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**Title:** Managerial Heuristics in Servitization Journey

**Year:** 2021

**Version:** Accepted manuscript

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### **Please cite the original version:**

Huikkola, T. & Kohtamäki, M. (2021). Managerial Heuristics in Servitization Journey. In: Kohtamäki, M., Baines, T., Rabetino, R., Ziaee Bigdeli, A., Kowalkowski, C., Oliva, R. & Parida, V. (eds.) *The Palgrave Handbook of Servitization*, 281-292. Cham: Palgrave Macmillan. [https://doi.org/10.1007/978-3-030-75771-7\\_18](https://doi.org/10.1007/978-3-030-75771-7_18)

## **Managerial Heuristics in Servitization Journey**

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### **Abstract**

This essay conceptualizes the role of managerial heuristics when manufacturers undergo service transition. The present conceptual article suggests that managers can learn different heuristics from experiences (e.g., trial-and-error) when transitioning toward services and solutions and discusses one missing element in the existing servitization literature: managerial heuristics and the use of simple rules to manage servitization and facilitate organizational learning (i.e., why, what, and how manufacturers learn when they servitize). This study encourages future studies to more broadly investigate the psychological foundations of the strategic change process in the context of servitization.

**Keywords:** Heuristics; expert heuristics; simple rules; psychological foundations of strategy; servitization

## 1. INTRODUCTION

Manufacturers have started to sell different types of services to their clients, ranging from product-related after-sales services (e.g., spare parts, maintenance services) to more comprehensive solutions (e.g., operations & maintenance services, turnkey projects), enabled by digital technologies such as the Internet of Things (IoT) (Kowalkowski et al., 2017; Kohtamäki et al., 2019; Töytäri et al., 2018; Visnjic et al., 2017) to generate advantages in B2B markets (Uлага & Reinartz, 2011). This strategic transition is profound, as it has forced manufacturers to alter their strategies (Gebauer et al., 2010), **business models** (Huikkola & Kohtamäki, 2018; Storbacka et al., 2013), routines and **capabilities** (Uлага & Reinartz, 2011), offerings (Kohtamäki & Partanen, 2016), and organization structures (Neu & Brown, 2005). The existing **servitization** literature has comprehensively studied the antecedents, processes and outcomes of this strategic **change** (Rabetino et al., 2018; Raddats et al., 2019) but remains relatively silent about what types of managerial heuristics, so-called simple rules, companies use when managing **servitization strategy** implementation.

This conceptual article aims to generate an evidence-based perspective on managerial heuristics in **servitization** to understand how to implement a servitization **strategy**. Based on the four propositions presented in this article, we encourage servitization scholars to study in-depth what types of ‘simple rules’ manufacturers have crafted to facilitate service business development and reflect on what they have learned along the way. Companies may use simple rules to guide them toward the decided direction in a controllable yet flexible manner.

## 2. THEORY DEVELOPMENT

### 2.1 Defining managerial heuristics

Heuristics are described as mental shortcuts (Newell & Simon, 1972; Tversky & Kahneman, 1974) that provide fast, effective and frugal decision-making approaches for managers (Artinger et al., 2015), especially in high-velocity markets and foggy environments (Brown & Eisenhardt, 1997; Eisenhardt, 1989; Maitland & Sammartino, 2015; Sull & Eisenhardt, 2012). Managerial heuristics are approaches to solving ill-structured problems that logic and probability theory are not capable of addressing (Artinger et al., 2015; Groner, Groner, & Bischof, 1983; Vuori & Vuori, 2014). Often, too little or too much information is available or too little time

and resources are available to conduct a proper analysis (Bingham, Eisenhardt & Furr, 2007; Bingham & Eisenhardt, 2014; Eisenhardt & Sull, 2001). Relying on heuristics during decision making can lead to negative (Kahneman & Klein, 2009; Kahneman, 2011), positive (Bingham & Eisenhardt, 2011, 2014; Eisenhardt & Sull, 2001; Maitland & Sammartino, 2015) or mixed outcomes (Wübben & Wangenheim, 2008). Adverse outcomes typically arise from humans' universal framing and anchoring errors, cognitive biases, shortcuts, and the dominance of intuitive systems and fast thinking (Davenport, 2020; Kahneman, 2011), whereas positive outcomes emerge from expert heuristics (Bingham et al., 2011), i.e., the process of learning through repetition and accumulated experience (Bingham & Eisenhardt, 2011; 2014). Although relying upon past experiences may be harmful for firms' continued existence, heuristics have been identified as particularly useful in ill-structured problems when the level of uncertainty remarkably increases (Artinger et al., 2015; Bingham & Eisenhardt, 2014; Gigerenzer & Gaissmaier, 2011) and firms lack the time or resources to conduct proper analysis (Maitland & Sammartino, 2015). Because heuristics are the opposite of rational decision making, namely, slow thinking, some have argued that they lead to second-best decisions (Kahneman, 2011), whereas others have found that heuristics can lead to effective results (Artinger et al., 2015; Wübben & Wangenheim, 2008) or even better decisions overall (Bingham & Eisenhardt, 2014; Sull & Eisenhardt, 2012).

Kahneman and Klein (2009) argue that heuristic thinking and decision making are more likely to work under predictable conditions—after the decision maker has an opportunity to learn the regularities of that environment. Gigerenzer and Gassmaier (2011) criticize this view and suggest that rational approaches do not work in “large worlds” where information is incomplete and all alternatives cannot be properly identified. Bingham & Eisenhardt (2014) respond that simple rules work best in managing processes that can be easily understood and adopted by personnel. Among practitioners, heuristics typically take the form of thumb rules/simple rules (Eisenhardt & Sull, 2001). Existing studies on the use of (expert) heuristics have shown positive effects in the context of sports and games (e.g., poker) (Sull & Eisenhardt, 2015), investment decisions (Antretter et al., 2020) and business strategies (Bingham & Eisenhardt, 2011; Maitland & Sammartino, 2015).

Next, we introduce key types of heuristics regarding **servitization**, namely, selection, procedural, priority, and temporal heuristics (Sull & Eisenhardt, 2015), that guide managers and organization members to execute **strategy** in practice.

## 2.2. Selection heuristics in servitization

Selection heuristics refer to rules of thumb that guide firms in which sets of opportunities (e.g., market or product/service opportunities) firms decide to pursue (Bingham & Eisenhardt, 2011). In practice, selection heuristics specify, for example, what particular countries and geographical areas firms decide to enter, technologies to invest in, products/services to sell or what customers/customers' needs to serve. In the servitization literature, little is known about *why* manufacturers have decided to enter certain markets (e.g., China) and *how* they have reasoned that entering this market is a better idea than other alternatives. For example, the Finnish elevator manufacturer KONE decided to sell its new machine room-less elevators and associated services first to the Netherlands because it enabled the firm to enter other EU markets after that, and the Netherlands was considered one of the leading and most adaptable countries for new, radical solutions (Michelsen, 2013). Another important and strategic decision for a firm is to select which customers it tries to target and what underlying needs the firm attempts to address by providing certain solutions. For example, in China, KONE decided first to serve the most demanding customers to polish the brand, gain reputation among them, and gain a foothold in that market. It reasoned that this approach would enable it to sell more easily to other customers, because customers have framed KONE as the leading manufacturer in that sector. Hence, KONE was anchored as the “premium seller” that customers compared to other alternatives, not the other way round. Firms also vary between products, services, and technologies they sell to different markets. For example, manufacturers may decide to sell O&M services only to certain customers, whether to those leading customers who want to free up their resources to reallocate resources to other, more profitable business areas or to those new customers who do not possess competencies or resources in-house to run such operations themselves (e.g., financial institutions), not for those customers located in the middle. In practice, these lessons learned can lead to certain stipulated rules (simple heuristics), such as “sell services only to developed countries”, “when launching new services, enter US markets first” or “target only tier one customers when selling O&M solutions”.

*Proposition 1. Manufacturers learn selection heuristics when they gain more experience with opportunities to capture downstream.*

### **2.3. Procedural heuristics in servitization**

Procedural heuristics accord with guidelines and rules of thumb on how to execute a selected opportunity (Bingham & Eisenhardt, 2011). In practice, procedural heuristics are linked to entry modes (e.g., acquisition, green field investment), dedicated approaches to managing different functions (e.g., sales, recruiting, R&D, marketing or pricing), or different mechanisms used for defining a firm's business scope and boundaries (e.g., investments, divestments, stake-ins) For example, this form of simple heuristics could take forms such as “expand services organically”, “never make service-related acquisitions”, “sell solutions only to C-level executives” or “take service aspect into account already in the product-design phase”. Typically, these rules of thumb are crafted based on accumulated experience and “trial-and-error”. For example, if a firm has failed to make acquisitions, the management team can forbid the organization from making them or create a rule of thumb based on the lessons learned (e.g., “never acquire a firm bigger than you”). In services, managers may have noticed that selling solutions to lower-level contacts is futile because they lack authority to make decisions and they do not see the services' value (Reinartz & Ulaga, 2008). Based on this observation, management can stipulate a rule of thumb that services must be sold to only decision-makers who are located higher in the customer's hierarchy (e.g., top management team) and have the authority to make larger-scale decisions.

*Proposition 2. Manufacturers learn procedural heuristics when they gain more experience learning how to capture more service-related opportunities.*

### **2.4. Priority and temporal heuristics in servitization**

Temporal heuristics revolve around time, such as sequence, pace, and rhythm (Bingham & Eisenhardt, 2011). In practice, sequence heuristics can relate to the order of provided services, such as “always start with product-related services such as maintenance services, then move to customer-process focused services such as data analytics”. Pace heuristics deal with stages such as “complete one region before beginning the next”, whereas rhythm heuristics refer, for example, to the number of service-related acquisitions per year (e.g., “acquire at least 5 small service companies annually”). Temporal heuristics can, for example, lead to certain rules of thumb such as “always serve tier one customers first, then tier two customers, and after that, sell services to tier three customers”. *Priority heuristics*, on the other hand, are defined as deliberate rules of thumb that help firms rank

and prioritize certain opportunities over others. For example, this can take rules of thumb such as “prioritize US customers over others” or “prefer selling analytics services first to German customers because Germany is a benchmark for other European countries’ customers”

*Proposition 3. Manufacturers learn temporal and priority heuristics in servitization after they have learned selection and procedural heuristics.*

Table 1 below describes potential heuristics that managers can apply to manage servitization and facilitate organizational learning and renewal through examples in different business areas, such as geographic expansion, offerings, technologies, and customers served.

**Table 1.** Illustrations of managerial heuristics in servitization.

	Strategic focus of services			
	Geographic area	Offerings	Technologies	Customers
<i>Selection heuristics and examples of rules of thumb in the servitization context</i>	"Sell services to US markets; do not sell services to developing markets"	"Sell only product-related services, not customer-process related services"	"Invest in service-related technologies in which our competitors will invest or have already invested"	"Sell O&M solutions only to tier-one customers"
<i>Procedural heuristics and examples of rules of thumb in the servitization context</i>	"Use service acquisitions as key mechanisms when entering US markets"	"Take services into account already in product design phase"	"Never develop service-related technologies alone; always ally with your competitors"	"Sell services to customer's top management team level"
<i>Temporal heuristics and examples of rules of thumb in the servitization context</i>	"When selling IoT related solutions, sell first to Germany, then to Scandinavia, then to others"	"Always start with simple services, then move to more complex solutions, never progress other way around"	"Adopt service-related technologies that US or Swedish customers have accepted first, then leverage to other customers"	"Sell new services first to tier-one customers, then to tier-two customers, then to tier-three customers"

<i>Priority heuristics and examples of rules of thumb in the <b>servitization</b> context</i>	"Prioritize selling services to countries that have greater density of our flagship products"	"Rank services sold to customers based on their profitability"	"Prioritize service technologies with open standards"	"Rank customers based on their profitability"
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## 2.5. Learning through **servitization**

The organizational learning literature is extensive, and extant studies have shown that firms learn from experiences and through repetition, namely, through routines (Antretter et al., 2020; Bingham & Eisenhardt, 2011; Feldman & Pentland, 2003). However, the existing learning literature is relatively silent about *what* firms have actually learned along the way (Bingham & Eisenhardt, 2011). Moreover, little is known about how firms learn, in which order when they servitize, and what they learn along the way. Bingham and Eisenhardt (2011) found that companies learn heuristics in common structures and that they have specific development orders, starting from opportunity recognition (selection heuristics). After selection heuristics, they learn procedural heuristics, i.e., how to proceed in each process. Next, companies learn temporal and priority heuristics. Future **servitization** studies should delve deeper into two questions: 1) What manufacturers learn when they servitize, and 2) In which developmental order they learn when they servitize. **Servitization** is a purposeful context to study learning and organizational renewal processes, as it is a strategic yet specific renewal process. It is possible to study what companies learn when they servitize (e.g., in different geographic areas, technologies, offerings, and customers), and it can be measured (e.g., service sales development, level of internationalization, and number of different services)

*Proposition 4. Manufacturers learn heuristics in the following order when they servitize:*

*a) selection, b) procedural, c) temporal, and d) priority heuristics.*

## 3. DISCUSSION

**Servitization** has become an increasingly interesting business opportunity for manufacturers to ensure more stable income, better profit margins, and increased understanding of customers' business processes (Tuli, Kohli & Bharadwaj, 2007; Ulaga & Reinartz, 2011). Many manufacturers have successfully servitized their businesses, and extant studies have widely investigated antecedents, processes, and outcomes of **servitization**



(Rabetino et al., 2018). However, little is known about *what* manufacturers have actually learned along the way, why they have learned what they have learned, and how managerial heuristics have evolved during that transition, i.e., how firms have revamped and altered their simple rules to drive this strategic **change** when they have progressed in **servitization**.

### 3.1. Theoretical contributions

This conceptual paper shows that the use of simple rules can be reflections of organizational learning and that they can reveal what manufacturers have learned when they have servitized their businesses. Hence, this article contributes to both the 1) **servitization** and 2) organizational learning literatures by developing a framework of different heuristics in the servitization context. First, this article contributes to the **servitization** literature by suggesting that the use of different simple heuristics can reveal *what* firms learn, *why* they learn what they learn, and *how* they learn when they servitize, hence contributing to the discussion of learning in customer relationships (Tuli et al., 2017; Töytäri et al., 2018), technologies (Hasselblatt et al., 2017), geographic expansion (Aquilante & Vendrell-Herrero, 2019), and offerings (Kohtamäki & Partanen, 2016; Ulaga & Reinartz, 2011) in the **servitization** context. The propositions and framework presented in this article advance the **servitization** literature by illustrating different types of simple rules when companies enter new geographic areas, develop new offerings and technologies, and decide to serve different customers and customer needs. Second, this article sheds light on organizational learning theory by identifying development orders and cycles of learning heuristics. Challenging the traditional organizational learning literature that typically studies learning through an antecedent-behavior-outcome framework (Bingham & Eisenhardt, 2011), **servitization** provides an interesting context to study the *content* of learning, i.e., what issues manufacturers actually learn on their **servitization** journeys (simple rules reflect this learning in practice). These microfoundations of organizational learning shed light on learning behind the established simple rules, i.e., what issues have taught them to craft certain rules to drive the **change**. For example, in the traditional learning literature, studies have investigated how they can learn from acquisitions by using the number of acquisitions as a proxy to evaluate their success.

### **3.2. Managerial implications**

This book chapter helps managers craft their simple rules to navigate under an ever-changing business environment. Even though this study does not directly tell how these simple rules are created, this suggests that managers can systematically create a few thumb rules to redirect the company in each process and strategic domain. These simple rules can potentially help firms leverage their organizational assets by giving guidelines on where to reallocate resources (selection heuristics), how to reallocate resources (procedural heuristics), and in which order (temporal and priority heuristics). Following work by Eisenhardt and Sull (2001), we suggest that firms should establish 3-5 simple rules for each process to redirect the company. These rules should be based on accumulated management experience, and these rules must be altered occasionally when times **change** and service knowledge increases within the company.

### **3.3. Future research avenues**

Because this article is conceptual, it paves the way for future empirical studies about the evolution of heuristics in the **servitization** context. First, this article encourages future **servitization** studies to investigate what manufacturers learn when they servitize, i.e., what contents they learn (e.g., what have service acquisitions taught them?). Second, future **servitization** studies could explore why they learn what they learn, i.e., what incidents have affected those learning outcomes (e.g., what special event happened during the acquisition process that facilitated organizational learning?). Third, future **servitization** studies could shed light on how manufacturers learn when they servitize, i.e., what are the specific developmental orders of heuristics when firms create value through services (e.g., do firms apply the following order of learning heuristics: selection, procedural, temporal, priority when they servitize their businesses?). Do they follow the same, exact patterns or do these learning patterns vary between the companies? Moreover, **servitization** scholars could delve deeper into the evolution of simple rules in **servitization**, i.e., how firms revamp their simple rules to manage the **servitization** process more effectively.

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