

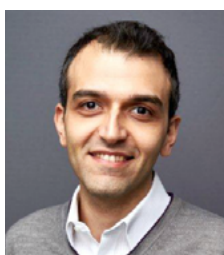


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# Servitization: academic research and business practice

**Servitización: investigación académica y práctica empresarial**

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## I. INTRODUCTION

Servitization is seen as the process of increasing value by adding services to products (Vandermerwe and Rada, 1988). It is a means to create value-added capabilities that are distinctive and sustainable over competitors (Baines and Lightfoot, 2013). Authors such as Neely (2008) claim that the process of servitization can be seen as the development of an organization's innovation capabilities in the sense that, rather than merely offering products, it can provide customers with complete product-service systems (Visnjic and Van Looy, 2013). It is normally configured as a process of innovation as part of the business model of an organization, which would lead to improved performance and customer satisfaction, as well as enhanced competitive advantage (Suarez et al., 2013).

In times of economic crisis, such as the one that many parts of the world are still undergoing, the value chain of goods manufacturers is becoming less attractive as the demand for products becomes increasingly stagnated. Under such circumstances, companies are aware of the value inherent in offering the services needed for running and maintaining the products they manufacture (Wise and Baumgartner, 1999). Davies, Brady and Hobday (2007) indicate that services provide more constant income, higher profit margins and require less asset allocation than manufacturing.

In their approach towards a successful servitization process, companies need to redesign their business model (Baines et al., 2009a). The addition of service offerings to the portfolio of traditionally product-oriented companies is of growing importance, with innovative



## EXECUTIVE SUMMARY

In recent years, the servitization of manufacturing has become a topic of interest to both academics and practitioners. Indeed, companies are realising that servitization is a way to enhance their competitive advantage and get closer to their customers. Several empirical studies have attempted to explain why and how to servitize. They provide important insights to better understand the processes of servitization. The connection between academia and business practices is decisive in the foundation of this research topic. This foundation will allow continuing with its development, contributing in turn to improve the implementation in companies. Hence, this special issue aims to contribute to the theoretical and practical aspects of servitization.

## RESUMEN DEL ARTÍCULO

En los últimos años, la servitización de la manufactura ha llegado a ser un tópico de interés tanto a nivel académico como empresarial. Así, las empresas están contemplando que la servitización es una forma de mejorar su posición competitiva y estar más cerca de sus clientes. Diferentes estudios empíricos han intentado explicar por qué y cómo se servitiza. Facilitan información clave para entender mejor el proceso de servitización. La conexión entre la academia y la práctica empresarial es decisiva en los fundamentos de este tópico de investigación. La fundamentación del mismo, permitirá continuar con su desarrollo y a la puesta en práctica en las empresas. Así, este número especial pretende contribuir en el avance de la teoría y práctica de la servitización.

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new business models and novel organizational structure. Icons in this world are companies such as Rolls-Royce Aerospace with Power-by-the-hour, and Xerox with document management. These are all examples of 'advanced services' (Baines & Lightfoot, 2013) incorporating maintenance, repair and overhaul contracts where revenue generation is directly linked to the asset availability, reliability and performance.

The commercial benefits of servitization are convincing and promising, the environmental arguments are compelling, and the opportunities immense. However, there is still lot to be learnt and discovered by both academics and practitioners. The lack of a common language, effective tools, techniques and methodologies for servitization still play a significant challenge.

Companies, especially those involve in manufacturing, find servitization as a way to increase value and differentiate from competitors. In the literature, studies increasingly try to explain why and how to servitize. The connection between academia and practice is decisive in the foundation of this research topic. This foundation will allow continuing with its development, contributing in turn to improve the implementation in companies.

In this introductory paper, we first propose a short introduction to the topic of servitization, and explain the key academic communities that are addressing this stream of research. Subsequently, we focus on the papers published in this special issue, followed by short summary of each paper.

**2. SERVITIZATION AND ACADEMIA**

The servitization of the manufacturing can be considered as an emerging area of research that has attracted an increasing amount of attention in management, marketing and operations literature. Approaches from a variety of disciplines have led to insightful studies on the practical implications for businesses. **Figure 1** shows the evolution of publications on the topic of servitization in the period of 1992 to 2015, which has been taken from the multi-disciplinary academic database, Web of Science (WoS). It can be observed an upward trend: in the period 1992-2007 an average of 3 articles were published per year, in the period 2008-2015 an average of 40 articles were published per year.

In terms of the study of servitization, only eight papers exist that seek to provide a review of the literature. Five of these reviews are principally of a qualitative nature (Pawar et al., 2009; Bertokovic et al., 2011; Cavalieri and Pezzotta, 2012; Park et al., 2012 and Beuren, Gomes Ferreira and Cauchick Miguel, 2013) and three of them are quantitative (Lightfoot et al., 2013; Boehm and Thomas, 2013 and Park and Yoon, 2015). There is no general consensus on the theoretical and empirical development of the research. The literature on servitization has been increasing at a notable rate with contributions from different fields and theories, hitherto dominated by studies that use the case study method (Beuren et al., 2013). Research in the field of servitization has, for some time, taken place in five principal research communities (Baines et al., 2009a): Services marketing, service management, operations management, product-service system and service science management and engineering. The constitution and focus of these communities continues to evolve (Lightfoot et al, 2013).

**KEY WORDS**

Servitización,  
Academic research,  
Practicioners.

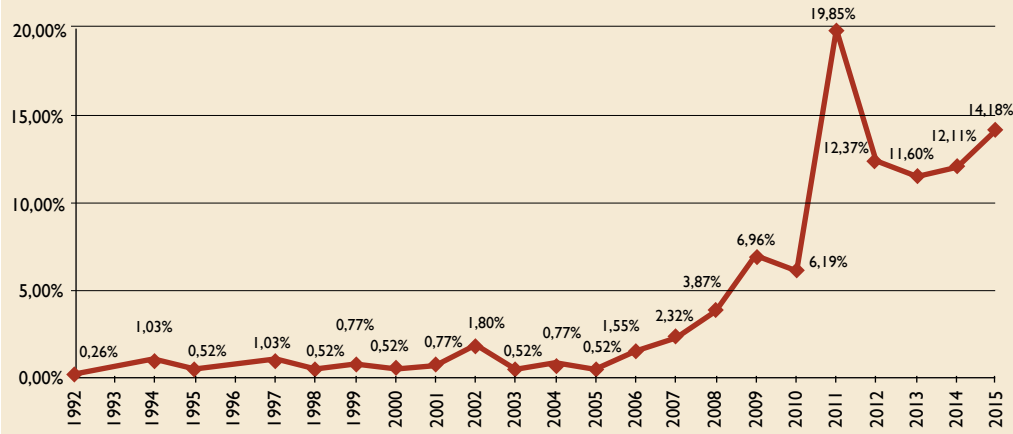
**PALABRAS CLAVE**

Servitización,  
Investigación  
académica, Práctica  
empresarial.

**3. SERVITIZATION AND PRACTITIONERS**

The servitization of manufacturing has become a common business practice that enables the offering of product-service propositions which best suited to the needs of customers, and in addition, strengthen the position in the supply network and the market (Baines, Lightfoot, Peppard, et al., 2009a). It is a means of creating

Figure 1. Evolution of publications on the topic servitization



value added capabilities that are distinctive and sustainable in comparison with competitors (Baines et al., 2009b).

The manufacturing industry has undergone a profound transformation, marked by the contribution of services to turnover (more than 50% in some industries) and by the amount of workers involved in service functions (between 65% and 75%) (Doultsinou, Roy et al., 2009).

When undertaking the servitization process, firms need to move towards a “product-service continuum” (Oliva and Kallenberg, 2003; Neu and Brown, 2005; Gebauer, 2008; Baines et al., 2009a). At one extreme lies the traditional manufacturer who only offers goods, while services are complements or add-ons for their products; turnover and profit are generated principally through the products that are sold and the contribution of services is reasonably low. At the other extreme are the service providers, where services represent the basis of the value creation process and tangible goods are added to satisfy customer needs; these goods represent just a small part of the total value (Gebauer and Friedli, 2005). Firms must define their position along this continuum by offering combinations of products-services. The trend is growing, so that companies today compete on the basis of product-service combinations, seen as solutions to the customer.

In the literature, analysis of business practice about servitization is reflected in studies using case studies. In **Table 1** a compilation of studies of cases is presented.

#### 4. ARTICLES IN THIS SPECIAL ISSUE ON SERVITIZATION: STRATEGY, INNOVATION AND IMPACT

The call for papers in this Special Issue was issued during the autumn of 2015, with a submission deadline of November 30, 2015. The submitted papers were then blind reviewed by at least two reviewers following the Universia Business Review's guidelines. The call for papers invited submissions on a broad range of sub-topics within the area of servitization, including:

- Theories underpinning servitization strategies
- Servitization as a complement for existing strategies
- Servitization and Customer Relationship Management, customer value perception and client satisfaction
- Servitization, sustainability and product design
- Implications of servitization in business models



Tabale I. **Study of Cases (as link between academic and business practice)**

| PAPER                                        | TOPIC                                      | OBJETIVES                                                                                                                              | THEORY CONTEXT                                | METHODOLOGY                                                                                                                                                                             |
|----------------------------------------------|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Chesbrough and Rosenbloom (2002)</b>      | Business model; innovation, value creation | To explore the role of the business model in capturing value from early stage technology                                               | Strategy management                           | Study case, Xerox                                                                                                                                                                       |
| <b>Davies (2004)</b>                         | Integrated solutions/ business model       | To analyze business strategies for integrated solutions in terms of how a firm moves base in the industry value stream                 | Strategy management/ Firm's Theory            | Davies (2004)                                                                                                                                                                           |
| <b>Windahl et al. (2004)</b>                 | Integrated solutions                       | To analyze the new challenges facing companies in terms of customer interaction and competences requirements.                          | Strategy management                           | Three study cases, BT; ABB facilities management; Alfa Laval                                                                                                                            |
| <b>Brax (2005)</b>                           | Servitization Industrial services          | To provide a perspective on the nature of service infusion in manufacturing companies                                                  | Strategy management                           | A qualitative single-case study. A manufacturer of industrial equipment introduces maintenance management                                                                               |
| <b>Gebauer and Friedli (2005)</b>            | Service management/ behavioral management  | To provide a better understanding of behavioral processes and their impact on the transition from products to services                 | Behavioral processes                          | Study Cases. Five German and Swiss product manufacturers, whose products require a high level of customer investment                                                                    |
| <b>Davies; Brady and Hobday (2006; 2007)</b> | Integrated solutions/ business model       | To understand how systems integrators are developing service capabilities to meet the needs of large business and government customers | Strategy management/ Organizational Structure | Qualitative research; five international companies based in manufacturing and services: Alstom Transport, Ericsson, Thales Training & Simulation, Cable & Wireless Global and W5 Atkins |
| <b>Gebauer and Fleisch (2007)</b>            | Service management/ behavioral management  | To analyze managerial motivation to extend the service business in manufacturing companies and to create                               | Behavioral processes; management motivation   | Qualitative research approach, five focus groups and ten in depth                                                                                                                       |

| PAPER                                  | TOPIC                | OBJETIVES                                                                                                                                                                                                                  | THEORY<br>CONTEXT                                                | METHODOLOGY                                                                                                                  |
|----------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Windahl et al. (2006)                  | Integrated solutions | To contribute to the sparsely investigated area of developing integrated solutions by the relationships within the business network.                                                                                       | Strategy management, stakeholders                                | Two case studies of projects in the capital goods industry                                                                   |
| Neu and Brown (2005; 2008)             | Service strategy     | To isolate and characterize factors that enables the formation of successful business-to-business (B2B) services in goods-dominant firms.                                                                                  | Contingency Theory<br>“resource-advantage Theory of competition” | Multicase research. Four substantive cases of Fortune 500 firms in which B2B service development                             |
| Johnstone, Dainty and Wilkinson (2009) | Service strategy     | To explore the evolution of ‘product-service’ (P-S) strategies in the aerospace sector                                                                                                                                     | Strategy management                                              | Presents an in-depth case study of an international aerospace Original Equipment Manufacturer (OEM), referred to as ‘JetCo’. |
| Aamed, Inohara and Kamoshida (2012)    | Service strategy     | To develop a conceptual model of firm process transition from pure manufacturing to a product-service operation. To identify the change factors toward implementing servitization strategy.                                | Strategy management                                              | Study Case: IBM                                                                                                              |
| Bandinelli and Gamberi (2012)          | Service strategy     | Research focusing on how and by how much new Product-Service System (PSS) development methodologies and tools can help companies moving towards product-oriented PSS, in the oil and gas equipment manufacturers industry. | Strategy management                                              | A single case study: Nuovo Pignone S.p.a., a brand of the “GE Oil & Gas” company                                             |

- Servitization and supply chain management
- Servitization processes and organizational performance indicators
- Strategic Services Management
- Service Operations Management
- Service System and Service Network Design
- Service Innovation Management
- Advanced business services and practices off/for servitization
- Organizational change processes and models related to the

implementation of servitization practices

- Impact of advanced business services, servitization and business model innovation practices for the competitiveness
- KIBS and servitization and Factories of the Future and Advanced Manufacturing development strategies
- Servitization in SMEs and regional development
- Human factors of servitization
- Development of methods and indicators to measure and assess quantitatively the degree of servitization

High-quality proposals were received, and were initially rejected if didn't aim to act as a bridge between the academic and the business communities. In general, the topic of servitization is investigated from an approach of business practice, as demonstrated in the work outlined concerning case studies, and this was evident in the submissions. We would like to express our sincere gratitude to all who submitted papers to our Special Issue. In addition, we want to thank the reviewers for their time and effort in reviewing the submitted papers in the Special Issue.

The Special Issue resulted in the publication of seven papers. We are convinced that each makes a good contribution to research and practice on servitization. The papers address diverse topics within the area. Conceptual and also qualitative and quantitative papers are included. Together, they enhance our present knowledge on servitization and indicate the way for future research.

The first article titled "Services in product-oriented companies: past, present, and future" by Heiko Gebauer, Simon Joncourt and Caroline Saul, discusses the evolution of servitization, recognising that services in product-oriented companies have become one of the most active research areas in the service domain and that practitioners have become advocates for service business development. Research domain on services in product-oriented companies remains open to a variety of conceptualizations and interpretations such as hybrid offerings, solution providers, and transition from products to services, system suppliers, product-service systems (PSS), servitization. This article reflects on the past, present, and future of service research in product-oriented companies and explores the way in which the literature on services in product-oriented firms has been evolving and taking shape, expose the underlying key concepts, and describe future research directions.

In the article titled "Is servitization really profitable? Two decades



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and the difficulty  
of implementing  
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servitization,  
regardless of  
company size***

of evidence from Spanish manufacturing companies”, Alberto de la Calle and Inmaculada Freije investigate the question: Is the servitization as profitable as it may seem? And therefore addresses the so-called paradox of services, very important for managers who are already engaged in the process or they are considering it. It is analyzed the evolution of the Spanish servitization manufacturing, its dependence on variables such as the size of the organizations or the perception of stability market and its relationship with parameters that determine business performance. For this purpose a descriptive and exploratory study of a database of 670 Spanish manufacturing companies is done in a period of study comprising 17 years, from 1994 until 2010. The interest of the companies is confirmed by attempting servitization process and the difficulty of implementing this strategy; the relationship is significant added value to the level of servitization, regardless of company size. It is significant the relationship between added value and level of servitization, regardless of company size. But this relationship is reversed when considering the added value of production where smaller and less servitized companies get the best results. It is proposed as a future line of research the analysis on the particular type of services offered distinguishing its nature, fit into the overall strategy of the company, if they are mainly instrumental to support traditional business or if instead, open up new business opportunities.

In the article titled Servitization and co-opetition in the pharmaceutical distribution: Back to Basics, José Ruizalba, Anabela Soares y Javier Morales approach servitization at sectorial level, so, discusses how the pharmaceutical distribution sector has evolved in the past decades and the role of servitization in an ever changing market led by big players. An empirical analysis was conducted on Portuguese and Spanish distributors which enabled the identification of a detailed portfolio of services currently offered by the industry. These companies were compared in terms of current service provision, levels of implementation of added-value services, main reasons for implementation and levels of co-operation within the sector. Some differences between both countries have been found in terms of their level and reasons for the implementation of value adding services. Major findings refer to the tendency of distributors

to further develop their base services provision in the future aiming at achieving increased competitive advantage and loyalty. This raises concerns given that it can be interpreted as a “back to basics” strategy of low differentiation which may not consistent with long term competitiveness.

The article titled “A preliminary investigation of the reserve service continuum” by Sara Mountney, Abhishek Asthana, Kashif Mohammed and Mark Almond investigates the paradigm of the organisation as service provider. Most work focuses on the adoption of services by product-centred organisations, promoting the concept of a service continuum. This paper explores whether alternatives are possible. The investigation and identification of organisations engaged in, or moving towards, ‘productisation of services’ in terms of product development and manufacturing therefore presents an interesting research challenge. Who are these companies? What has motivated them to transform their businesses in this way and what are the mechanisms which have enabled them to achieve it? Furthermore, given their service-based history, what can organisations at the other side of the continuum – the product-based organisations aiming to servitize – learn from their experiences? A case study is documented which apparently ‘reverses’ this continuum – a service-based SME which has developed in-house manufacturing capability to improve the customer solution. The findings suggest that this could develop the current understanding of servitization. The relationship between servitization and productisation and how productisation can contribute to the servitization process should therefore be a subject of further research.

The article titled “When services are offered by small and medium retailers: what is the customer’s perception?” by Lorea Narvaiza, David Ruiz de Olano, Tontxu Campos and Iñigo Arroniz, explores the concept of servitization in the retail sector. The purpose is to measure what are the perceptions that customers have towards local small and medium retailers regarding the services they offer. The paper also compares the profile of the customers that consider products and services the most important factor when choosing a retailer with the rest of the sample. Their findings show that there are a few differences between customers who would prefer more services compared to customers who state that services are not their priority. The identification of the customer’s perception and the possibility to offer new services in order to increase the value

offered could increase the competitiveness of the small and medium retailers. So, they should try to identify these customers that want to get more services and identify ways to co-create value with them.

The article titled “Service design for servitization. University-business collaboration case studies in basque manufacturing companies” by Ion Iriarte, Daniel Justel, Alazne Alberdi, Ester Val and Itsaso Gonzalez poses that manufacturing companies need practical methodologies and tools in order to design integrated product-service offers. Service design has been suggested as an enabler for servitization. This article assesses the results gathered from the application of service design within six manufacturing companies immersed in servitization processes. The Data which was collected by participatory observation and semi-structured interviews infers that service design allows manufacturing companies overcome product oriented mindsets and address the integral design of the value proposition through the experience offered to the customer. In addition, it is concluded that service design can be applied to design more customer-cantered value propositions without implying a transition to services as the core offer. However, companies indicate the need to incorporate within service design all the change elements inherent to servitization. The usefulness of the approach and tools to design services seems obvious in servitization processes, both B2B and a B2C context, as long as this process is aligned with strategies already underway.

Finally, the last paper in this special issue titled “How Do Music as a Digital Service Affect Consumer Attitude and Behaviour?” by Vasileios Mirthinaos, Ferran Vendrell-Herrero, Oscar F. Bustinza and Glenn Parry, approaches an interesting topic, the quantification and economic assessment of consumer misbehaviour. So, illegal file Sharing violates property rights, constitutes consumer misbehaviour, and has been cited as the main cause of lost revenue in the creative industries. Existing empirical evidence is silent on the individual beliefs associated to the legitimacy of copyright infringement. A new concept dubbed the ‘Robin Hood’ tendency is developed as a quantitative measure of the belief that illegally copying and distributing digital resource is legitimate behaviour. Analytical applications are developed which exploit a unique dataset comprising 18,000 data points for music consumers from ten countries. Results identify that countries with strong institutions have fewer consumers who demonstrate the Robin Hood tendency. Furthermore, evidence

also suggests that copyright law enforcement should be coupled with efforts to educate consumers as to the effect of misbehaviour on content creators. The applications proposed are important for consumer insight departments in creative industries and other contexts, including those industries interested to understand why some consumers give little value to the concept of corporate social responsibility.

## 5. CONCLUSIONS

Servitization of manufacturing has become a common business practice that enables clients to obtain product-service combinations adapted to their needs. It enables firms to position themselves better on the market (Baines et al., 2009a). The literature on servitization has increased considerably, fed by different disciplines and theories; to date it has been dominated by case studies (Beuren et al., 2013). Servitization can be defined as an emerging research field, with many interesting opportunities (Lightfoot et al., 2013). Servitization is a cross-cutting theme, and many linkages exist with established topics across engineering and management. Hence, research should be focused to a greater extent on developing empirical studies that will demonstrate the results of the servitization strategy in an objective long-term manner.



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## NOTES

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