

Analysis and assessment of the achieved level of servitization in the selected chemical company – Case study

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Manufacturing companies on the B2B market are nowadays focussing more and more on servitization. Globally, 38 % of manufacturing companies have already approached it. Focusing on servitization may be advantageous for manufacturing companies because the area of services is more profitable than the area of products, and it provides more opportunities for growth. Services are also becoming a tool-facilitating sale of products, increasing the customer loyalty, and allowing companies to respond to the growing customer demands. In addition, for chemical companies in the Czech Republic, servitization represents a new opportunity of how to generate a competitive advantage; particularly, towards competitors from the South-East Asia region. Therefore, this paper first aims to assess, based on the literature search, the possibilities and concepts of new service-oriented business models in the chemical industry. Then, based on a case study, it is going to demonstrate the current servitization concept applied by a selected chemical company, perception of its importance, and potential for the future by the sales department staff.

Keywords: Services; Servitization; Company of chemical industry; Sales department

Introduction

Manufacturing companies on the B2B market are nowadays focussing more and more on an offer of customer services, i.e. servitization [1–3]. Globally, 38 % of manufacturing companies have already stepped out in this way [4].

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There are many circumstances directing the manufacturing companies at servitization. They include general manufacturing market trends, such as commoditization, market saturation [5], acceleration of the product innovation cycle [6], pressure of the competition, globalization, new technologies [7], and environmental circumstances [8]. In addition to this, there are also business reasons making companies interested in servitization due to financial and strategic reasons [2]. Financial reasons are connected e.g. with the fact that customers require purchasing products with the smallest possible profit margins, and so companies are starting to invest into services representing for them a new source of income [5,8]. Strategic reasons are relating to the suppliers' effort to achieve a competitive advantage by providing as specific and intensive range of services as possible [2]. Focussing on servitization may also be advantageous for manufacturing companies because the area of services is more profitable than the area of products, which also provides more opportunities for growth [5,8].

Services are also becoming a tool facilitating sale of products, increasing the customer loyalty, and enabling companies to respond to the growing customer demands [5]. In addition, for chemical companies, servitization represents a new opportunity of how to generate a competitive advantage, particularly that towards the competitors from South-East Asia. The corporate website analysis of 36 selected chemical companies in the Czech Republic did not find a mention of servitization. Nevertheless, the analysis of the provided services has shown that a number of chemical companies actually engage in servitization or have a potential for its implementation [9].

Therefore, this paper first aims to assess, based on the literature search, the possibilities and concepts of new service-oriented business models in the chemical industry. Then, when using a case study, it is going to demonstrate the current servitization concept applied by a selected chemical company, perception of its importance and future potential by the sales department staff.

The concept of servitization in chemical industry

Generally, servitization in manufacturing companies can be imagined as corporate transformation from the product-dominant logic to the service-dominant logic [10]. Eggert et al. [11] explain that as for the product-dominant logic, it is only the goods and information what flows between the manufacturer and the customer. The emphasis is laid on the product ownership. As for the service-dominant logic, the manufacturer's sources integrate with the customer's sources, and the information is shared mutually. The manufacturer helps the customer achieve their targets. The emphasis is placed on the services the customer benefits from. Offerings of products and services are thus combined in the product-service system (hereafter referred to as PSS).

PSS creates both the customer value and the supplier value better as a whole [2]. The PSS thus represents a combination of tangible products and intangible services at different levels, leading to the fulfilment of specific requirement of individual customers [12]. It focuses on selling functions, which are, as they say, dematerialized through product-service integration, rather than on selling material products [13]. Neely et al. [14] identified five PSS variants in total based on the level of transition to the service-dominant logic. We can see them in Figure 1. The individual variants are explained by the authors, based on a literary search, in their yet another article [15].

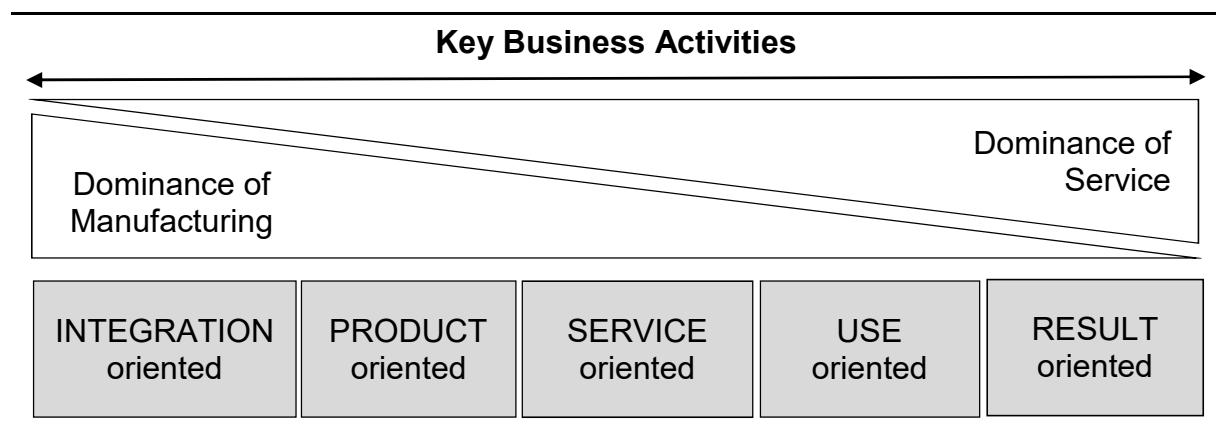


Fig. 1 Transition of servitization [2]

Manufacturing companies switch to a higher rate of services gradually. A shift of manufacturing companies to the result-oriented PSS is only suitable for some of them. The target PSS variant that will be most suitable for a certain manufacturing company, depending on its size, industry, etc. The analyse of services presented on the 165 web-pages of 165 manufacturing in the Czech Republic affirms that most manufacturing companies are still in the phase of integration of services into products in an effort to fulfil marketing targets [15].

As for chemical companies, they are also changing their strategy towards service-orientation. They are mainly putting the emphasis on helping their customers to use chemicals more effectively and decrease the volume of chemical waste in a way that they do not have to take care about or be responsible for. In relation to servitization, three business models were identified to be applied in chemical companies; namely, Chemical Product Services (CPS), Chemical Management Services (CMS), and Chemical Leasing [12].

Chemical product services

This business model represents a product-oriented PSS. It arises from the transformation of suppliers/customers of chemical products to suppliers/customers of combinations of chemical products and services which together create a situation that is beneficial for both parties. At the same time, manufacturing companies are still trying to achieve maximally possible sales of chemicals, and services helping to do so [16]. These combinations of chemical products and services can lead to the different chemical product life-cycle stages. As an example, it is possible to mention the supply and storage of chemicals, professional consultancy in the area of chemistry for process fine-tuning, transport, recycling and disposal of chemical waste, environmental and safety programs, and staff training [12].

Chemical Management Services

This business model emphasizes creation of a long-term cooperation between the customer and the chemical service provider in the area of chemical supplies and management of the related services [17]. CMS are applied in the area of special chemical products and services that are improved and implemented jointly by the supplier and the customer. In addition, differently from the CPS business model, this model emphasizes the process optimization, a continuous cost reduction with mitigation of risks associated with the chemical product cycle, and reduction of environmental waste [16]. This is already a service-oriented PSS and an example of this business model can be found in cooperation between the manufacturer and the customers within delivery of chemicals, quality control of chemical products and substances, their adjustment prior to use (via concentration or content), disposal, recycling, etc. [12].

Chemical leasing

Within this business model, specific chemical substances are sold as services. The manufacturers remain the owners of such chemicals. The customers then buy only services, such as cleaning of some parts of equipment or pipes. The service price does not depend on the quantity of chemicals used, but in this case, on the number of cleaned parts and pipes [12]. This business model thus represents a shift of manufacturing companies from provision of products as such to their supplying as a part of service. It means that this is a use-oriented PSS with safety programs, training and practicing of the staff involved.

Analysis and assessment of the level of servitization for two products in the selected chemical company

The research was conducted in the sales department of a selected chemical company. For the business and strategic reasons, as well as due to the publishing ethics, we do not specify its name denoting it simply as a "Company". Also, we do not provide any information that could lead to the identification of such a company; for example, the names of its products or details from inner research. It is a medium-size company, a key trading and manufacturing unit within a holding. It is responsible for manufacturing process development and optimization, sales, marketing, research and development.

Aim and research methodology

The research aimed to identify and analyse the current level of servitization at this Company and the outlook for the future. After consultations and explanation of the essence of servitization, it became apparent that this concept has already been adopted for two chemical products (hereafter referred as Product A and Product B, respectively). Therefore, the research focused on the ways of selling these two products, emphasizing the included services. The research was conducted through in-depth interviews with managers at a different management level. This choice had included a technical engineer, the representatives of middle management, and top management. The survey was conducted using a structured questionnaire. This paper presents below all the important outcomes of the qualitative assessment.

Research outcomes

As both products involved in the study are toxic, they can only be sold to customers meeting the required conditions; i.e., they have to attend a mandatory training of the given country, have to obtain an internal certification from the supplier — the manufacturing company monitored —, and they have to agree with the sales conditions. At the same, the Company investigated is the only one in the Czech Republic having an active registration for using Product A and having an exception for Product B. In other words, there is currently no competitor in these two products on the domestic market. The products are replaceable, but only by products with less suitable properties when being applied, less environmentally friendly, and, eventually, offered at higher prices. Nowadays, there are some other Czech companies, potential future real competitors, waiting for being granted with registration of these products. Therefore, it is a competition to be the first on the market.

In the European Union, the Company may now sell Product A only, as it does not have registration for Product B. That is why the Company is considering analysis of the European market in order to identify the areas for which the exception for Product B could be granted after full registration.

Sales of Product A

The Company sold Product A as a commodity without advanced services for decades. This business comprises the manufacturing of the product, its packaging, loading, and shipping to the customer. In last years, there has been, due to the increased demands placed on safety, a larger focus on the sale of services related with the product. In the Czech Republic, the Company sells Product A to several companies licensed to purchase it. These companies then provide the end customer with the product and its service; i.e., they realize its application. This means that the Company is in a position of the Product A manufacturer and distributor. Such a service is, for such a company, only a supplementary deal, representing a marginal part of their total activities.

If the Manufacturing Company decides to provide the end customers with Product A directly, it would result, based on the opinion of one of the respondents, in market destabilization. Nowadays, the labour market suffers from a lack of workforce, and the Company then does not possess enough personnel to provide this service. On the other hand, a creation of their own unit/application company may lead to an increase of the corporate profitability according to another middle-management representative thinks. Calculation of the profitability of the provision of such a service by the Manufacturing Company has not been yet performed, and hence, it is only a speculation. According to a top-management representative, the considerations include the provision of Product A as a service in the segments that are still not covered by application companies. Nevertheless, creation of their own application company is still not being considered. What is possible, however, is a strengthening of the application department team that should be responsible for this service – i.e. application of the Product A.

In the European Union, the Company sells Product A to local distributors, who have made contracts with local application companies. They then apply the product to the end customer. From time to time, the Company employees are asked by these foreign companies for assistance with its application as they have the needful expertise. In some countries, the Company faces a competing product from an Extra European country. It is very difficult to make customers used to change their minds towards the competing product and start using Product A. The matter is that they would have to attend a new mandatory training, purchase application equipment, etc. For these reasons, the Company focuses on seeking new customers, rather than those who use the competing product on the market. As for Extra European countries, the Company is waiting for registration.

What is the Company's advantage is its ability to deliver the product more quickly than the competitors do, thus providing a swifter support and a wider range of accompanying services. Yet another advantage is the product itself, if it is friendlier to the environment than the competing product.

Sales of Product B

Product B was launched for a large-scale production only in the last decade. The Company provides the end customers with its application. This means it is not sold as a separate product, but in the form of a service. Therefore, the Company is in the position of both the manufacturer and the applicator of Product B. At present, its sale outside the Czech Republic is starting to develop. Its sale outside Europe is performed by its sister company, holding the registration of this product. This sister company also applies the product for the end customers. At the same time, it further develops the sales network in other Extra European countries via local distributors.

Assessment of servitization in the company and its future development

As for Product A, servitization is currently in the phase, where there is a wide range of accompanying services provided together, e.g. training, technical support with planning its application, consultancy by phone/e-mail, rental of the supporting technical equipment to application companies. The ownership of Product A is transferred to the customer. The Company tends mainly to support the idea providing services together with Product A for the reason of safety. At the same, the emphasis is laid on a long-term cooperation. This situation can be compared to the business model of Chemical Management Services. Servitization is thus implemented as a service-oriented PSS.

The Company management is considering, due to the financial potential of services, its provision in the form of a service in the Czech Republic. This system would cover the market segments that are still not serviced by application companies (i.e. by their current customers). This could result in a shift towards a use-oriented PSS. The Product Application Department staff would deal with application, and so the number of them would have to be increased. The idea of creation of their own application company and penetration of all the segments in the Czech Republic does not have, from the point of view of a top management representative, a large potential, as this market is relatively small and such a step would mean large investments without an anticipated return. While one middle-management representative goes along with this opinion, another respondent believes that creation of his/her own application company could result in the increased corporate profitability.

Since Product A is registered in the European Union, it is also possible to think of implementation of a use-oriented PSS outside the Czech Republic. This could be achieved, according to a top-management representative by e.g. purchasing an application company abroad. One would have to decide whether or not such a company could recruit Czech employees or foreign workers and who should be hired and trained. In addition, the Company's own application company abroad would also mean arrangement of various permits. Therefore, the rate of return on such an investment is, from this point of view, questionable.

Another shift in servitization in connection with product A could occur in the service of rental of equipment for measuring its concentration. This measurement represents an integration of a service into the product as such. The ownership of this equipment is currently not transferred and, due to the price, it is not being considered in the future, too. Nowadays, the Company lends this equipment free of charge. Therefore, this service is provided as a sales support tool. However, if the service is charged — e.g. based on the number of measurements performed, or in the form of a flat monthly fee —, the equipment would be provided as a function, which means the implementation of a use-oriented PSS.

Provision of Product B as a service in the form of its application can be compared to the business model of Chemical Leasing. The Manufacturing Company retains the possession of Product B. The price of the service does not depend on the consumed quantity of Product B, but it depends on the scope and a number of the performed applications. Servitization is thus implemented, in this area, as a use-oriented PSS. A shift towards a result-oriented PSS cannot be taken into consideration, as Product B is not replaceable by a service, where the product is not included in.

However, the Company is not able to satisfy all the customers' requests for application by itself because of a lack of employees. Therefore, the Company makes use of its relationships with application companies that are supplied with Product A. If needed, these companies apply Product B for the Company. Nevertheless, the Company is not considering an increase of the number of employees, as it provides Product B based on an exception only. It is not clear how long they will have such an exception. At the same time, new employees would have to attend the mandatory trainings to get a license to perform applications. This may take even several months. When the Company loses the exception, the investment into the staff is wasted. Moreover, application of Product B is seasonal only, and new employees would not be fully utilized outside the season. With respect to their shortage on the labour market, it is also necessary to count with high salaries they would have to be paid.

All the respondents perceive a financial potential of services in Product B. Therefore, they consider providing this product in the form of a service as very promising. They also focus on identification of opportunities for doing business with Product B, both within maintenance of good relationships with

the current customers, and via the Internet surveys. However, a detailed analysis of the European market, where it would be possible to get an exception for using Product B before its registration, has not been yet carried out. Providing such an exception for its use abroad was awarded, the Company would deliver it to separate distributors/application companies. Then it would be a case of a service-oriented PSS.

Conclusions

The research reported in this article has shown that manufacturing companies in the chemical industry associate servitization with new business models that are more and more focused on services; particularly, to make this concept applicable to the customers to minimize chemical waste, to improve the employee safety level, to take a more environmentally friendly approach, etc. The investigation in the framework of this research has identified three business models. All three are being applied by the Company serving here as a model.

The Chemical Product Service Model is mostly focused on the products. It represents an initial stage of servitization, where accompanying services are mainly provided to increase sales of the given product. This model is applied in the sales of most products made by the Company, with the exception of Product B. Regarding Product A, it is applied in connection with a service in the form of lending equipment for measuring its concentration.

The Chemical Management Services Model is an example of a service-oriented product service system (PSS). It is applied in the area of special chemical products and services that are improved and implemented together by the supplier and the customer. The Company mainly applies it in Product A, whose ownership is transferred, on the domestic market, to the customers – application companies. The Company is also considering, into a limited extent, application of this model abroad with Product B in the case if it obtains an exception for its use abroad.

The Company is seriously considering further enhancement of the level of servitization for Product A in market segments that are not hitherto serviced by application companies. It is a case of a business model called Chemical Leasing, representing a use-oriented PSS. It is fully used in Product B, where the Manufacturing Company retains possession of this product. The service price does not depend on the consumed quantity of Product B, but it is given by the scope and a number of performed applications. A shift to a result-oriented PSS cannot be currently considered by the Company, as neither Product A nor Product B can be replaced by services if they would not be a part of.

The analysis of both products in the selected company shows that the conditions for achieving a certain level of servitization for each product can be very different and that it may not always be useful to strive for the highest degree of servitization for each product. Depending on the specific conditions, the

expansion of servitization may encounter certain limits (capacity, economic, ecological, etc.) beyond which it is no longer possible or effective a further expansion towards the effective level of servitization.

All the respondents perceive the financial potential of services. Therefore, they consider an enhancement of the level of servitization as a trend with very good prospects. They are also aware of the important role of services in the processes of acquiring new customers or conquering new markets. However, servitization is also connected with a number of financially intensive activities associated, for instance, with an increase of the number of employees working in services, their training, purchase of own application company, acquisition of registration in foreign countries, or identification of the market needs in the area of services.

Based on the literature search performed, the analysis and assessment of the level of servitization in the selected company — here, the Company — in the chemical industry, it is possible to recommend other companies to carry out their transformation from the product-dominant logic to the service-dominant logic gradually, with an emphasis on creating a long-term cooperation between the manufacturer and the customer. This means a careful consideration of the financial and strategic reasons for servitization and then a special assessment showing which PSS variant would be suitable for the individual products, markets and customers, and, also, in which order it can be implemented.

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