underlying reasons that lead manufacturing firms to invest more in services can be explained by five rewarded factors: (a) a need to provide service offerings that complement products, which applies particularly to complex industrial products and results in increased sales by providing knowledge about the product and enhancing customer confidence to purchase the product (e.g., existence of a service department) (Oliva and Kallenberg, 2003); (b) a desire to embed services within the offer, making it a requirement for industrial customers to use the additional services (e.g., loans, warranties, maintenance, and repair) (Cusumano *et al.*, 2015); (c) a way to customize value-added products through

services or solutions (Davies *et al.*, 2006); (d) a need to build stronger relationships with industrial customers, by way of training and consulting over time (Mathieu, 2001); and, (e) a way to enhance and stabilize revenues by offering services, which are considered as a more secure source of revenues (Gadiesh and Gilbert, 1998).

2.2. Industrial service offerings

As services offered by manufacturing firms vary according to the level of risk, degree of competition, and the extent of uniqueness (Oliva and Kallenberg, 2003), the literature argues that servitization can take several different forms. Figure 1 exhibits the seminal classification of these forms on a 2x2 matrix, with the axes representing *relationship intensity* (referring to the degree of involvement among parties in terms of necessity of commitment and trust issues), and *product/process-oriented offerings* (indicating to what extent industrial service offerings are product oriented or process oriented). A well-known example is Mathieu's (2001) classification that has distinguished services offered by product firms as "services in support of the product" (SSP) and "services in support of the client's actions" (SSC). While the former includes service offerings such as installation, monitoring, repair, or maintenance, the latter focuses on process optimization, research and development activities, managerial consulting, and training. This approach has been employed by several researchers in the area (e.g., Antioco *et al.*, 2008; Eggert *et al.*, 2014; Ulaga and Reinartz, 2011).

"Insert Figure 1 about here"

Furthermore, Oliva and Kallenberg (2003) have conceptualized the service transition as: (a) product-oriented services, that are customized and have higher relatedness with the core product itself (e.g., help desk, product upgrades, installation, and maintenance); and (b) process-oriented services, consisting of the activities that continuously develop services with the aim of supporting and enhancing the utilization and effectiveness of customers which, in

turn, lead manufacturing firms to shift their emphasis to that of a service provider (e.g., engineering, training, and consulting).

Cusumano et al. (2015) characterized types of services offered by product firms with respect to simple product complements: (1) product smoothing services, which help to facilitate product sales (e.g., financing, insurance, repair, technical support and basic training); (2) product adapting services, which lead to expand the functionality of the products by creating new uses or customized services (e.g., training or consulting to explore the new usages, tailored products); and, (3) substituting services, which, rather than being complementary, become the substitute to the product *per se* (e.g., data processing services, software offerings). Baines et al. (2013) provide a meta-clustering of service offerings that reveal three clusters: (a) base services, concentrating on product provisions, such as product/equipment provision; (b) intermediate services, dealing with condition maintenance including technical help-desk and scheduled maintenance; and, (c) advanced services, covering outcome assurance issues, such as customer support and rental agreements.

There is a lack of consensus among and between both academic and business communities as to whether and how servitization of manufacturing firms addresses the challenges of business and provides benefits (e.g., Antioco *et al.*, 2008; Fang *et al.*, 2008; Suarez *et al.*, 2013). On the one hand, service offerings enable firms to differentiate the products by the virtue of services' nature, which, in turn, satisfy augmented customer expectations and attain competitive advantage over the rivals (Eggert *et al.*, 2014; Gebauer *et al.*, 2010; Lusch *et al.*, 2007). Furthermore, services allow the product experience to become more adaptable to shifts in the market and capture the changing customer needs more readily (Neu and Brown, 2005).

Many scholars agree that servitization enables manufacturing firms to build stronger relationships with industrial customers by diminishing defection and improving acquisition

(Bolton *et al.*, 2007; Reinartz *et al.*, 2005). However, others have observed that servitization has been challenged by shareholders who consider this radical change within a company as a loss of strategic direction that could result in in stock volatility and firm risk in the market (Josephson *et al.*, 2016a; Luo and Bhattacharya, 2009). When firms require substantial resources and new capabilities to succeed in servitization, this can result in a resource shortfall and ambiguity, making a the firm vulnerable to competitive threats (Bharadwaj *et al.*, 2011; Bolton *et al.*, 2007).

2.3. Overview of the servitization phenomenon beyond national borders

Over the past two decades, several scholars and practitioners have encouraged manufacturing firms to shift their focus from product to services; moving through a strategic change from being a service provider to solution provider (Evanschitzky *et al.*, 2011). In this sense, firms increasingly pursue a transition from products to services by offering less or more advanced services, along a product-service continuum (Eggert *et al.*, 2014; Visnjic Kastalli and Van Looy, 2013), in line with the service-dominant view (Vargo and Lusch, 2004). Despite attention being devoted to servitization across different disciplines, such as operations, marketing, service management, strategy, and engineering, empirical evidence shows that previous studies have largely overlooked its importance in the international arena.

Manufacturing firms operating in international markets not only sell their products overseas, but also seek to respond to the specific needs of these overseas business customers by providing value-adding services, such as installation, maintenance, and process-oriented solutions, that enhance the value for their customers. They do so to gain a competitive advantage and maintain long lasting relationships with their customers in foreign markets (Miroudot and Cadestin, 2017). Notwithstanding the fact that value-adding services account for nearly one-third of exported goods in developed economies (Lanz and Maurer, 2015), a critical challenge is that we cannot gauge the extent and volume of value-adding services

attributable to cross-border trade worldwide (Heuser and Mattoo, 2017). Nonetheless, it is undeniable that there is growing attention to servitization activities beyond national borders based upon several pivotal issues raised by existing researchers examining the servitization phenomenon in the global context (see Table 1).

For instance, Cenamor et al. (2017) elucidate that it is critical to fulfill industrial customers' specific service-related preferences as a manufacturing firm even though customers across regions necessitate diverse service offerings, which pose a compelling challenge for servitizing firms. Given the divergent nature of international markets, Hakanen et al. (2017) acknowledge the crucial importance for customized service offerings of manufacturing firms to address different local preferences of customers in global markets. Nonetheless, it should be noted that the global spread of operations may produce serious challenges for the servitization process, for example, from an unfavorable host country climate that could prevent successful servitization in international markets (Reim et al., 2019). This underscores the need for an explanatory framework that depicts the nature of servitization in an international context considering its boundary conditions and its effects on international firm performance.

“Insert Table 1 about here”

2.4. The interface of servitization, its boundaries, and performance within international context

The increased emphasis on servitization witnessed in recent times means that rather than concentrating merely on products, manufacturing companies complement their products with service offerings through servitization strategies (Oliva and Kallenberg, 2003; Vandermerwe and Rada, 1988). Consequently, companies require specific resources and competencies in order to shift fundamentally from the goods-centered paradigm to the service-centered view

(Baines *et al.*, 2009; Eggert *et al.*, 2014; Fang *et al.*, 2008). As such, and according to the resource-based view (RBV), companies derive competitive advantage from unique and inimitable resources (Barney, 1991; Wernerfelt, 1984). This applies equally to those resources and capabilities required for successful operations in global markets (Hakanen *et al.*, 2017). Grounded upon the fundamentals of the boundary conditions function, this is an important theoretical position which shapes our framework (Busse *et al.*, 2017).

It is acknowledged that manufacturing firms are exposed to extra costs when meeting customers' customized service preferences in international markets (Reim *et al.*, 2015). This creates a requirement for a cost and benefit analysis to determine whether service offerings creating additional costs can be offset by increased revenues (Gebauer *et al.*, 2005). Accordingly, these costs can be even higher and riskier with uncertain returns in foreign markets, considering the challenges, such as greater institutional distances between home and host market and higher market turbulence and competitive intensity in international markets (Cavusgil *et al.*, 1993). In this context, slack resources can play a pivotal role. These refer to, "*the pool of resources in an organization that is in excess of the minimum necessary to produce a given level of organizational output*" (Nohria and Gulati, 1996, p. 1246). That said, slack resources may provide a buffer mechanism when paying off the additional costs derived from both servitization and internationalization activities (Eggert *et al.*, 2014; Erramili and Rao, 1993).

Moving to services may also create new capability requirements for the manufacturing firm due to the fact that it is another major challenge to organize and maintain international service operations (Hakanen *et al.*, 2017; Story *et al.*, 2017). Nevertheless, digitalization has profound effects on firm operations and profitability by exploiting advanced technologies, such as smart products, the Internet of Things (IoT), remote diagnostics, and data visualization techniques (Kohtamäki *et al.*, 2020). In this regard, remote systems for

automatic data analysis through the development of digital marketing capabilities may enable a manufacturing firm to offer their value-added services without local presence in the foreign market (Cenamor *et al.*, 2017).

A wealth of domestically focused conceptual research demonstrates how industrial services help improve firm performance by developing specific resources and capabilities (e.g., Reinartz and Ulaga, 2008; Ulaga and Reinartz, 2011). However, previous research on the servitization field has produced mixed results with respect to its performance-related outcomes (e.g., Antioco *et al.*, 2008; Eggert *et al.*, 2011; Fang *et al.*, 2008; Gebauer *et al.*, 2010). On the other hand, manufacturing companies also seek competitive advantage through servitization developments to survive and attain improved performance in global markets (Hakanen *et al.*, 2017), but not enough is known about the performance-related outcomes of international servitization.

3. Conceptual framework

Building upon the resource-based view, we identify several theoretical research gaps in an attempt to provide guidance for future research. Figure 2 illustrates our conceptual framework, which places special emphasis on the boundary conditions of the servitization phenomenon in the international context and elaborates the performance related implications of servitization strategies in international markets. To demonstrate our theoretical ideas in practice, we also assess contemporary case vignettes that are representative real-world examples of manufacturing companies, shifting their focus from solely product to services supporting their products (SSPs) and services supporting clients' actions (SSCs) due to the challenges in their international markets. Table 2 presents an overview of the case descriptions, and their associations with the research gaps, types of service offerings, and the boundary conditions of their servitization efforts.

Regarding our case vignettes, secondary data were gathered on four large global corporations (Michelin, Caterpillar, IBM, and Rolls-Royce) in four industries. One of these case vignettes was selected from the electronics industry, with the remaining being sourced from automotive, construction, and aerospace. We employed purposeful sampling to determine our case vignettes, following specific selection criteria: (1) firms that are reputable and prominent players in their representative industries; (2) firms that have actively implemented servitization strategies in international markets; and, (3) firms that employ different and comprehensive industrial offerings and services, involving either SSP or SSC activities. Data were obtained from the official websites of the firms and related secondary sources, because the knowledge gathered through information-rich websites provides a comprehensive view to the different kinds of services offered by example-based illustration of integrated solutions (c.f. Rabetino *et al.*, 2015).

... *Insert Figure 2 about here* ...

... *Insert Table 2 about here* ...

3.1. The role of servitization and its effects on performance in international markets

Fundamentally, the RBV argues that firms embody a complex bundle of specific resources and capabilities that are targeted to assist strategic decisions designed to improve a firm's competitive position (Barney, 1991). We argue that one important vehicle, but a neglected issue in the extant literature, for realizing this is by stimulating servitization strategies in international markets (Kowalkowski *et al.*, 2009; Ulaga and Reinartz, 2011). That is, any investigation of the impact of a firm's strategic actions (e.g., servitization strategies) on international performance should pay attention to how these actions integrate, combine, and exploit firm resources and capabilities in their international efforts. In line with this logic, we identify the following research gaps to explore the effect of firm's servitization strategies on

their international activities by making assessments of how a strategic move towards services might be affected by its resources and competencies considering its unexplored boundary conditions.

Empirical research on servitization within the context of international marketing is still in its infancy in the pertinent literature. Industrial services are developing across the world and servitization provides substantial support for international trade (Knight and Liesch, 2016; Léo and Philippe, 2001). Hence, firms penetrating foreign markets are required to follow and meet the preferences of domestic customers abroad by providing industrial services, such as after-sales service, maintenance, or more advanced business services, which gain a competitive advantage and provide significant benefits to the manufacturer (Guedes, Fernandes Crespo, and Patel, 2023).

The implementation of servitization is more complex for firms operating in international markets, since firms encounter specific challenges in their foreign activities (i.e., greater institutional distance, a lack of relational trust between buyer and seller, liability of foreignness and differences in both communication and environmental context between home and host markets) (Knight and Liesch, 2016; Leonidou *et al.*, 2012). Further, specific characteristics of services also constitute impediments in expanding overseas markets (Knight, 1999), as services are extensively customized outputs in comparison with physical products, making them harder to standardize and keep the quality stable in foreign markets (Blagoeva *et al.*, 2020).

Building strong relationships with industrial customers is also challenging in international markets owing to the larger distances in geographical, psychological, and cultural contexts (Kucza and Gebauer, 2011). Thus, moving towards services helps product firms develop strong ties and improved relationships with customers in foreign markets (Bolton *et al.*, 2007). In such circumstances, proactive service strategies play a critical role in

achieving a competitive advantage in foreign markets, especially in developed markets that become more mature and harder to compete in (Chetty and Campbell-Hunt, 2004; Javalgi *et al.*, 2004). Whilst previous studies evangelize the importance of servitization in international markets (e.g., Gölgeci *et al.*, 2021; Knight and Liesch, 2016; Kucza and Gebauer, 2011), the empirical evidence of its efficacy and contribution to bottom line performance is not clear.

With respect to the illustrative case vignettes, IBM, a well-known United States based company has established software labs in India to serve business process consulting in the Indian market. This has dramatically shifted its focus in this market from products to services, concentrating initially on SSPs (e.g., maintenance) and SSCs (e.g., consulting) with a subsequently greater focus on information technologies and cloud computing. IBM experienced its largest financial crisis in the beginning of 1990s but its service growth helped the company to peak its revenues during the 2010s. Further, in 2021, IBM announced that most of its revenues stream are attributable to software consulting in India based upon its improvements in cloud-based capabilities and cognitive solutions. We suggest, therefore, that future research investigates:

Research Gap 1: What is the role of servitization strategies in explaining international performance?

Service offerings aid manufacturing firms to pursue a competitive advantage in international markets (Knight and Liesch, 2016). However, we contend that SSPs and SSCs may have different effects on international performance, as they require distinct resources and capabilities (e.g., Ulaga and Reinartz, 2011) and may have diverse impacts on firm revenue and profitability (e.g., Eggert *et al.*, 2014). In this context, organizational learning and change processes play a vital role in integrating industrial services into goods-dominant businesses (Gebauer *et al.*, 2010), which is followed by developing additional specific resources and capabilities to shift toward a service-dominant logic (Eggert *et al.*, 2014).

With regard to the SSPs, which are characterized as less customized and less knowledge-intensive, firms may heavily rely upon existent capabilities embedded within an organization by developing merely a few service-specific competencies (Antioco *et al.*, 2008; Kowalkowski, Brehmer, and Kindstrom, 2009). In the same vein, it becomes easier for manufacturing companies to offer SSPs that have greater commonalities between existing and required resources, facilitating international activities owing to their advantageous features, such as lower additional costs, more standardized nature, less customization requirements, and lower relationship intensity (Matthyssens and Vandenbempt, 2008; Raddats and Easingwood, 2010). Correspondingly, SSPs assist product firms to understand how to manage a service and enhance its value globally by moving toward a service-centered view and meeting service-oriented expectations of foreign industrial customers.

Conversely, when considering SSCs, that are distinguished as more complex, and more flexible, in terms of being modified regarding to personal expectations, and knowledge-intensive, firms are supposed to make major organizational changes. They also have substantial investment burdens, since they necessitate resources and capabilities that are highly service-specific, tacit, and complex in nature (Reinartz and Ulaga, 2008). They are argued to lead to a sustainable competitive advantage and higher revenues (Eggert *et al.*, 2014). However, SSCs necessitate a greater level of customer interaction and adaptation, and greater amounts of resource, which implies extra costs for engaging in international activities (Erramilli and Rao, 1993). As SSCs can be considered as paid forward, initial costs occurred during the transition may not result in enhancements in the international activities of product firms at the beginning (Shin *et al.*, 2017). These costs are typically higher for firms offering SSCs (Eggert *et al.*, 2014). Through time, the negative (initial) effects are likely to be diminished through consecutive learning effects within a firm, due to the profound impacts of organizational learning and change processes on both internationalization behavior and

industrial service strategies (Forsgren, 2002; Gebauer *et al.*, 2010). This can then drive firms to reap financial benefits of service transition by satisfying broader customer needs and boosting revenue growth (Eggert *et al.*, 2014). At this point, these considerations give room for the discussion whether SSCs, being more complicated and exposing additional economical burdens on firms impedes the beneficial effects of servitization strategies on international performance in international markets in comparison with SSPs, being less complex and relying upon existent capabilities.

Michelin, the French-based tire manufacturing firm, has evolved its capacity to become a service provider following the launch of Michelin Fleet Solutions. In doing so, Michelin Fleet Solutions initially focused its service areas in North America but have since expanded internationally, concentrating on both SSPs, such as after-sale services, maintenance services, and technical support, and SSCs. including service offerings such as management consultancy, IoT business solutions, process-oriented solutions, fleet management, information technologies, data analytics, and digitization.

Rolls-Royce, a United Kingdom based aircraft engine manufacturer, that aims to deliver value to their customers at every contact point on a worldwide basis has entered the African region of late. In doing so, they launched the CareStore, offering a wide range of service solutions from maintenance and customer support to asset management and efficiency management. The TotalCare airplane engine program helped to build long term relationships with their customers, since customers pay based upon the number of hours the airplane is deployed and so Rolls-Royce repair and change damaged equipment on a timely basis. Hence, we derive further valuable research questions as:

Research Gap 2: How do different international servitization offerings (i.e., SSPs and SSCs) influence international performance?

Research Gap 3: Do manufacturing firms concentrating on international servitization strategies with SSPs enhance their international performance in a shorter time than those focusing international servitization strategies with SSCs?

3.2. *Boundary conditions of servitization in international markets*

As the boundary conditions function of a given theory provide the accuracy of theoretical predictions for different contexts, it is clear that servitization in the international context and the role of resources and capabilities in the implementation of servitization in international markets have been largely underestimated. Based upon the RBV, the importance of slack resources is clear in this regard (Mishina *et al.*, 2004). Slack resources are defined as “*the cushion of excess resources that the firm use in a discretionary manner*” (Bourgeois, 1981), including excess resources in labor, machinery, technology, operations, revenues, or profit margins (Meyer, 1982; Tan and Peng, 2003). Therefore, slack is regarded as the stock of resources that is available and can be redirected or redeployed with an aim of attaining company objectives (George, 2005; Voss *et al.*, 2008). Firms necessitate adequate resources and competencies to make a substantial shift in their organizational strategy, such as servitization (Kowalkowski *et al.*, 2009), since firms’ resource stocks have a significant influence on the consequences of servitization (Kraatz and Zajac, 2001). Further, to succeed with the transition, service emphasis should be supplemented by the alignment of necessary resources and competencies (Gebauer *et al.*, 2010).

Consistent with this logic, Fang *et al.* (2008) stressed the importance of slack resources for manufacturing firms that move towards industrial services, because firms possessing sufficient slack resources are inclined to engage in new projects without deteriorating the existing investments. The slack resources help decrease the expected negative signals of transferring resources away from other areas into services. This is often regarded as an ‘organizational shock absorber’, that enables firms to have strategic flexibility in experimenting with different strategies and fostering both exploitation and exploration activities, which are in line with SSPs and SSCs, respectively (Argote and Greve, 2007; Oliva and Kallenberg, 2003). By deduction, firms in a healthy condition are more likely to perform

better in buffering the negative outcomes of servitization when developing service-specific resources and making substantial investments (Böhm *et al.*, 2017; Salonen, 2011).

In this sense, the extent of slack resources that a firm holds can have a major influence on the outcome of entering new foreign markets and expanding globally (Lin *et al.*, 2009).

The presence of resource slack allows managers to compete in international markets that are dynamic, rapidly changing, complex, and highly competitive (Levinthal, 1997), in which organizations slack resources act as a cushion that absorbs the negative effects of differences existing between home and host countries in terms of cultural and political issues and makes them less sensitive to environmental turbulence in foreign markets (Liu *et al.*, 2009).

However, an abundance of slack resources that exceeds an optimal level may cause a deterioration in performance and cause a decline in the growth of internationalization (Tseng *et al.*, 2007).

Empirical findings demonstrate that different types of slack resources lead managers to develop entirely distinct internationalization strategies, which result in substantial differences in their international performance (Liu *et al.*, 2009). First, financial slack, refers to the degree of liquid assets, such as cash, receivables, and credit lines, that are either readily available and valuable or generic and less rare resource for a firm (Kraatz and Zajac, 2001; Voss *et al.*, 2008). Financial slack resources are the least committed form of resources, which could be readily shifted into different projects (Miller, 2003).

Financial slack resources are more likely to be allocated to exploration-oriented strategic actions, such as strategic changes, which are associated with riskier, uncertain outcomes, and induce unpredictable near-term returns, as managers have strategic flexibility (Mishina *et al.*, 2004; Voss *et al.*, 2008). In line with this notion, financial slack resources are expected to help companies in dealing with servitization strategies, but especially for SSCs, which require more extensive strategic changes and additional investments in foreign market

operations (Eggert *et al.*, 2014; Erramilli and Rao, 1993). However, in the case of abundant financial slack resources that are beyond the optimal levels, this positivity may transform into a negative one, as experiential learning will decrease the additional costs both international strategies and industrial service strategies over time (Forsgren, 2002; Gebauer *et al.*, 2010).

Concerning case illustrations, IBM provides an exemplary model that has moved successfully from products (i.e., hardware) to services (i.e., software), benefited from its financial slack resources by selling its disc drive business to Hitachi to invest in PWC consultancy in order to enhance its service revenue. A second divestment then of its personal computer division took place in order to invest in service growth and advanced services and, in so doing, transforming the firm into a cloud platform company. IBM has since enhanced its software portfolio in the Indian market by generating double-digit growth of its consulting business through the launch of Software labs and innovation centers in India. Thus, we suggest exploring:

Research Gap 4: How do financial slack resources influence different servitization strategies (i.e., SSPs and SSCs) in international markets?

With respect to human resource slack, we consider specialized and skilled personnel, that are either rare or absorbed, as a crucial driver of a firm's proclivity to seize business opportunities in foreign markets (Mishina *et al.*, 2014; Zhang *et al.*, 2018). It is considered as one of the most committed resources, since these resources are preoccupied with the regular operations of the firm and because the lock-in effect limits the potential to explore new strategic alternatives that could create a change in the structure of the firm, owing to the time and cognitive limits of human resource slack resources (Sidhu *et al.*, 2004; Voss *et al.*, 2008). Therefore, human resource slack is expected to help companies in the implementation of SSPs, which are more standardized and highly dependent upon existent capabilities embedded within the organization (Antioco *et al.*, 2008; Kowalkowski *et al.*, 2009), as committed

resources have a higher tendency to decelerate the extensive change processes and add up extra expenses to the change process (Kraatz and Zajac, 2001).

For instance, Caterpillar initiated a free education certificate program in South Africa in 2016, called ‘Technicians for Africa’, providing an outstanding opportunity for people who desire to have career as a field service technician. Similarly, IBM now collaborates with the Haryana State Board of Technical Education to provide the necessary training to enhance the digital capabilities of people in India. The implication of this is that, both companies provide a platform for potential skilled personnel that could be hired within their organization.

Therefore, we recommend that future researchers consider:

Research Gap 5: How do human resource slack resources influence different servitization strategies (i.e., SSPs and SSCs) in international markets?

In concert with operational slack, it can be defined as the resources stemming from unused or under-utilized operations within a firm, such as excess capacity or inventory (Tan and Peng, 2003). As operational slack is generic and is absorbed, these resources are highly engaged with specific tasks within a firm, which makes them even harder to redeploy to other contexts (Voss *et al.*, 2008). Owing to its committed nature, operational slack resources may provide greater benefits for service transition strategies for SSPs, because operational slack more typically deliver outcomes through familiar processes that are heavily depend on existing resources and competencies (Voss *et al.*, 2008). However, operational slacks may also play a major role in service transition strategies with SSCs requiring higher customization and extensive strategic changes (Vokurka and O’Leary-Kelly, 2000; Benito-Osorio *et al.*, 2012).

Regarding the representative case vignettes, Caterpillar, which has recently transformed its business from a machinery manufacturer to a firm offering business services, targeted the African region which is appealing for many of the fastest growing industries in

the world. As such, the firm made a new investment in South Africa in 2017 by establishing a new office to provide a better service experience, not only South Africa, but also its neighboring countries that constitute leading diamond producers such as Angola, South Africa, Botswana, and Namibia. As a result of the SSCs provided through the usage of operational slack resources, their customers in neighboring countries have also had the advantage of reducing their costs and increasing their performance. Consequently, we pose the question:

Research Gap 6: How do operational slack resources influence different servitization strategies (i.e., SSPs and SSCs) in international markets?

In the case of strategic slack resources, we consider the flexibility available to a firm derive from generating different strategic options for products (Josephson *et al.*, 2016b). Since strategic slack resources enable firms to introduce new product updates and extensions (e.g., Sanchez, 1995), comprising the important part of service transition strategies into SSPs, they are expected to help firms improve SSPs, relying upon existing resources and capabilities (e.g., Antioco *et al.*, 2008; Kowalkowski *et al.*, 2009). On the other hand, service transition strategies necessitate an intense internal cooperation within the organization (Josephson *et al.*, 2016a). Nonetheless, the literature demonstrates that such an extensive strategic change in an organization conversely increases the tension and conflict within the firm owing to the development of new coalitions (Cyert and March, 1963; Neu and Brown, 2005). Because extant empirical studies measure strategic slack by calculating R&D expenses divided by firm revenue (e.g., Hendricks *et al.*, 2009; Josephson *et al.*, 2016b), an extensive degree of service transition, such as SSCs, may pose a threat for some specific product-oriented departments within a firm, such as R&D, and some employees or managers from product-oriented departments may show a resistance for this service infusion due to feeling threatened by this transition (Argote and Greve, 2007).

Pertaining to the case vignettes, Rolls-Royce has recently offered its airplane engine program, TotalCare to the African continent, where the firm made a strategic agreement with ALS for the Kenyan airline's fleet. In this package, Rolls Royce sought to strengthen customer relationships in the long run by enabling several service offerings from advanced maintenance to monitoring their engines remotely through artificial intelligence and machine learning techniques, providing significant improvements in the uptime of engines. This is an important indicator that unpacks the leveraging role of strategic slack resources in the servitization journey in international markets. Michelin provides an additional example, where they have acquired 'Nextraq', which is a GPS solutions provider, to enhance their value adding services for safety and productivity in North America. Thus, we propose:

Research Gap 7: How do strategic slack resources influence different servitization strategies (i.e., SSPs and SSCs) in international markets?

Current studies identify the increased importance of digital technologies as a means to leverage servitization strategies (Coreynen et al., 2017; Struyf et al., 2021). This is not surprising, as the context in which service is delivered and experienced has been dramatically altered in the last decade with the effect of rapidly evolving technologies, such as digitalization and electronic marketing, both of which shape the internationalization of services through more easily accessible options (Grönroos, 2016; Ostrom et al., 2015). It is clear that firms more readily transform their servitized business models with the aid of digital marketing capabilities in order to enhance their value propositions and respond to individual customer preferences (Gerpott and May, 2016; Leminen et al., 2012).

Nevertheless, distinct digital marketing capabilities provide different opportunities for industrial firms to identify, build, and sustain sources of competitive advantage (Herhausen *et al.*, 2020). Different digital marketing capabilities in industrial firms have been classified under four major themes, namely channels, social media, digital relationships, and digital

technologies (Herhausen *et al.*, 2020). Employing these means, service-oriented business models with digital capabilities are better aligned with different service offerings (Suppatvech *et al.*, 2019). We argue that whereas social media adoption enables industrial firms to build and develop customer relationships in the implementation of SSPs (i.e., customer support), digital technologies are expected to offer personalized services, such as location-based services, and create unique IoT solutions for new configurations. This helps industrial firms to implement advanced services in their servitization journey in international markets where each foreign market has its own upward digital trends and patterns in this new digital era.

Caterpillar provides an illustrative example, as the firm has recently shifted to service offerings with embedded digital technologies and IoT solutions in such a way that their customers can realize the advantage of both reducing their costs while also increasing their performance. That said, Caterpillar provides augmented solutions through data warehouse, big data analytics, and programming capabilities, all of which not only enable customers to analyze, test, and restore their data, but also strengthen firms' competitive posture. In addition, Michelin has developed a package called as 'Effifuel', providing business consultancy on eco-driving approaches to increase savings by means of collecting data on speed, tire pressure, and fuel consumption, relying upon IoT digital technologies. Recently, Michelin also launched a new cloud-based platform for the North American market named 'Maestro' which enables real-time three-way communication between the service providers, fleet, and Michelin. Both exemplary case vignettes provide important insights on the facilitating role of digital marketing capabilities regarding the servitization strategies of manufacturing firms in international markets

Research Gap 8: How do different digital marketing capabilities affect different servitization strategies (i.e., SSPs and SSCs) in international markets?

4. Contribution, implications, and limitations

4.1. Contribution

Drawing upon the RBV and the boundary conditions function, our research examines servitization strategies within the international context, providing several noteworthy contributions to the international marketing literature. First, we identify a series of research gaps, addressing servitization strategies in international markets and the boundary conditions where and when these strategies are more influential for international firms shifting their focus from products to services. Second, we illustrate the importance of this concept in international marketing through four real life case vignettes, demonstrating the theory in practice. In this vein, our work sheds light on the complex nature of servitization in an international context. Consequently, we provide a conceptual framework that puts forward unexplored research paths, which provide future recommendations with fruitful theoretical and managerial implications.

4.2. Implications to theory and practice

An outline of our research gaps and their associated primary theoretical and managerial implications is presented in Table 3. In terms of theoretical implications, we expect that international servitization strategies will intensify international activities (*Research Gap 1*), depending upon the premise that goods-dominant firms desire to embark on service-led growth to assure their sustained competitive posture in uncertain and dynamic environments (Ostrom *et al.*, 2010). Second, it is crucial to differentiate industrial service types, that produce different outcomes in different conditions (Ulaga and Reinartz, 2011). For instance, SSPs lay foundations of basic knowledge and organizational learning through offering specific product-oriented services in foreign markets.

“Insert Table 3 about here”

Third, SSCs provide higher revenues and growth in the long-term, particularly beyond a certain degree of international service transition, through benefits that are derived from

learning curves and decreased costs over time (*Research Gap 2-3*). Both SSPs and SSCs are expected to enhance international performance in terms of financial performance (e.g., sales growth, profit margin, return on asset, and return on investment), and non-financial performance (e.g., customer satisfaction, customer value performance, strategic performance, and innovation performance). Fourth, slack resources have a substantial role in the international activities of manufacturing companies in introducing hybrid offerings, as slack resources act as a buffer mechanism to overcome extra expenses that arise from both transition pressures and international activities. Nevertheless, financial slack aids manufacturing firms in investing in SSP portfolios that provide foundations for basic service knowledge in foreign markets. However, excessive financial slack might pose a challenge over time with the effect of experiential learning and decreased costs derived from international service transition and international performance (*Research Gap 4*).

In addition, human resource slack might serve a catalytic role in offering SSPs (*Research Gap 5*), which are characterized as more standardized and relying upon current competencies (Antico et al., 2008). However, it is imperative to consider that human resource slack may negatively moderate the effect of international service transition into SSCs on international performance. This is because human resource slack, which is embedded within the organization, is not capable of facilitating a strategic change that requires extensive research and competencies in terms of cognitive limits and time (Sidhu et al., 2004). Moreover, manufacturing firms get benefit from operational slacks in initiating both SSPs (i.e., relying upon current resources and capabilities) and SSCs (i.e., necessitating a great extent of customization and considerable strategic changes) in international markets (*Research Gap 6*).

In addition, strategic slack resources foster managerial tendency to initiate an international service transition into SSPs, which support product sales and ensure future

revenues by way of increasing customer satisfaction through differentiation. Nevertheless, SSCs that entail substantial resource investments may create internal conflicts that pose a threat for product-oriented employees which, in turn, may negatively influence the international activities of manufacturing firms (*Research Gap 7*). Lastly, digital tools and technologies help leverage firms' emphasis from product to services in their servitization journey in foreign markets (*Research Gap 8*).

Aside from the theoretical contributions, the proposed ideas helps marketing practitioners to understand how they might respond to the service-specific preferences of customers overseas so as to achieve competitive advantage. Second, this study may enlighten their understanding of service business models and service culture and the requirement for service-specific resources/capabilities in foreign markets. Third, we inform marketing executives about how international servitization strategies might be influential in the context of international market.

References

- Antiocho, M., Moenaert, R. K., Lindgreen, A., and Wetzels, M. G. (2008), "Organizational antecedents to and consequences of service business orientations in manufacturing companies", *Journal of the Academy of Marketing Science*, Vol. 36 No. 3, pp. 337-358.
- Argote, L., and Greve, H. R. (2007), "A behavioral theory of the firm—40 years and counting: Introduction and impact", *Organization Science*, Vol. 18 No. 3, pp. 337-349.
- Baines, T.S., Lightfoot, H.W., Evans, S., Neely, A., Greenough, R.M., Peppard, J., Roy, E Shehab, Braganza, A., Tiwari, A., Alcock, J.R., Angus, J.P., Bastl, M., Cousens, A., Irving, P., Johnson, M., Kingston, J., Lockett, H., Martinez, V., Michele, P., Tranfield, D., Walton, I.M., and Wilson, H. (2007), "State-of-the-art in product-service systems", *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, Vol. 221 No. 10, pp. 1543-1552.
- Baines, T., Lightfoot, H., Smart, P., and Fletcher, S. (2013), "Servitization of manufacture: Exploring the deployment and skills of people critical to the delivery of advanced services," *Journal of Manufacturing Technology Management*, Vol. 24 No. 4, pp. 637-646.
- Baines, T., Bigdeli, A. Z., Sousa, R., and Schroeder, A. (2020), "Framing the servitization transformation process: A model to understand and facilitate the servitization journey," *International Journal of Production Economics*, Vol. 221, pp. 1-16.
- Barney, J. B. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17, pp. 99-120.
- Benito-Osorio, D., Ángel Guerras-Martín, L., and Ángel Zuñiga-Vicente, J. (2012), "Four decades of research on product diversification: A literature review", *Management Decision*, Vol. 50 No. 2, pp. 325-344.
- Bharadwaj, S. G., Tuli, K. R., and Bonfrer, A. (2011), "The impact of brand quality on shareholder wealth", *Journal of Marketing*, Vol. 75 No. 5, pp. 88-104.
- Bharadwaj, S. G., Varadarajan, P. R., and Fahy, J. (1993), "Sustainable competitive advantage in service industries: a conceptual model and research propositions", *Journal of Marketing*, Vol. 57 No. 4, pp. 83-99.
- Blagoeva, D. H., Jensen, P. D. Ø., and Merchant, H. (2020), "Services in International Business Studies: A Replication and Extension of Merchant and Gaur (2008)", *Management International Review*, Vol. 60 No. 3, pp. 427-457.
- Bolton, R. N., Grewal, D., and Levy, M. (2007), "Six strategies for competing through service: an agenda for future research", *Journal of Retailing*, Vol. 83 No. 1, pp. 1.
- Böhm, E., Eggert, A., and Thiesbrummel, C. (2017), "Service transition: A viable option for manufacturing companies with deteriorating financial performance?", *Industrial Marketing Management*, Vol. 60, pp. 101-111.
- Brax, S. (2005), "A manufacturer becoming service provider – challenges and a paradox", *Managing Service Quality*, Vol. 15 No. 2, pp. 142-155.
- Busse, C., Kach, A. P., and Wagner, S. M. (2017), "Boundary conditions: What they are, how to explore them, why we need them, and when to consider them," *Organizational Research Methods*, Vol. 20 No. 4, pp. 574-609.

- Campbell, J. T., Eden, L., and Miller, S. R. (2012), "Multinationals and corporate social responsibility in host countries: Does distance matter?", *Journal of International Business Studies*, Vol. 43 No. 1, pp. 84-106.
- Cavusgil, S. T., Zou, S., and Naidu, G. M. (1993), "Product and promotion adaptation in export ventures: an empirical investigation", *Journal of International Business Studies*, Vol. 24 No. 3, pp. 479-506.
- Cenamor, J., Sjödin, D. R., and Parida, V. (2017), "Adopting a platform approach in servitization: Leveraging the value of digitalization," *International Journal of Production Economics*, Vol. 192, pp. 54-65.
- Chetty, S., and Campbell-Hunt, C. (2004), "A strategic approach to internationalization: a traditional versus a "born-global" approach", *Journal of International Marketing*, Vol. 12 No. 1, pp. 57-81.
- Coreynen, W., Matthyssens, P., and Van Bockhaven, W. (2017), "Boosting servitization through digitization: Pathways and dynamic resource configurations for manufacturers", *Industrial Marketing Management*, Vol. 60, pp. 42-53.
- Cusumano, M. A., Kahl, S. J., and Suarez, F. F. (2015), "Services, industry evolution, and the competitive strategies of product firms", *Strategic Management Journal*, Vol. 36 No. 4, pp. 559-575.
- Cyert, R. M., and March, J. G. (1963), *A Behavioral Theory of The Firm*, Englewood Cliffs, NJ, Vol. 2 No. 4, pp. 169-187.
- Davies, A., Brady, T., and Hobday, M. (2006), "Charting a path toward integrated solutions", *MIT Sloan Management Review*, Vol. 47 No. 3, pp. 39-48.
- Deloitte (2018), "The services powerhouse: Increasingly vital to world economic growth", available at: <https://www2.deloitte.com/content/dam/Deloitte/my/Documents/risk/my-risk-sdg8-the-services-powerhouse-increasingly-vital-to-world-economic-growth.pdf> (accessed 09 July 2020).
- Dubin, R. (1978), *Theory building*, New York, NY: The Free Press.
- Eggert, A., Hogreve, J., Ulaga, W., and Muenkhoff, E. (2014), "Revenue and profit implications of industrial service strategies", *Journal of Service Research*, Vol. 17 No. 1, pp. 23-39.
- Erramilli, M. K., and Rao, C. P. (1993), "Service firms' international entry-mode choice: A modified transaction-cost analysis approach", *Journal of Marketing*, Vol. 57 No. 3, pp. 19-38.
- Evanschitzky, H., Wangenheim, F. V., and Woisetschlager, D. M. (2011), "Service and solution innovation: Overview and research agenda", *Industrial Marketing Management*, Vol. 40 No. 5, pp. 657.
- Fang, E., Palmatier, R. W., and Steenkamp, J. B. E. (2008), "Effect of service transition strategies on firm value", *Journal of Marketing*, Vol. 72 No. 5, pp. 1-14.
- Forsgren, M. (2002), "The concept of learning in the Uppsala internationalization process model: a critical review", *International Business Review*, Vol. 11 No. 3, pp. 257-277.
- Gadiesh, O., and Gilbert, J. L. (1998), "Profit pools: a fresh look at strategy", *Harvard Business Review*, Vol. 76 No. 3, pp. 139-148.

- Gebauer, H., Edvardsson, B., and Bjurko, M. (2010), "The impact of service orientation in corporate culture on business performance in manufacturing companies", *Journal of Service Management*, Vol. 21 No. 2, pp. 237-259.
- Gebauer, H., Ren, G. J., Valtakoski, A., and Reynoso, J. (2012), "Service-driven manufacturing: Provision, evolution and financial impact of services in industrial firms", *Journal of Service Management*, Vol. 23 No. 1, pp. 120-136.
- George, G. (2005), "Slack resources and the performance of privately held firms", *Academy of Management Journal*, Vol. 48 No. 4, pp. 661-676.
- Gerpott, T. J., and May, S. (2016), "Integration of Internet of Things components into a firm's offering portfolio—a business development framework", *Info*, Vol. 18 No. 2, pp. 53-63.
- Gölgeci, I., Gligor, D. M., Lacka, E., and Raja, J. Z. (2021), "Understanding the influence of servitization on global value chains: A conceptual framework," *International Journal of Operations & Production Management*, Vol. 41 No. 5, pp. 645-667
- Grönroos, C. (2016), "Internationalization strategies for services: a retrospective", *Journal of Services Marketing*, Vol. 30 No. 2, pp. 129-132.
- Guedes, M. J., Fernandes Crespo, N., and Patel, P. C. (2023), "When in Rome, do as the Romans do: can international marketing adaptation improve the association between servitization and profitability?," *Journal of Business & Industrial Marketing*, pp.1-23.
- Hakanen, T., Helander, N. and Valkokari, K. (2017), "Servitization in global business-to-business distribution: the central activities of manufacturers", *Industrial Marketing Management*, Vol. 63, pp. 167-178.
- Hendricks, K. B., Singhal, V. R., and Zhang, R. (2009), "The effect of operational slack, diversification, and vertical relatedness on the stock market reaction to supply chain disruptions", *Journal of Operations Management*, Vol. 27 No. 3, pp. 233-246.
- Heuser, C. and Mattoo, A. (2017), "Services trade and global value chains", Policy Research Working Papers, The World Bank, WA, DC, pp. 1-30.
- Javalgi, R. G., Martin, C. L., and Todd, P. R. (2004), "The export of e-services in the age of technology transformation: challenges and implications for international service providers", *Journal of Services Marketing*, Vol. 18 No. 7, pp. 560-573.
- Javalgi, R. G., and White, S. D. (2002), "Strategic challenges for the marketing of services internationally", *International Marketing Review*, Vol. 19 No. 6, pp. 563-581.
- Johns, G. (2006), "The essential impact of context on organizational behavior," *Academy of Management Review*, Vol. 31 No. 2, 386-408.
- Josephson, B. W., Johnson, J. L., Mariadoss, B. J., and Cullen, J. (2016a), "Service transition strategies in manufacturing: Implications for firm risk", *Journal of Service Research*, Vol. 19 No. 2, pp. 142-157.
- Josephson, B. W., Johnson, J. L., and Mariadoss, B. J. (2016b), "Strategic marketing ambidexterity: Antecedents and financial consequences", *Journal of the Academy of Marketing Science*, Vol. 44 No. 4, pp. 539-554.
- Khanra, S., Dhir, A., Parida, V., and Kohtamäki, M. (2021), "Servitization research: A review and bibliometric analysis of past achievements and future promises," *Journal of Business Research*, Vol. 131, pp. 92–102.

- Knight, G. (1999), "International services marketing: review of research, 1980-1998", *Journal of Services Marketing*, Vol. 13 No. (4/5), pp. 347-360.
- Kohtamäki, M., Parida, V., Patel, P. C., and Gebauer, H. (2020), "The relationship between digitalization and servitization: the role of servitization in capturing the financial potential of digitalization", *Technological Forecasting and Social Change*, Vol. 151, pp. 1-9.
- Kowalkowski, C., Brehmer, P. O., and Kindström, D. (2009), "Managing industrial service offerings: requirements on content and processes", *International Journal of Services Technology and Management*, Vol. 11 No. 1, pp. 42-63.
- Kowalkowski, C., Gebauer, H., and Oliva, R. (2017), "Service growth in product firms: Past, present, and future", *Industrial Marketing Management*, Vol. 60, pp. 82-88.
- Kraatz, M. S., and Zajac, E. J. (2001), "How organizational resources affect strategic change and performance in turbulent environments: Theory and evidence", *Organization Science*, Vol. 12 No. 5, pp. 632-657.
- Kucza, G., and Gebauer, H. (2011), "Global approaches to the service business in manufacturing companies", *Journal of Business and Industrial Marketing*, Vol. 26 No. 7, pp. 472-483.
- Lanz, R. and Maurer, A. (2015), "Services and Global Value Chains: Some Evidence on Servicification of Manufacturing and Services Networks," WTO Staff, Working Paper, Geneva.
- Leminen, S., Westerlund, M., Rajahonka, M., and Siuruainen, R. (2012), "Towards IOT ecosystems and business models", In *Internet of things, smart spaces, and next generation networking* (pp. 15-26), Springer: Berlin, Heidelberg.
- Léo, P. Y., and Philippe, J. (2001), "Offer of services by goods exporters: strategic and marketing dimensions", *Service Industries Journal*, Vol. 21 No. 2, pp. 91-116.
- Leonidou, L.C., Katsikeas, C.S., Fotiadis, T.A. and Christodoulides, P. (2012), "Internal and External Drivers of Green Export Business Strategy: Their Impact on Competitive Advantage and Performance (pp. 1-10)", *Proceedings of Academy of Marketing Conference*, Academy of Marketing Conference. Southampton. 2-5 July.
- Levinthal, D. A. (1997), "Adaptation on rugged landscapes", *Management Science*, Vol. 43 No. 7, pp. 934-950.
- Lin, W. T., Cheng, K. Y., and Liu, Y. (2009), "Organizational slack and firm's internationalization: A longitudinal study of high-technology firms", *Journal of World Business*, Vol. 44 No. 4, pp. 397-406.
- Luo, X., and Bhattacharya, C. B. (2009), "The debate over doing good: Corporate social performance, strategic marketing levers, and firm-idiosyncratic risk", *Journal of Marketing*, Vol. 73 No. 6, pp. 198-213.
- Malhotra, N.K., Ulgado, F.M., Agarwal, J., Shainesh, G. and Wu, L. (2005), "Dimensions of service quality in developed and developing economies: multi-country cross-cultural comparisons", *International Marketing Review*, Vol. 22 No. 3, pp. 256-278.
- Mathieu, V. (2001), "Service strategies within the manufacturing sector: benefits, costs and partnership", *International Journal of Service Industry Management*, Vol. 12 No. 5, pp. 451-475.

- Matthyssens, P., and Vandenbempt, K. (2008), "Moving from basic offerings to value-added solutions: Strategies, barriers and alignment", *Industrial Marketing Management*, Vol. 37 No. 3, pp. 316-328.
- Meyer, A. D. (1982), "Adapting to environmental jolts", *Administrative Science Quarterly*, pp. 515-537.
- Miller, C. (2003), "Hidden in plain sight", *Nonprofit Quarterly*, Vol. 10 No. 1, pp. 16-23.
- Miroudot, S. and Cadestin, C. (2017), *Services in global value chains: from inputs to value-creating activities*, OECD Trade Policy Papers, OECD Publishing, Paris.
- Mishina, Y., Pollock, T. G., and Porac, J. F. (2004), "Are more resources always better for growth? Resource stickiness in market and product expansion", *Strategic Management Journal*, Vol. 25 No. 12, pp. 1179-1197.
- Neu, W. A., and Brown, S. W. (2005), "Forming successful business-to-business services in goods-dominant firms", *Journal of Service Research*, Vol. 8 No. 1, pp. 3-17.
- Nohria, N., and Gulati, R. (1996), "Is slack good or bad for innovation?," *Academy of Management Journal*, Vol. 39 No. 5, pp. 1245-1264.
- Obadia, C., and Vida, I. (2011), "Cross-border relationships and performance: Revisiting a complex linkage", *Journal of Business Research*, Vol. 64 No. 5, pp. 467-475.
- Oliva, R., and Kallenberg, R. (2003), "Managing the transition from products to services", *International Journal of Service Industry Management*, Vol. 14 No. 2, pp. 160-172.
- Ostrom, A. L., Bitner, M. J., Brown, S. W., Burkhard, K. A., Goul, M., Smith-Daniels, V., Demirkan, H., and Rabinovich, E. (2010), "Moving forward and making a difference: research priorities for the science of service", *Journal of Service Research*, Vol. 13 No. 1, pp. 4-36.
- Ostrom, A. L., Parasuraman, A., Bowen, D. E., Patrício, L., and Voss, C. A. (2015), "Service research priorities in a rapidly changing context", *Journal of Service Research*, Vol. 18 No. 2, pp. 127-159.
- Rabetino, R., Kohtamäki, M., Brax, S. A., and Sihvonen, J. (2021), "The tribes in the field of servitization: Discovering latent streams across 30 years of research," *Industrial Marketing Management*, Vol. 95, 70–84.
- Rabetino, R., Kohtamäki, M., Lehtonen, H., and Kostama, H. (2015), "Developing the concept of life-cycle service offering", *Industrial Marketing Management*, Vol. 49, pp. 53-66.
- Raddats, C., and Easingwood, C. (2010), "Services growth options for B2B product-centric businesses", *Industrial Marketing Management*, Vol. 39 No. 8, pp. 1334-1345.
- Raddats, C., Kowalkowski, C., Benedettini, O., Burton, J., and Gebauer, H. (2019), "Servitization: A contemporary thematic review of four major research streams", *Industrial Marketing Management*, Vol. 83, pp. 207-223.
- Reim, W., Parida, V., and Örtqvist, D. (2015), "Product–Service Systems (PSS) business models and tactics—a systematic literature review," *Journal of Cleaner Production*, Vol. 97, pp. 61-75.

- Reim, W., Sjodin, D.R. and Parida, V. (2019), "Servitization of global service network actors—A contingency framework for matching challenges and strategies in service transition", *Journal of Business Research*, Vol. 104, pp. 461-471.
- Reinartz, W., Thomas, J. S., and Kumar, V. (2005), "Balancing acquisition and retention resources to maximize customer profitability", *Journal of Marketing*, Vol. 69 No. 1, pp. 63-79.
- Reinartz, W., and Ulaga, W. (2008), "How to sell services more profitably", *Harvard business review*, Vol. 86 No. 5, pp. 90.
- Rymaszewska, A., Helo, P., and Gunasekaran, A. (2017), "IoT powered servitization of manufacturing—an exploratory case study", *International Journal of Production Economics*, Vol. 192, pp. 92-105.
- Salonen, A. (2011), "Service transition strategies of industrial manufacturers", *Industrial Marketing Management*, Vol. 40 No. 5, pp. 683-690.
- Sanchez, R. (1995), "Strategic flexibility in product competition", *Strategic Management Journal*, Vol. 16 No. 1, pp. 135-159.
- Shin, J., Mendoza, X., Hawkins, M. A., and Choi, C. (2017), "The relationship between multinationality and performance: Knowledge-intensive vs. capital-intensive service micro-multinational enterprises", *International Business Review*, Vol. 26 No. 5, pp. 867-880.
- Sidhu, J. S., Volberda, H. W., and Commandeur, H. R. (2004), "Exploring exploration orientation and its determinants: Some empirical evidence", *Journal of Management Studies*, Vol. 41 No. 6, pp. 913-932.
- Story, V. M., Raddats, C., Burton, J., Zolkiewski, J., and Baines, T. (2017), "Capabilities for advanced services: A multi-actor perspective", *Industrial Marketing Management*, Vol. 60, pp. 54-68.
- Struyf, B., Galvani, S., Matthyssens, P., and Bocconcelli, R. (2021), "Toward a multilevel perspective on digital servitization," *International Journal of Operations & Production Management*, Vol. 41 No. 5, pp. 668-693.
- Suarez, F. F., Cusumano, M. A., and Kahl, S. J. (2013), "Services and the business models of product firms: An empirical analysis of the software industry", *Management Science*, Vol. 59 No. 2, pp. 420-435.
- Suppatvech, C., Godsell, J., and Day, S. (2019), "The roles of internet of things technology in enabling servitized business models: A systematic literature review", *Industrial Marketing Management*, Vol. 82, pp. 70-86.
- Tseng, C. H., Tansuhaj, P., Hallagan, W., and McCullough, J. (2007), "Effects of firm resources on growth in multinationality", *Journal of International Business Studies*, Vol. 38 No. 6, pp. 961-974.
- Ulaga, W., and Reinartz, W. J. (2011), "Hybrid offerings: how manufacturing firms combine goods and services successfully", *Journal of Marketing*, Vol. 75 No. 6, pp. 5-23.
- UNCTAD (2020), "Key Statistics and Trends in International Trade 2019", available at: https://unctad.org/en/PublicationsLibrary/ditctab2019d7_en.pdf (accessed 08 July 2020).

- Vandermerwe, S., and Rada, J. (1988), "Servitization of business: adding value by adding services", *European Management Journal*, Vol. 6 No. 4, pp. 314-324.
- Vargo, S. L., and Lusch, R. F. (2004), "The four service marketing myths: remnants of a goods-based, manufacturing model", *Journal of Service Research*, Vol. 6 No. 4, pp. 324-335.
- Visnjic Kastalli, I., and Van Looy, B. (2013), "Servitization: Disentangling the impact of service business model innovation on manufacturing firm performance", *Journal of Operations Management*, Vol. 31 No. 4, pp. 169-180.
- Vokurka, R. J., and O'Leary-Kelly, S. W. (2000), "A review of empirical research on manufacturing flexibility", *Journal of Operations Management*, Vol. 18 No. 4, pp. 485-501.
- Voss, G. B., Sirdeshmukh, D., and Voss, Z. G. (2008), "The effects of slack resources and environmental threat on product exploration and exploitation," *Academy of Management Journal*, Vol. 51 No. 1, pp. 147-164.
- Wernerfelt, B. (1984), "A resource-based view of the firm", *Strategic Management Journal*, Vol. 5 No. 2, pp. 171-180.
- Whetten, D. A. (1989), "What constitutes a theoretical contribution?," *Academy of Management Review*, Vol. 14 No. 4, pp. 490-495.
- World Bank (2020), "World Development Report 2020: Trading For Development in the Age of Global Value Chains", available at:
<http://documents1.worldbank.org/curated/en/310211570690546749/pdf/World-Development-Report-2020-Trading-for-Development-in-the-Age-of-Global-Value-Chains.pdf> (accessed 06 July 2020).
- Zhang, Y., Yang, Z., and Zhang, T. (2018), "Strategic resource decisions to enhance the performance of global engineering services", *International Business Review*, Vol. 27 No. 3, pp. 678-700.

Sources for Case Vignettes

- <https://innovator.news/where-the-rubber-meets-the-road-7242d258afc5>
- <https://www.tyreprass.com/2017/06/michelin-acquires-telematics-provider-nextraq/>
- <https://www.trucknews.com/business-management/connectivity-key-to-providing-more-intelligent-business-insights-michelin/1003143482/>
- https://www.catfinancial.com/en_ZA/resources/business-insights/cat-financial-opens-new-office-in-johannesburg.html
- <https://www.caterpillar.com/en/news/caterpillarNews/caterpillar-foundation/elling-the-caterpillar-story-in-southern-africa.html>
- <https://techniciansforafrica.caterpillaruniversity.com/>
- <https://www.businessinsider.com/caterpillar-is-embracing-the-iot-to-improve-productivity-2017-11?r=US&IR=T>

<https://www.techcircle.in/2022/01/04/in-2022-ibm-will-continue-expanding-in-india-by-hiring-in-cities-beyond-metros>

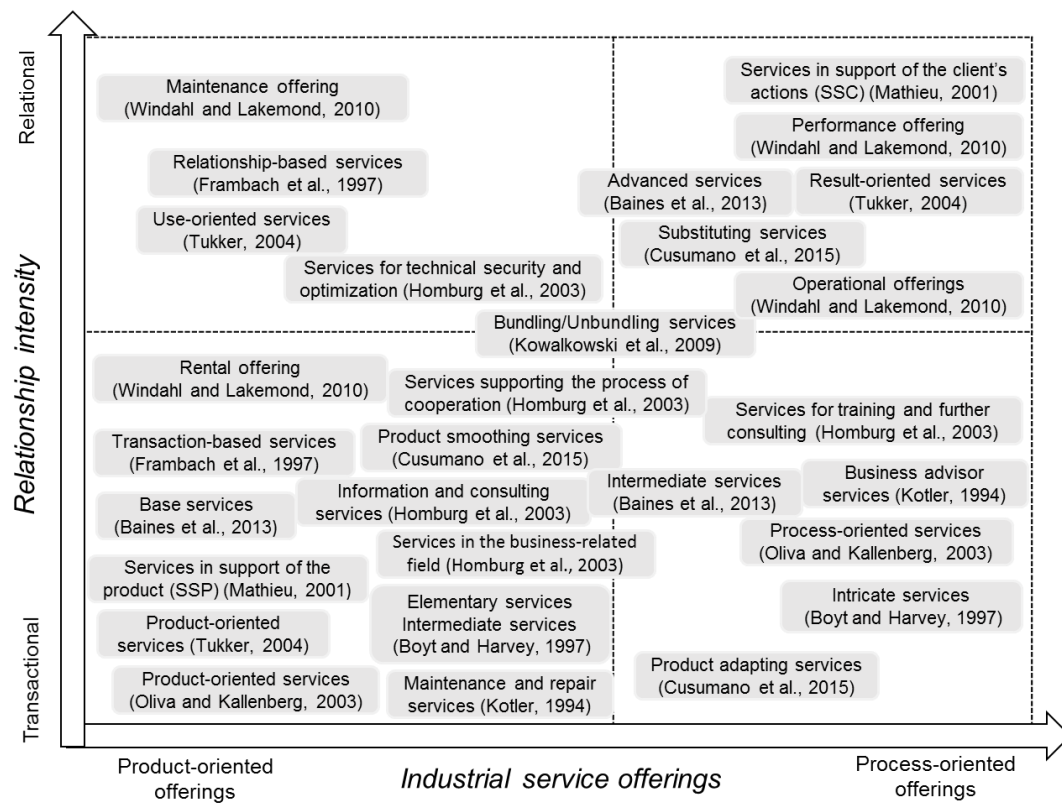
<https://newsroom.ibm.com/2021-10-13-IBM-Commits-to-Skill-30-Million-People-Globally-by-2030>

<https://www.syncron.com/servitization-the-next-frontier-of-field-service-blog/>

<https://www.rolls-royce.com/products-and-services/civil-aerospace/aftermarket-services.aspx#section-overview>

<https://www.aero-mag.com/rolls-royce-adopts-ai-software-to-maximise-engine-availability/>

Figure 1. Classification of industrial services types identified in the academic literature



Source: Authors' own creation of the relative positioning of research studies based upon the literature review.

Figure 2. Unexplored Research Paths of Servitization in International Marketing

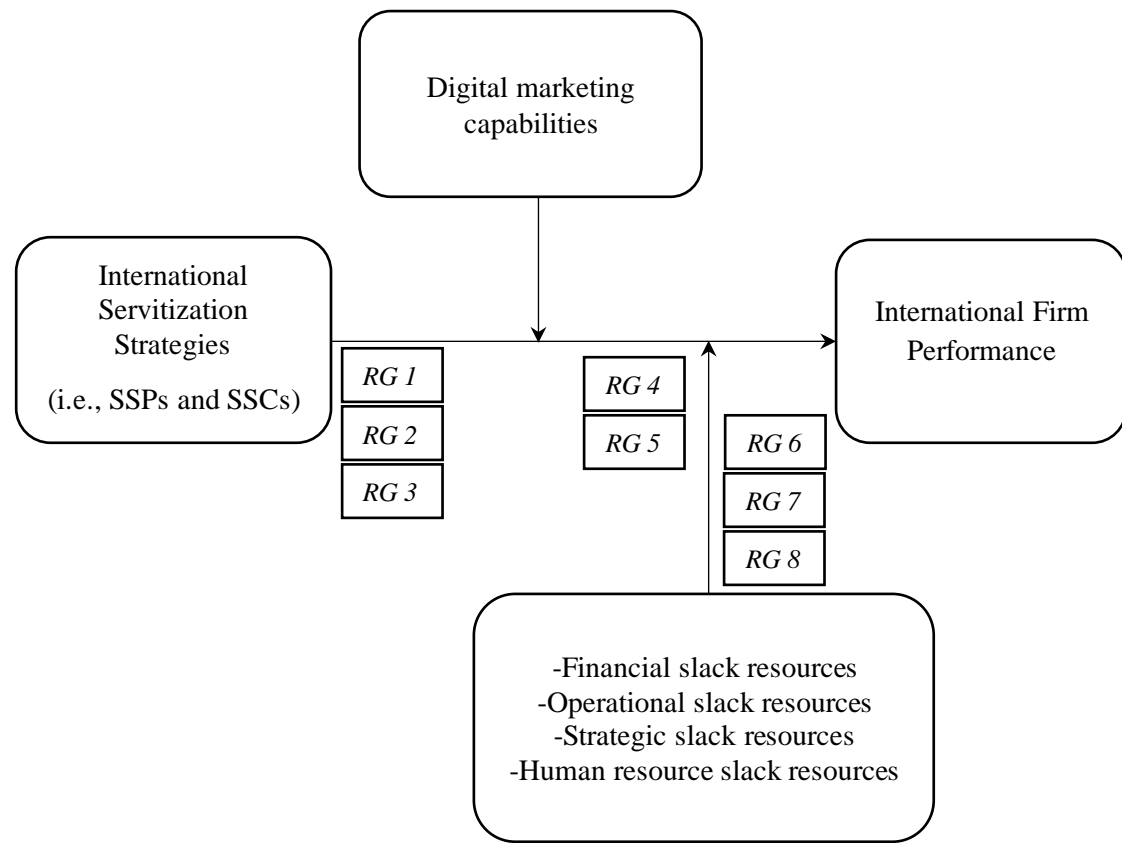


Table 1. Representative Research on Servitization in the Global Context

Study	Research design	Theoretical perspectives	Implications for global context	Key findings
Cenamor et al. (2017)	Multiple case studies	Platform approach	Demonstrating how the platform approach with digital technologies helps provide advanced service offerings for diverse global customers.	The authors contend that manufacturing firms leverage value through digital and information technologies for advanced service offerings by adopting a platform approach.
Hakanen et al. (2017)	Multiple case studies	Service perspective	Elaborating the importance of developing global service portfolios and customizing service offerings to align with local customer preferences.	The authors propose the primacy of servitizing manufacturers in global distribution and present several research propositions related to building global operation models, and modifying local service processes, ensuring global brand coherence, and designing the customer experience in global markets.
Rymaszewskaa et al. (2017)	Exploratory case study	Value chain perspective	Providing insights on servitization activities of manufacturing companies with a global presence.	The authors develop a framework that presents comprehensive insights on how manufacturing companies create value through IoT solutions in their servitization journey.
Gereffi et al. (2019)	Conceptual	Global value chain perspective	Highlighting the interface between global and local factors affecting governance structures of two industries by employing the global value chain approach.	Employing the global value chain perspective, the authors identify key commonalities and contrasts among two different industries in terms of the governance structures at the global level.
Reim et al. (2019)	Exploratory case study	Contingency perspective	Emphasizing the role of service network actors in delivering a successful service transition in a global manufacturing company.	The authors reveal how diverse service network actors are important in the servitization process and demonstrate four servitization strategies (i.e., service extension, service benchmarking, digitalization, customer co-creation) implemented by service network actors.
Baines et al. (2020)	Multiple case studies	-	Elaborating the role of integrated global teams in conducting servitization activities in foreign markets.	Empirical evidence assesses an organizational change process that a manufacturing company follows in its servitization activities across four phases (i.e., exploration, engagement, expansion, and exploitation).
Gölgeci et al. (2021)	Conceptual	Multilevel theorization approach	Understanding servitization in networks of actors beyond national borders and the interface between servitization and global value chains.	The authors propose a conceptual framework that establishes specific foci for further studies to investigate on the link between servitization and global value chains considering macro-level and firm-level factors.

<i>This study</i>	Conceptual	Resource-based view and boundary function conditions	Providing comprehensive insights on servitization strategies within the international context.	The authors explore the boundary conditions of servitization in the international context and their effects on international performance by identifying research gaps.
-------------------	------------	--	--	--

Table 2. International Servitization Strategies

Research Gap(s)	Company name	Case Vignette Description	Types of Service Offerings	Boundaries of Servitization	
			Services supporti products (SSPs) in international markets	Services supporting clients' actions (SSCs) in international markets	Strategic Resource Decisions
Research Gap 2 Research Gap 4 Research Gap 7 Research Gap 8	Michelin	This French-based tire manufacturer firm has benefited from the advantages of moving from being a product provider to a service provider with the launch of Michelin Fleet Solutions. Michelin offered value adding services such as maintenance and guarantee but since 2013, they leveraged their services by exploiting data from sensors related to fuel consumption, tire pressure, temperature, speed, and location through the help of Internet of Things (IoT). In this sense, they initiated a package called as 'Effifuel', providing a consultancy service that offers eco-driving methods in order to make additional savings. In 2017, Michelin acquired the 'Nextraq' GPS solutions company to provide value adding services for safety, and productivity in North America. In 2020, Michelin introduced 'Maestro' – a cloud-based platform for the North American market in order to develop three-way communication between the service providers, the fleet, and Michelin by providing a real time digitization.	After-Sale Services Technical Support Maintenance Services	Management Consultancy IoT Business Solutions Process-Oriented Solutions Fleet Management Information Technologies Data Analytics Digitization	Financial Slack Strategic Slack Digital Marketing Capabilities
Research Gap 5 Research Gap 6 Research Gap 7 Research Gap 8	Caterpillar	The last decade witnessed the transformation of Caterpillar, from heavy construction vehicles and machinery manufacturer to a firm embracing digital technologies and IoT solutions/services. Caterpillar ensures the required parts are available within 48 hours, even for international customers who are located in emerging economies. For instance, Southern Africa constitutes one of the most important markets for Caterpillar's mining business, as several countries within that continent are the leading diamond producers such as Botswana, South Africa, Angola, and Namibia, where Caterpillar products generate significant profit. In 2016, Caterpillar launched a free online certification program called 'Technicians for Africa', which offers an exciting career path for people in Africa who want to be a service technician in 3-6 months. In 2017, the firm made a new investment in South Africa, establishing an office to provide a better service experience to its African customers such as enabling unmatched parts or facilitating maintenance. Caterpillar has shifted its focus from products to services by building embedded connectivity solutions into each vehicle and embracing software and analytical tools, allowing its customers to process, test, and restore the data. Recently, the firm partnered with Zuora to offer cloud-based software, enabling the management of its subscription services. With the adoption of its software and services, Caterpillar customers can potentially reduce their operational	Managing Maintenance Function	Research and Development Collaboration Process Tests Process Optimization Engineering Process-Oriented Training IoT Business Solutions Process-Oriented Solutions	Human Resources Slack Operational Slack Strategic Slack Digital Marketing Capabilities

		costs and enhance their productivity through several machine learning engineering systems.			
<i>Research Gap 1</i>	IBM	IBM, based in the United States, is an iconic company that has shifted successfully from products (i.e., hardware) to services (i.e., software). In the beginning of the 1990s, IBM reported its largest annual loss in U.S. history. In 2002, the firm sold its disc drive business to Hitachi and invested in PWC consultancy seeking to increase its service revenue. In 2004, the firm sold off its personal computer division to Lenovo and accelerated its focus on being a service-based firm. In 2021, IBM declared that most of its revenue is gained through software consulting in India based upon improvements in cloud-based capabilities owing to 19 acquisitions in India. Recently, the firm launched ‘Software Labs’ in two cities in India to strengthen its concentration on business process consulting. Further, IBM has created partnerships with Haryana State Board of Technical Education, and Uttar Pradesh State Council of Educational Research and Training (SCERT) to train digital skills of people in India.		Management Consultancy Process-Oriented Solutions Data Analytics Digitization	Financial Slack Human Resources Slack Strategic Slack Digital Marketing Capabilities
<i>Research Gap 4</i>					
<i>Research Gap 5</i>					
<i>Research Gap 7</i>					
<i>Research Gap 8</i>					
<i>Research Gap 3</i>					
<i>Research Gap 6</i>					
<i>Research Gap 7</i>					
<i>Research Gap 8</i>	Rolls-Royce	Rolls-Royce, a major British manufacturer of aircraft engines, has developed its “CareStore” to help their customers optimize their engines at maximum efficiency by extending their engines’ life cycles with flexible and innovative service offerings. In the CareStore, they provide a wide range of service solutions from maintenance and customer support to asset management and efficiency management. For instance, Rolls-Royce’s TotalCare airplane engine program, which has earned more than 50% of their revenue, was launched to build long term relationships with their customers, as customers pay relying upon the number of hours the airplane is used and Rolls-Royce repairs and change damaged equipment in addition to monitoring the engine remotely. Recently, Rolls-Royce has offered its TotalCare package to the African region and made an agreement with ALS for the Kenyan airline’s fleet. In addition, Rolls-Royce has also recently adopted Artificial Intelligence (AI) software and machine learning techniques to increase their engine availability by extending its digital ecosystem to provide an increase in uptime of the engines and extend the life of their critical assets.	Customer Support Repair Management Maintenance	Artificial Intelligence Machine Learning Efficiency Management Asset Management	Operational Slack Strategic Slack Digital Marketing Capabilities
<i>Research Gap 3</i>					
<i>Research Gap 6</i>					
<i>Research Gap 7</i>					
<i>Research Gap 8</i>					
<i>Research Gap 3</i>					
<i>Research Gap 6</i>					
<i>Research Gap 7</i>					

Source: Authors’ own creation

Table 3. Theoretical and Managerial Implications for International Service Transition Strategies in International Marketing

Research Gap(s)	Theoretical implications	Managerial implications
<p>Research Gap 1: <i>What is the role of servitization strategies in explaining international performance?</i></p> <p>Research Gap 2: <i>How do different international servitization offerings (i.e., SSPs and SSCs) influence international performance?</i></p>	<ul style="list-style-type: none"> – Servitization strategies is expected to render higher internationalization, as a growing theoretical assumption is based upon the premise that goods-dominant firms is required to employ service-led growth to ensure their competitive positions and growth in dynamic and competitive marketplaces (Ostrom et al., 2010). – Further, there is a need to distinguish industrial service types (Mathieu, 2001; Ulaga and Reinartz, 2011), as different types of service offerings yield diverse outcomes in international markets. As such, SSPs help to establish the fundamental basis for basic knowledge and organizational learning on service offerings in foreign markets. 	<ul style="list-style-type: none"> – From a managerial perspective, industrial services can help manufacturing firms attain their international goals in terms of scale and scope of international activities. In addition to domestic customers, firms can be recommended to meet with the service-specific requirements of customers abroad with an aim of achieving competitive advantage over foreign markets (e.g., by providing after-sales service, repair and maintenance services). – Manufacturing firms may initially focus on developing SSPs in their service infusion process which, in turn, could help them to understand service environment and improve service-specific resources/capabilities in foreign markets.
<p>Research Gap 3: <i>Do manufacturing firms concentrating on international servitization strategies with SSPs enhance their international performance in a shorter time than those focusing international servitization strategies with SSCs?</i></p>	<ul style="list-style-type: none"> – The deployment of SSCs, which are characterized as more complex and knowledge-intensive, necessitates an excessive amount of resource investments that could cause extra financial costs for manufacturing firm operating in foreign markets (Reinartz and Ulaga, 2008; Erramili and Rao, 1993). – Given its complicated nature, SSCs provide higher revenues and growth in the long-term, particularly beyond a certain degree of service infusion, by the help of benefiting from consecutive learning effects and diminishing the costs over time. 	<ul style="list-style-type: none"> – From a managerial standpoint, manufacturing firms can be advised to offer an SSC portfolio. However, it should be recognized that initial losses will be paid off in time via learning effects, as firms experience and learn how to sell advanced services in international markets. – As the case vignettes demonstrate, managers expect lower revenues in the beginning owing to extra costs. However, they leverage their activities to reap higher financial outcomes with broader SSCs by satisfying more specific needs of foreign customers and securing future profitability in the long-term period.
<p>Research Gap 4: <i>How do financial slack resources influence different servitization strategies (i.e., SSPs and SSCs) in international markets?</i></p>	<ul style="list-style-type: none"> – Slack resources play a critical role in the investment decisions of manufacturing companies in terms of selling hybrid offerings (Eggert et al., 2011), however, it becomes even more critical in the international business context, as slack resources act as a buffer 	<ul style="list-style-type: none"> – Manufacturing firms may need to consider how to distribute their resources and assess their slack resources by investing hybrid offerings in order to deal with additional costs arising from international operations.

	<p>mechanism to overcome extra expenses derived from both transition and internationalization activities.</p> <ul style="list-style-type: none"> – Financial slacks help manufacturing firms invest in SSP portfolios, which provide foundations for basic service knowledge and competences required in foreign markets. – Financial slack supports the risky initiatives that lead manufacturing firms to invest in exploration-oriented strategic changes that necessitates an excessive amount of financial costs such as service transition into SSCs in foreign markets (Eggert et al., 2014; Erramili and Rao, 1993). – Nevertheless, excessive financial slack poses a challenge for manufacturing firms over time with the effect of experiential learning and decreased costs arisen from service infusion and internationalization. 	<ul style="list-style-type: none"> – Because an optimal degree of financial slack can be beneficial for companies to compensate fair expenses of SSPs that are delivered to support the installation, use, and brokering of a tangible product (e.g., help desk, technical support, upgrades, after-sale services, call center). – The shock absorber role of slack resources may help lessen the negative effects of financial burdens. In doing so, it is important to keep the optimal level of financial slack within the firm to prevent its negative effects in the long term.
<p>Research Gap 5: <i>How do human resource slack resources influence different servitization strategies (i.e., SSPs and SSCs) in international markets?</i></p>	<ul style="list-style-type: none"> – Human resource slack is inclined to serve as a catalytic role in shifting from product to SSPs in foreign markets, as SSPs are characterized as more standardized and rely upon current competencies (Antonioco et al., 2008). – It is imperative to understand that human resource slack, which is embedded within the organization, is not capable of leading strategic change because competencies in terms of cognitive limits and time are exhausted (Sidhu, Volberda, and Commandeur, 2004; Voss et al., 2008). 	<ul style="list-style-type: none"> – Managers may pay heightened attention to distinguish industrial services whether they are regular and dependent upon existent capabilities, as specialized and skilled personnel, which are either rare or absorbed, could be beneficial for transition into SSPs in foreign markets. – Managers seek to formulate new standards such as adopting a service reward strategy that could stimulate employees to develop a service business orientation. – Greater focus on employee service training should be developed to encourage a service-related work environment and possessing service-specific skills. – Mechanisms and incentives structures should be adopted to encourage and motivate employees with service-related compensation.
<p>Research Gap 6: <i>How do operational slack resources influence different servitization strategies (i.e.,</i></p>	<ul style="list-style-type: none"> – Despite the committed and absorbed nature of operational slacks, manufacturing firms benefit from operational slacks in initiating SSPs that rely upon 	<ul style="list-style-type: none"> – Senior managers should focus their efforts on restructuring processes that improve their current work practices with the specific preferences of foreign

<i>SSPs and SSCs) in international markets?</i>	<p>current resources and capabilities in international markets (Voss et al., 2008).</p> <ul style="list-style-type: none"> – Operational slacks play a substantial role in servitization strategies in SSCs necessitating customization and considerable strategic change, as firms exploit their production technologies to meet changing demands, which are increasingly intended for industrial services throughout the world (Benito-Osorio et al., 2012). 	<p>customers (e.g., product-oriented services).</p> <ul style="list-style-type: none"> – Our case vignettes acknowledge that managers leverage manufacturing employees' usage of production technologies in developing service business orientations (e.g., utilization of process tests, optimization, and engineering) (Venkatesh and Davis 2000).
Research Gap 7: <i>How do strategic slack resources influence different servitization strategies (i.e., SSPs and SSCs) in international markets?</i>	<ul style="list-style-type: none"> – Strategic slacks foster the managerial tendency to initiate servitization into SSPs which support current product sales and sustain potential future revenues by increasing customer satisfaction through means of differentiation in international markets. – Offering complex services for a goods-dominant firm requires organization-wide strategic change management (Ulaga and Reinartz, 2011). – Nevertheless, SSCs that necessitate a substantial amount of resource investment may create internal conflicts that lead to the loss of strategic focus within the organization and constitute a threat for product-oriented employees which, in turn, negatively influence the international activities of manufacturing firms. 	<ul style="list-style-type: none"> – Managers need to leverage servitization activities focusing on SSPs to support their overseas product sales (e.g., repairing equipment/spare parts, product upgrades, maintenance services, and recycling). – Managers can restructure their organizational design to become more decentralized so as to respond swiftly to customers' service specific requirements in foreign markets. – It is also critical to engage employees in the organizational change process in order to mitigate resistance and barriers to change (Lines et al. 2005). – Managers should consider a service department to enshrine the relevant roles and responsibilities and act as a hub to manage, coordinate and direct service processes.
Research Gap 8: <i>How do different digital marketing capabilities (i.e., social media and digital technologies) affect different servitization strategies (i.e., SSPs and SSCs) in international markets?</i>	<ul style="list-style-type: none"> – Several researchers place special emphasis on the role of digitalization in the servitization journey of industrial firms (Coreynen, Matthyssens, and Bockhaven, 2017). – A wealth of studies elaborates the importance of "digital servitization" ranging from social media communication to advanced technologies that help firms to leverage their servitized activities (Kohtamäki et al., 2019; Opresnik and Taisch, 2015). – Examining the moderator role of servitization on the relationship between digitalization and firm performance (e.g., Kohtamäki et al., 2020) and exploring the role 	<ul style="list-style-type: none"> – Our case vignettes may help managers understand what types of digital techniques they can benefit from to enhance their servitization in foreign markets. – Digital servitization may enable firms to achieve higher profits and maintain long term relationship with their customer through big data, information and communication technologies (ICT), internet of things (IoT), cloud computing (CC), and predictive analytics.

of IoT -based solutions in
creating added value in
servitization (e.g., Rymaszewska,
Helo, and Gunasekara, 2017).

Source: Authors' own creation