

# Implementing servitization: a framework for small and medium enterprises

Author: Kenan Elezović  
University of Twente  
P.O. Box 217, 7500AE Enschede  
The Netherlands

## ABSTRACT,

This paper discusses the concept of servitization. By explaining its basics and describing its value it, takes a look at what its requirements for implementation are. Focusing mainly on small and medium enterprises. This study develops a conceptual framework, based on existing literature, that consists of a triangle of drivers, capabilities and orientation. Motivation behind the implementation is classified by these drivers, while capabilities determine whether a firm possesses the necessary requirements. Further is the orientation determined through the model. The framework has been applied, through an empirical research, in the case of a manufacturing company in the Dutch city of Apeldoorn.

## Graduation Committee members:

**dr. R.P.A. Loohuis**

**MSc. H.G. Hanna**

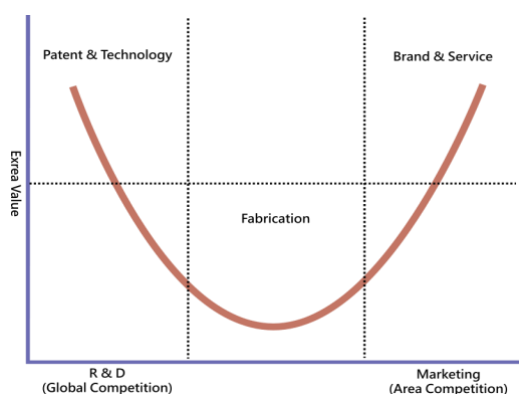
## Keywords

Servitization, SME, Customer value co-creation, Service, Strategy, Service-dominant logic

# 1. INTRODUCTION

A widely accepted view nowadays is that servitization is something that can increase profits. This is supported by the fact that firms generate greater turnovers from establishing long term relationships with their customers, from the services they provide alongside their products rather than the sole selling of products. The service-dominant logic is on the rise compared to the confessional goods-dominant logic, as implied by Vargo and Lusch in 2004.

Servitization, a term firstly introduced over thirty years ago (Van der Merwe & Rada, 1988), seems to be of greater importance than ever before as markets evolve and sole providing of goods is not sufficient for businesses to survive. In this study I will dig deeper into currently available knowledge regarding the topic of servitization, and gain an insight into current views on the topic in practice. By these insights I intend to identify what mainly drives and motivates manufacturing firms into transitioning to become servitized. Furthermore am I interested in what requirements need to be in place for a firm in order to successfully create value with their customers and by that engage in value co-creation. Moreover do I consider the orientation of firms towards servitization. Around 1992 Stan Shih, founder of Acer Inc., a Taiwanese IT company, introduced the concept of the smiling curve. The central idea that this concept imposes, is that the most value is added to a product at the beginning of the value chain, conception and research & development, and at the end of the value chain, marketing and after-sales. To the contrary of this stands manufacturing, the middle part of the value chain, the phase where the least value is added to the product.



**Figure 1.** Stan Shih's smiling curve

The concept of the smiling curve further motivates my research. This due to the fact that it solidifies the earlier expressed view of servitization being a concept that attributes to the growth of business and enables firms to engage in a mutually beneficial relationship with their customers. Based on this statement the topic at the heart of this work is analyzing and determining in what manner servitization is to be achieved. From this the central research question arises as:

"How is servitization to be achieved?"

The approach for dealing with this question will be mainly qualitative rather than quantitative. As this study seeks to answer the given research question and

be of academic value to the field of international business studies, and of practical value to businesses encountering issues and questions connected to servitization and value creation. The intended practical relevance of this study, is to provide small and medium enterprises with a framework for implementing servitization. As there is a wide array of literature that elaborates the general benefits of servitization and its appliance at a corporate level. This research takes on an approach to the topic from the perspective of businesses of a much smaller scale, with limited tangible and intangible assets to their disposal.

In order to better understand and answer this research question I have divided it into a set of sub questions, namely:

"What drives servitization?"

"What are prerequisites for a firm to become servitized?"

The research that is to be conducted for the finalization of this study is designed in the following way. On the basis of a literature review relevant theories, that support the research, are to be identified. By these theories a conceptual framework is developed that functions as a tool to assist answering the research questions. In the second part of the studies, an empirical research is to be conducted within a local firm, operating in the SME segment. Furthermore will I make use of a 'servitization readiness tool' that provides intelligence on this particular firm's maturity regarding servitization. The findings of the empirical research are to be examined and reviewed from the perspective of the developed theories. By this way a conclusion with regards to this research is to be formulated, from which the research questions are to be answered.

This paper has been organized as follows; the introduction, which prefaces the paper and familiarizes the reader with the goal of the research, followed up by the theory section where a theoretical model is developed, after which comes the methodology section which shows the research setting, data collection, operationalization and data analysis procedure. Furthermore will I present my findings under the findings section and will I elaborate and contest these findings in the conclusion.

## 2. THEORY

Neely (2008) defines servitization as a firm's capabilities and competencies that create mutual value by selling product-service systems (PSS) rather than solely their products. In order to stay competitive in highly turbulent and changing markets a large number of manufacturing firms do indeed turn to servitization. Real-life examples of the fruitfulness of servitization can be seen with BMW-owned Rolls Royce, a luxury automobile and aircraft engine manufacturer, which nowadays generates a larger revenue from providing their customers maintenance and repair than from the sales of the engines it produces (Lee et al. 2016). In order to gain a better understanding of the causality behind the implementation of servitization and businesses expanding into service fields, we take a

look at the three drivers for servitization identified by Baines et al. in 2006, namely these are:

- Financial drivers
  - These reflect financial benefits in the form of increased profit margins for businesses. An example of this is General Motors profiting more from a nine billion dollar revenue generated by after-sales services than from one hundred fifty billion generated from the sole selling of their automobiles.
- Strategic drivers
  - Strategic drivers enable businesses to obtain and sustain a competitive advantage. As however servitization of products is not the only nor the guaranteed way to preserve a competitive advantage, it does provide manufacturers a head start. This due to the fact of customers valuing services provided by the manufacturing firm as well as the firm having superior knowledge of its own product and its functionality over its competitors.
- Marketing and sales drivers
  - Providing services to customers makes it possible for companies to engage in a relationship and build a brand. This is due to the fact that providing services happens on a long-time basis rather than a one-time interaction occurring when just selling a product.

As it is widely argued, and supported by example statements about above mentioned companies, servitization does indeed positively influence firm performance. However servitization does involve a negative aspect attributed to two major causes, namely the requirement of additional investments in order to secure service-provision-related assets and moreover the lack of a strategic focus due to firm resources being split (Neely 2008 ; Wilkinson et al. 2009).

## 2.1 Customer value co-creation

As by basic economic principles of supply and demand are customers vital to a firm's existence. Hence the importance of customer value co-creation. By that do servitization and customer value co-creation go hand in hand due to the former requiring the latter. According to Cooper and Kleinschmidt (2011) firms that recognize the need of their customers and are able to innovate accordingly to those needs, are more profitable than companies that are lacking in this particular area. By being aware of what customers seek and value in a certain product, moreover what kind of servicing manufacturers can offer their customers for said products, they provide themselves a gateway towards successfully exploiting servitization and obtaining a competitive advantage. Furthermore is it acknowledged that customer involvement indeed can provide an improvement to service innovation (Zhan et al, 2017). Raja et al. (2013) point out the importance of

finding out customer usage experiences by manufacturers, this makes effective implementation of servitization possible.

## 2.2 Service-dominant logic

Service-dominant logic stands for a perspective which examines social and economic exchanges (Schroeder et al. 2019). A term firstly introduced by Vargo and Lusch in 2004, the main idea behind the concept has it that humans deploy their abilities to benefit others and to reciprocally benefit from others. This means that the logic implies the mutual benefit and value co-creation among participating parties, in this case being the manufacturing company and its customer.

Vargo and Lusch (2008) define service as the application of resources for the benefit of the entity itself or of another entity (Schroeder et al. 2019). By gaining an understanding of this logic, the relevance of it becomes evident in regards to servitization, due to the fact that Vargo and Lusch's idea focuses on the mutual benefit of both parties involved. The main thought that both perspectives share is that benefits are to be reaped by providing services.

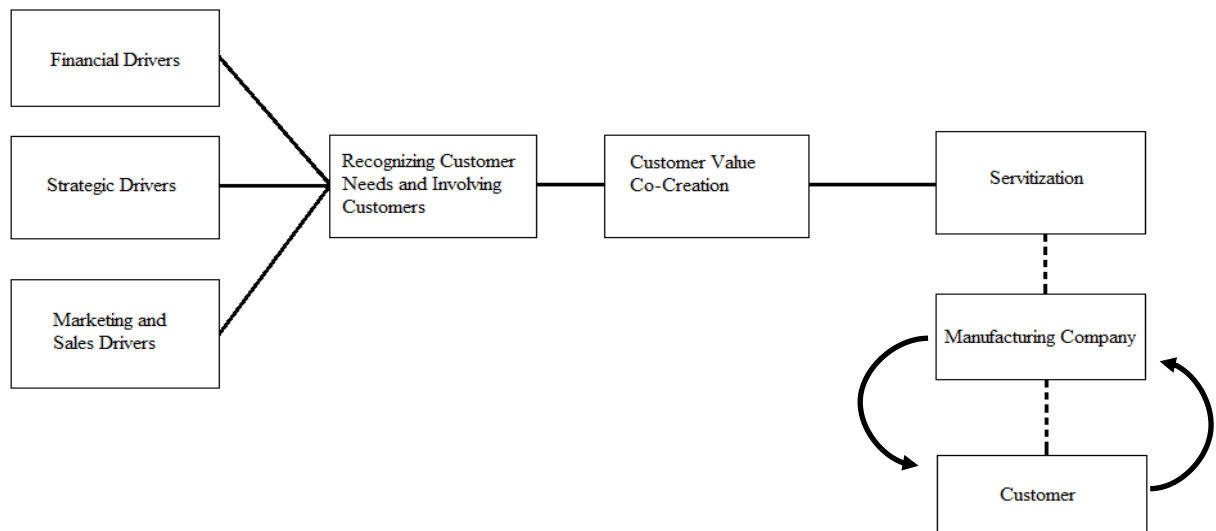
## 2.3 Summary of theory in a conceptual model

For this research I have developed a conceptual model that is based on the above described theory. This model is to help gain an understanding of how the goal of servitization is to be attained, and provides a pathway to answering the main research question behind this work.

The model implies that the starting point is what drives a firm, being one of the three implied drivers identified by Baines et al. (2006) namely, either financial, strategic, marketing and sales or a combination of the three. Further is a firm required to recognize customer needs and involve customers in order to improve its service innovation. By fulfilling these requirements the base for engaging in customer value co-creation is created, thus enabling a firm to be classified as a servitized one. Moreover, as implied from the service-dominant logic, does an entity reciprocally benefit from providing services to another, the entities being a manufacturing firm and its customer(s), creating a mutual benefit for both parties. The framework is to be seen on the next page as figure two.

## 3. METHODS

The focus of this study lies on answering the main research question, i.e. "How is servitization to be achieved?", by conducting an extended literature review together with a short field study within a selected manufacturing company, consisting of conducting an interview and a survey in the form of the servitization readiness tool. This tool will help determine to what extent firm's recognize the value of servitization and what their capacities are. Furthermore will I make use of theories and framework presented in the previous section. Furthermore do I focus on obtaining qualitative data from various sources. These source come in the form of academic works, business



**Figure 2.** Conceptual framework

articles, theories regarding the subject and key people in the company.

### 3.1 Research setting

The focus company for my work will be an industrial bakery from the city of Apeldoorn in the Netherlands. 'Firat Bakkerij' is an SME with over fifty employees that specializes in the production of Turkish pizza and bread, which it supplies to various supermarkets and restaurants throughout the whole of the Netherlands, Flanders and parts of Germany. The company was founded in 1996 as a local bakery and as demand grew the previously small bakery developed into a factory with its own distribution channels for its customers. As it is a company that faces increasing competition locally, nationally and abroad, the management is faced with various challenges on a daily basis. Currently 'Firat Bakkerij' is the market leader in the Netherlands, with a still growing customer base.

### 3.2 Data collection and operationalization

To come to useful results of this study and to answer the main research question a number of academic works are to be consulted alongside theories presented in the previous section of this work, together with data obtained from the company of analysis. A deep and strong understanding of the core-topic is utterly necessary in order to come to a fruitful conclusion. In the table that is to be seen below, I have illustrated the main concepts of the theoretical framework alongside its' definitions and operationalization.

**Table 1.** Key Concepts Defined

Concept	Definition	Operationalization
<i>Financial Drivers</i>	Drivers behind servitization seeking financial benefits in the form of profit margins	By the way of empirical research I will determine whether a firm is driven mainly by a financial motivation

<i>Strategic Drivers</i>	Drivers behind servitization seeking benefits from obtaining and sustaining a competitive advantage	By conducting an interview I seek to investigate whether a firm already possesses a competitive advantage
<i>Marketing and Sales Drivers</i>	Drivers behind servitization seeking to build a brand from a customer relationship	With the help of empirical research I seek to find out whether the firm's motivation is based on brand management
<i>Customer Value Co-Creation</i>	Manufacturing firms to create value together with their customers	This concept will be used to determine whether firms engage in creating value together with their customers in order to fulfill the requirement of accomplishing servitization
<i>Service-Dominant Logic</i>	To deploy an entity's abilities to benefit other parties and reciprocally benefit the entity itself	Researching to what extent firms deploy their abilities to strengthen their customers and by that benefit themselves, is the manner in which this concept is to be operationalized in the research
<i>Servitization</i>	Combining service with a product-offering, thus providing customers with a service atop of goods	This concept is at heart of this work and directly concerns the main research question, by determining firms' position regarding it the

main question can be answered

Databases which are to be consulted will mainly be Sciedirect and Springer, with key articles in focus ‘Practices and Tools for Servitization: Managing Service Transition’ (Baines et al. 2018), ‘The value architecture of servitization: Expanding the research scope’ (Schroeder et al. 2019), ‘How to be successful with servitization - Guidelines for Research and Management’ (Fliess and Lexutt 2019), ‘When is servitization a profitable competitive strategy?’ (Lee et al 2016), ‘Exploring the financial consequences of the servitization of manufacturing’ (Neely 2008), ‘Strategies for creating value through individual and collective customer experiences’ (Heinonen et al 2019).

## 4 DATA ANALYSIS

In this section I am going to sort and analyze data I obtained during my research. The interviews and survey I conducted provided me with fruitful results that I was in need of in order to be able to answer the research question in this thesis.

### 4.1 Servitization readiness tool

For the empirical part of this study I have made use of the ‘Servitization readiness tool’ provided by the supervisors. This tool has ten categories which are graded on a scale from one to seven. From the averages a company scores certain conclusions can be made regarding the company’s position with regards to its level of servitization. These averages are obtained from a survey, conducted within the company. The ten categories of this tools are the following ones:

- Service development capabilities
- Seizing service opportunities
- Reconfiguration
- Service deployment capabilities
- Mass service customization
- Network management
- Service orientation of management values
- Service orientation of management behavior
- Service orientation of employee values
- Service orientation of employee behavior

### 4.2 Interview

For further data gathering I conducted an interview with Firat Bakkerij’s director and sought to learn about the company’s stance, capabilities and visions regarding servitization. The interview has been structured around the main topic of this research and has been used in order to gain answers to the research questions.

## 5. FINDINGS

The results from the survey for the servitization readiness tool can be viewed in figure 3 presented below.



Figure 3. Servitization readiness tool

The company’s scores for the respective categories can be found in the table below.

Table 2. Company scores

Category	Score	Out of
Sensing	4.25	7
Seizing	4.20	7
Reconfiguration	2.25	7
Digitization	5.75	7
Customization	5.16	7
Network	4.00	7
Management		
Management Values	4.00	7
Management Behavior	4.75	7
Employee Values	3.50	7
Employee Behavior	4.00	7

On the basis of the company’s results on the readiness tool we can identify certain observations regarding its stance on servitization. On the basis of scores for the categories on sensing and seizing sufficient scores indicate the presence of an awareness of the matter. However to the contrary stands the low score on reconfiguration, indicating a lack of capability to navigate from a traditional manufacturing company to a servitized one. Furthermore has the company been keeping track of technological developments by digitizing a major part of their processes, as well as being ambiguous in terms of providing their customers with customization regarding their product offerings.

### 5.1 Evaluation of the findings on the basis of the conceptual framework

In this section the findings of the research are to be described and evaluated by making use of the created conceptual framework. A case that I would want to point out that is significant for this study and applicable to the framework is the following. During my stay at ‘Firat Bakkerij’, the firm in question in this work, I learned that the company is currently researching and developing a service to add to its product offering. The service in question includes providing courses and assistance regarding various issues to their customers. This service is meant to help the firm’s customers, which are mostly entrepreneurs of foreign background which started their businesses in the Netherlands as immigrants. Due to this fact these entrepreneurs often

face difficulties such as not yet mastering the Dutch language, not being accustomed to Dutch organizational customs and not yet fully understanding tax regulations and other laws. 'Firat Bakkerij' is developing this idea driven by the philosophy that growth of their customers attributes to their own growth as well. Furthermore can such an initiative strengthen the firm's image and reputation, operating in the context of corporate social responsibility.

If we were to look into this case from the perspective of the earlier developed conceptual framework we can illustrate in which manner the firm works towards implementing servitization as a common practice in the firm's operations. Firstly we are to identify the drivers behind this initiative. In this case we identify the main drivers being strategic and marketing and sales drivers. The reasoning for this is that by offering such a service, the firm seeks to engage into a long-term relationship with its buyers and establish a strong brand feeling. Furthermore does providing such a product-service system win the firm loyalty and helps it sustain the market leading position it currently possesses. By doing so the firm engages in customer value co-creation as it improves capacities and intangible assets of its buyers and by that creates an improved offering of its own products further down the supply chain. In this scenario the service-dominant logic is present at large as the firm's operations would be aligned with the main thought behind this particular theory. The reasoning behind this being that the firm would in this case, as the service-dominant logic dictates, deploy its own abilities in order to benefit another entity, in this case being the buyers, so that the firm itself would reciprocally benefit itself. Finally correctly applying the noted theories would lead the firm to become servitized, providing services atop of its goods in its product-offering.

In short by analyzing the collected data through the developed conceptual framework, we identify the main drivers being strategic and marketing and sales related. The firm recognizes customer needs and involves them in their process and by that, engages in customer value co-creation. The service dominant logic is greatly present, by the firm applying its own resources to her buyers, so that the firm can reciprocally benefit from it in the long run.

We have thus identified that drivers of servitization can be classified into three categories; financial, strategic and marketing and sales respectively. Furthermore are the recognition of customer needs, alongside customer involvement crucial requirements in order to come to implementing servitization. Finally is servitization to be achieved by gaining an understanding for what the prerequisites are, together with the theories that go alongside them.

## 6. LIMITATIONS

As is the case in most studies there have been certain limitations to this research as well. Firstly I want to point out the fact that this has been only partly an empirical study, covering solely one firm operating within the SME fragment of the market. I hoped to be able to include at least one foreign firm, preferably TISA Komerc, a wood processing and furniture

company from Bosnia and Herzegovina, where I stayed for an internship. However due to limited time and a busy schedule for both my contacts within that firm and myself, I had not been able to gather enough relevant data to include in the research.

Secondly I would like to address the fact that the case is described in the findings section and evaluated with my conceptual framework is still a work in progress since, as I mentioned, the plan is still in a research and development stage.

## 7. CONCLUSION

This paper has familiarized the reader with the term of servitization and what makes it important. Furthermore was the research topic introduced, together with a set of research questions. Moreover have theories from existing literature been discussed, and has a conceptual framework been developed, based on these theories. This conceptual framework has been applied to evaluate a real life case in a local company. The framework evaluates a company's path to implementing servitization by considering the drivers that motivated it as well as the requirements that made it possible together with the firm's orientation. Finally I have reached answers to my research questions, and by that have I provided an extension to existing literature in the field of servitization.

## 8. ACKNOWLEDGMENTS

Finally I would like to thank everybody that supported and guided me throughout the process of this research. Special thanks go out to my supervisors dr. Raymond Loohuis, dr. Ariane von Raesfeld, miss Hanna Hanna Msc and to mr. Nurettin Gören, director of Firat Bakkerij B.V.

## 9. REFERENCES

- Baines, T. S., Lightfoot, H. W., Benedettini, O., & Kay, J. M. (2009). The servitization of manufacturing: A review of literature and reflection on future challenges. *Journal of manufacturing technology management*, 20(5), 547-567.
- Bustinza, O. F., Vendrell-Herrero, F., & Baines, T. (2017). Service implementation in manufacturing: An organisational transformation perspective.
- Cooper, R. G., & Kleinschmidt, E. J. (2011). *New products: The key factors in success*. Marketing Classics Press.
- Fliess, S., & Lexutt, E. (2017). How to be successful with servitization—Guidelines for research and management. *Industrial Marketing Management*.
- Heinonen, K., Campbell, C., & Ferguson, S. L. (2019). Strategies for creating value through individual and collective customer experiences. *Business Horizons*, 62(1), 95-104.

- Kohtamäki, M., Baines, T., Rabetino, R., & Bigdeli, A. Z. (Eds.). (2018). *Practices and Tools for Servitization: Managing Service Transition*. Springer.
- Lee, S., Yoo, S., & Kim, D. (2016). When is servitization a profitable competitive strategy?. *International Journal of Production Economics*, 173, 43-53.
- Martin, P. C. G., Schroeder, A., & Bigdeli, A. Z. (2019). The value architecture of servitization: Expanding the research scope. *Journal of Business Research*.
- Neely, A.(2008). Exploring the financial consequences of the servitization of manufacturing. *Operations management research*, 1(2), 103-118.
- Raja, J. Z., Bourne, D., Goffin, K., Çakkol, M., & Martinez, V. (2013). Achieving customer satisfaction through integrated products and services: An exploratory study. *Journal of Product Innovation Management*, 30(6), 1128-1144.
- Van der Merwe, S., & Rada, J. (1988). Servitization of business: adding value by adding services. *European management journal*, 6(4), 314-324.
- Vargo, S. L., & Lusch, R. F. (2004). The four service marketing myths: remnants of a goods-based, manufacturing model. *Journal of service research*, 6(4), 324-335.
- Vargo, S. L., & Lusch, R. F. (2008). Service-dominant logic: continuing the evolution. *Journal of the Academy of marketing Science*, 36(1), 1-10.
- Zhan, Y., Tan, K. H., Ji, G., Chung, L., & Tseng, M. (2017). A big data framework for facilitating product innovation processes. *Business Process Management Journal*, 23(3), 518-536.