

Note

Servitisation and Japanese Firms: Current drivers and new challenge for manufacturing industry

Chie Yorozu

Keywords

Servitisation
transformation of manufacturing
keiretsu business network
Japan

Table of Contents

Abstract
Introduction
Early discussion
New drivers and challenges
 A) Japanese keiretsu network collaboration
 B) Knowledge sharing for innovation
 C) Processes management
Discussion and reflection
References

Abstract

What is meant by servitisation in the manufacturing industry and why is it becoming highly competitive and spreading fast as a key concept for manufacturers around the world? This model is not just selling products but looking at new ways of selling them together with advanced services, and is a new driver for manufacturing organisations. The idea of servitisation challenges commoditisation of existing products. Manufacturers are facing the challenge of finding ways to take an advantage of such new strategies to attract customers. Even those who make strongly competitive products could face new difficulties once they choose to participate in servitisation, since it takes into account not only their product quality but additional services that they need to invent and offer. While this servitisation is a fast-moving concept for the manufacturing industry worldwide, Japanese manufacturers need to find a way to handle it in order to break their ceiling and enrich the domestic market. One aspect of Japanese manufacturing is the *keiretsu* business network system, which includes supply chain collaboration. This article is a pilot discussion to investigate the current and future capabilities of the *keiretsu* firms in taking forward the idea of servitisation.

Introduction

Why does servitisation matter, what is meant by servitisation, and how does servitisation work in organisations? This is a very much a current theme, and it is important to understand servitisation within the currently unstable business world, especially within the manufacturing industry. In particular, this article would like to take the opportunity to explore any future possibilities for Japan to take on board the servitisation concept, following the findings gained from past academic discussions.

What is meant by servitisation? It is defined as the process of transforming manufacturers to compete through product service systems rather than product alone (Vandermerwe and Rada, 1988). Davies (2003) understands that the product service system is geared towards the 'after service market'. That is, it is the process of creating value by adding services to products (ibid.). Leading examples of servitisation are IBM, who offer Storage Area Network (SAN) services (Shankar, Berry and Dotzel, 2009), Xerox, who adds value to traditional printing equipment by providing documentation services (ibid.), and Rolls-Royce, whose aerospace offering provides a total care package - 'power by the hour' (Baines et al., 2009; Neely, 2009).

Why is the servitisation concept required? This is quite easy answer if we look at common issues that the manufacturing industry is currently faced with. Firstly, as external factors, a lack of domestic demand has been observed, especially in developed countries. Commoditisation has been accelerated under shorter lifecycles. Even top branded products quickly become similar to generically available counterparts. That has put pressure on manufacturers to create truly unique products for their customers. Global competition has been simultaneously increasing, with a move from low-cost manufacturing to more value-added product-service offerings. Many manufacturers are trying to find ways to satisfy customers from a new perspective. Thus servitisation, which integrates products and services to increase value in use, is now a central theme for business practitioners and policy makers worldwide. Its benefits include facilitating the sales of their goods, providing competitive advantages and lengthening customers' relationship to the firms (Davies, 2003). On top of all these reasons to shift towards servitisation, Baines et al. (2009) suggest that servitisation expands firms' markets, establishes long-term contracts with customers and avoids competition from companies based in lower-cost economies.

This article intends to explain the concept of servitisation as well as its wider demand by the manufacturing industry worldwide. As a part of this pilot discussion, this article will concentrate on the context of Japan, where the unique *keiretsu* supply chain business network exists. Past studies in this area, new challenges in the context of Japan, and reflections on the current situation will be discussed in the following sections.

Early discussion

While debate on servitisation has been rapidly increasing in recent years, this section will concentrate on the initial discussion so as to understand the reasons why the debate started, the basic concept, its meanings, the ways in which it works and its applications. This early body of discussion covers the definitions of servitisation, the differences between a typical manufacturer and its counterparts offering servitisation, the practical implications for manufacturers to be able to take advantages of servitisation and sharing good examples of firms showing servitisation.

Davies (2003) appreciated servitisation as a part of a transformation process and there must be several diversified reasons behind servitisation strategies taken by organisations. Brax (2005) shared some possible reasons why manufacturers take more services into

their total offering. No doubt they wish to increase the sales of their products and preferably to lengthen relationships with customers, but also, when looking at future opportunities for growth in a mature market, they need to balance the effects of economic cycles (ibid.). At the same time they must always be considering ways to respond to customer demand.

Baines et al. (2009) discusses that servitisation, initially identified and named by Vandermerwe and Rada (1988), is becoming more recognised as a way to create value through adding services to products. According to Mathieu (2001), services are classified as customer service, product-based services and service-based products, but here in this article the focus is especially on product-based services and how these have been and remain competitive strategy for the manufacturing sector (ibid.). How is it possible for manufacturers to implement servitisation in reality? This point has received much attention from scholars who have examined new management methods designed to change their firms from product-focused to service-focused, as well as to create value through the service offering (ibid.). This concept seems to be close to the concept of product-service systems (Baines et al., 2007). Having said that, Baines et al. (2009) argues that servitisation is not a cure-all for firms who are searching for the next step. The success of Rolls-Royce with 'TotalCare' should not be taken as a platform that is feasible for any company to implement. Operational and leadership strategies are simultaneously required while a good understanding of the ways in which customers actually assess their service offerings is also necessary, as Baines et al. (2009) emphasise.

Similarly, difficulties in implementing servitisation were suggested by Brax (2005). Brax (2005) insists that there is a paradox between implementing organisational change and the concept of servitisation, indicating that an organisational shift towards servitisation is extremely tough, and it will not work by attempting to implement a sudden change; rather a planned transformation is required to ease the difficulties involved.

In Brax's research, one manufacturer who offers maintenance management solutions was examined to see how the firm shifted towards a more service-focused package. 'A service-dominant total offering' is the new target of manufacturers during their critical transformation according to Brax (2005). This requires extra care in that services offered as 'add-ons' are never an adequate strategy for higher-quality offerings, as in such cases manufacturers' strategies still depend on their tangible products rather than their services (ibid.). They tend to take services as an extra method, differentiated from tangible

products, but the point is that new strategies should incorporate the whole process of transformation in production, marketing, finance, planning etc. (ibid.). Nevertheless, manufacturers seem to be keen to search for the ways to differentiate from their counterparts, and services packages are an attractive option because they are easily compared and superficially attractive points for potential customers, who can clearly see service offerings, but not necessarily product quality, in shops (Cova *et al.*, 2000).

The question is how to fundamentally improve organisations' capabilities (Storbacka, 2011). The ways to improve are not based on companies' products or services, but rather a whole-solution processes (Storbacka, 2011). So-called 'solution business' does require a longer-term collaboration process where all of the functions of the organisation, such as marketing, sales, operations, and finance etc. are involved to create value for customers (ibid.). This point was similarly suggested in earlier studies such as Brax (2005). Solution business logic is different from the logic of product business; it needs to be more customer-focused and cross-functional in nature. As it was suggested earlier by some scholars, servitisation is a change process as well as a capability-change process (e.g. Davies, 2003; Galbraith, 2002; Wise & Baumgartner, 1999). It fundamentally requires companies to explore and understand new capabilities (e.g. Spekman and Carraway, 2006). Thus, Storbacka (2011) argued that solution business process needs 'repeatability and scalability'.

How much can such academic understanding of the new regime concept be applied to wider manufacturing organisations who are looking for any new methodologies to attract potential customers; could the above-mentioned complexities of the concept provide too challenging, or at least cause greater challenges in the future, especially in a completely new context like Japan; and to what extent could Japanese organisations spread their current offerings through servitisation?

New drivers and challenges

The past studies highlighted above show some of the difficulties in adoption of the servitisation concept for manufacturers. One of the new challenges for them, as indicated above, would be the fundamental requirement for continuous and innovation learning based on customers' demands, according to Baines and Lightfoot (2013). Wider cooperation amongst the wider stakeholders is accordingly critical (Storbacka, 2011). In that sense, supply chain collaboration would be a good strategy for the servitisation process as well

as for innovation (Baines and Lightfoot, 2013). Here, as a new challenging target, the Japanese exclusive context of the *keiretsu* network, which is a Japanese unique way of managing the supply-chain business network, will be investigated. Thus, coordination, innovation and process management, all of which fall under the concept of the *keiretsu* network, will be seen as the three dimensions of new drivers and challenges in servitisation, while learning from more academic arguments in this section.

A) Japanese *keiretsu* network collaboration

As Storbacka (2011) suggests, servitisation does need wider cooperation and in the Japanese context this could be extended to the framework of supply-chain collaboration, since the extension of supply-chain integration works to improve organisations' capabilities (e.g. Baines and Lightfoot, 2013; Choi and Linton, 2011). How can manufacturers extend their responsibilities both downstream and upstream under the line of their supply chains? Downstream distributors are required to maintain close relationships to vendors, who can inform the market of the latest information on vendors' requirements and changes in their requirements (ibid.). In the meantime, the upstream component suppliers need to reduce the total costs of their products as much as possible, while continuously looking for any potential for innovation (ibid.). Within supply chain networks, all of the suppliers are expected to work collaboratively, but the way in which each supplier can take its respective responsibility within the servitisation process therefore becomes critical in attempting to implement the servitisation strategy.

As is widely known, the Japanese *keiretsu* network is constructed both vertically and horizontally. The *keiretsu* network member organisations work as inter-group alliances which are strongly boosted through cross shareholding. In particular, when examining the servitisation concept, one needs to look at the vertical network system. This consists of close ties between a large parent firm and numerous subcontractors along fundamental supply chains (e.g. Gerlach, 1992). Some of the upper-tier suppliers are under the ownership of their parent firms, and although lower-tier suppliers are not maintained in the cross-shareholding system, they still maintain strong trust-based relationships, based on a long-term supply relationship with parent firm. Those supplier firms always work closely with the network management to maintain a policy of lean production systems. As such, the *keiretsu* organisational structure might work as coordinated harmonisation in that the network suppliers basically take responsibility for their duties as a supply chain

team member to develop their product packages along the servitisation concept.

B) Knowledge sharing for innovation

What do advanced service-manufacturers need to develop in order to achieve servitisation? It is suggested that they keep multiple customers touch points to update, in other words understanding what customers demand for both products and services (Baines and Lightfoot, 2013). Such customer demands and requests need to be widely shared through frequent communication among all of relevant employees along a supply chain network. Knowledge sharing from shop floor staff to field service producers requires synchronisation within organisational structures (Rolstadas et al., 2012).

The *keiretsu* network allows all of its member organisations or suppliers to share and transfer knowledge, both upstream and downstream. Within any single member organisation, Japanese-based typical working habits can be found: quality-focused strategy, long-term employment, job design and a collectivist culture based on the Japanese national culture (Mead, 2004). Haghirian (2010) indicates that Japanese firms adopt frequent job rotations to share knowledge and understanding between the various fields, while the group orientation furthermore makes sharing habits work. Job rotation can occur across *keiretsu* member organisations as well as within single organisations. The traditional Japanese ways of team working sound especially beneficial from the point of view of idea sharing, aiming for innovation. This could be moreover supported by the long-term nature of employees. Japanese organisations take a long-term strategy overall, including for innovation, as they work with a strategy of lifetime employment (e.g. Dore, 2000). Knowledge sharing for innovation functions in the long term and frequent changes of employees can disrupt this, so the Japanese model has an advantage here.

This can work not only in an organisation but also across member organisations of the same *keiretsu* network, and part of the job rotation and long-term training could include resources to learn about the customer side and what they want from a servitisation offering.

C) Processes management

If manufacturers deliver significant added value services on their products, customers expect this to include flexibility within process capabilities (Baines and Lightfoot, 2013). Developing process capabilities surely takes time, as Rolstadås et al. (2012) suggest. In this

sense, the Japanese *keiretsu* network might work better due its existing cooperation and coordination systems, penetrating into all its member firms, right through the supply chain. As section B) above explains, customs and practices related to knowledge sharing for innovation are already in place across the member organisations of a *keiretsu*. All *keiretsu* member organisations share the common objectives, policies and visions set by the same *keiretsu* group, which are pretty important resources for process management overall.

Along with an innovation-focused knowledge sharing system, *keiretsu* firms have a strong culture on product and process development, in which they relentlessly pursue efficiency and quality improvements in their products, together with all the members. This culture is represented by a spirit of continuous improvement known as *kaizen*, just in time workflow and pursuit of perfection on quality (Belal et al., 2014). When we talk about the importance of processes for servitisation, the process management within the *keiretsu* networks could be a great advantage in developing product-service systems.

Discussion and reflection

As seen in the discussion of early past studies, servitisation is a change process and a capability-exploring process (e.g. Davies, 2003; Galbraith, 2002; Wise & Baumgartner, 1999). The implementation of such business processes to provide a future solution does requires a certain amount of optimism as the results are not going to be seen immediately (e.g. Storbacka, 2011). Given keywords such as 'change process' and 'repetition with scalability', what can the Japanese unique context of *keiretsu* networks add in order to shift towards servitisation?

From the perspectives of the *keiretsu* coordination, innovation and process management, the servitisation concept might fit into the *keiretsu* manufacturing procedures as seen above. Having said that, some concerns simultaneously come to the surface when the *keiretsu* network system in Japanese organisations is investigated a little more deeply, so here are both possible drivers and potential challenges:

- The *keiretsu* network and its harmonisation, innovation and process management: These *keiretsu*-related perspectives could help Japanese manufacturers to accelerate the pace of understanding and integration into advanced services. These could be drivers for Japanese manufacturers to move towards

servitisation.

■ Overly strong loyalty:

Having said that, there could be some challenges and restrictions, which are considered here. *Keiretsu* manufacturers do value the existing *keiretsu* system and its historical rituals, and therefore they have a strong loyalty to the network. This could potentially hinder them from transforming their current dependence strategy and from adopting new ways of focusing on advanced service offering.

■ History-driven stability:

It is particularly important to note that the Japanese *keiretsu* system was not just constructed suddenly, but established carefully over time, beginning before World War II. Its history is embedded into the *keiretsu's* functions and culture, which have provided a stable business model within the domestic market. This is popularly argued within the framework of institutional theory (e.g. Amable, 2003). As the theory often discusses, institutional restraints are likely to affect Japanese organisations' change process, though this is not an exclusive challenge for the servitisation angle.

■ More transparency:

Japanese organisations often do not have high levels of transparency. Even though the current system allows knowledge sharing to penetrate within the *keiretsu* network, more active disclosure systems might be required to allow this knowledge to reach wider stakeholders, especially at customers' operations.

■ Products are already high quality:

Japanese manufacturers already share a thirst for, and constant pursuit of, higher quality of products, which could stall their change process towards a servitisation ideology or a service-focused product offering. Could an advanced service offering become as critical as product quality among Japanese manufacturers? That remains to be seen. It is possible that the strong quality focus might make it more difficult for them to penetrate the servitisation concept into the wider *keiretsu* firms.

As indicated earlier, this article introduces a competitive concept/strategy of servitisation in the manufacturing industry and provides an introductory level of discussion within the Japanese context. The above possible challenges and drivers

obviously need to be further examined with actual Japanese organisational case studies, based on quantitative and qualitative data, in future research. This article does not focus on such studies, but it calls for more discussion using these keywords within the same context in order to contribute both academically and practically to the servitisation of firms in Japan and across the globe.

References

- Amable, B., (2003). *The Diversity of Modern Capitalism*. Oxford: Oxford University Press.
- Baines, T. S., Lightfoot, H. W., Benedettini, O., and Kay, J. M., (2009). 'The servitization of manufacturing: A review of literature and reflection on future challenges', *Journal of Manufacturing Technology Management*, 20 (5), pp.547-567.
- Baines, T., and Lightfoot, H., (2013). *Made to Serve: How Manufacturers Can Compete Through Servitization and Product Service Systems*, West Sussex: Wiley.
- Baines, T. and Lightfoot, H., (2014). 'Leadership in High-Value Services for Manufacturers: Information and Communication Technologies and the Delivery of Advanced Services', *Proceedings of the Spring Servitization Conference 2014*, pp.59-73.
- Belal, H. M., Shirahada, K., and Kosaka, M., (2014). An Analysis of Knowledge Space Concept and Recursive Approach for Servitizing in Manufacturing Industries. In: KOSAKA, M. & Shirahada, K. (eds.) *Progressive Trends in Knowledge and System-Based Science for Service Innovation*. IGI Global.
- Brax, S., (2005). 'A manufacturer becoming service provider – challenges and a paradox', *Managing Service Quality: An International Journal*, 15 (2), pp. 142-155.
- Choi, T., and Linton, T., (2011). 'Don't let your supply chain control your business'. *Harvard Business Review*, 89 (12).
- Cova, B., Dontenwill, E., and Salle, R., (2000). A network approach to the broadening of the offering: beyond added services. *16th IMP Conference*, Bath, UK.
- Davies, A., (2003). Are Firms Moving "Downstream" into High-Value Services? In Tidd, J. & Hull, F. M. (Eds.): *Service Innovation. Organizational Responses to Technological Opportunities & Market Imperatives. Series on Technology Management*, vol 9. London: Imperial College Press, pp. 21-340.
- Dore, R., (2000). *Stock Market Capitalism, Welfare Capitalism: Japan and Germany versus the Anglo-Saxons*. Oxford: Oxford University Press.
- Foster, M., and Whittle, S., (1992). 'Spirals of change'. *Managing Service Quality*, 3 (1), pp. 407-409.
- Galbraith, J. R., (2002). 'Organizing to deliver solutions', *Organizational Dynamics*, 31 (2), pp. 194–207.
- Gerlach, M. L., (1992). *Alliance capitalism: The social organization of Japanese business*, California: University of California Press.
- Haghirian, P., (2010). *Understanding Japanese management practices*, Business Expert Press.
- Mathieu, V., (2001). 'Service strategies within the manufacturing sector: benefits, costs and partnership', *International Journal of Service Industry Management*, 12 (5), pp.451-75.
- Mead, R., (2004). *International Management: Cross-Cultural Dimensions*. London: Wiley.
- Neely, A., (2009). Exploring the financial consequences of the servitization of manufacturing, *Operations Management Research*, 1(2), pp. 103-118.

- Rolstadås, A., Henriksen, B. and O'sullivan, D., (2012). *Manufacturing Outsourcing: A Knowledge Perspective*, Springer.
- Shankar, V., Berry, L. L., and Dotzel, T., (2009). 'A practical guide to combining products and services', *Harvard Business Review*, 87 (11), pp. 94-99.
- Spekman, R. E. and Carraway, R., (2006), 'Making the transition to collaborative buyer-seller relationships: an emerging framework', *Industrial Marketing Management*, 35, pp. 10-19.
- Storbacka, K., (2011). 'A solution business model: Capabilities and management practices for integrated solutions', *Industrial Marketing Management*, 40(5), pp.699-711.
- Uлага, W., and Reinartz, W. J., (2011) 'Hybrid offerings: how manufacturing firms combine goods and services successfully', *Journal of Marketing*, 75(6), pp.5-23.
- Vandermerwe, S. and Rada, J., (1988). Servitization of business: Adding value by add-ing services. *European Management Journal*, 6 (4), pp. 314-324.
- Wise, R., and Baumgartner, P., (1999). Go Downstream: The New profit Imperative in Manufacturing. *Harvard Business Review*, 77 (5), pp. 134-141.
- Yorozu, C., and Shi, G., (2014). 'Servitization and Japan's Keiretsu Organization', in Baines, T., Clegg, B., Harrison, D (eds) *Growth through Servitization: Drivers, Enablers, Processes and Impact*, Aston: Aston Business School Press, pp. 141-146.